Operable Unit 2
Remedial Investigation
Feasibility Study Report
Flower Fashion Site

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OU-2 Remedial Investigation/Feasibility Study Report

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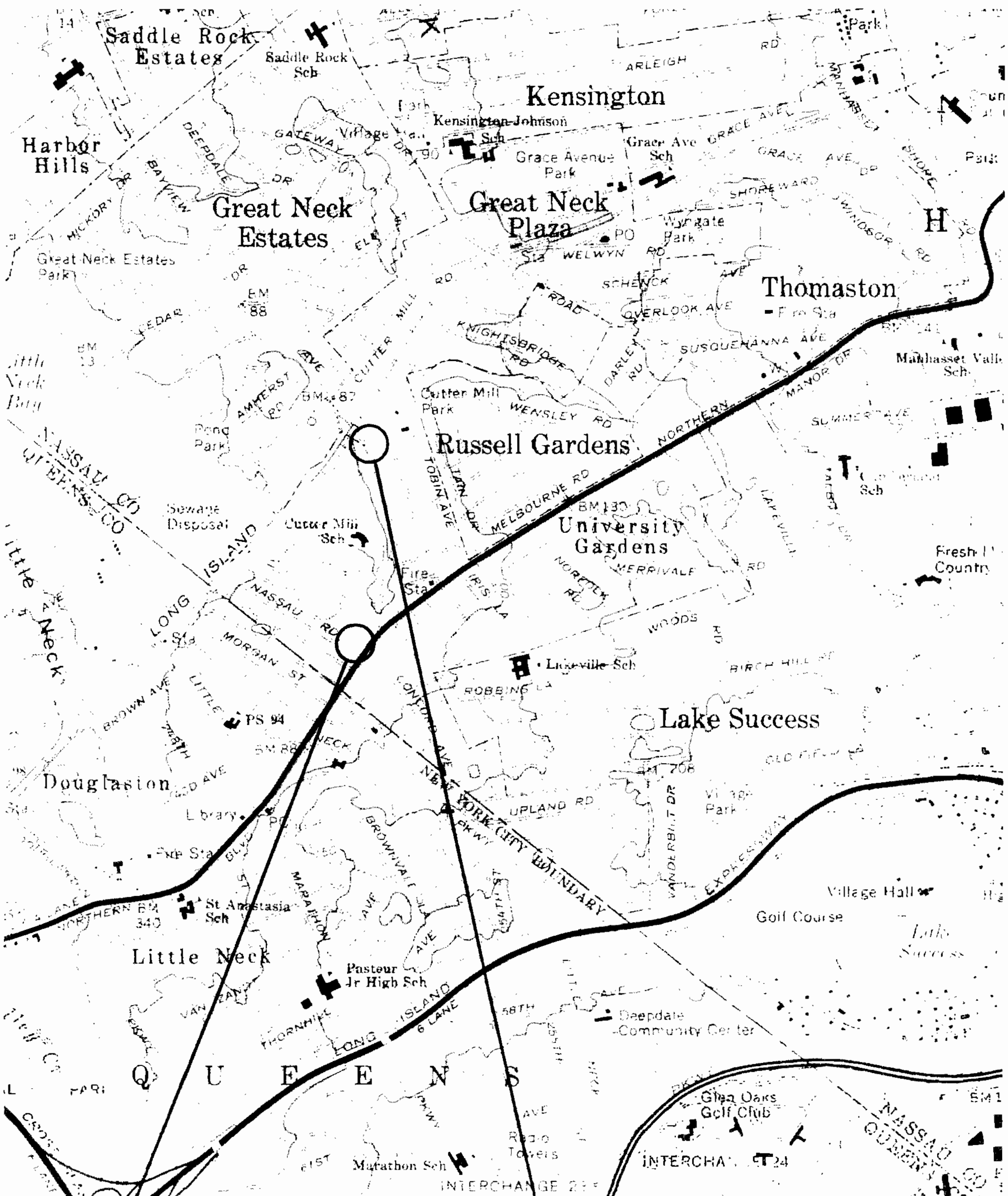
1.0 INTRODUCTION

The purpose of this report is to provide a description of the Citizens Development Co. property and the additional remedial investigation (RI) activities that have been conducted to assess deeper depth groundwater quality pursuant to the Operable Unit 1 (OU-1) Record of Decision. An analysis of remedial alternatives has also been prepared and that feasibility study (FS) is included with this report. This property was listed in the New York State Registry of Inactive Hazardous Waste Disposal Sites on 12 April 1993. The OU-1 RI/FS was completed in February 1998 and a Record of Decision (ROD) was issued in March 1998. Preparation of this RI/FS report was authorized by Citizens Development Company, pursuant to the OU-2 remedial investigation work plan, and the Record of Decision for OU-1 issued in March of 1998. A copy of the OU-1 ROD is included as Appendix A.

This site is generally known as the Flower Fashion Site and is located in Great Neck, NY in western Nausau County Long Island, southeast of Little Neck Bay. The map on the following page shows the road network of the area and the nearby Little Neck Bay. The three water supply wells that are within one mile of the Site area are also identified on this map. The Water Authority of Great Neck



Citizens Development Company

Area Map with Water Supply Wells Located

JR Kolmer Associates, Inc.

Environmental Consultants

North operates a public water supply well field approximately one half mile north of the Site. A detailed map of the Site area is shown in Figure 1. The property surrounding the Site has been developed for commercial and residential use. Commercial facilities line both sides of Northern Boulevard, and residential properties are situated directly behind these commercial operations and along the side streets of the area.

Historically, the Site was used for dry cleaning operations and perchloroethylene (PCE) has been found in the soils and groundwater in the site area. Investigatory work at the Site has been conducted since 1983. A soil and groundwater clean-up system was installed during the 1980s and operated until 1990.

Additional site investigation work was conducted during the time-frame 1990 to 1993. Based upon these additional data, an Interim Remedial Measure (IRM) plan for a second phase of soil remediation was prepared in 1994 and implemented in 1995. This IRM activity was successfully completed in 1996.

The initial subsurface investigation work conducted at the Flower Fashion Site, as well as the soil and groundwater remediation work conducted in the 1980s is discussed in the next section of this report, "2.0 Historical Investigation and Remedial Actions." The additional site investigation work conducted during the early 1990s is also discussed in this section.

The IRM project activity is discussed in section 3.0 of this report, "Interim Remedial Measure." A separate report documenting this IRM has been prepared and submitted to the NYSDEC (Interim Remedial Measure Report, Flower Fashion Site, Great Neck, NY, 5 July 1995).

The remedial investigation work that was conducted during 1997 is described in Section 4.0, and the remaining sections of this report document the RI activities conducted in accord with the OU-2 Work Plan.

2.0 GENERAL GEOLOGIC AND HYDROGEOLOGIC CONDITIONS

The general geology and hydrogeology of the Great Neck area was reviewed to determine the nature of the materials present at the site. The Long Island Water Resources Bulletin 12 (1979), which was prepared by the US Geological Survey in cooperation with the Nassau County Department of Public Works was consulted to obtain this information. A summary of the geology of the subsurface deposits in the Site area is provided below.

Geologic Unit	Hydrogeologic Unit	Thickness	Description.
Upper Pleistocene Deposits	Upper Glacial Aquifer	190 feet	Outwash deposits of stratified brown sand and gravel. May also contain some lacustrine and marine deposits consisting of clay, Silt, and sand.
Magothy Formation	Magothy Aquifer	30 feet	Clay, silt, sandy clay and fine to medium sand in lenticular beds. May contain coarse sand and gravel in lower 50 to 100 feet.
Raritan Formation	Raritan Clay Confining Layer	Unknown in Site area	Solid and silty clay; relatively impermeable.

The Upper Pleistocene deposits, which consists predominately of stratified reddish brown sands and gravels with occasional silt layers, forms the matrix for the upper glacial aquifer. These Pleistocene deposits are approximately 190 feet thick in the Site area, and the lower 140 feet are saturated. These stratified outwash sands are quite permeable and can readily transmit water.

The drilling work conducted in the Site area shows that there is a silty clay/clayey silt layer in the Pleistocene deposits at a depth of approximately 25 feet below ground surface. This layer would impede precipitation infiltration to the groundwater, which is approximately 50 feet below ground surface. The investigation work at the Site has all been in the Upper Pleistocene deposits (Upper Glacial Aquifer).

The Pleistocene deposits are underlain by the Magothy Formation. The depth to the top of the Magothy is approximately 190 feet. This unit is composed of clay, silt, sandy clay, and fine to medium sand, which occur in lenticular beds. This formation may also contain beds of coarse sand and gravel in the lower 50 to 100 feet.

The Magothy Aquifer is moderately to highly permeable. This aquifer is a principle source for public water supply across a large portion of Long Island. Depending upon local conditions, hydraulic continuity may exist between the Magothy Aquifer and the overlying Upper Glacial Aquifer.

The Magothy Aquifer is only 30 feet thick in the Site area. The Raritan Clay occurs at a depth of approximately 220 feet below ground surface. This clay is described as solid and silty. It is relatively impermeable to ground water flow. The thickness of the Raritan Clay has not been defined by drilling in the Site area.

3.0 HISTORICAL INVESTIGATIONS AND REMEDIAL ACTIONS

Historically, the Flower Fashion Site, located at 47 Northern Boulevard was operated as a dry-cleaning facility. The exact time-frame of this operation is not known, however, it was prior to 1983. The Nassau County Department of Health (NCDH) conducted investigations in the site area in the early 1980's. These investigations were related to the presence of chemicals in a public water supply well located north of Northern Boulevard. In November of 1983, and January of 1984, the NCDH collected soil samples from the site area. The chemical analysis of these samples showed the presence of perchloroethylene (PCE), a dry-cleaning solvent, ranging in concentration from 3.5 to 17 milligrams per kilogram (mg/kg). Based upon this finding, in March of 1984 the NCDH required that additional investigation work be conducted.

Additional site investigations have been conducted in two distinct phases, separated by a period of time during which a soil remediation program was implemented and a groundwater remedial system was operated. The overall history of site investigation and remediation is as follows:

- From April 1984 through January of 1985, soil borings were drilled and groundwater monitoring wells were installed both within the site area and at off-site locations. During this same time-frame a soil remediation program, involving excavation of soils containing elevated levels of PCE was conducted.

- A groundwater remedial system was put into operation in January of 1986 and this system continued to operate through May of 1990.

- Additional investigation work was started in November of 1990 and this work continued through 1993. This additional investigation work included the installation of monitoring wells, and the drilling of additional soil borings.

Each of these specific episodes of site investigation and groundwater remediation are discussed in the following subsections.

3.1 <u>**Initial Investigation, 1984 through 1985**</u>

The first soil borings drilled in the site area and the first groundwater monitoring well were installed in April of 1984, in accord with the investigation requirements of NCDH (March 1984). The locations of these soil borings and monitoring well are shown in Figure 2.

3.1.1 <u>Soil and Groundwater Sampling and Analysis</u>.

Soil samples were collected for chemical analysis during the drilling of all borings and the monitoring well. Table 1 provides a list of the analytical results for PCE. These data show that the highest levels of PCE in the soils was within the first 12 feet below ground surface. The data also show that the PCE concentrations consistently decreased with depth, and reached non-detectable levels in the range of 20 to 30 feet below the ground surface. The depth to groundwater at the Site is approximately 50 feet below ground surface.

Two groundwater samples were collected for chemical analysis from the monitoring well. This well was screened in the shallow groundwater aquifer. These samples showed elevated levels of PCE, ranging in concentration between 4700 and 4900 parts per billion (ppb).

3.1.2 Soil Excavation

During December of 1984, the soil material in the area of the borings and monitoring well was excavated to a depth of approximately 17 to 20 feet, and the soil was removed for disposal. The manifest data indicate that approximately 75 cubic yards were excavated and removed. Based upon an excavation depth of 17 to 20 feet, an area of approximately 100 square feet was excavated.

During the excavation work, the monitoring well had to be removed. This well was replaced with a recovery well for groundwater pumping operations at the same location.

3.1.3 Additional Monitoring Well Placement

During the time-frame that the soil excavation work was being conducted, three additional monitoring wells (MW-2, MW-3 and MW-4) were installed on-site, downgradient of the existing pump well (December 1984). The locations of these monitoring wells with respect to the excavated area and the original monitoring well are shown in Figure 3.

In January of 1985 numerous additional off-site monitoring wells were installed (MW-5 through MW-10). The locations of these monitoring wells are also shown in Figure 3.

3.1.4 Additional Groundwater Sampling and Analysis

During 1985, groundwater samples were collected from the recovery well (the original monitoring well location) and monitoring wells MW-2, MW-3 and MW-4. The following table lists the chemical concentrations found in the groundwater at that time.

Summary of 1985 Groundwater Chemistry Data

Well No.	PCE Concentration (ppb)
Recovery Well	3,463
MW-2	970
MW-3	3,335
MW-4	3,503

These groundwater quality data indicate that there was a relatively consistent pattern of PCE in the groundwater system at the recovery well and downgradient of the recovery well (approximately 3,000 ppb). Since this chemistry was collected in 1985 and the groundwater remedial program was started in January of 1986, these analytical data represent groundwater conditions prior to remedial system operation.

3.2 **Groundwater Remediation**

A groundwater remedial system involving a pumping well and a granular activated carbon treatment system was installed at the Site and operation was commenced in January of 1986. The pumping well was 12 inches in diameter and was installed to a depth of 75 feet. A submersible pump delivered groundwater to the granular activated carbon treatment system. The treatment vessel was four feet in diameter and had a 600 gallon capacity. The treated effluent was discharged to a storm sewer catch basin on Northern Boulevard.

This remedial pumping system operated satisfactorily until May 1990. At that time, a faulty valve caused the system to be shut down. Proper notification of the shut down was provided to NYSDEC.

Groundwater samples were collected in August of 1989 from the same monitoring wells that had been sampled during 1985. The analytical results are presented in the following table.

Summary of 1989 Groundwater Chemistry Data

Well No.	PCE Concentrations (ppb)
Recovery Well	860
MW-2	29
MW-3	140
MW-4	26

When comparing these data to the 1985 data (Section 2.1.4), it can be seen that the concentrations of PCE in the groundwater system were reduced from several thousand ppb to tens and hundreds of ppb.

3.3 **Site Investigation, 1990 through 1993**

A second phase of site investigation work was initiated in November of 1990 when an upgradient monitoring well was installed at the Site. The location of this well is shown in Figure 4. During this phase of investigation, it was determined that groundwater flow was to the north-northwest across the site area.

3.3.1 Groundwater Sampling and Analysis, 1990

Groundwater samples were collected from the upgradient monitoring well and two downgradient wells in December of 1990, approximately seven months after the remedial system was shut down. The analytical data for this sampling event is shown in the following table.

Summary of 1990 Groundwater Chemistry Data

Well No.	PCE Concentrations (ppb)
MW-1	63
MW-2	701
MW-4	1,033

These data indicate that the PCE concentrations in the shallow groundwater aquifer have rebounded from the lower values measured in 1989 (see previous section). The groundwater remedial system was apparently removing PCE and containing the plume. Thus, the downgradient concentrations in 1989 were significantly lower than the PCE levels reported near the source area (26 to 140 ppb downgradient vs. 860 ppb near the source area). When the remedial system was shut down in May 1990, the ambient concentration of the source was reflected in the downgradient groundwater quality. Thus, the downgradient groundwater PCE concentration rose to the level of the source, approximately 700 to 1000 ppb. These concentrations values bracket the PCE concentration of 860 ppb measured in the source area in 1989.

3.3.2 Groundwater Quality Study, February to July of 1991

A groundwater quality study was conducted from February through July of 1991, and samples from 11 wells were collected and analyzed. The sampling locations are shown in Figure 5, and the analytical results are summarized in Table 2.

During this groundwater sampling work, water level measurements were taken at all monitoring wells shown in Figure 5. These water level data were used to determine the elevation of groundwater at each monitoring well, and to construct a groundwater contour map which would define the direction of groundwater flow. Figure 6 shows the groundwater contour map derived from the water level data. The direction of groundwater flow is to the north-northwest across the site area.

The results of this groundwater quality study indicate that PCE is migrating from an off-site area onto the Flower Fashion Site. The chemical data for the upgradient monitoring well, MW-1, indicates that PCE was present at concentrations ranging from 20 to 38 ppb during the six months of sampling (see Table 2). Thus, based upon these data and the December 1990 data (Section 2.3.1), it is concluded that PCE is migrating onto the Site from an upgradient source area. The PCE concentrations in the downgradient wells are elevated above the upgradient values, indicating the Site has some contribution to the downgradient PCE plume.

The monitoring well that reported the highest overall level of chemicals during this sampling work was FN-4 which is located on the adjacent Bank property (see Table 2 and Figure 5). The concentration of PCE in this well was in the range of 300 to 400 ppb. Trichloroethylene (TCE) was present at more than 200 ppb and the concentrations of benzene, toluene, ethylbenzene and xylene (referred to collectively as BTEX) were in the range of 35,000 to 40,000 parts per billion. These data indicate that there is a layer of petroleum hydrocarbon (probably gasoline) floating on top of the groundwater table in the area of monitoring well FN-4. This floating hydrocarbon layer has PCE and TCE dissolved in it.

The chemicals found in monitoring well FN-4 are not associated with the Flower Fashion Site. They were contributed to the groundwater by a hydrocarbon spill from a service facility at Great Neck Road and Northern Boulevard. These data show that there is a significant presence of chemicals (including PCE) in the groundwater that is not attributable to the Flower Fashion Site.

When reviewing the data for the on-site monitoring wells, particularly monitoring well MW-2, it was noted that low levels of the BTEX chemicals were also present. Since the compounds benzene, toluene, ethylbenzene and xylene are not used in dry-cleaning operations, and no other operations at the Site used these compounds, it is concluded that any BTEX found in the on-site monitoring wells migrated from an off-site source.

3.3.3 Soil and Groundwater Assessment, 1993

Additional soil borings and groundwater monitoring wells were installed in February 1993. The locations of these borings and monitoring wells are shown in Figure 7.

Soil Boring, Sampling and Analysis

The new soil borings were drilled on a 25 foot grid pattern. Thus, in the 50 by 75 foot area between Northern Boulevard and the site building, 12 borings were drilled. (Borings B-3 and B-4 were converted to monitoring wells MW-1C and MW-1D.) This is a large number of borings in a very small area. Similarly, in the rear of the building four borings were drilled between monitoring wells MW-2, MW-3 and MW-4 and the building. In addition to these 16 borings throughout the site area, a soil boring was drilled adjacent to the groundwater recovery well, near the area where soil materials had been excavated in December of 1984.

Two to three soil samples were taken from each boring and were chemically analyzed. The results of these analyses are listed in Figure 8. Review of this figure shows that soil materials in the recovery well boring at depths of 5, 10 and 15 feet contained some concentrations of PCE. Samples from this same boring collected at depths of 20 feet, 25 feet, 30 feet and 40 feet did not show the presence of any volatile organic chemicals. These data are consistent with the soils data gathered throughout the investigation of this site. Soil chemical concentrations do not extend to depths greater than 20 feet below ground surface.

Two other soil borings, 14 and 15, showed the presence of relatively low levels of PCE (See Figure 8). The soil sample collected at a depth of 15 feet in boring #14 showed 93 ppb of PCE and the soil sample collected at a depth of 15 feet in boring #16 showed 13 ppb. Although these levels are relatively low, they show that some PCE still remains in the shallow soil materials behind the building. None of the other borings, at any depth, showed the presence of any volatile organic chemicals. These data show that the remedial excavation work conducted in 1984 (discussed in Section 2.1.2) was very effective in removing PCE laden soil from the Site.

It must be noted that these soil borings are very closely spaced, and there are a significant number of borings in a small area. Because of the density of the sampling locations, there is a high degree of confidence that these analytical results accurately reflect site conditions.

Monitoring Well Installation and Groundwater Sampling and Analysis

Two of the soil borings were converted to monitoring wells. Boring B-3 was converted to MW-1C, and boring B-4 was converted to MW-1D (see Figure 7). Also, an additional monitoring well, MW-1B, was installed in the area of soil boring B-9 (see Figure 7). All of the newly installed groundwater monitoring wells, as well as the older wells (MW-1A through MW-4) were developed using a submersible pump prior to groundwater sampling.

The analytical data for the groundwater sampling and analysis program conducted in 1993 are listed in Table 3. These analytical data clearly indicate that

PCE, as well as BTEX, are entering the Site from another source. Monitoring wells MW-1A through MW-1D are upgradient of the Site. The chemical data at these wells shows migration from an off-site source. Overall, PCE concentrations ranging from approximately 10 ppb to 150 ppb are migrating onto the Site from another area.

The downgradient well data (MW-2 through MW-4) show the presence of PCE at levels somewhat similar to the previous sampling events. These PCE data, however, show a significant variability in their concentrations. For example, at Monitoring Well MW-2 the concentration of PCE varied from 860 ppb to 8 ppb in the February to March time-frame. The data for monitoring well MW-3 also demonstrated significantly lower levels of PCE than the previous analyses (see Table 2 for 1991 analytical results). Overall, these data may be indicating the dissipation of PCE in the groundwater, which becomes quite evident in the later sampling and analysis results.

Drywell Sampling and Analysis

A soil boring was drilled into each of the drywells located in the parking lot of the site area. Figure 9 shows the location of these drywells. One is located in the front of the building near Northern Boulevard, and the second is located in the rear portion of the site area near the adjacent Bank building. Soil samples were collected from the top of the sediment in the bottom of the drywell, and at a depth of five feet. The chemical analytical data for drywell #1 is shown in the following table.

Summary of Drywell #1 Soil Chemistry Data

Chemical Compound	Surface Sediment	5 Foot Depth
Vinyl Chloride	10 ppb	Not Detected
1,2-Dichloroethene	170 ppb	Not Detected
Trichloroethylene	52 ppb	Not Detected
Perchloroethylene	42 ppb	Not Detected

Each of the soil samples from drywell #1 were analyzed for the complete volatile organics fraction. The above listed compounds, however, were the only chemicals detected during analysis. These data indicate some PCE was historically present in drywell #1, but the amount appears to be quite small. In addition, the sample collected from a depth of five feet does not show the presence of any of these compounds, indicating that a migration to depth has not occurred.

The chemical data for drywell #2 did not show the presence of any chemicals. Based upon these data, it is concluded that the drywells were not a source of chemicals for subsurface migration.

Building Floor Sump Sampling and Analysis

During the time-frame when this 1993/94 investigation work was being conducted, a floor sump was discovered in the basement of the building. The sump was not concrete lined and the soil materials below the basement floor slab were exposed in the sidewalls and sump bottom. There was no indication that the sump had received any chemical discharge, however, samples of the sump liquid and the soil from the side walls were collected. In addition, a sediment sample from the base of the sump was taken for chemical analysis. The results of these analyses are listed in Table 4. As can be seen, PCE was present in the water, soil materials and sediment of the sump.

When PCE was found to be present in the sump, additional sampling work was done to determine the depth of chemical migration beneath the base of the sump. The results of this sampling and analysis work are shown in Table 5. These data indicate that high levels of PCE were present in the soil materials to a depth of approximately two feet beneath the sump. The soil samples collected at five feet beneath the sump, and deeper, showed some PCE, but it was markedly below the concentrations found at the shallower depths.

When considering the depth of the basement and adding that depth to the depth of the soil samples collected beneath the sump, it was determined that these sump data are consistent with the soil boring data for the rest of the Site. That is, PCE chemical concentrations notably decrease at a depth of 20 feet below ground surface. (The ground surface reference here is to surface grade outside the building.)

3.4 **Summary of Historical Investigation Data**

Overall, the historical investigation data show that the soil materials behind the building and beneath the basement floor sump contain PCE to a depth of approximately 20 feet. At depths greater than 20 feet below ground surface, there appear to be layers of silty clay material that impede vertical PCE migration. The chemical analytical data indicate that the downward migration of chemicals stops at the top of this finer grained geologic layer. Therefore, it appears that the presence of this layer in the site area has helped limit the migration of PCE from the near surface soils to the groundwater aquifer. The groundwater data collected in 1985 and thereafter indicate that some PCE has migrated to the groundwater at the site area from an off-site source.

A soil remedial program was implemented in 1984. Approximately 75 cubic yards of PCE laden soil were removed and disposed. A groundwater pump and treat remedial program was installed in 1986 and operated until May of 1990. The groundwater chemical analytical data collected in 1989 (Section 2.2) show that PCE levels in groundwater were reduced.

The presence of chemicals in the soils beneath the basement sump represented a condition that required remediation. Soil materials to a depth of approximately four feet beneath the basement floor were excavated and a soil vapor extraction system was installed, which is discussed in the next section of this report.

4.0 INTERIM REMEDIAL MEASURE

The Interim Remedial Measure implemented at the Flower Fashion Site involved the removal of soils from the basement sump area and the installation of a soil vacuum extraction (SVE) system. Each of these activities is discussed in the following subsections.

4.1 Basement Sump Soil Excavation

A basement floor sump was discovered in the utility room of the site building during an inspection in early 1994 (Section 2.3.3). Sampling and analysis of the soil material beneath this sump showed elevated concentrations of PCE. The analytical results for samples collected in April 1993 (Table 5) indicated that PCE was present at a level of 15,000 ppm at a depth of approximately 2 feet below the basement floor and at 0.27 ppm at a depth of approximately 5 feet. Based on this sampling and analysis work, it was established that the depth of soil containing elevated PCE levels was in the range of 2 to 5 feet below the basement floor.

The floor area around the basement sump was cut with a concrete saw and approximately 8 to 10 square feet was removed so that the soil materials beneath the floor could be excavated. The soil was removed using a truck mounted vacuum system with an 8 inch suction line. An excavation approximately 5 feet in diameter and 4 feet in depth was made with this equipment.

The excavated soil was a reddish brown, silty sand. During the excavation, a 55 gallon drum was found beneath the floor of the building. This drum was filled with soil and it apparently had been used to line the old sump. The soil material inside the buried drum was chemically stained. During the excavation process all of the stained soil was removed along with the remnants of the old drum.

Soil samples from the side walls and bottom of the excavation were collected and analyzed. The results of these analyses showed that PCE (as well as other volatile chemicals) were not present in the side walls of the excavation. Two samples were collected from the base of the excavation and they showed that PCE was present in the range of 14 to 40 parts per million (ppm). Low levels of trichloroethylene (TCE) were also found. These data indicate that some PCE was still present in the soils at the base of the excavation, but its quantity was minimal and it could be addressed with the SVE system.

The soil materials removed from beneath the basement floor were containerized on site and were vacuumed to remove the volatile organics. This element of the SVE system is described in Section 3.2.3 of this report.

4.2 <u>**Soil Vacuum Extraction System**</u>

There were four major elements involved with the installation of the soil vacuum extraction system. These elements were:

- Basement sump vacuum element;

- Vacuum extraction wells;
- Containerized soil vacuum element; and
- Vacuum blower units.

4.2.1 Basement Sump Vacuum Element

When the above described excavation and sampling of the basement sump was complete, a perforated pipe drain was placed at the bottom of the sump excavation and was bedded in a sandy soil material. This soil bedding extended approximately 6 inches above the top of the perforated pipe. A PVC riser pipe was connected to the perforated drain and extended above the floor grade. This perforated drain and riser pipe functioned as the vacuum extraction element for the PCE remaining in the soil materials at the base of the excavation.

The excavation was lined with plastic sheeting above the vacuum element and the upper portion of the excavation was backfilled. A concrete lined sump was installed and the portion of the concrete floor which had been removed to accomplish the excavation was replaced.

4.2.2 Vacuum Extraction Wells

A total of five soil vacuum extraction wells were installed. Figure 10 is a detail map of the site area showing the location of these wells. Each well is two inches in diameter and was installed to a depth of 20 feet. The wells are constructed of 15 feet of well screen and 5.5 feet of riser pipe, and extend approximately six inches above the existing surface grade. The annular space around the well screen was backfilled with a filter pack material. A two-foot bentonite seal was placed above this pack and the remaining annular space was grouted to the ground surface.

The sump vacuum extraction element described in Section 3.2.1 above and the five SVE wells were connected via a vacuum manifold line. This vacuum manifold was routed to the vacuum blower units described in Section 3.2.4 of this report.

4.2.3 Soil Vacuum Element

The soil removed during excavation of the basement sump and soil materials generated by the drilling of the SVE wells were containerized in a four cubic yard dumpster. A perforated pipe drain was run across the bottom of the dumpster prior to placement of the soil materials. A two-inch diameter PVC riser pipe connected the perforated pipe to the vacuum manifold line described in Section 3.2.2 above. During operation of the SVE system, clean air was continually drawn through the containerized soils and volatile organic chemicals were vacuumed from the soils. Thus, these containerized soils were cleaned at the same time as the subsurface soil materials.

4.2.4 Soil Vacuum Extraction Blowers

Two transportable soil vacuum extraction blowers were installed at the Site. These blower units were housed in an enclosed utility trailer and were preassembled for site operations. Figure 10 shows the location of the blower units.

One blower unit was dedicated to the manifold line connecting two of the SVE wells and the basement sump extraction element. The second blower drew a vacuum on the manifold line connecting the remaining three SVE wells and the containerized soil. The discharge from each blower was routed through a carbon canister before it was exhausted to the atmosphere.

The manifold line was equipped with valves and sampling ports at each well, the basement sump and the soil container. This arrangement of valving and sample ports was used to test the individual operation and efficiency of each vacuum extraction element. In addition, samples were collected at each location to assess the extent of volatiles removal from the soil at any location in the system.

4.3 SVE Performance and Monitoring

The installed SVE system was tested to determine performance. This testing was conducted by monitoring the air flow rate from each vacuum extraction element as the air vacuum was varied. A graph of vacuum level versus airflow rate for each system element is illustrated in Figures 11 through 17.

A review of the system performance data showed that approximately 135 cubic feet per minute of air was drawn through the site soils under a vacuum of 3 to 7 inches of water. This performance is characteristic of sandy soils that exhibit good airflow capacity. Overall, the performance testing of the system indicated that the soils vacuumed very well and PCE removal would be accomplished in an expeditious manner.

The concentrations of PCE in the airflow line from each element were also monitored. Table 6 shows the concentration of PCE that was taken from each element. These measurements were made at start-up of the system using a Drager Tube analyzer specific to PCE. Overall, these volatile organic concentrations indicate that the amount of chemical in the soil is relatively low. These indications of low chemical volumes are consistent with the soil sampling and analysis work conducted at the site in the spring of 1993 (see Figure 8). PCE concentrations were also measured during SVE system operation, and the data are listed in Table 7. During operation of the SVE system the concentrations of PCE decreased, showing that the SVE system was effective.

The PCE presence in the soil occurred over an area of approximately 300 square feet, which was encompassed by the soil vacuum extraction system. The soil sampling and analysis work previously conducted shows that the depth of chemical presence was relatively limited (see Section 2.0). Thus, relatively small quantities of PCE were present over a broad area, and extended to a limited depth. All work conducted at the site confirms this distribution of chemicals.

When the SVE operation was complete, soil borings were drilled and soil samples were collected for chemical analysis. These confirmatory soil samples showed very low levels of PCE (less than 0.5 ppm), and these levels are within NYSDEC requirements. Based upon these findings, the interim remedial measure was deemed complete.

5.0 <u>OU-1 REMEDIAL INVESTIGATION</u>

The OU-1 RI activities included the identification and survey of existing monitoring wells in the site area, measurement of groundwater levels from June through September of 1997, and collection of groundwater samples for chemical analysis. The groundwater samples were analyzed for volatile organic chemicals in accord with protocols based on SW-846, Method 8240. These analytical protocols were in accord with the NYSDEC requirements. The results of the RI work are discussed in the following subsections.

5.1 <u>Groundwater Flow Direction</u>

The historical groundwater flow direction across the site area was generally to the north-northwest as shown in Figure 6. The objective of the groundwater monitoring work conducted during the RI was to determine if the recent groundwater flow direction was consistent with the historical pattern.

The groundwater elevation data was mapped and groundwater contour maps indicating the direction of groundwater flow were developed. These maps are shown in Figures 19, 20 and 21. Examination of these Figures shows that the groundwater flow direction was consistent with the historical pattern, that is toward the north-northwest. Therefore, it is reasonable to expect that chemical migration via groundwater flow has historically maintained a consistent direction, which is to the north-northwest.

5.2 **Groundwater Quality**

Groundwater samples were collected for chemical analysis from the 15 monitoring wells identified in Figure 18, and they were analyzed for volatile organic chemicals in accordance with protocols based on SW-846, Method 8240. A summary of the detected chemicals is provided in Table 9.

A review of these chemical data showed the presence of BTEX chemicals (benzene, toluene, ethylbenzene and xylene), in addition to the PCE. The BTEX chemicals were associated with a hydrocarbon spill that occurred in the vicinity of Great Neck Road and Northern Boulevard, just east of the Flower Fashion site. Monitoring wells FN-4 and FN-14 were used to monitor the groundwater quality conditions related to this spill incident.

The concentrations of PCE have been mapped and are shown in Figure 22. The direction of groundwater flow is also illustrated on this drawing. The groundwater quality upgradient of the site showed levels of PCE in the range of 3 to 12 ppb. Immediately downgradient of the site, PCE levels were in the range of 50 to 180 ppb. Further downgradient of the site area, however, PCE concentrations dissipated and were in the range of 2 to 25 ppb. These data indicate that the PCE concentrations have essentially returned to background levels within 200 feet of the site area.

5.3 OU-1 Remedial Investigation Summary

The OU-1 remedial investigation data, when evaluated along with the historical data for the Site, provided the basis for the following conclusions:

- The Flower Fashion Site has had an impact on the groundwater quality. PCE levels are present both upgradient and downgradient of the Site, however, the downgradient concentrations are greater than the upgradient values.

- The historical remedial operations have had a positive impact on groundwater quality and have significantly reduced PCE concentrations in the groundwater. The historical groundwater data collected in 1985 and 1990 document this beneficial impact.

- The concentrations of PCE in the groundwater, both upgradient and downgradient of the Site have significantly dissipated since 1990. The available data show that background levels in the Site area are in the range of 3 to 12 ppb. PCE concentrations immediately downgradient of the Site are in the range of 50 to 180 ppb. These concentrations dissipate within 200 feet of the Site and approach background levels.

6.0 OU2-REMEDIAL INVESTIGATION

The remedial investigation for Operable Unit 2 was conducted in accord with the work plan for these activities, dated 7 May 1999 which was prepared by JR Kolmer + Associates, Inc. The objective of this OU-2 RI was to determine if the chemicals found in the groundwater during the initial remedial investigation (OU-1) had migrated to deeper depths in the Upper Glacial aquifer.

Groundwater conditions were monitored during the conduct of the OU-2 investigation. Groundwater level measurements were taken several times during the course of the investigation and these data were used to calculate groundwater flow direction. Additional groundwater quality monitoring points were also placed during this RI. Hydropunch samples were collected and one deeper depth monitoring well was installed. Finally, an indoor air sample was collected from the basement of the building on this site to assess the air quality.

6.1 Groundwater Flow Direction

The monitoring wells that were used to assess groundwater flow direction are shown in Figure 23. Water level measurements were made in these wells during the historical work in the Site area, during the OU-1 RI, and subsequent to the OU-1 work pursuant to the Record of Decision (ROD). The groundwater elevation data based on these measurements is provided in Tables 8 and 10.

The historical assessment of groundwater flow is shown in Figure 6, which defines flow direction toward the north-northwest across the Site area. The OU-1 work activities confirmed this flow direction, and the groundwater contour map compiled for July 1997 is shown in Figure 20. Additional groundwater level measurements were taken during the monitoring work required by the OU-1 ROD. These measurements were made during 1999, 2000 and 2001. The groundwater contour maps based upon the 1999 through 2001 data are provided in Figures 24, 25 and 26. All of the groundwater monitoring shows that the direction of groundwater flow has remained constant through time across the Site area. That is, groundwater flow has consistently been to the north-northwest across the Site.

6.2 Groundwater Quality Assessment

Groundwater quality conditions were determined during the OU-1 RI by collection and analysis of samples from the monitoring wells shown in Figure 18. The results of these analyses showed the presence of PCE in the groundwater at concentrations ranging up to approximately 200 ug/l. Lower levels of PCE were also found upgradient of the Site area, and these concentrations were defined as background for the Site. The groundwater quality conditions downgradient of the Site showed that groundwater concentrations were approaching background levels within approximately 200 feet. Thus, it was found that only a small portion of the Upper Glacial aquifer contained PCE at concentrations ranging up to approximately 200 ug/l.

The OU-1 ROD required that an annual assessment of groundwater quality be made in the Site area. The monitoring wells that were used to conduct this assessment are shown in Figure 23. Groundwater samples were collected from each of these wells on an annual basis and submitted to the analytical laboratory for volatile organics analysis.

The results of the continuing monitoring conducted during 1999 through 2001 are summarized in Table 11. The detailed laboratory analytical data is provided in Appendixes B, C, D, E, and F. These groundwater quality data show that chemical concentrations have fluctuated during the monitoring period and have not maintained the pattern of decreasing concentrations that was established during the historical monitoring and the OU-1 RI work. Although these fluctuations interrupt the general trend of the data, they are not sufficiently significant to indicate the presence of a additional source or a secondary source of chemicals.

Groundwater quality at depth in the Upper Glacial aquifer was also assessed in the OU-2 investigation. This assessment was conducted through the installation of six hydropunches and the placement of a deeper depth groundwater monitoring well. The locations of the hydropunches and the monitoring well are shown in Figure 27. The hydropunches were installed in three sets with two hydropunches to each set. One hydropunch of each set was installed at a depth of 25 feet below the water table and the second hydropunch was installed at a depth of 50 feet below the water table. Since each set of hydropunches was installed immediately adjacent to an existing water table monitoring well, the sampling work conducted pursuant to the OU-1 ROD as well as the OU-2 RI provided contemporaneous groundwater quality data at the water table and at depths of 25 and 50 feet below the water table.

The hydropunches were installed by drilling (hollow stem auger) to a depth that was approximately five feet shallower than the desired depth of sampling. The differential pressure between the groundwater and the interior of the drilling auger was equalized, and then a hydropunch was then inserted through the auger and driven to a depth of approximately three to five feet beyond the drilled depth. A groundwater sample was then collected through the hydropunch and bottled for laboratory analysis. In this manner groundwater samples from depths of 25 and 50 feet below the top of the water table were collected at each set of hydropunch locations.

The results of the analytical data for the three sets of hydropunches, as well as the adjacent water table monitoring well, are summarized in Table 12. The detailed laboratory analytical data are provided in Appendix B. The PCE concentrations for each set of hydropunches have been mapped and are shown in Figure 28. These mapped data show that PCE concentrations at depth in the aquifer are minimal with the exception of the hydropunch that was placed 50 feet below the water table adjacent to monitoring well MW-4. This concentration was approximately 740 ug/l, which was higher than the PCE concentration observed at the water table, and was also higher than the PCE concentration at the depth of 25 feet below the water table.

The soil cuttings on the drilling augers at the depth of each hydropunch sample were inspected to determine the lithology at the location of the sample.

The soil cuttings at all hydropunch depths were basically a silty fine sand material with the exception of the deep hydropunch at the monitoring well MW-4 location. The soil material at the depth of this hydropunch was a silty clay material. The general geologic description of this area indicates that silt and clay lenses are present in the aquifer. This silty clay lense would have a much lower hydraulic conductivity than the surrounding aquifer. It was concluded that the PCE had slowly entered this silty clay lense at the time when PCE concentrations in the aquifer were high (prior to remediation). When the groundwater remedial system was implemented during the 1980's, groundwater containing PCE was removed from the subsurface and the PCE concentrations were significantly reduced in the sandy portion of the aquifer. Due to the lower hydraulic conductivity in the silty clay, however, the concentrations in this lense of fine grained material were not reduced as quickly. Therefore, the elevated concentration of PCE in the silty clay lense is a remnant or artifact of the historical PCE concentrations in the groundwater. These remnant concentrations are also dissipating, but at a slower rate due to the reduced hydraulic conductivity of the silty clay.

The rate at which PCE in the silty clay dissipates into the general groundwater flow is partly dependent upon the ratio of the hydraulic conductivity between the silty clay and the surrounding sandier portion of the aquifer. Field observation of these materials indicates that the silty clay has at least an order of magnitude (10 times) lower hydraulic conductivity than the surrounding sandy material, and this conductivity differential may approach two orders of magnitude (100 times). Groundwater flow through the silty clay would be 10 to 100 times slower than groundwater flow in the surrounding aquifer.

The chemical concentration of 740 ug/l of PCE in the silty clay would be decreased as it moved with the groundwater migrating from the silty clay into the surrounding sandy aquifer. This decrease would be caused by the fact that the relatively small quantity of groundwater coming from the silty clay layer would be combined with the larger quantity of groundwater flowing through the sandy portion of the aquifer. Based upon the hydraulic conductivity differences alone, the chemical concentration decrease would be in the range of 10 to 100 times. Thus, the concentration of 740 ug/l would be reduced to a range of approximately 7 ug/l to 74 ug/l after it is bled from the silty clay.

In addition to the hydraulic conductivity differences there is also chemical sorption onto the soil, which slows migration of chemicals moving with the groundwater flow. Basically, chemical sorption means that chemicals dissolved in the groundwater can bind themselves to soil particles in the aquifer. This sorption, or binding, helps contribute to the retention of the chemicals by the silty clay material. These chemicals will also desorb when the surrounding groundwater quality improves, but this desorption rate will be slow. Thus, this sorption, or retardation as it is termed, will further reduce the concentration of PCE that bleeds from the silty clay layer. Given the difference in hydraulic conductivity, as well as the retardation potential, the concentration of PCE bleeding from the silty clay into the sandier portion of the aquifer willould probably be in the range of the background concentration defined by the upgradient monitoring well.

The groundwater quality conditions below the depth of the deepest hydropunch at the monitoring well MW-4 location was further assessed by installing a monitoring well at a depth of 95 feet below the water table. This monitoring well was screened from a depth of 90 feet to a depth of 100 feet below the water table. Therefore, this monitoring interval was located below the silty clay lens where the higher concentration of 740 ug/l had been observed in the hydropunch sample. The groundwater sample collected from this monitoring well showed a PCE concentration less than 5 ug/l. These data confirm that the PCE concentration found in the silty clay lense is a localized artifact of historical conditions and not a dominant condition in the aquifer. In addition, these deeper depth monitoring well data also show that the PCE dissipation from the silty clay layer is contributing only low concentrations of PCE to the aquifer.

6.3 Analysis of Vertical Gradient

The vertical gradient in the groundwater aquifer was also checked to see if it were possible for chemicals to migrate to deeper depths in the aquifer due to groundwater recharge. Water level measurements for monitoring wells MW-4S and MW-4Deep were compared to determine the vertical gradient. Two sets of water levels have been measured in these wells, and the data are tabularized below.

Groundwater Elevations

Date	MW-4S	MW-4Deep	Difference
30 Nov 2000	55.53	55.44	0.09
1 Nov 2001	56.05	56.02	0.03

These data show that the shallow groundwater is at a higher elevation than the deeper groundwater, but only slightly. The difference in elevation is less than a tenth of a foot, about an inch or less. The groundwater gradient created by these elevation differences are 0.0009 for 30 November 2000 and 0.0003 for 1 November 2001, and they are downward. The groundwater flow from the site to monitoring well MW-6 (the downgradient well) was evaluated, and it was determined that groundwater flow velocities were approximately one-half foot per day. This assessment shows that it takes approximately one year for the groundwater to flow from the site to the downgradient monitoring wells. During this year the groundwater would be displaced approximately two to four feet deeper due to the downward vertical gradient. This vertical displacement assumes that the vertical hydraulic conductivity will be about one order of magnitude lower than the horizontal conductivity, which is the standard consideration for outwash deposits. This displacement is minimal and shows that groundwater flow is essentially horizontal in the site area.

The downgradient groundwater quality at monitoring wells MW-5 through MW-8 (see Figure 28) continue to show that PCE concentrations from the Site have dissipated to background levels within a distance of less than 200 feet from the Site.

6.4 Indoor Air Quality Analysis

An air sample was collected in the basement of the building on the Site. The purpose of this sampling was to determine the indoor air quality at the Site with respect to PCE, and compare the results to the NYSDH Guideline of 100 ug/m^3.

An indoor air sample was taken in the basement of the building at the Site using a summa canister. The summa canister is an evacuated stainless steel sphere. The air sample was collected by opening the sampling valve of the canister, which allowed the air to enter the evacuated canister. When the canister pressure had equalized with the atmospheric pressure, the sampling valve was closed. Two summa canisters of air were collected to comprise the air sample.

The results of the air sample analysis for PCE were 590 ug/m^3 (0.087 ppm/v), which is above the NYSDH standard. The basement of the building is not routinely used and none of the building occupants normally occupy this space. Access to the basement will be maintained on a restricted basis, and additional indoor air quality monitoring will be conducted.

6.5 **Summary of Remedial Investigation**

The OU-1 RI conclusions stated in Section 4.3 of this report are still applicable. In addition, the OU-2 RI has shown that deeper depth groundwater does not display a long-term impact due to the Flower Fashion operations. The PCE that is present in the silty clay lense is dissipating and has not caused significant groundwater impacts. Groundwater quality below the silty clay lense is acceptable and downgradient concentrations are also approximately at background levels.

7.0 HUMAN HEALTH EXPOSURE ASSESSMENT

This Human Health Exposure Assessment was conducted as part of the RI for the Flower Fashion Site. This assessment evaluated potential exposure pathways to humans for the Site area, which is identified in Figure 1. The chemical of concern addressed in this assessment was PCE, the specific chemical that was used in the historical dry cleaning operations at the Site.

7.1 Site Conditions

The Flower Fashion Site conditions have been discussed in detail in the previous sections of this report. The RI has identified residual PCE levels having concentrations less than 0.5 ppm at depths of 5 to 10 feet in the soil. These residual concentrations are within the guidelines prescribed by the NYSDEC, as reflected in TAGM 4046. Furthermore, the detailed soil investigation work conducted in 1993 showed that there were no detectable levels of PCE in the soil deeper than 15 feet.

The groundwater quality analysis showed that PCE was present both upgradient and downgradient of the Site area. The upgradient PCE concentrations (background) were in the range of 3 to 45 ppb. Immediately downgradient of the Site, PCE concentrations ranged up to approximately 600 ppb. These concentrations rapidly dissipated, however, and approached background concentrations approximately 200 feet downgradient of the Site (2 to 48 ppb).

These PCE concentrations documented in the soil and groundwater at the Site were considered in this exposure assessment.

The indoor air concentration of PCE measured in the basement of the Site building was above the NYSDH guideline. Access to the basement has been restricted and the elevated PCE level is discussed in Section 7.2.3 of this exposure assessment.

7.2 **Potential Exposure Pathways and Analyses**

The potential for human exposure at the Site is very limited. The potential exposure pathways for the PCE present in both soil and groundwater were assessed to determine this limited exposure condition.

7.2.1 Potential Exposure from PCE in Soils

The entire site area is paved, and therefore, individuals walking across the Site would not be exposed to the soil or any residual levels of PCE present in the soil. The only possible exposure pathway would involve the excavation of soil materials in the specific area where the PCE residuals were found. The cause for such an excavation is very minimal. All utility services are connected to the building from the front of the property along Northern Boulevard. There are no utility lines or utility services in the portion of the Site where PCE residuals are present in the soil.

If the extreme case in considered, and for some unknown reason an excavation is made along the rear portion of the building at the Site, concentrations of PCE which potentially may be encountered would not be injurious to human health. All residual levels of PCE in the soil are less than the TAGM 4046 requirement, which is 1.4 ppm. The worker exposure level, termed the Time Weighted Average (TWA), for an 8 hour work day established by the National Institute of Occupational Safety and Health (NIOSH) is 50 ppm. The TWA of 50 ppm is based upon prolonged human contact with PCE and absorption of PCE through the skin. Additionally, the risk-based concentration table prepared by the U.S. Environmental Protection Agency (USEPA) Region III, lists soil ingestion screening values of 110 ppm for industrial scenarios and 12 ppm for residential areas. Since the soil concentrations in the Site area are well below all of these published regulatory values, it is concluded that there is no potential for adverse human health effects due to the residual PCE concentrations in the soils.

7.2.2 Residual PCE Concentrations in Groundwater

The background levels for PCE in the groundwater range from 3 to 12 ppb. These background concentrations were obtained from groundwater monitoring wells located upgradient of the source area at the Site. The residual PCE concentrations in the groundwater immediately downgradient of the Site range up to approximately 600 ppb. Approximately 200 feet downgradient of the Site area, the residual PCE concentrations have dissipated and approach the background levels found upgradient of the Site. These downgradient concentrations range from 2 to 48 ppb, which is virtually identical to the PCE concentrations upgradient of the site. Based on these data, it was concluded that residual levels of PCE are naturally attenuating in the groundwater downgradient of the Site. Therefore, the potential for human exposure to the PCE in the groundwater at the Site is virtually non-existent.

The depth to groundwater at the Site is approximately 50 ft. Groundwater is not used at the Site for any purpose. A municipal public water supply services the Site and the surrounding area. The residual PCE concentrations in the groundwater immediately downgradient of the Site are rapidly dissipating to background concentrations. The closest public water supply wells are owned by the Water Authority of Great Neck North and these wells are approximately one half mile from the Site area. Based upon the RI data, the PCE levels from the Site area will have dissipated to background levels long before groundwater flow reaches the public water supply wells. Nevertheless, these water supply wells have been impacted by volatile organic chemicals, including PCE, and numerous businesses in the area have been identified as potential sources. The water pumped from these wells is treated to remove these chemicals prior to distribution.

Based upon the above analysis, it was concluded that there was no reasonable potential for adverse health effects due to exposure to the residual PCE concentrations in the groundwater at the Site.

7.2.3 PCE Concentration in Air Sample

The measured PCE concentration in the basement air was above the NYSDH guideline of 100 ug/m^3. The basement area in the building is not normally occupied by workers at the facility, and access has been restricted. Additional air monitoring will be conducted to obtain a better understanding of the PCE concentrations in the indoor air.

7.3 Human Health Exposure Assessment Summary

The above described analyses show that the potential for adverse health effects due to exposure to the residual PCE levels at the Site is not a reasonable potential for the identified soil and groundwater conditions. The residual PCE concentrations in soil are well below the threshold limit value for the TWA of 50 ppm. No groundwater is used at the Site for any purpose, and all water is provided through a municipal public supply. In addition, the residual concentrations of PCE in the groundwater are dissipating rapidly downgradient of the Site, and background conditions are reestablished within 200 feet of the Site area. Therefore, the data demonstrate that these groundwater residuals will not impact the public water supply wells of the Water Authority of Great Neck North located approximately one half mile north of the Site area.

The air quality in the basement of the building showed a PCE concentration above the NYSDH guideline of 100 ug/m^3. Access to the basement has been restricted to prevent exposure, and additional monitoring will be conducted to assess the nature of this problem.

8.0 **FEASIBILITY ANALYSIS**

The potential remedial activities that might be required at the Flower Fashion Site due to the presence of PCE in the groundwater have been identified. This identification of potential remedial alternatives consider the historical remedial work conducted at the Site as well as historical and existing groundwater quality conditions. The types of remedial actions to be considered for the Flower Fashion Site are discussed and evaluated in this section of the report.

8.1 **Description of Remedial Alternatives**

The following remedial alternatives could be employed to address the residual levels of PCE found in the soil and the groundwater at the Site. The identified remedial alternatives are:

- Groundwater Pump Well System and Treatment Complex
  This groundwater pumping and treatment system would be designed to mitigate the residual levels of PCE in the groundwater identified immediately downgradient of the Site area.

- Groundwater Air Sparging System
  This air sparge system would be designed to reduce the residual levels of PCE in the groundwater in the Site area.

- <u>Groundwater Monitoring</u>

  Groundwater quality would be monitored in the Site area for a period of three years.

- <u>No Further Action</u>

  The groundwater pumping and treatment program which operated at the Site during the 1980s, along with the soil excavation program and the soil vapor extraction interim remedial measure, have effectively reduced PCE concentrations to residuals levels. Therefore, no further action is considered necessary.

8.1.1 Groundwater Pump Well System and Treatment Complex

Present worth:	$900,000
Capital cost:	$400,000
Annual operation and maintenance	$125,000
Total operation and maintenance:	$500,000
Time to implement:	6 months

This remedial system would utilize the existing extraction well at the facility. This well is adjacent to the historical source area and is screened in the upper portion of the water table aquifer where the residual PCE levels have been measured. This pump will would be rehabilitated, as required, for this remedial activity.

The groundwater treatment complex would involve a three stage process. The first stage would be a precipitation process, the second stage would be a granular activated carbon system, and the third stage would utilize air stripping. This three stage process would be required because of the elevated mineral levels in the groundwater and the proximity of the hydrocarbon plume to the Site area, which is discussed in Section 4.2 of this report. The air stripping process would be used to remove the PCE, but the hydrocarbons from the adjacent plume, would also be drawn into the pump well and would foul the treatment operation if they were not removed by the carbon sorption process prior to air stripping. The discharge water from the air stripper would be routed to the storm sewer on Northern Boulevard.

The O & M operation would involve annual carbon exchange and routine preventive maintenance activities. A monitoring program would also be implemented during the operating time-frame of the treatment system. All monitoring would be stopped when treatment operations are completed and the removal of the PCE groundwater residual has been documented.

The entire treatment complex would be housed in a temporary building at the rear of the facility. It is envisioned that this complex would occupy most of the available space at the rear of the building.

8.1.2 Groundwater Air Sparging System

Present worth:	$200,000
Capital cost:	$100,000
Annual operation and maintenance	$ 25,000
Total operation and maintenance	$100,000
Time to implement	6 months

The groundwater air sparging system would be installed in essentially the same area as the original soil excavation work, which is described in Section 2.1.2 of this report. This system would include three air sparge wells spaced approximately 20 feet apart and extending 50 feet into the groundwater (75 feet below ground surface). Four soil vapor extraction wells would be installed between the pump wells. These wells would be just above the water table and would collect the vapor from the sparging operation.

The narrower sparge well spacing (20 feet) versus depth below the water table (50 feet) should allow for overlap of the sparge influence from each well. Only a single line of sparge wells can be placed on-site because of the confined area behind the building. This placement will effectively influence the sparge operation on the downgradient PCE residual level because of the large sparge influence overlap, and it will address the on-site PCE residual.

The O & M activities would include normal preventive maintenance as well as a groundwater monitoring program to assess the impact of the remedial operation. All monitoring would be stopped when the sparge operation is complete, because PCE levels would have been reduced to background. The air sparge blower would be housed in a temporary building behind the Site building.

8.1.3 Groundwater and Indoor Air Monitoring

Present worth:	$30,000
Capital cost:	none
Annual operation and maintenance:	$10,000
Total operation and maintenance	$30,000
Time to implement:	Immediate

The historical remedial work at this Site included excavation of soil materials containing elevated levels of PCE from the rear portion of the building. This initial excavation occurred in the middle 1980s. Subsequent to this remedial work, a groundwater pumping and treatment system was installed and operated through May of 1990. These remedial activities significantly reduced the levels of PCE in the soil and groundwater.

An IRM was implemented at the Site in 1995. This IRM involved the excavation of PCE laden soil materials from beneath the floor of the basement and installation of a soil vapor extraction system to reduce the residual PCE levels in the soil. This IRM was successfully completed in early 1996.

The historical remedial operations in conjunction with the IRM have effectively reduced the PCE levels in the soil and groundwater to residual concentrations. The historical Site monitoring has also shown that the residual

PCE in the groundwater is generally decreasing with time, although the pattern of dissipation is not definitive. This alternative would involve the implementation of a monitoring program to confirm that residual PCE levels are adequately dissipating. Groundwater monitoring would be conducted on an annual basis for three years.

The indoor air sample collected as part of the OU-2 RI work showed that PCE was above the NYSDH guideline. The indoor air would continue to be monitored to obtain a better assessment of the nature of this problem. The use of the basement of the building at the site has been restricted to prevent personnel exposure.

8.1.4 No Further Action

Present worth	None
Capital cost	None
Annual operation and maintenance	None
Total operation and maintenance	None
Time to implement	Immediate

The historical remedial work at the Site has been sufficient to reduce the PCE concentrations in groundwater to residual levels. The historical monitoring has documented this reduction in PCE concentrations in the groundwater and has generally shown a decreasing trend in PCE concentrations with some anomalous conditions. The overall monitoring data to date would be used to document that the remedial work at the Site has been sufficient and adequate.

8.2 Evaluation of Remedial Alternatives

Each of the remedial alternatives identified in the previous section were evaluated in accord with requirements set forth by the NYSDEC. The evaluation criteria were:

- Compliance with New York State's standards, criteria and guidance.
- Protection of human health and the environment.
- Short term effectiveness.
- Long term effectiveness and permanence.
- Reduction of toxicity, mobility or volume.
- Implementability.
- Cost.

The alternatives identified in Section 7.1 were evaluated with respect to these specific criteria.

8.2.1 Groundwater Pump Well System and Treatment Complex

Compliance With New York States's Standards, Criteria and Guidance (SCGs): The groundwater pumping and treatment operation would comply with the SCGs, and the remedy would meet the applicable environmental laws, regulations, standards and guidance. The overall objective of this remedial alternative would be to return groundwater quality to background levels for PCE. The existing monitoring data indicate that groundwater quality may be naturally dissipating to these concentrations, and such dissipation would continue if a pumping and treatment system were installed.

Protection of Human Health and the Environment: The Human Health Exposure Assessment described in Section 5.0 of this report shows that existing soil and groundwater conditions do not present a potential for exposure to PCE. There are no potable or production groundwater wells at the Site. The operation of a groundwater pumping and treatment system would raise the potential for exposure to PCE because contaminated groundwater would be brought to the surface and the likelihood of exposure during treatment plant operation and maintenance procedures would be enhanced. The concentrations of PCE in the groundwater, however, do not exceed the TWA of 50 ppm established by NIOSH. The indoor air concentrations of PCE would probably not be impacted by a pump and treat groundwater remedial program. There is approximately 50 feet of unsaturated soil between the groundwater and the building and this soil thickness would buffer any action taken at the depth of the groundwater.

Short Term Effectiveness: The short term adverse impacts associated with this remedial alternative would be the construction and operation of the remedial system. Construction activity would impact the adjacent land owner's property because the available area on-site is too small to contain the construction work. Operations such as equipment access, delivery of project materials, and so forth would have to occur across the adjacent property. When the system is operating, the air stripper would generate noise levels that would be noticeable in the area. It is not anticipated, however, that these noise levels would be excessive. It is estimated that the groundwater pump and treat operation would have to continue for a period of three years.

Long Term Effectiveness and Permanence: It is not anticipated that this remedial alternative would operate for a long term. The existing monitoring data indicate that the residual PCE levels in the groundwater are naturally dissipating to background concentrations. Therefore, it is not envisioned that a long term program would be needed to achieve the reduction of residual PCE concentrations in the groundwater.

Reduction of Toxicity, Mobility or Volume: This remedial alternative will not impact the toxicity of the PCE residuals at the Site. The remedial operation would reduce the volume of PCE in the groundwater, and would also reduce the mobility due to groundwater containment around the pump well.

Implementability: The engineering implementability of the groundwater pump and treat program for this Site is complicated by the elevated mineral content of the groundwater and the adjacent hydrocarbon plume which originated from a spill at a nearby gas station. Since the hydrocarbons will be drawn into the pump well system, the treatment complex will have to not only address the on-site PCE but also chemicals migrating from an off-site area. The elevated mineral levels will have to be reduced so they do not foul the carbon unit. These factors not only complicate the design and implementation of the remedial program, but they also make the operation and maintenance program more difficult to implement. Also, depending upon the extent of construction work, the adjacent land owner may not grant access to the Site across their property.

Cost: The capital cost for implementation for this remedial measure is estimated at $400,000. These costs include rehabilitation of the existing pump well, installation of a granular activated carbon treatment unit, installation of an air stripping unit and construction of a building to house the treatment system. Operation and maintenance costs include groundwater monitoring, carbon replacement, and general O & M procedures. The annual operating and maintenance budget is estimated to be $125,000. It is envisioned that this system would operate for a period of four years and the capital and O & M costs would total $900,000. The cost of this system for both construction and operations would be approximately half if the adjacent hydrocarbon plume were not interfering with the treatment operation.

8.2.2 Groundwater Air Sparging System

Compliance with New York State's Standards, Criteria and Guidance (SCGs): The air sparging system would comply with the SCGs, and the remedy will meet the applicable environmental laws, regulations, standards and guidance. The overall objective of this remedial alternative would be to reduce the on-site residual levels of PCE in the groundwater. The existing monitoring data indicate that the residual PCE concentrations in the groundwater are dissipating to background and implementation of an air sparge system should hasten this process.

Protection of Human Health and the Environment: The Human Health Exposure Assessment described in Section 5.0 of this report shows that existing soil and groundwater conditions do not present a potential for exposure to PCE. The installation of an air sparge system would raise the potential for exposure to

PCE because contaminated soil would be brought to the ground surface during well installation and the likelihood of exposure during these activities would be enhanced. The concentrations of PCE in the groundwater, however, do not exceed the TWA of 50 ppm established by NIOSH. The indoor air concentrations of PCE would probably not be impacted by a pump and treat groundwater remedial program. There is approximately 50 feet of unsaturated soil between the groundwater and the building and this soil thickness would buffer any action taken at the depth of the groundwater.

Short Term Effectiveness: The short term adverse impacts associated with this remedial alternative would occur during the system installation. The installation work would impact the adjacent land owner's property because the available area on-site is too small to contain this activity. Operations such as equipment access, delivery of project materials, and so forth would have to occur on the adjacent property. When the system is operating, the sparge blower will generate noise levels that would be noticeable in the area. It is estimated that the groundwater sparge operation would continue for three years. The most significant short term impacts will be completed within one month.

Long Term Effectiveness and Permanence: It is not anticipated that this remedial alternative would require a long period of operation. The existing monitoring data indicate that the residual PCE levels in the groundwater are naturally dissipating and this system operation should aid that process.

Reduction of Toxicity, Mobility or Volume: This remedial alternative will not impact the toxicity or mobility of the PCE residuals at the Site. The remedial operation would reduce the volume of PCE in the groundwater.

Implementability: The engineering implementability of the sparge system for this Site is complicated by the small area available to conduct the work. Virtually all installation activities will have to be conducted from the neighboring property. Depending upon the extent of construction work and the timing of these activities, the adjacent land owner may not grant access to the Site across their property.

Cost: The capital cost for implementation for this remedial measure is estimated at $100,000. These costs include installation of the sparge wells, blower installation, soil vapor extraction wells, piping and electrical and a temporary building. The annual operating and maintenance budget is estimated to be $25,000. These costs would include annual groundwater monitoring in the Site area and general preventive maintenance activities. It is envisioned that this monitoring would continue for a period of four years and the capital and O & M costs would total $200,000.

8.2.3 Groundwater and Indoor Air Monitoring

Compliance With New York State's Standards, Criteria and Guidance (SCGs): The groundwater monitoring alternative would comply with the SCGs, and will meet the applicable environmental laws, regulations, standards and guidance. The existing monitoring data indicate that groundwater quality is naturally attenuating. There are some anomalies in these data, but it is probable that the PCE concentrations will continue to decrease because the PCE source has been remediated. The residual levels of PCE in the soil satisfy TAGM 4046. The indoor air concentration of PCE was above the NYSDH guideline.

Protection of Human Health and the Environmental: The Human Health Exposure Assessment described in Section 5.0 of this report shows that existing soil and groundwater conditions do not present a potential for exposure to PCE. The monitoring of indoor air for PCE will be used to help assess the nature and extent of this potential issue. Access to the basement has been restricted to limit further exposure.

Short Term Effectiveness: There would be no short term adverse impacts associated with this remedial alternative. The use of the basement has been restricted and the continued monitoring will help resolve this issue.

Long Term Effectiveness and Permanence: The monitoring data show that residual PCE levels in the groundwater are dissipating to the background, but there are some anomalies in these data. The residual concentrations in the soils are below the requirement of TAGM 4046. In the long term this natural attenuation will effectively reduce site conditions to background conditions. Also, the additional air monitoring data will help resolve the indoor air issue.

Reduction of Toxicity, Mobility or Volume: This remedial alternative will not impact the toxicity or mobility of the PCE residuals at the Site. The volume of PCE will dissipate with time.

Implementability: There are no implementation difficulties associated with this alternative.

Cost: There is no capital cost associated with implementation of this remedial measure. The annual operating and maintenance budget is estimated to be $10,000 and these costs are associated with groundwater and the indoor air monitoring.

8.2.4 No Further Action

Compliance With New York State's Standards, Criteria and Guidance (SCGs): The No Further Action alternative would probably not comply with the SCGs, and will probably not meet the applicable environmental laws, regulations, standards and guidance. The existing monitoring data indicate that groundwater quality is naturally attenuating, but there are anomalies in the data that do not permit decisive analysis of the data trends. The residual levels of PCE in the soil, however, satisfy TAGM 4046. The indoor air concentrations of PCE are above the NYSDH guideline.

Protection of Human Health and Environment: The Human Health Exposure Assessment described in Section 5.0 of this report shows that existing soil and groundwater conditions do not present a potential for exposure to PCE. The indoor air concentrations of PCE are above the NYSDH guideline and without continued monitoring this issue cannot be addressed.

Short Term Effectiveness: There would be a short term adverse impact associated with the indoor air concentrations of PCE if No Further Action were taken.

Long Term Effectiveness and Permanence: The monitoring data show that residual PCE levels in the groundwater are probably dissipating to background, but there are anomalies in the data. The residual concentrations in the soils are below the requirement of TAGM 4046. In the long term, natural attenuation will probably reduce site conditions to background conditions, but anomalies in the data to date suggest continued monitoring. This is particularly true for the indoor air monitoring.

Reduction of Toxicity, Mobility or Volume: This remedial alternative will not impact the toxicity or mobility of the PCE residuals at the Site. The volume of PCE will dissipate with time.

Implementability: There are no implementation difficulties associated with this alternative.

Cost: There are no capital costs or annual operating and maintenance costs associated with implementation of this remedial measure.

8.3 Evaluation of Remedial Alternatives

The four remedial alternatives discussed in the previous sections were critically evaluated on a comparative basis to determine which alternative is most applicable to the Flower Fashion Site conditions. The results of this evaluation are listed in Table 13. Each evaluation criterion has a total value of ten points. The comparative analysis of alternatives resulted in a ranking of each alternative with respect to a specific criteria. Scores from zero to ten were assigned based upon the relative merits of each alternative. A brief discussion of the comparative analysis is provided in the following sections.

8.3.1 Compliance With New York State's Standards, Criteria and Guidance

All of the remedial alternatives except the continued monitoring and the No Further Action alternative comply with the New York State SCGs. The groundwater and indoor air monitoring remedial alternative would monitor the natural attenuation of PCE residuals in the groundwater. The groundwater pumping and treatment alternative as well as the air sparge alternative would augment the natural attenuation of PCE in the subsurface. Since these alternatives would probably reduce the PCE residuals in a shorter period of time, they were given a slightly higher score than the groundwater monitoring (see Table 12). The No Further Action alternative was ranked lower because it will not provide the data needed to address the indoor air issue.

8.3.2 Protection of Human Health and the Environment

The Human Health Exposure Assessment in Section 5.0 of this report documents the minimal nature of potential exposures to PCE at the Flower Fashion Site with respect to the soil and groundwater conditions. Even with this minimal exposure potential, however, the pump and treat as well as the air sparge remedial alternatives increase the potential for PCE exposure, and therefore, were not ranked as high as the continued monitoring alternative. The pump and treat and the air sparge alternatives will not impact the indoor air conditions, and continued monitoring will be needed to assess this condition. The No Further Action alternative would not provide the needed assessment data. The remedial alternatives involving extraction of groundwater and air sparging were scored an eight to reflect a higher exposure potential to PCE. The groundwater and indoor air monitoring alternative was given a score of ten since access to the area of elevated PCE in indoor air will be restricted and the data from this program will be used to assess the nature of the indoor air issue. The No Further Action alternative was given a low score since it will not produce the data needed to identify and resolve site issues.

8.3.3 Short Term Effectiveness

The two remedial alternatives involving site construction have a short term adverse impact. The more extensive the construction work at the Site, the greater the adverse impact. Therefore, these remedial alternatives were scored the lowest for this criteria. The groundwater and indoor air monitoring alternative received a score of ten because it does address the short term adverse impact caused by the indoor air in the basement and this alternative also obtains data to help resolve this issue. The No Further Action alternative was scored the lowest since it does not address the indoor air issue, nor does it provide for additional groundwater monitoring.

8.3.4 Long Term Effectiveness and Permanence

The long term effectiveness of all remedial alternatives was comparable, with the exception of the No Further Action alternative. In the long term, the residual concentrations of PCE in the groundwater and air will dissipate, but this dissipation should be monitored. For this reason, all alternatives except the No Further Action alternative were scored a value of ten for this criteria. The No Further Action alternative was given a lower score because of the lack of monitoring.

8.3.5 Reduction of Toxicity, Mobility or Volume

All of the remedial alternatives are quite comparable with respect to this evaluation criteria. The groundwater pumping and treatment option, however, does retard the flow of groundwater due to the pump well action, and therefore, this alternative slightly reduces the mobility of the residual PCE level in the groundwater. For this reason, the groundwater pumping and treatment alternative was scored a ten and the other three alternatives were scored a nine.

8.3.6 Implementability

The implementability of each remedial alternative becomes more difficult as the amount of construction work increases. In addition, the likelihood of obtaining access across the neighboring property decreases as the construction activity increases. Given these conditions, the groundwater pumping and treatment remedial alternative was ranked the lowest with a score of three. The groundwater sparging alternative received a higher score, mainly because it did not include as much construction work, and it is probable that site access would be enhanced. The groundwater monitoring alternative was given a score of nine because it is relatively easy to implement. The No Further Action alternative received a score of ten because it can be readily implemented.

8.3.7 Cost

The cost criteria for each of the remedial alternatives was graded rather severely. Existing site conditions virtually eliminate exposure to the PCE residual, and thus, the Site does not pose a threat to human health or the environment. In addition, the Site data indicate that the groundwater PCE residual is dissipating although there are anomalies in the data trend. The soil PCE residual is within TAGM 4046 requirements. Given these existing Site conditions the expenditure of money to implement a remedial alternative to accomplish the same goal that can be achieved naturally is not considered a prudent use of resources. Therefore, the remedial alternatives involving treatment system construction were given low scores because of their cost expenditures. The groundwater monitoring and No Further Action alternatives were given the highest scores.

8.4 <u>Selected Remedial Alternative</u>

The evaluation of the four remedial alternatives showed that the groundwater and indoor air monitoring alternative was the most appropriate for the Flower Fashion Site (see evaluation scores in Table 13). The technical reasonability of the groundwater and indoor air monitoring alternative is readily obvious since it will confirm the natural attenuation of the residual concentrations of PCE. Furthermore, past remedial actions undertaken at the Site have been effective in remediating soil and groundwater. Therefore, implementation of a concerted remedial effort is not warranted. The groundwater and indoor air monitoring alternative is hereby recommended for implementation.

Tables

TABLE 1
FLOWER FASHION SITE
Summary of Perchloroethylene Data
Monitoring Well and Borings Installed in April 1984

Well/Boring Number	Sample Depth	PCE Concentration (ppb)
Monitoring Well Boring	5'-7'	1,300,000
	10'-12'	550,000
	20'-22'	12
	30'-32'	ND
	40'-42'	13
	50'-52'	340
B1	5'-7'	130
	10'-12'	15
	15'-17'	<10
	20'-22'	ND
B2	5'-7'	14
	10'-12'	<10
	15'-17'	12
	25'-27'	ND
B3	5'-7'	<10
	10'-12'	<10
	15'-17'	28
	20'-22'	ND
B4	5'-7'	470,000
	10'-12'	6,500
	15'-17'	140
	25'-27'	ND

TABLE 2
FLOWER FASHION SITE
Groundwater Quality Data 1991

Sample Location	Date	COMPOUND Tetrachloro-ethylene	Trichloro-ethylene	Benzene	Toluene	Ethyl-benzene	Total Xylene
MW-1	Feb 1991	20	3 (J)				
	March 1991	29					
	April 1991	37					
	May 1991	30					
	June 1991	38	3 (J)				
	July 1991	31					
MW-2	Feb 1991	333	42			6 (J)	12 (J)
	March 1991	342	50				
	April 1991	557	81		13 (J)	29	92 (J)
	May 1991	405	49		19 (J)	32	88
	June 1991	633	74		8 (J)	23 (J)	41 (J)
	July 1991	772	92			25 (J)	13 (J)
MW-3	Feb 1991	37	30	4 (J)			
	March 1991	446	34				10 (J)
	April 1991	221	12				5 (J)
	May 1991	99					
	June 1991	150	15				
	July 1991	229	20				
MW-4	Feb 1991	327	11 (J)				
	March 1991	1,732	55 (J)				
	April 1991	1,441	46 (J)				
	May 1991	1,367	43 (J)				
	June 1991	1,479	44 (J)				
	July 1991	1,780	54 (J)				

TABLE 2
FLOWER FASHION SITE
Groundwater Quality Data 1991

		COMPOUND					
Sample Location	**Date**	**Tetrachloro-ethylene**	**Trichloro-ethylene**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Total Xylene**
MW-8	Feb 1991	57	5				
	July 1991	58	8				
MW-10	Feb 1991	46	19	3 (J)			
	July 1991	104	21	135		1 (J)	2 (J)
MW-42	Feb 1991			4 (J)	9 (J)	127	309
	July 1991	2 (J)		7	24	74	67
MW-44	Feb 1991						
	July 1991						
MW-47A	Feb 1991	100	49 (J)	226	671	332	1,685
	July 1991	109	65 (J)	548	3,420	663	1,271
FN-4	Feb 1991	399 (J)	215 (J)	5,045	17,643	2,992	14,327
	July 1991	336 (J)	239 (J)	6,099	19,113	2,666	6,745
FN-5	Feb 1991			11	34	2 (J)	115
	July 1991			36	156	111	151

Note:
J=Compound detected below MDL (estimated by laboratory)
All samples analyzed for complete volatiles fraction; for complete listing of data see Appendix A.
All data in ug/l.

TABLE 3
FLOWER FASHION SITE
Groundwater Quality Data 1993

		COMPOUND						
Sample Location	Date	1,2-DCE	TCE	PCE	Benzene	Toluene	Total Xylene	Ethyl Benzene
MW-1A	Feb 93	ND	1	46	ND	ND	ND	ND
	Mar 93	ND	1	48	ND	ND	ND	ND
MW-1B	Feb 93	3	2	150	3	140/390	140/323	27/74
	Mar 93	9	ND	120	9	1,100	900	150
MW-1C	Feb 93	3	2	45	ND	ND	ND	ND
	Mar 93	6	2	54	ND	ND	ND	ND
MW-1D	Feb 93	ND	ND	9	ND	ND	ND	ND
	Mar 93	ND	ND	18	ND	ND	ND	ND
MW-2	Feb 93	ND	50	860	ND	ND	ND	ND
	Mar 93	ND	ND	8	ND	ND	ND	ND
MW-3	Feb 93	ND	1	50	ND	ND	ND	ND
	Mar 93	ND	ND	25	ND	ND	ND	ND
MW-4	Feb 93	ND	23	1,800	ND	ND	ND	ND
	Mar 93	ND	17	850	ND	ND	ND	ND
Recovery Well	Mar 93	ND	1	38	ND	ND	ND	ND

Note:
All data in ug/l.

TABLE 4
FLOWER FASHION SITE
March 1993 Floor Sump Sampling Data

	COMPOUND						
Sample Location	**1,2-DCE**	**TCE**	**PCE**	**Benzene**	**Toluene**	**Total Xylene**	**Ethyl Benzene**
Floor Sump Water	2	6	200	ND	ND	1	ND
Floor Sump Soil	1	12	1,100	ND	52	3	ND
Floor Sump Sediment	130	360	29,000	2	2	ND	ND

Notes:
All data in ug/l.
1,1,1-TCA was also detected as follows:
Floor Sump Water - 1 ug/l
Floor Sump Soil - 2 ug/l

TABLE 5
FLOWER FASHION SITE
April 1993 Floor Sump Sampling Data

Sample Location	1,2-DCE	TCE	PCE	Benzene	Toluene	Total Xylene	Ethyl Benzene
Floor Sump Water	170	2,800	270,000	ND	ND	ND	ND
Soil Beneath Sump							
14 Inches	ND	2,500	1,300,000	ND	ND	ND	ND
16 Inches	2,600	150,000	39,000,000	ND	ND	ND	ND
20 Inches	ND	51,000	13,000,000	ND	ND	ND	ND
22 Inches	ND	40,000	15,000,000	ND	ND	ND	ND
5 Feet	ND	8	270	ND	ND	ND	ND
10 Feet	ND	ND	33	ND	ND	ND	ND
13.5 Feet	ND	ND	100	ND	ND	ND	ND

Note:
All data in ug/l.

TABLE 6
FLOWER FASHION SITE
Soil Vapor Extraction Treatment
Organic Vapor Monitoring
Start-Up Data, 16 May 1995

Location	Perchloroethylene Concentration (ppm)
Sump Vent	>300
SVE-1	65
SVE-2	50
SVE-3	60
SVE-4	130
SVE-5	70
Soil Container	220

TABLE 7
FLOWER FASHION SITE
Soil Vapor Extraction Treatment
Organic Vapor Monitoring
Operating Data
18 May 95 - 14 June 95

	Perchloroethylene Concentrations (ppm)				
Location	18 May 95	24 May 95	1 June 95	7 June 95	14 June 95
Sump Vent	<2	2	1	ND	1
SVE-1	<2	5	2	1	2
SVE-2	20	25	28	15	18
SVE-3	<2	5	6	4	3
SVE-4	190	75	50	42	45
SVE-5	30	17	40	31	23
Soil Container	3	2	1	ND	ND

TABLE 8
FLOWER FASHION SITE
Groundwater Elevation Data 1997

		4 Jun 97		9 Jul 97		18 Sep 97	
Well	TOC Elevation	Depth to Water	Water Elevation	Depth to Water	Water Elevation	Depth to Water	Water Elevation
MW-2	100	43.34	56.66	43.63	56.37	44.17	55.83
MW-3	99.01	42.45	56.56	42.72	56.29	43.29	55.72
MW-4	98.24	41.7	56.54	41.99	56.25	42.53	55.71
MW-1A	100.6	43.52	57.08	43.78	56.82	44.28	56.32
MW-1B	100.17	43.21	56.96	43.48	56.69	43.98	56.19
MW-1C	99.94	42.73	57.21	42.99	56.95	43.51	56.43
MW-1D	100.48	43.3	57.18	43.55	56.93	44.05	56.43
FN-4	96.42	39.79	56.63	40.05	56.37	40.65	55.77
FN-14	86.01	30.27	55.74	30.45	55.56	31.04	54.97
MW-42	87.04	31.97	55.07	32.25	54.79	32.86	54.18
MW-8	110.53	54.26	56.27	54.59	55.94	55.21	55.32
MW-7	110.04	53.97	56.07	54.28	55.76	54.87	55.17
MW-6	109.58	53.73	55.85	54.03	55.55	54.65	54.93
MW-10	114.32	58.75	55.57	59.09	55.23	59.73	54.59

TABLE 9
FLOWER FASHION SITE
Groundwater Quality Data July 1997

Sample Locations

Compounds		FN-14	FN-4	MW-1A	MW-1B	MW-1C	MW-1D	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-10	MW-42
Methylene Chloride		120	380	3	140	2	2	2	3	24	2	3	3	3	3	3
Bromodichloromethane		2														
Trichloroethene		2	30					1		4				1		29
Toluene		1100	2300		540											
Ethylbenzene		640	140		1000											
Xylene		5000	1100		3500	5										
Benzene		150	380													
Tetrachloroethene		36	17	7	4	12	3	69	52	180	3	25	6	2	4	7
1,2-Dichloroethene			38		2	2				10			1	1		11
Acetone													4			
Carbon Disulfide														1		

Notes:
All concentrations are in ug/l
Blank spaces mean non-detect

TABLE 10
FLOWER FASHION SITE
Groundwater Elevation Data 1999 - 2001

		25 Oct 99		25 Oct 00		1 Nov 01	
Well	TOC Elevation	Depth to Water	Water Elevation	Depth to Water	Water Elevation	Depth to Water	Water Elevation
MW-2	100.00	45.50	54.50	44.32	55.68	43.85	56.15
MW-3	99.01	44.54	54.47	43.37	55.64	42.92	56.09
MW-4S	98.24	43.81	54.43	42.62	55.62	42.19	56.05
MW-4 DEEP	98.34	-	-	-	-	42.32	56.02
MW-1C	99.94	44.82	55.12	43.77	56.17	43.28	56.66
FN-14	86.01	-	-	31.16	54.85	-	-
MW-42	87.04	-	-	32.68	54.36	-	-
MW-8	110.53	56.47	54.06	55.25	55.28	54.87	55.66
MW-7	110.04	56.09	53.95	54.86	55.18	54.52	55.52
MW-6	109.58	55.90	53.68	54.60	54.98	54.28	55.30
MW-10	114.32	60.89	53.43	59.50	54.82	59.24	55.08
FN-8	-	35.40	-	34.07	-	33.72	-
MW-5	-	-	-	55.02	-	54.70	-

TABLE 11
FLOWER FASHION SITE
Groundwater Quality Data 1999-2001

October 1999

	MW-1C	MW-2	MW-3	MW-4	MW-6	MW-7	MW-8	FN-8
Compounds								
Acetone					52			
cis-1,2-dichloroethene	7.6			35				19
Trichloroethene	2.8			6.6		2.4		17
Tetrachloroethene	31	51	140	140	56	36		120

October 2000

	MW-1C	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	FN-14	FN-14DL	FN-8	MW-42
Compounds												
Vinyl Chloride				2.7 (J)								
Methylene Chloride	11	11			13	12	12	11		560		
cis-1,2-Dichloroethene	1.7 (J)	2.4	50	16					92	69 (J)	3.6 (J)	
Benzene									3700 (E)	3300		
Trichloroethene			24 (J)						11 (J)		3.9 (J)	
Toulene									5600 (E)	4700		
Tetrachloroethene	7	16	820	41		4.2 (J)	2.1		37		16	
Ethyl Benzene									1200	970		
m/p-Xylenes									5000 (E)	4400		
o-Xylene									1800 (E)	1500		

November 2000

	MW-4DEEP	MW-4DEEP (DUP)	MW-4S	MW-4SDL	MW-4S (DUP)	MW-3	MW-3DL	MW-3 (DUP)
Compounds								
Vinyl Chloride			84	69	64	1.8 (J)		
Methylene Chloride			6.2		15 (J)	6.3		
cis-1,2-Dichloroethene			230	210	230	130	120	140
Trichloroethene			23	18 (J)	22 (J)	16	9.6 (J)	13 (J)
Tetrachloroethene	3.1 (J)	4.1 (J)	440 (E)	410	460	510 (E)	490	440

TABLE 11
FLOWER FASHION SITE
Groundwater Quality Data 1999-2001

July 2001

	MW-2	MW-2DL	MW-3	MW-3DL	MW-4S	MS-4DL
Compounds						
Methylene Chloride			2.2			
cis-1,2-Dichloroethene	7.3		8.2		16	
Chloroform	500 (E)	660 (D)	650 (E)	62 (D)	31	30 (D)
1,1,1-Trichloroethane			2.1			
Trichloroethene	9		11		15	
Bromodichloromethane	3.3		3.8			
Tetrachloroethene	300 (E)	210 (D)	380 (E)	400 (D)	630 (E)	620 (D)

November 2001

	MW-6	MW-1C	MW-5	MW-2	MW-7	MW-8	MW-10	FN-8
Compounds								
Chloromethane								.8 (J)
Bromomethane								.3 (J)
Methylene Chloride		0.9 (JB)	1 (JB)	4 (JB)	.4 (JB)	2 (JB)	.9 (JB)	.5 (JB)
Acetone				14 (J)		2 (J)		4 (J)
Carbon Disulfide							.8 (J)	.3 (J)
Chloroform				62				
cis-1,2-Dichloroethene		6				2 (J)		5
Trichloroethene		3 (J)		10	2 (J)	1 (J)	.8 (J)	4 (J)
Dibromochloromethane								.2 (J)
1,1,2-Trichloroethane								.3 (J)
Benzene								07 (J)
4-Methyl-2-Pentanone								2 (J)
Tetrachloroethene	48	45	2	420	35	6	2 (J)	38
Toulene		1 (J)						.1 (J)

Notes:
All concentrations are in ug/l.
DL means sample was diluted for further analysis.
E means sample analysis exceeded calibrated range.
D indicates values taken from dilution run.
J indicates an estimated value.
DUP means a duplicate sample analysis.
Blank spaces mean non-detect.

TABLE 12
FLOWER FASHION SITE
Hydropunch Data October 1999

Hydropunch Samples

Compounds	MW-1C	HP-1S	HP-1D
Acetone			44
cis-1,2-dichloroethene	7.6		
Trichloroethene	2.8		
Tetrachloroethene	31		6

Compounds	MW-4	HP-2S	HP-2D	HP-2D(DL)
Acetone			9.8	
cis-1,2-dichloroethene	35			
Trichloroethene	6.6			
Tetrachloroethene	140	100	550(E)	740(D)

Compounds	MW-6	HP-3S	HP-3S(DUP)	HP-3D
Acetone	52	21	25	13
cis-1,2-dichloroethene				
Trichloroethene				
Tetrachloroethene	56	4.9	4.8	6.3

Notes:
All concentrations are in ug/l.
DL means sample was diluted for further analysis.
E means sample analysis exceeded calibrated range.
D indicates values taken from dilution run.
J indicates an estimated value.
DUP means a duplicate sample analysis.
Blank spaces mean non-detect.

TABLE 13
FLOWER FASHION SITE
Evaluation of Remedial Alternatives

	Evaluation Criteria							
Alternatives	Compliance With SCGs	Protection of Human Health	Short-Term Effects	Long-Term Effects	Reduction of Toxicity, Mobility and Volume	Implement-ability	Cost	**Totals**
A. Groundwater Pumping and Treatment	10	8	6	10	10	3	2	**49**
B. Groundwater Sparging	10	8	7	10	9	6	4	**54**
C. Continued Groundwater and Indoor Air	8	10	10	10	9	9	9	**65**
D. No Further Action	6	5	5	8	9	10	10	**53**

NOTE: See Section 8.0 for a discussion of the Remedial Alternatives Evaluation.

Figures

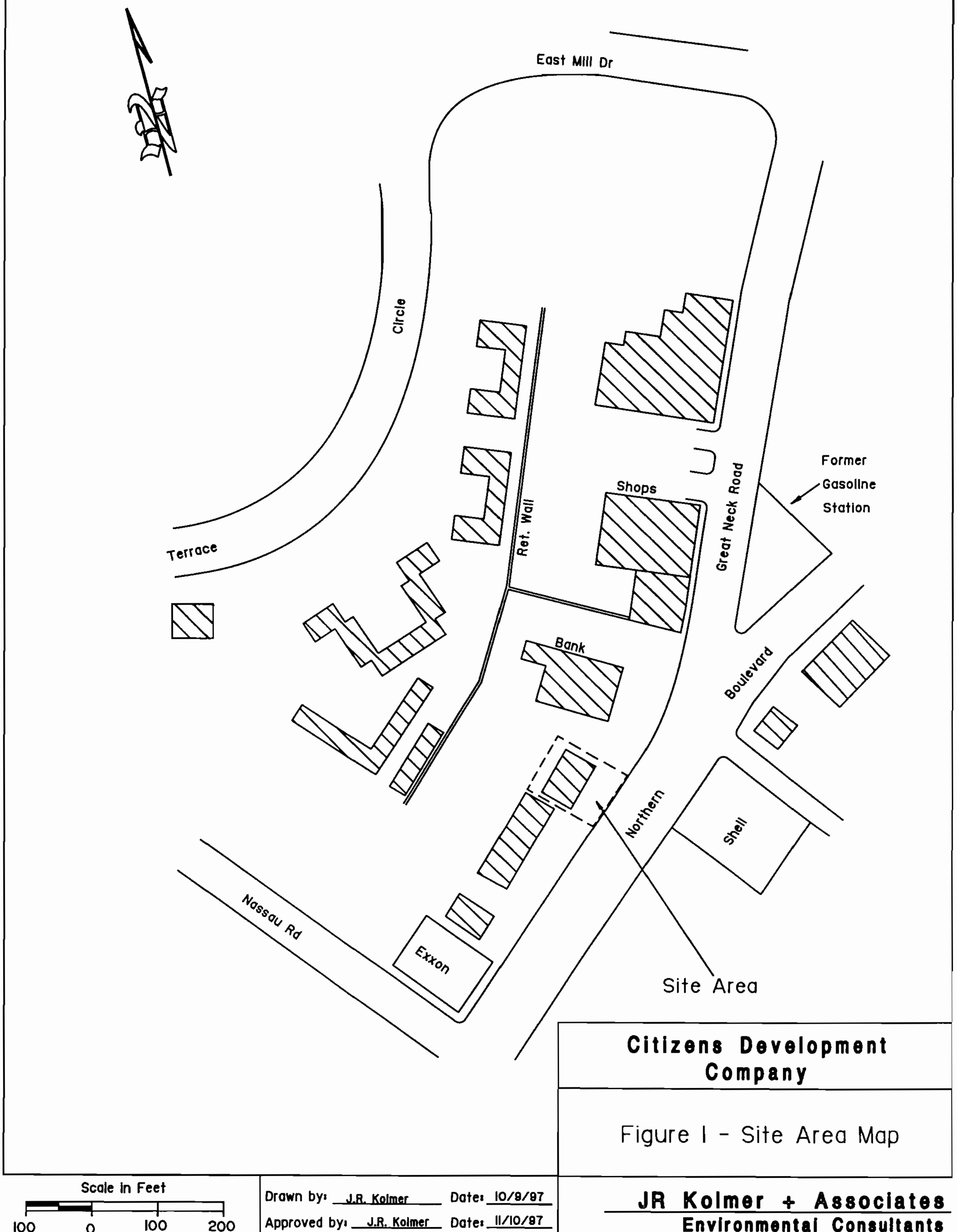


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Figure 1 - Site Area Map

Drawn by: J.R. Kolmer Date: 10/9/97
Approved by: J.R. Kolmer Date: 11/10/97

JR Kolmer + Associates
Environmental Consultants

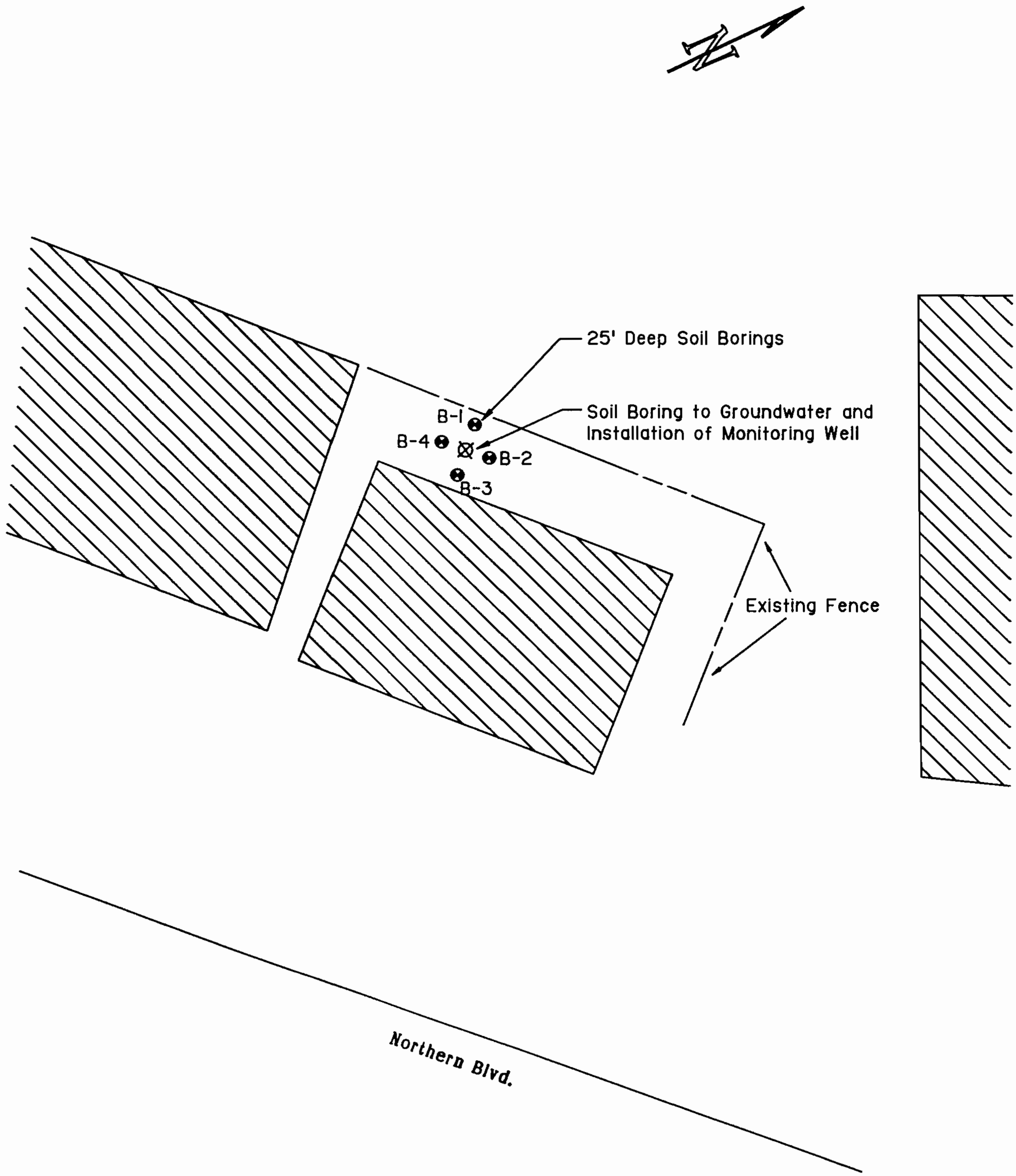

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Figure 2 - Initial Soil Borings and Monitoring Well

Scale in Feet: 20 0 20 40

Drawn by: J.R. Kolmer Date: 10/9/97
Approved by: J.R. Kolmer Date: 11/10/97

JR Kolmer + Associates
Environmental Consultants

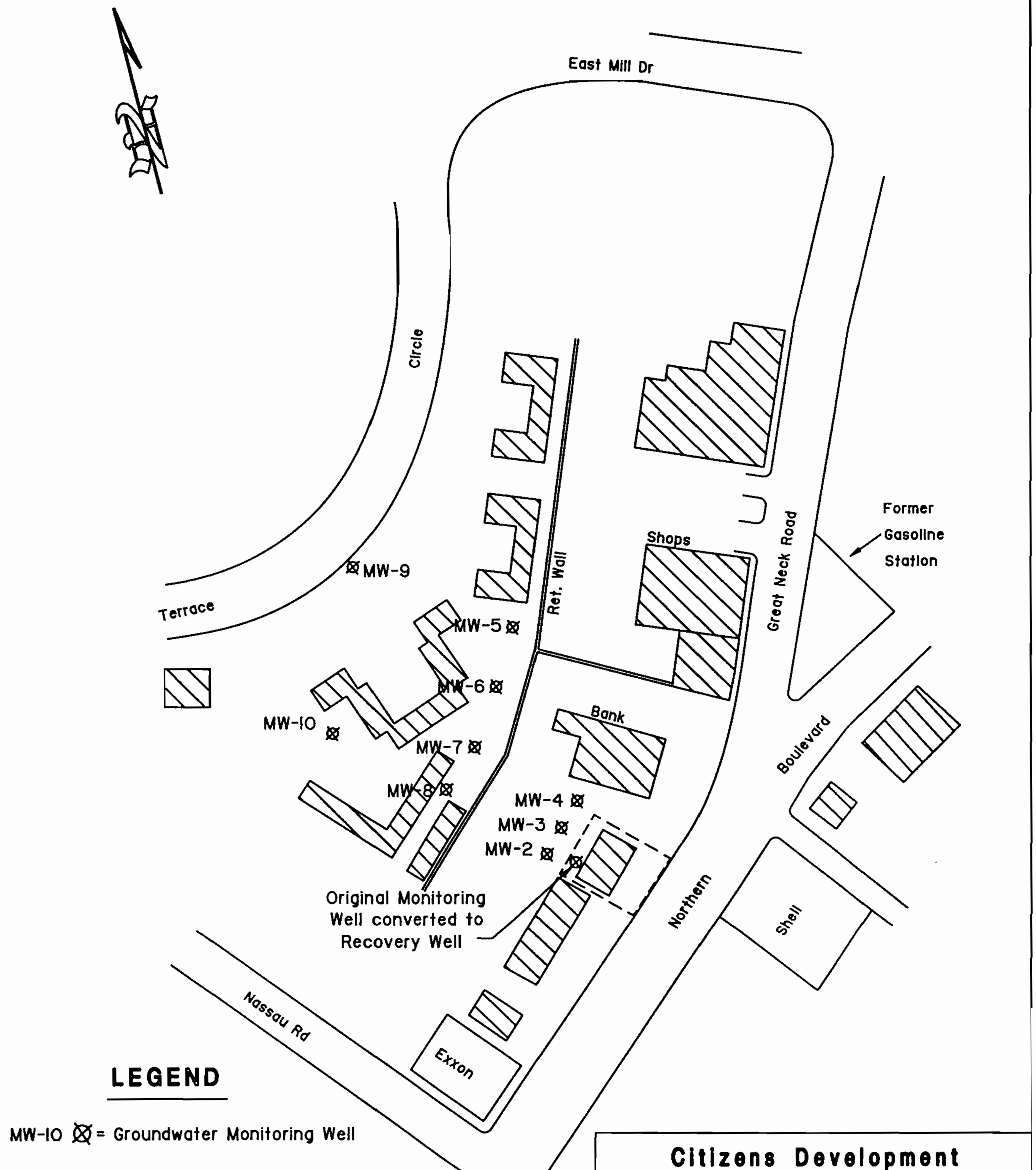

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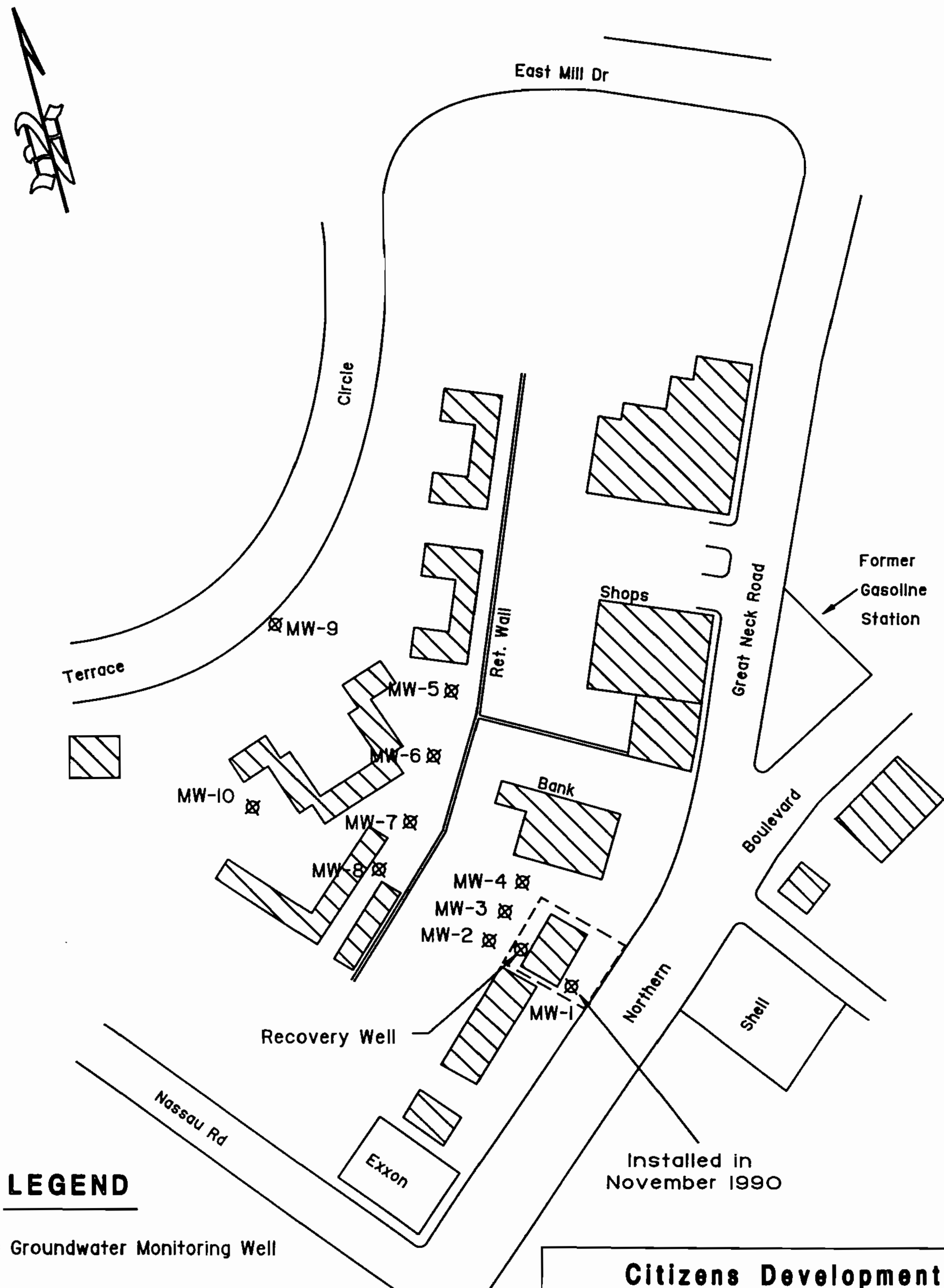
Figure 3 - Monitoring Well Locations, 1984 - 85

Scale in Feet
100 0 100 200

Drawn by: J.R. Kolmer Date: 12/3/01
Approved by: J.R. Kolmer Date: 12/4/01

JR Kolmer + Associates
Environmental Consultants



LEGEND

MW-10 ⊠ = Groundwater Monitoring Well

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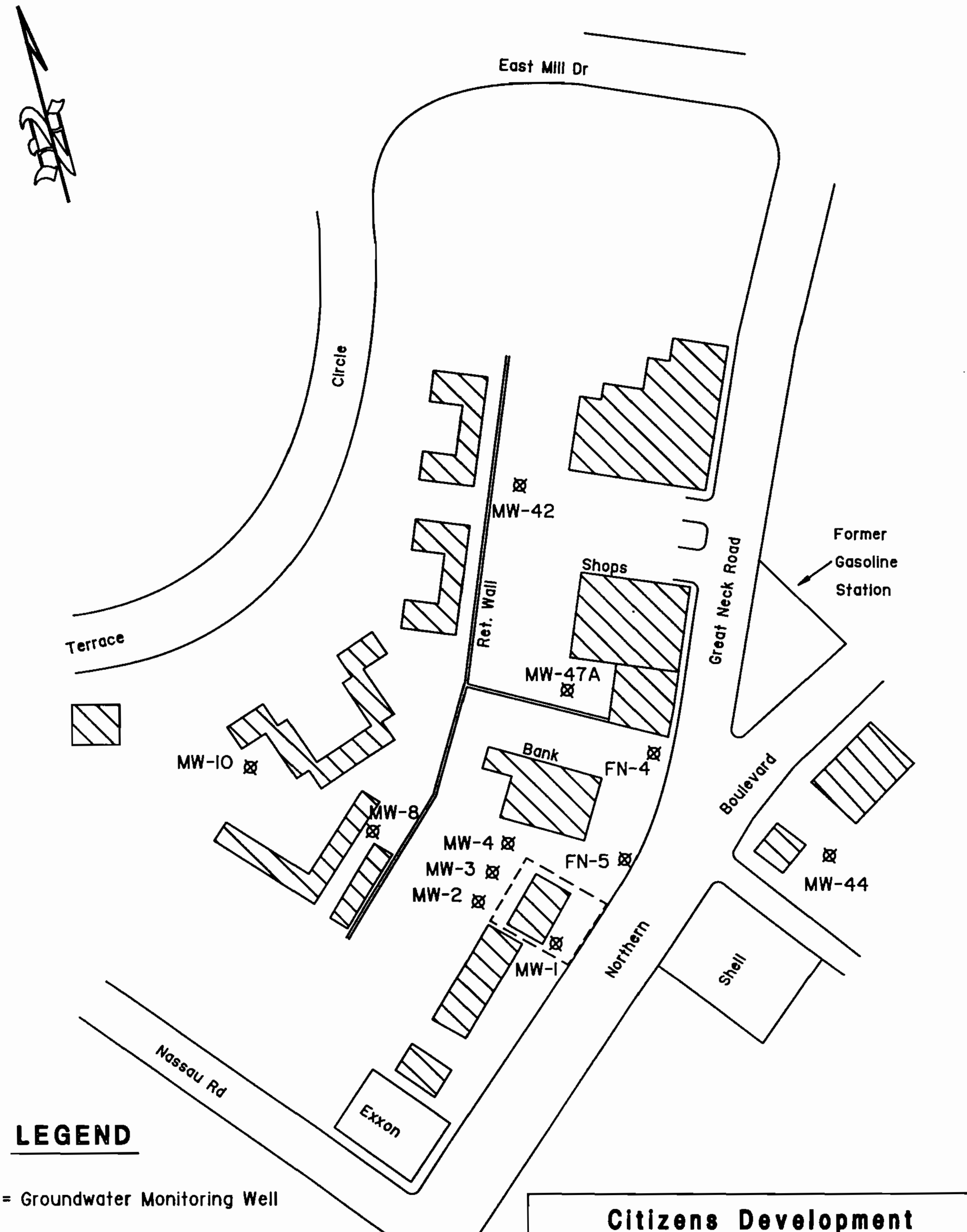
Figure 4 - Upgradient Monitoring Well MW-1

Scale in Feet

100 0 100 200

Drawn by: J.R. Kolmer Date: 12/3/01
Approved by: J.R. Kolmer Date: 12/4/01

JR Kolmer + Associates
Environmental Consultants



LEGEND

MW-10 ⊠ = Groundwater Monitoring Well

Citizens Development Company

Figure 5 - Monitoring Wells Sampled February to July 1991

Scale in Feet: 100 0 100 200

Drawn by: J.R. Kolmer Date: 12/3/01

Approved by: J.R. Kolmer Date: 12/4/01

JR Kolmer + Associates
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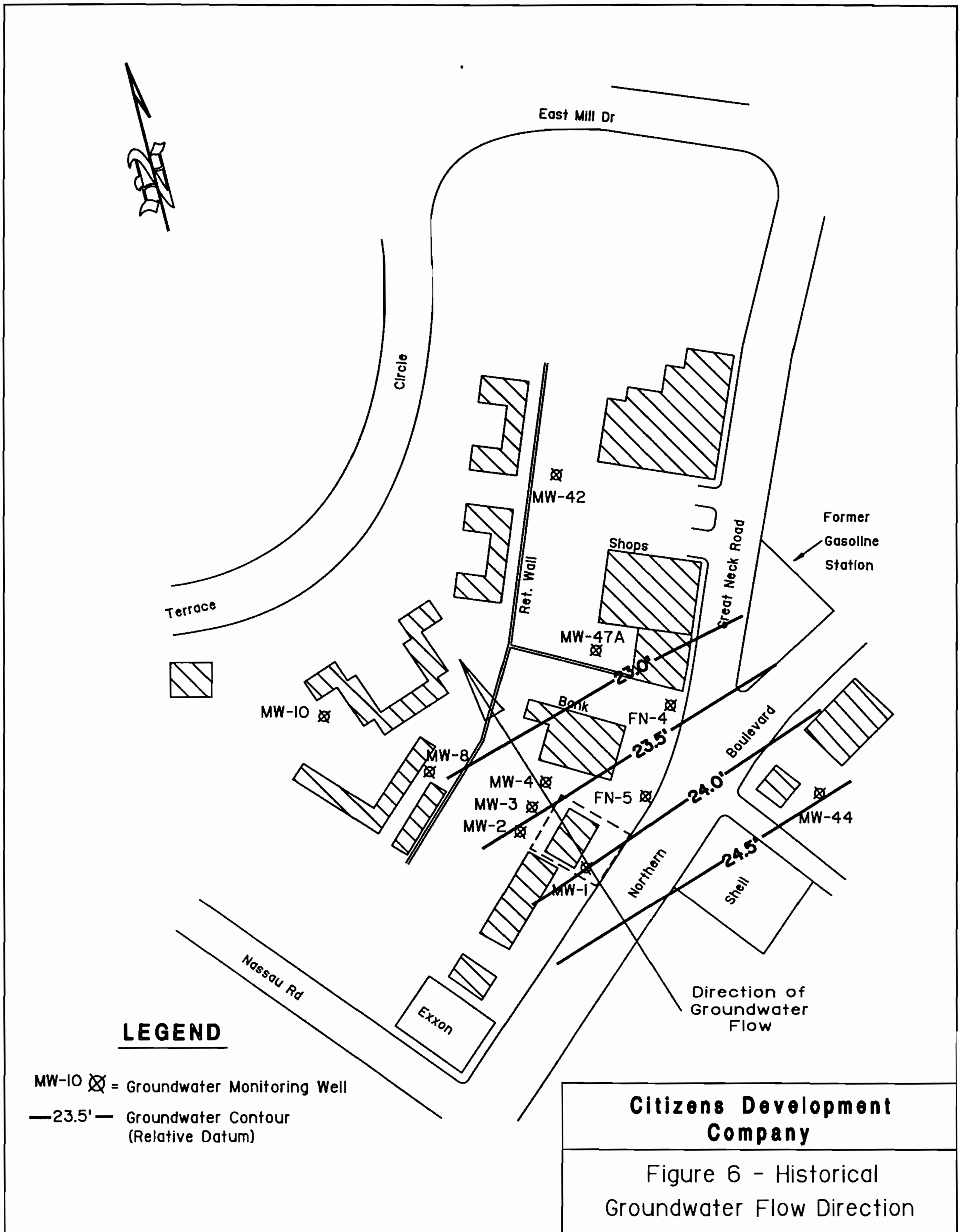


Citizens Development Company

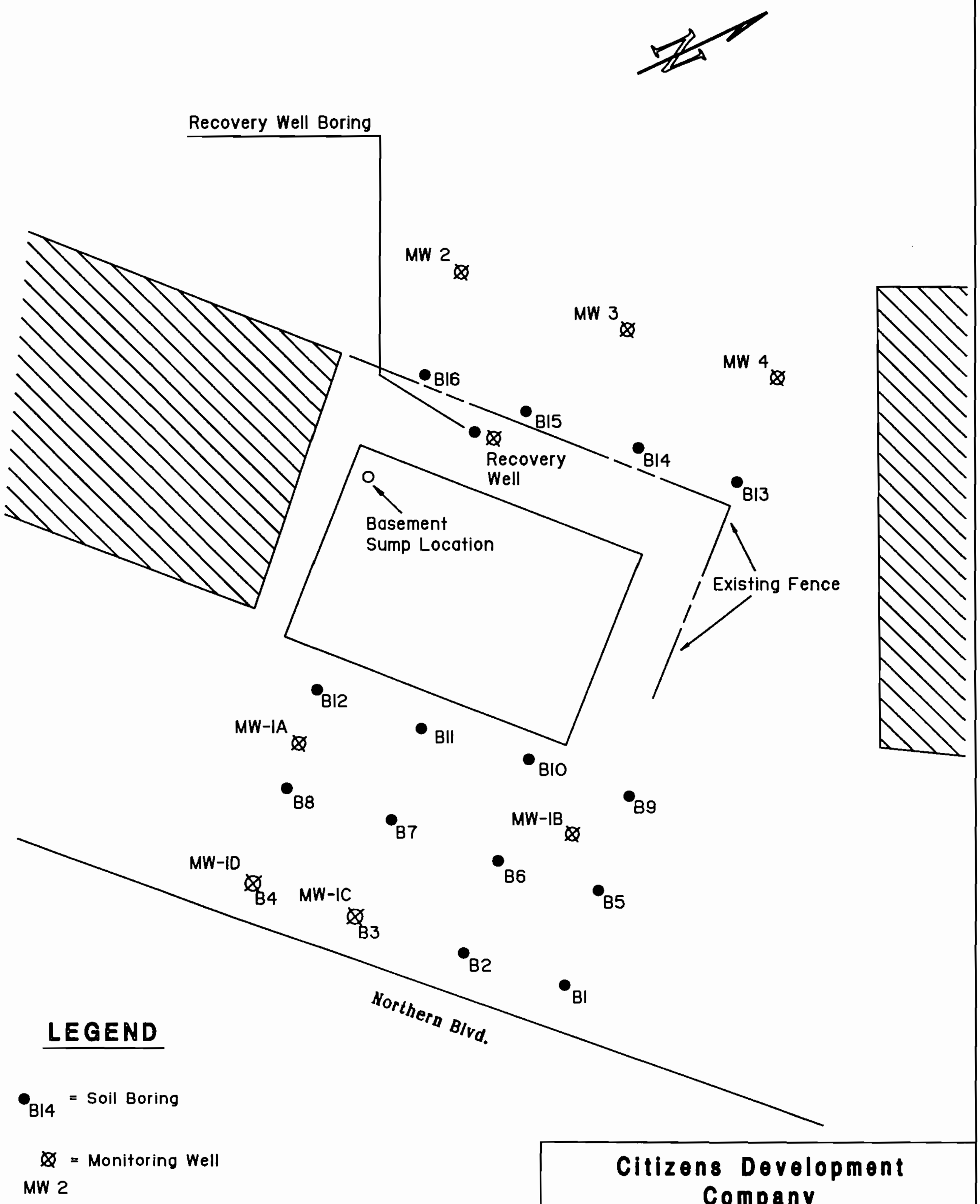
Figure 6 - Historical Groundwater Flow Direction

Scale in Feet: 100 0 100 200

Drawn by: J.R. Kolmer Date: 12/3/01

Approved by: J.R. Kolmer Date: 12/4/01

JR Kolmer + Associates
Environmental Consultants

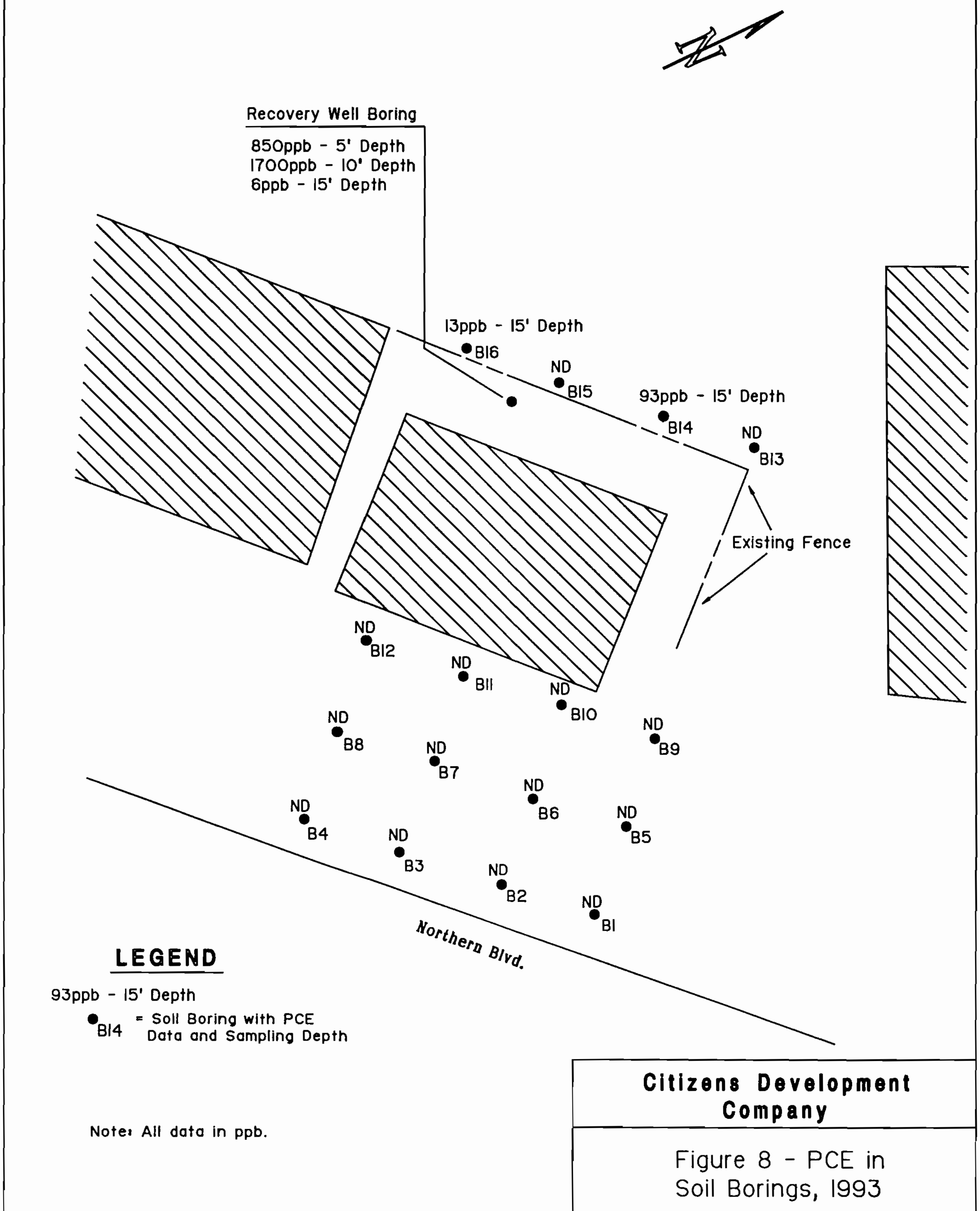


Note: B3 and B4 converted to monitoring wells MW-1C and MW-1D

Citizens Development Company

Figure 7 - Soil Borings and Monitoring Wells, 1993

Scale in Feet: 20 0 20 40	Drawn by: J.R. Kolmer	Date: 10/9/97	**JR Kolmer + Associates**
	Approved by: J.R. Kolmer	Date: 11/10/97	**Environmental Consultants**



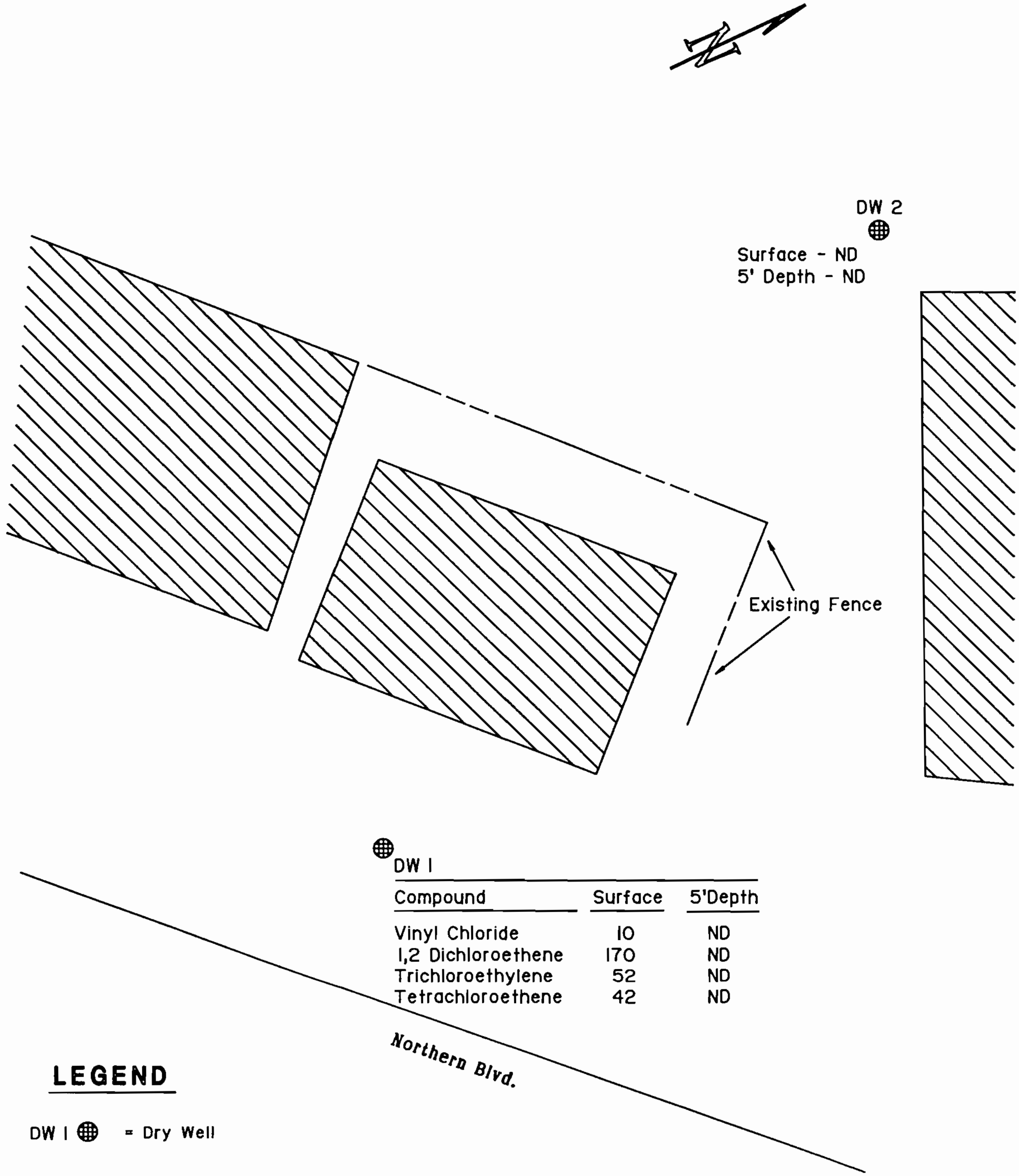
Citizens Development Company

Figure 8 - PCE in Soil Borings, 1993

Drawn by: J.R. Kolmer Date: 10/9/97

Approved by: J.R. Kolmer Date: 11/10/97

JR Kolmer + Associates
Environmental Consultants



DW 1

Compound	Surface	5'Depth
Vinyl Chloride	10	ND
1,2 Dichloroethene	170	ND
Trichloroethylene	52	ND
Tetrachloroethene	42	ND

LEGEND

DW 1 ⊕ = Dry Well

Note: All data in ppb.

Citizens Development Company

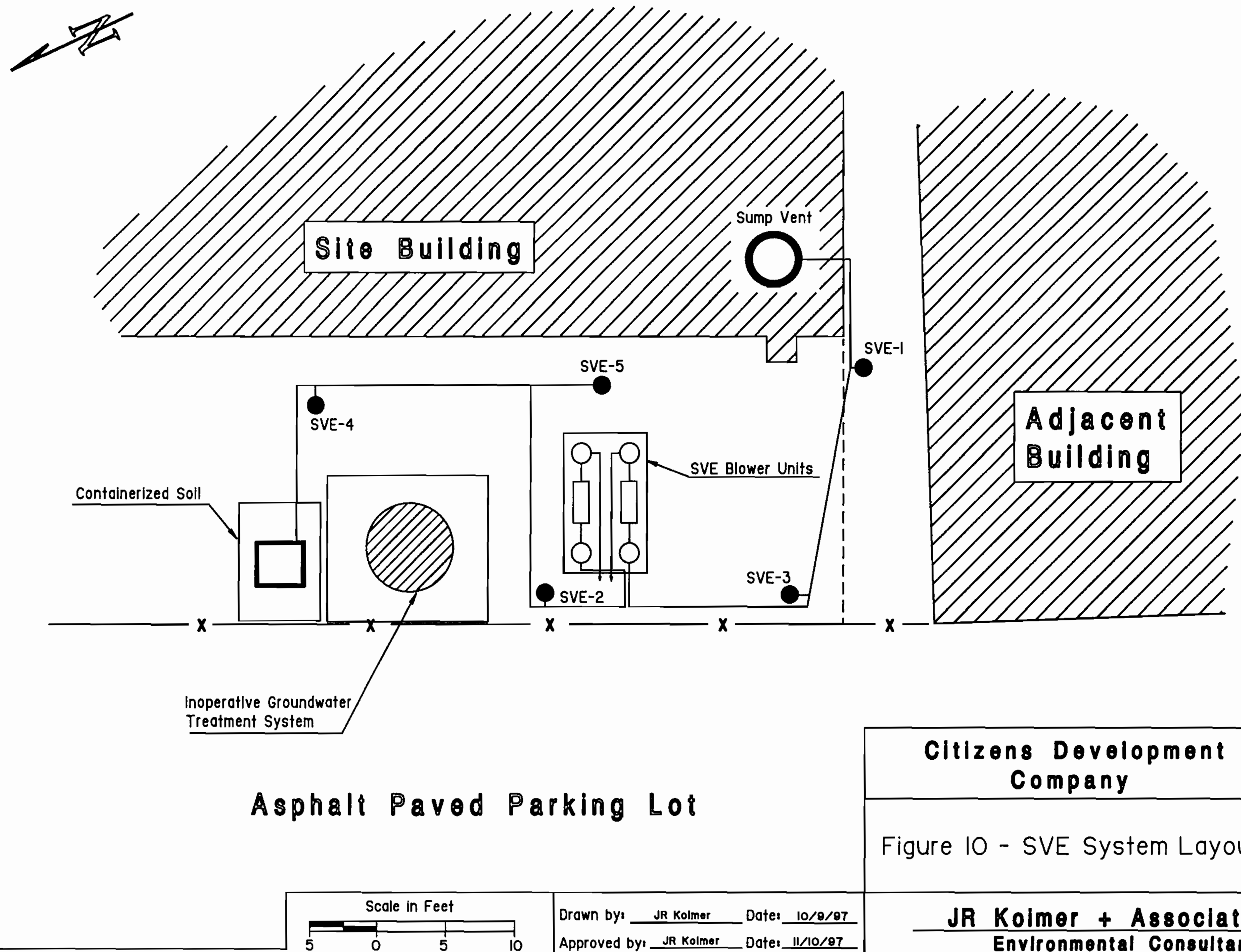
Figure 9 - Dry Well Locations and Chemistry, 1993

Scale in Feet: 20 0 20 40

Drawn by: J.R. Kolmer Date: 10/9/97

Approved by: J.R. Kolmer Date: 11/10/97

JR Kolmer + Associates
Environmental Consultants

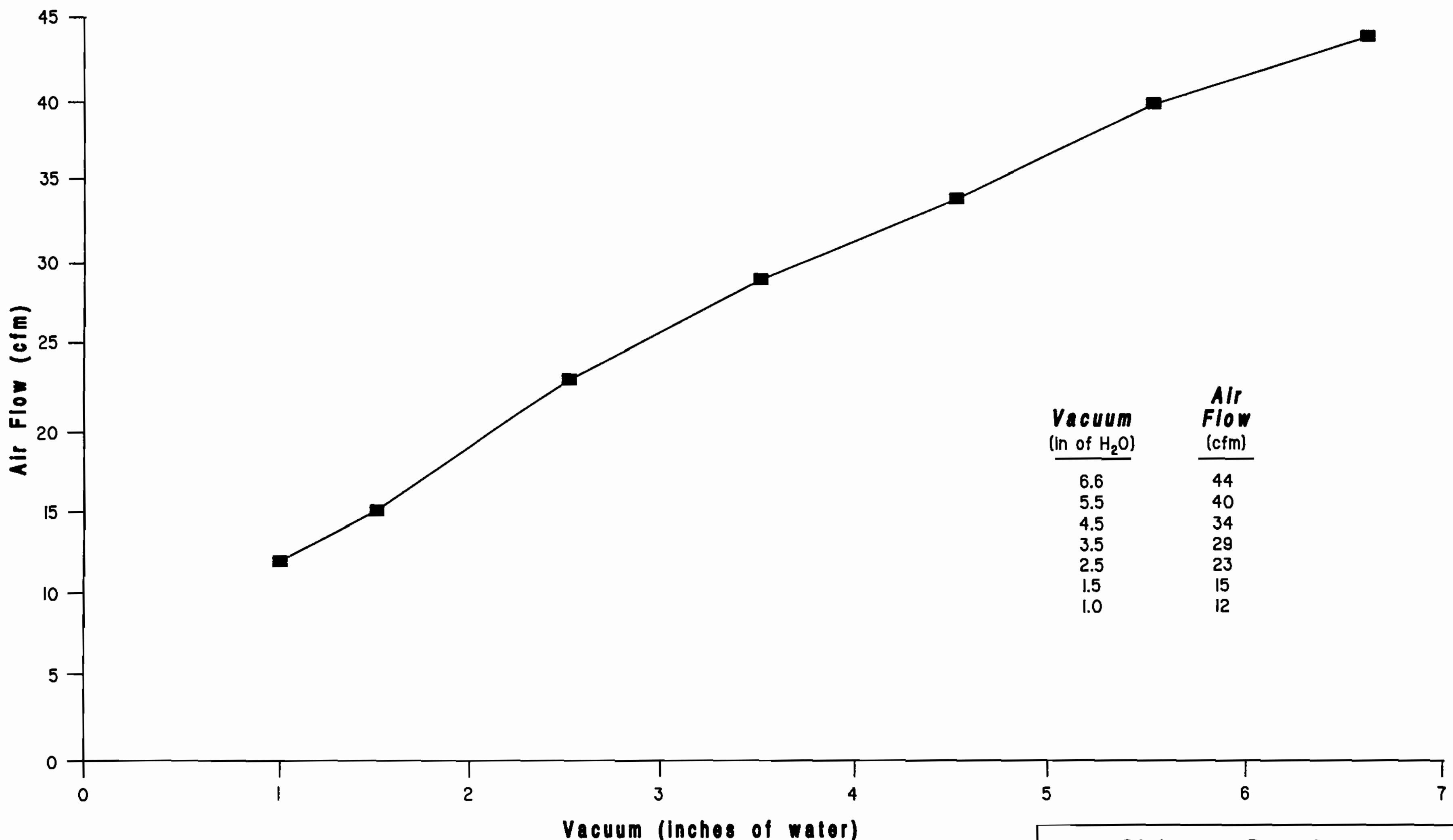


Citizens Development Company

Figure 10 - SVE System Layout

Drawn by: JR Kolmer Date: 10/9/97
Approved by: JR Kolmer Date: 11/10/97

JR Kolmer + Associates
Environmental Consultants



Vacuum (in of H_2O)	Air Flow (cfm)
6.6	44
5.5	40
4.5	34
3.5	29
2.5	23
1.5	15
1.0	12

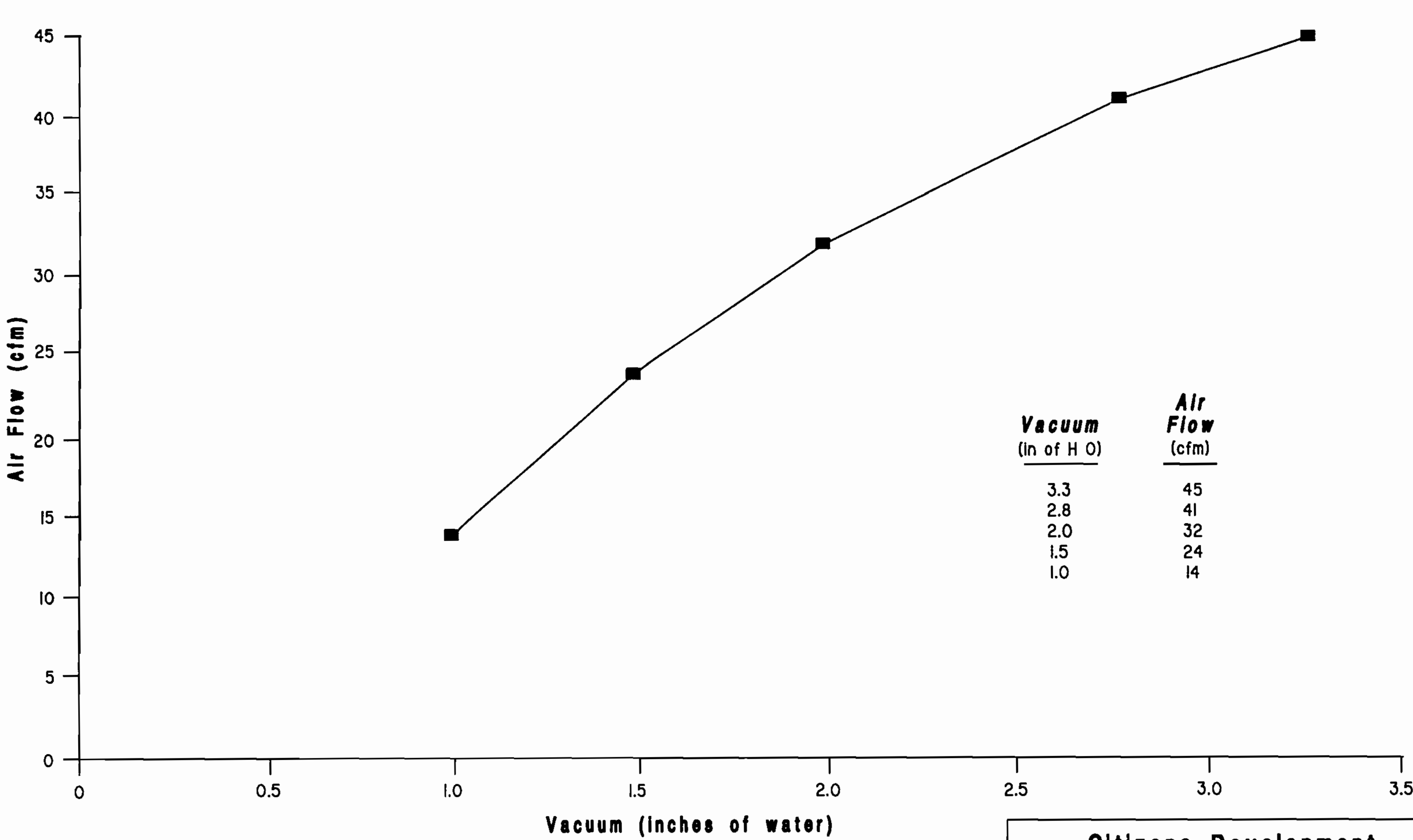
Citizens Development Company

Figure II - Air Flow vs Vacuum
Sump Vent

Scale in Feet
Not Applicable

Drawn by: JR Kolmer Date: 10/9/97
Approved by: JR Kolmer Date: 11/10/97

JR Kolmer + Associates
Environmental Consultants



Vacuum (in of H O)	Air Flow (cfm)
3.3	45
2.8	41
2.0	32
1.5	24
1.0	14

Citizens Development Company

Figure 12 - Air Flow vs Vacuum Well SVE-1

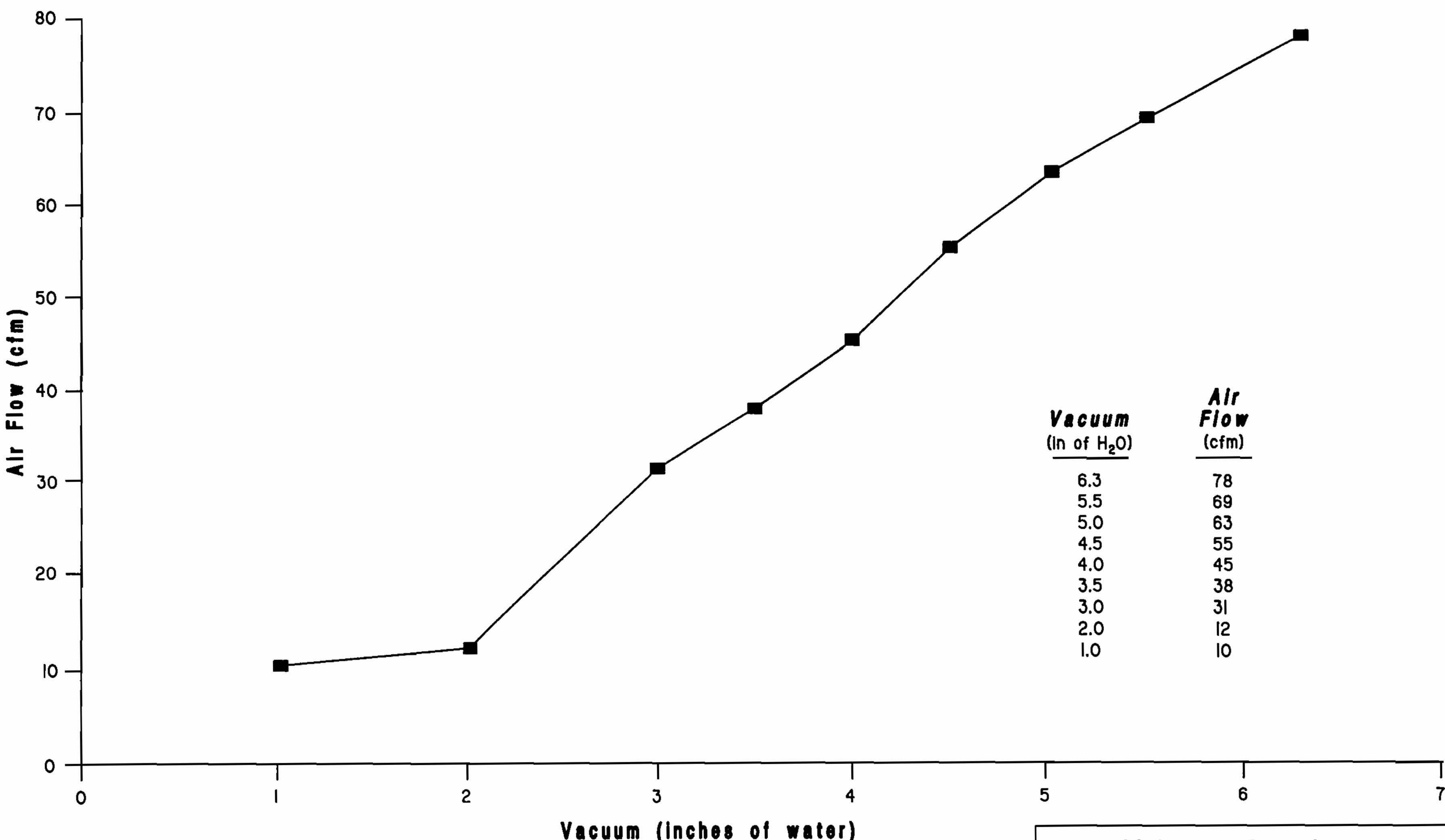
Scale in Feet

Not Applicable

Drawn by: JR Kolmer Date: 10/9/97

Approved by: JR Kolmer Date: 11/10/97

JR Kolmer + Associates
Environmental Consultants



Vacuum (In of H_2O)	Air Flow (cfm)
6.3	78
5.5	69
5.0	63
4.5	55
4.0	45
3.5	38
3.0	31
2.0	12
1.0	10

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Figure 13 - Air Flow vs Vacuum Well SVE-2

Scale In Feet

Not Applicable

Drawn by: JR Kolmer Date: 10/9/97

Approved by: JR Kolmer Date: 11/10/97

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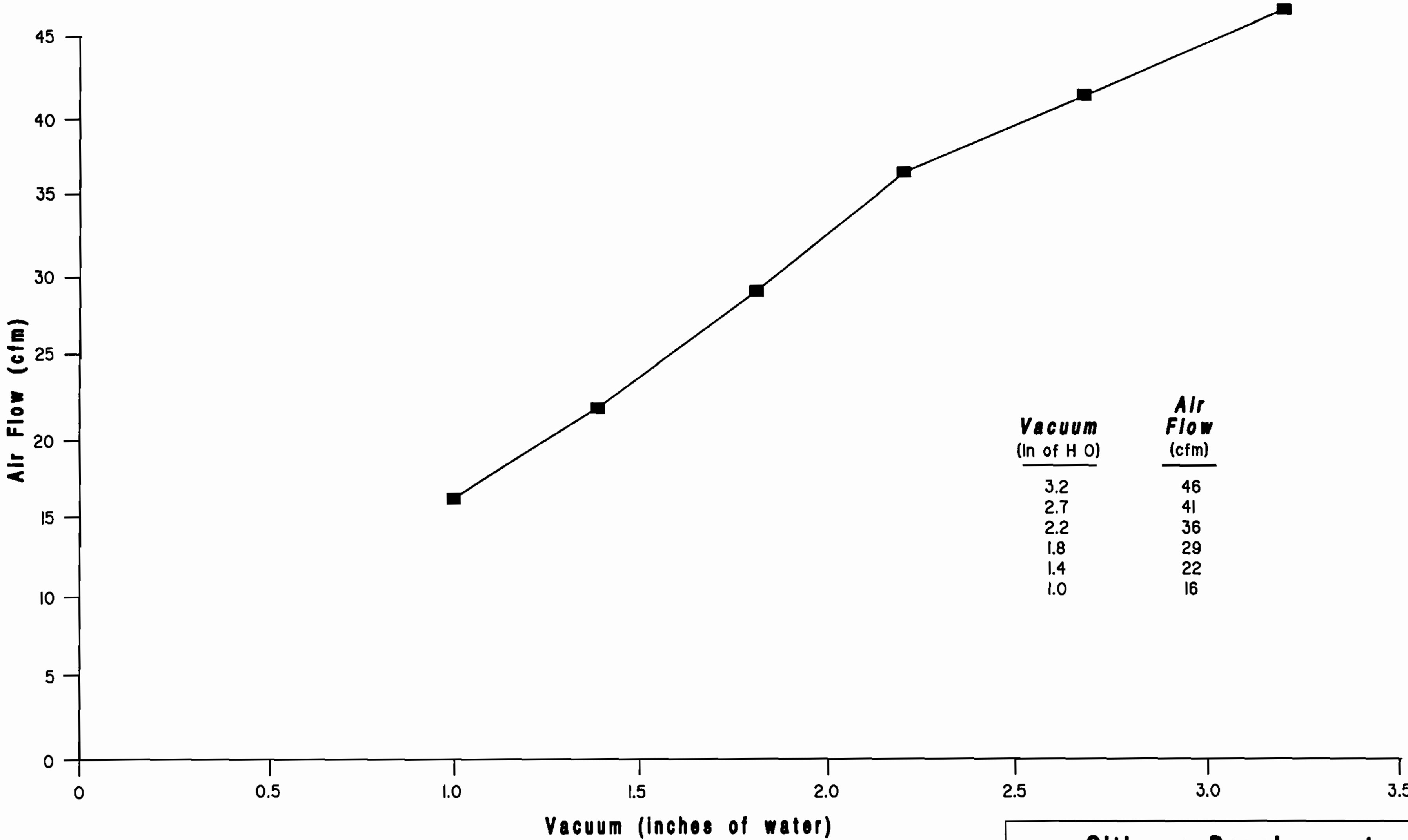


Vacuum (In of H O)	Air Flow (cfm)
3.2	46
2.7	41
2.2	36
1.8	29
1.4	22
1.0	16

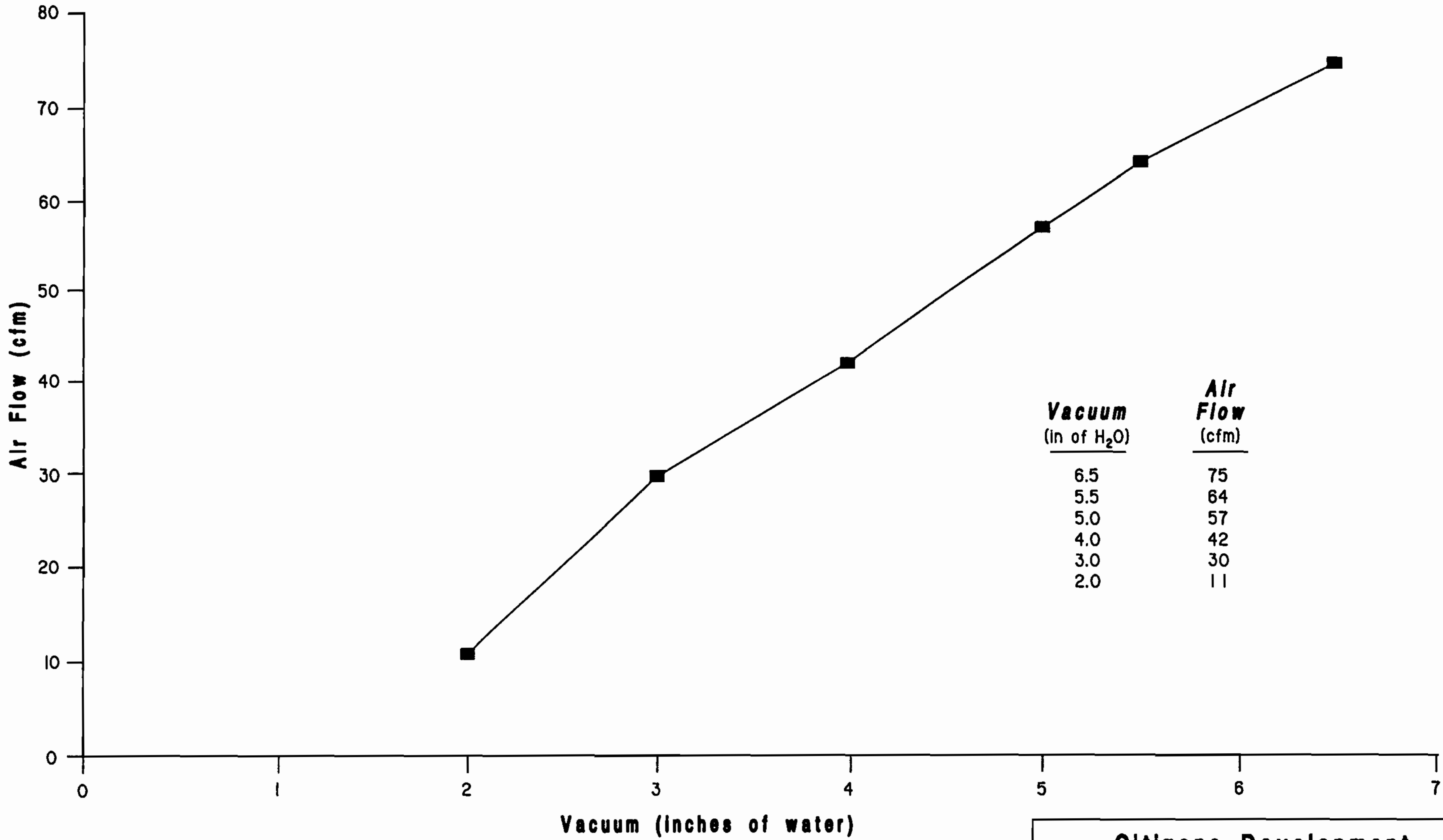
Citizens Development Company

Figure 14 - Air Flow vs Vacuum Well SVE-3

Scale In Feet
Not Applicable

Drawn by: JR Kolmer Date: 10/9/97
Approved by: JR Kolmer Date: 11/10/97

JR Kolmer + Associates
Environmental Consultants



Vacuum (In of H_2O)	Air Flow (cfm)
6.5	75
5.5	64
5.0	57
4.0	42
3.0	30
2.0	11

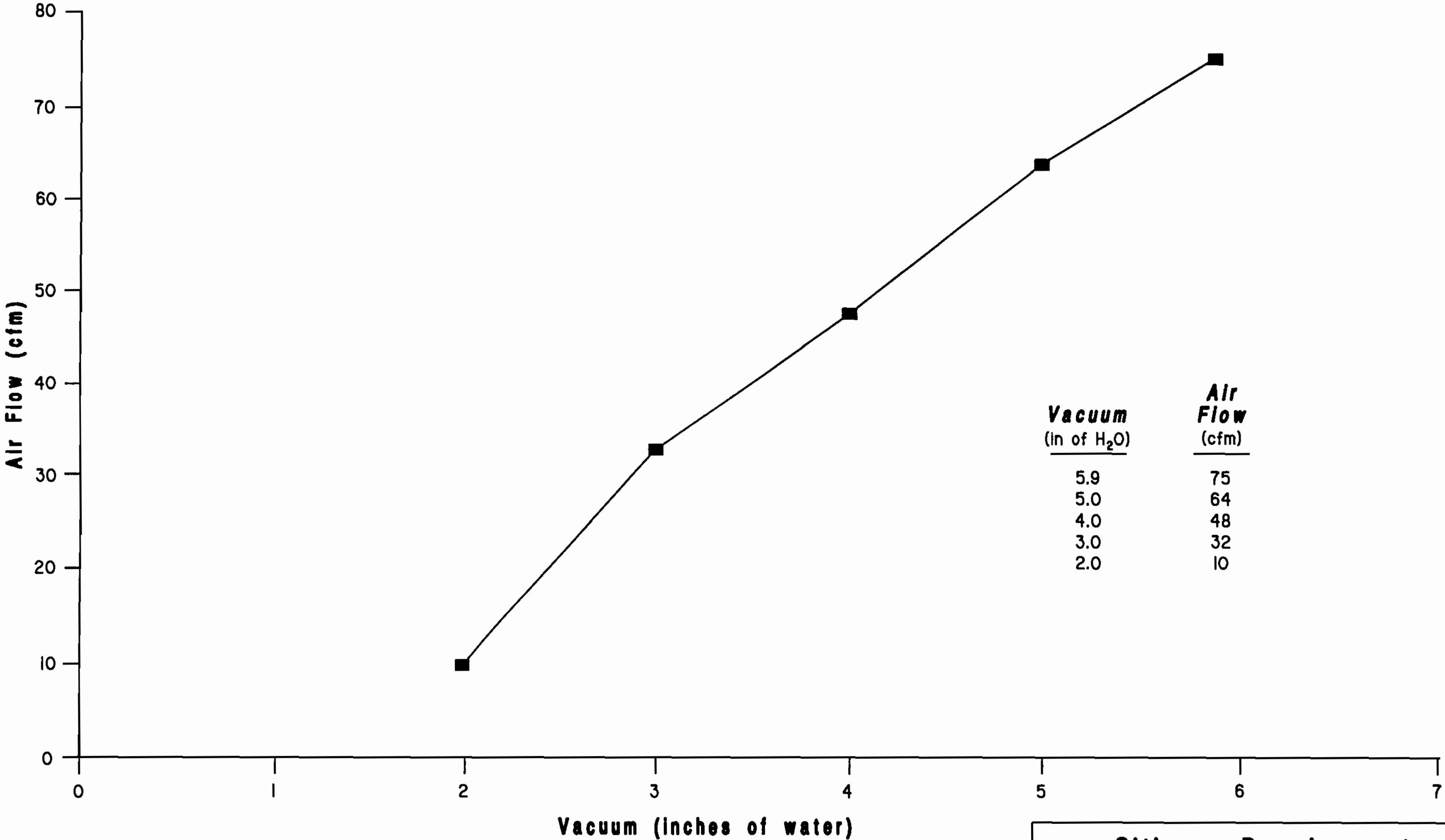
Citizens Development Company

Figure 15 - Air Flow vs Vacuum
Well SVE-4

Scale in Feet
Not Applicable

Drawn by: JR Kolmer Date: 10/9/97
Approved by: JR Kolmer Date: 11/10/97

JR Kolmer + Associates
Environmental Consultants



Vacuum (in of H_2O)	Air Flow (cfm)
5.9	75
5.0	64
4.0	48
3.0	32
2.0	10

Citizens Development Company

Figure 16 - Air Flow vs Vacuum Well SVE-5

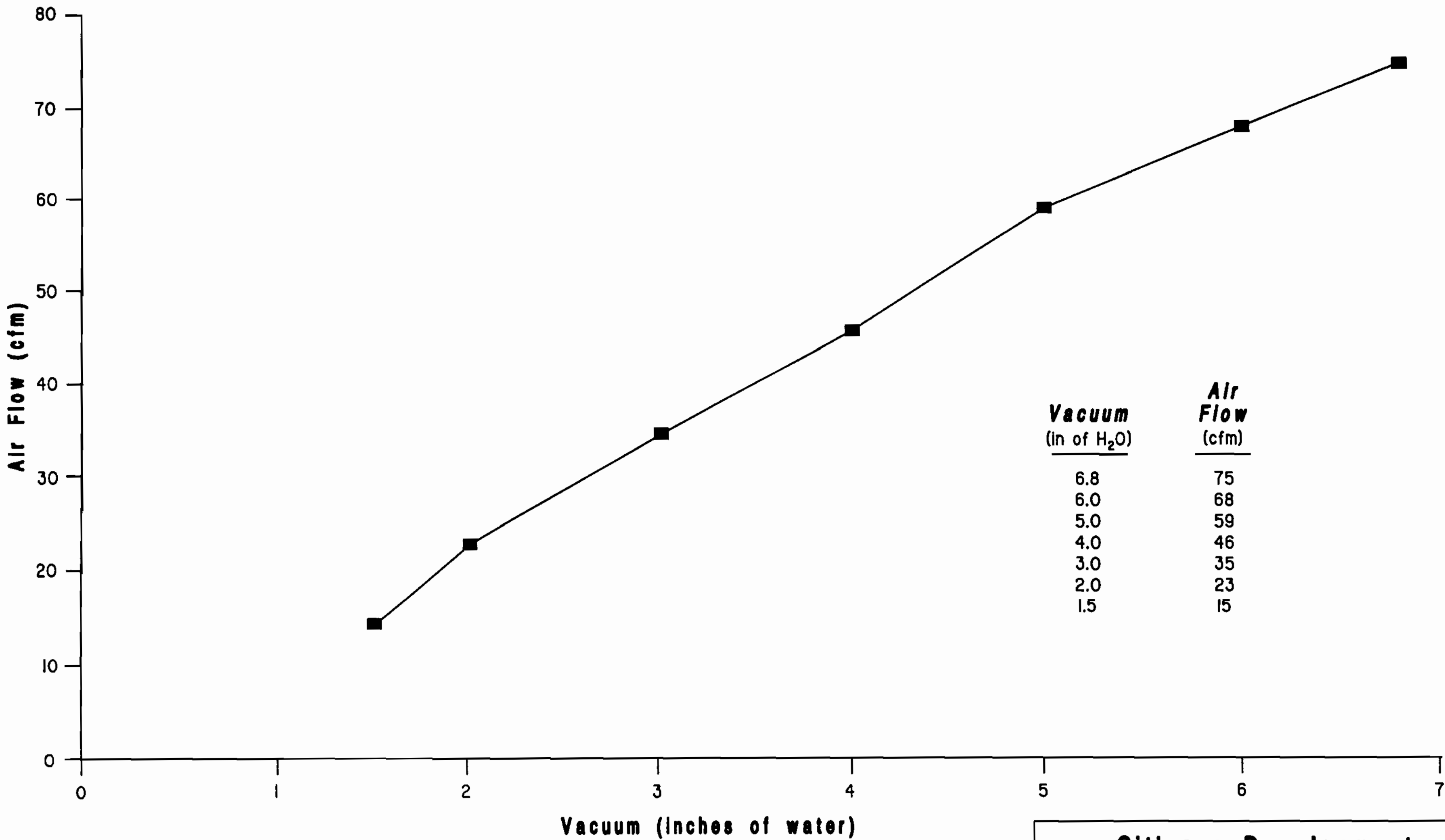
Scale in Feet

Not Applicable

Drawn by: JR Kolmer Date: 10/9/97

Approved by: JR Kolmer Date: 11/10/97

JR Kolmer + Associates
Environmental Consultants



Vacuum (in of H_2O)	Air Flow (cfm)
6.8	75
6.0	68
5.0	59
4.0	46
3.0	35
2.0	23
1.5	15

Citizens Development Company

Figure 17 - Air Flow vs Vacuum
Containerized Soil Vent

Scale in Feet
Not Applicable

Drawn by: JR Kolmer Date: 10/9/97
Approved by: JR Kolmer Date: 11/10/97

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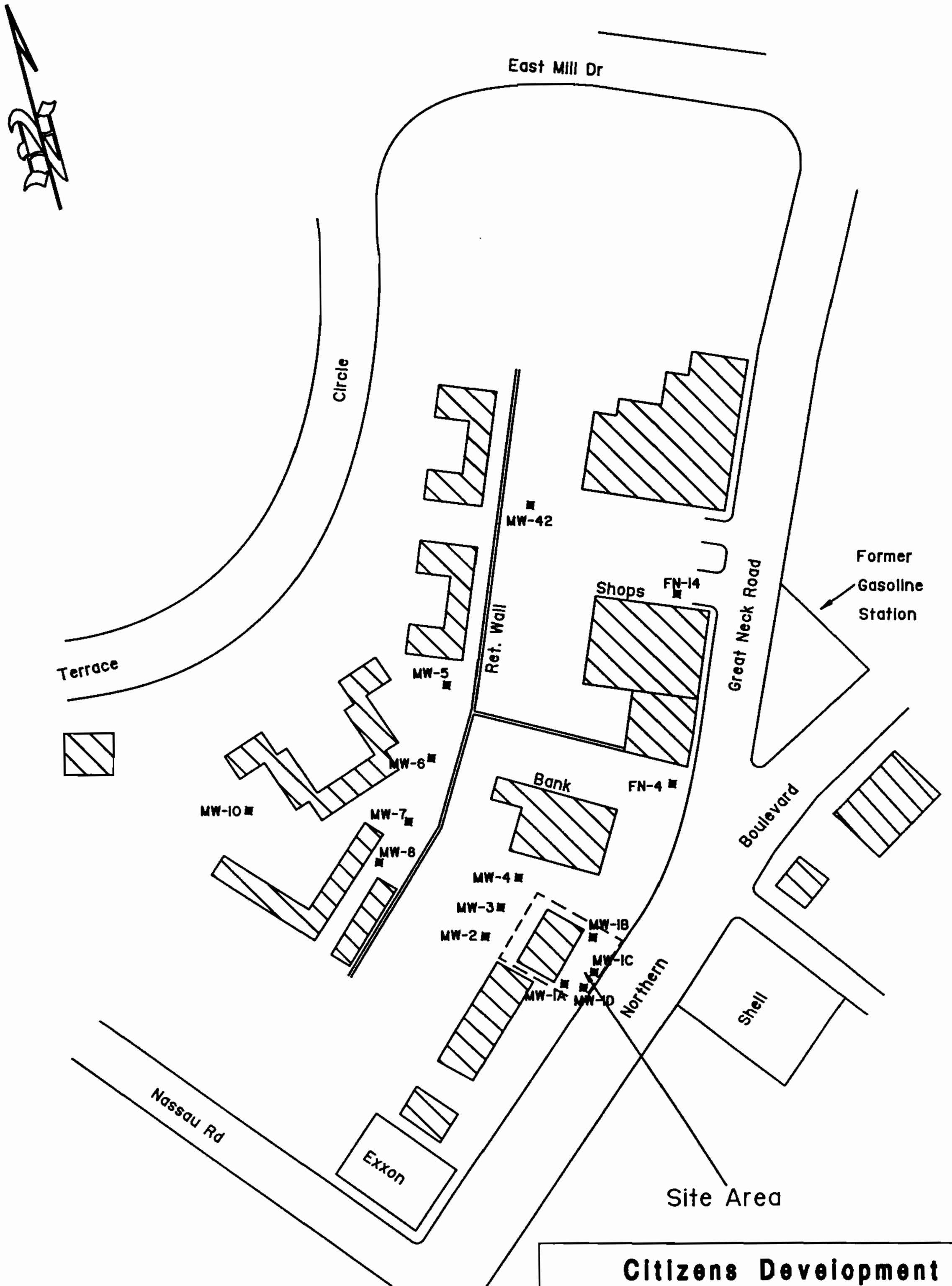
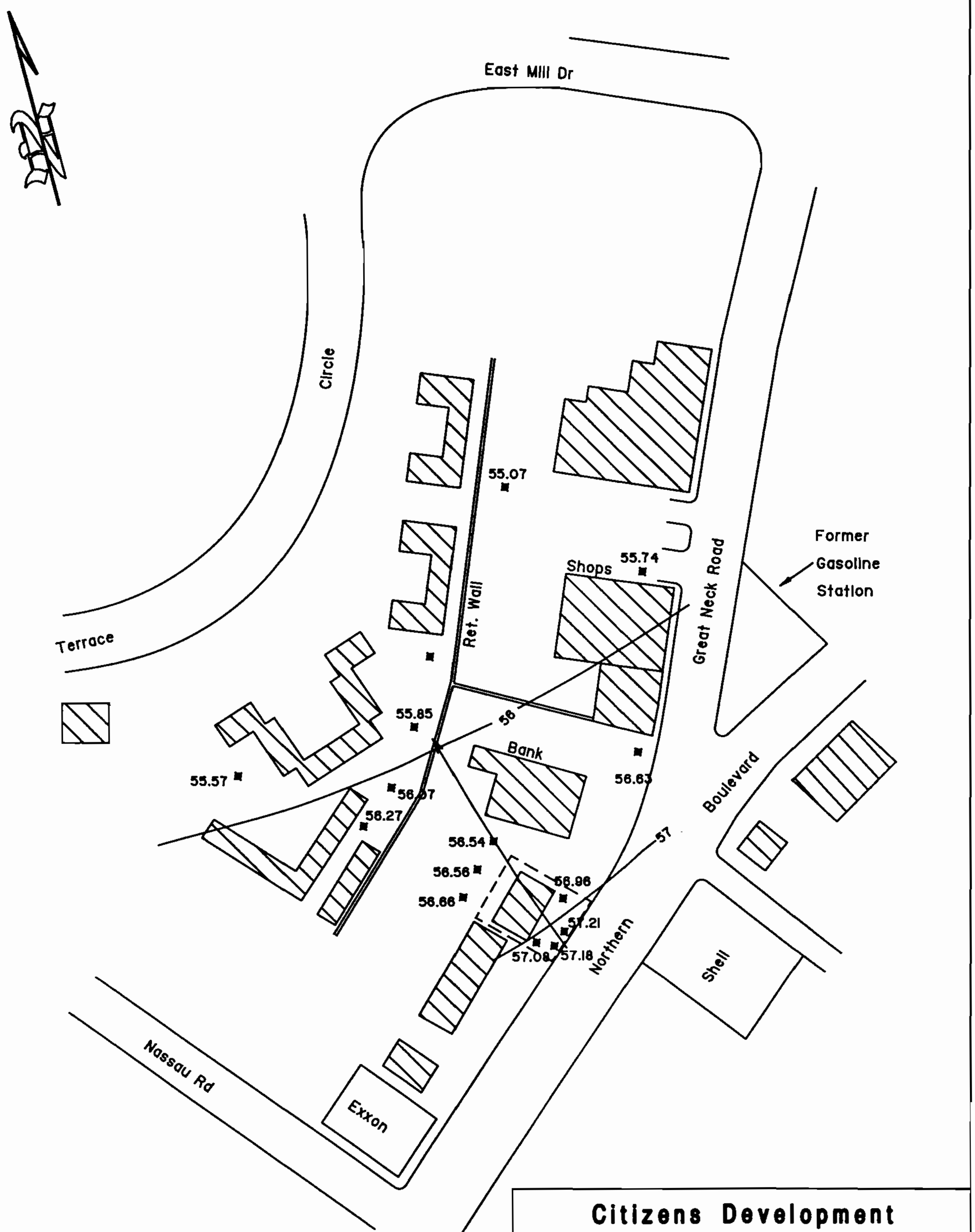


Citizens Development Company

Figure 18 - Existing Monitoring Well Locations

Scale in Feet 100 0 100 200	Drawn by: J.R. Kolmer Date: 12/3/01 Approved by: J.R. Kolmer Date: 12/4/01	**JR Kolmer + Associates** **Environmental Consultants**



Citizens Development Company

Figure 19 - Groundwater Contours and Flow Direction, 4 Jun 97

Scale in Feet

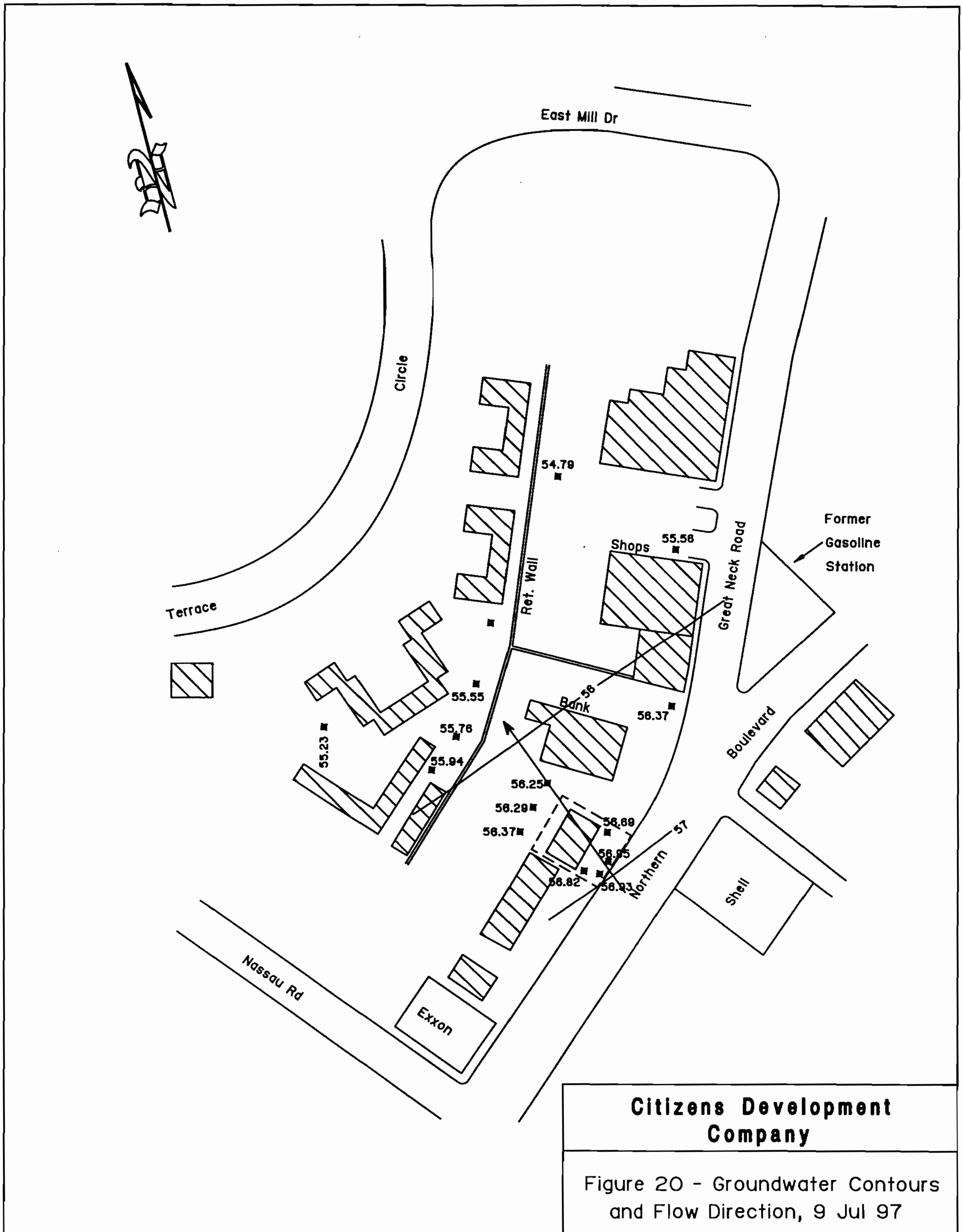
100 0 100 200

Drawn by: J.R. Kolmer Date: 12/3/01

Approved by: J.R. Kolmer Date: 12/4/01

JR Kolmer + Associates

Environmental Consultants



Citizens Development Company

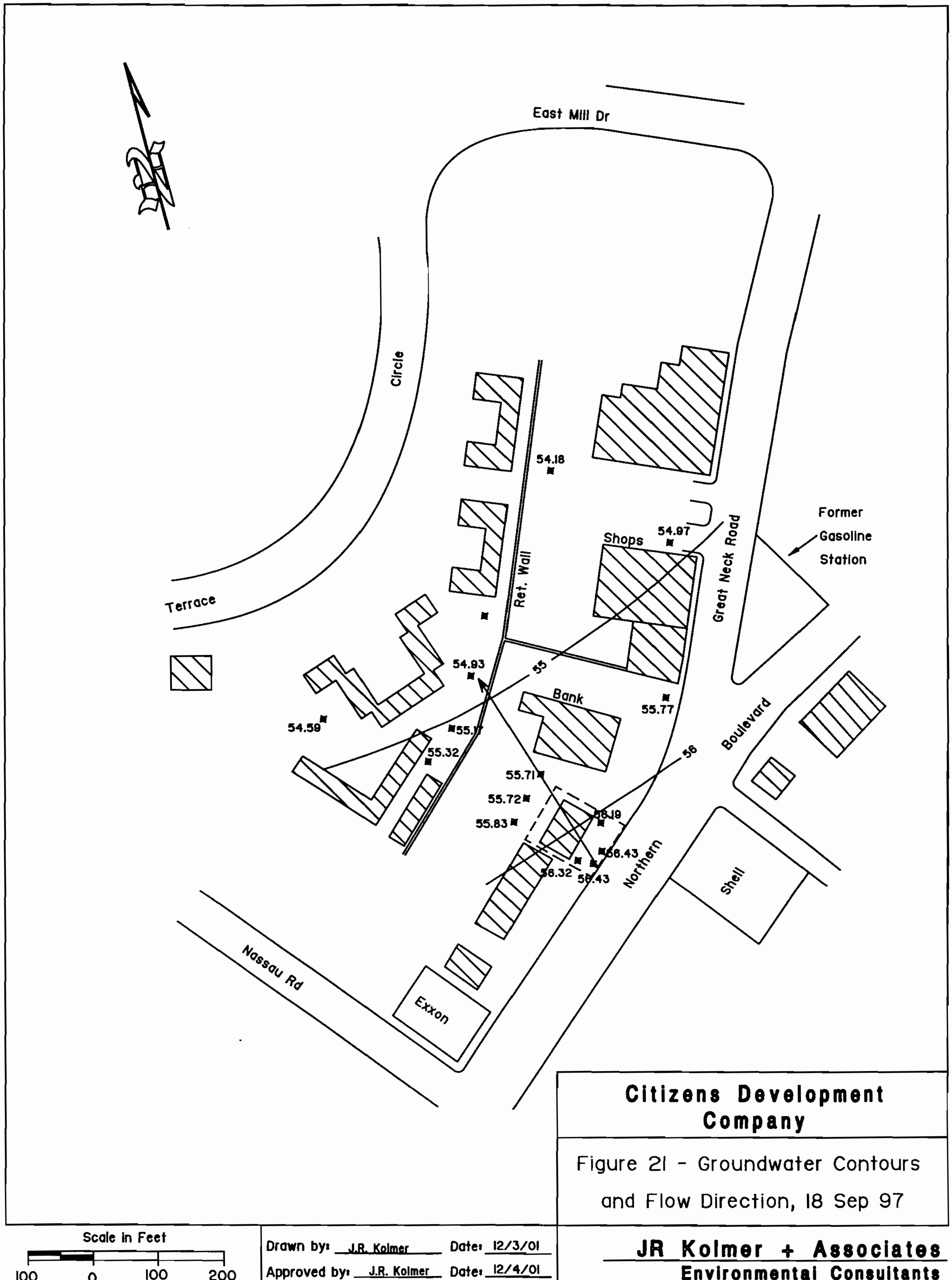
Figure 20 - Groundwater Contours and Flow Direction, 9 Jul 97

Scale in Feet

100 0 100 200

Drawn by:	J.R. Kolmer	Date:	12/3/01
Approved by:	J.R. Kolmer	Date:	12/4/01

JR Kolmer + Associates
Environmental Consultants

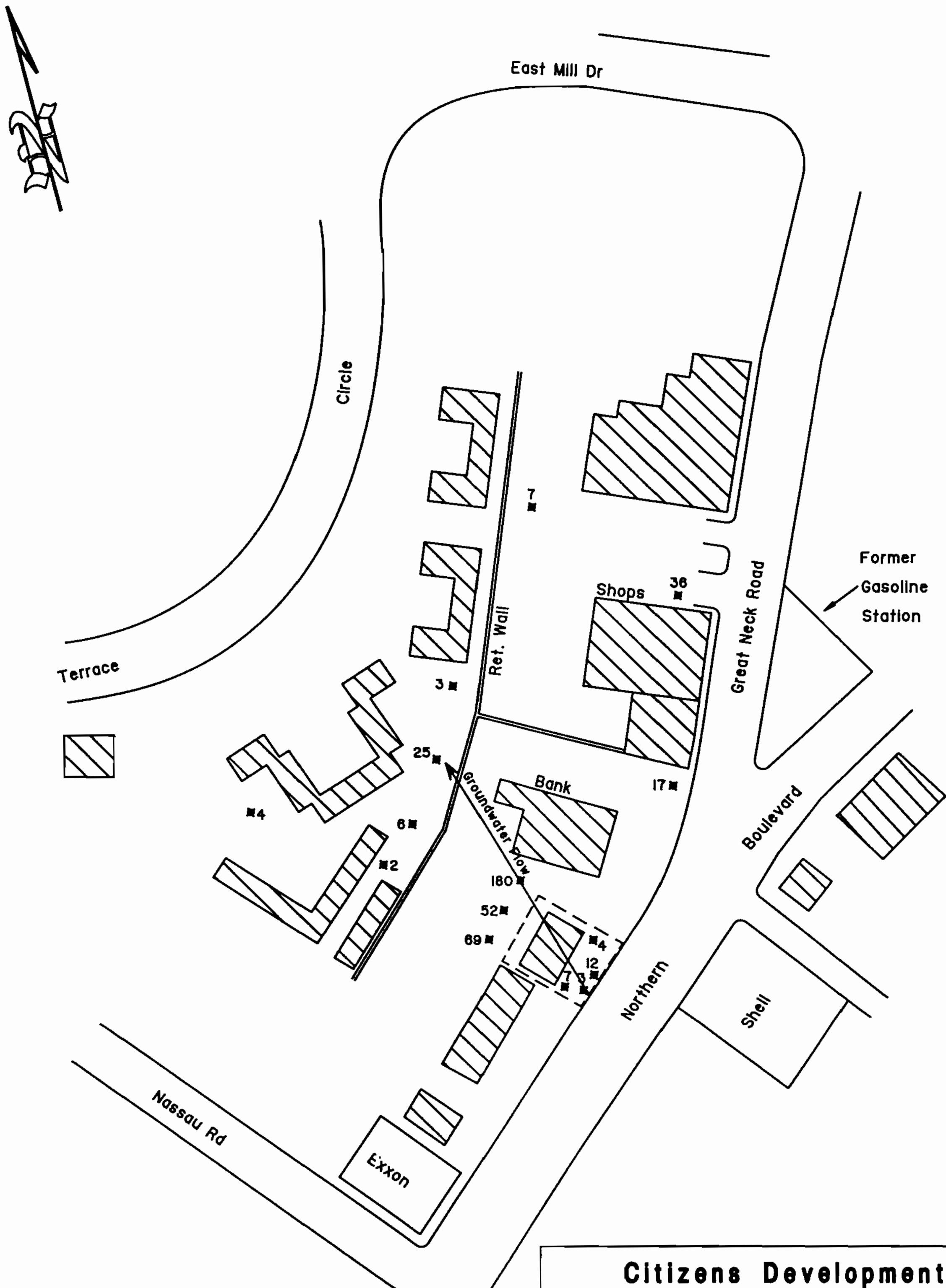


Citizens Development Company

Figure 21 - Groundwater Contours and Flow Direction, 18 Sep 97

Drawn by: J.R. Kolmer Date: 12/3/01
Approved by: J.R. Kolmer Date: 12/4/01

JR Kolmer + Associates
Environmental Consultants



Citizens Development Company

Figure 22 - Perchloroethylene Concentrations, July 97

Scale in Feet

100 0 100 200

Drawn by: J.R. Kolmer Date: 12/3/01

Approved by: J.R. Kolmer Date: 12/4/01

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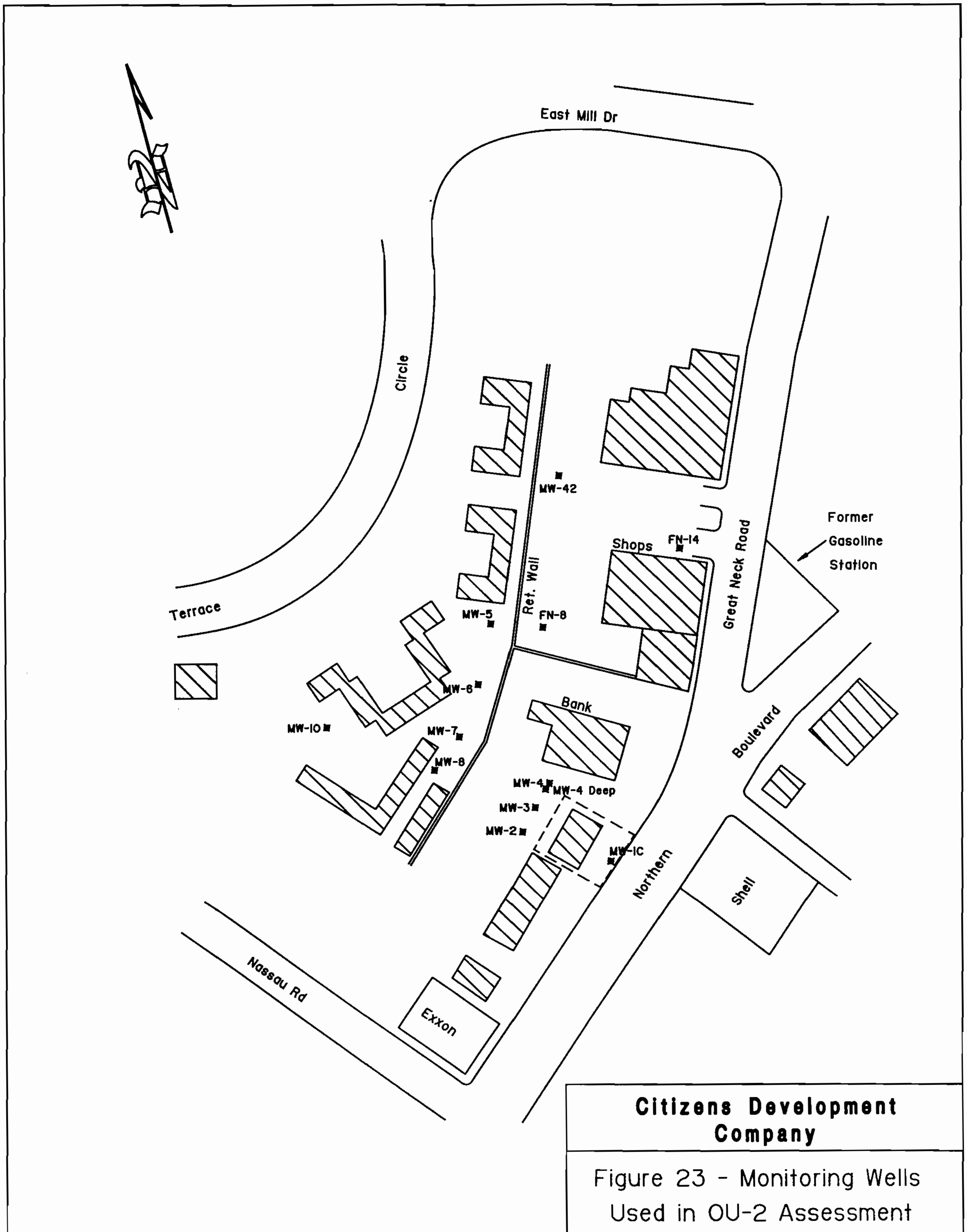

Citizens Development Company

Figure 23 - Monitoring Wells Used in OU-2 Assessment

Scale In Feet
100 0 100 200

Drawn by: J.R. Kolmer Date: 12/3/01
Approved by: J.R. Kolmer Date: 12/4/01

JR Kolmer + Associates
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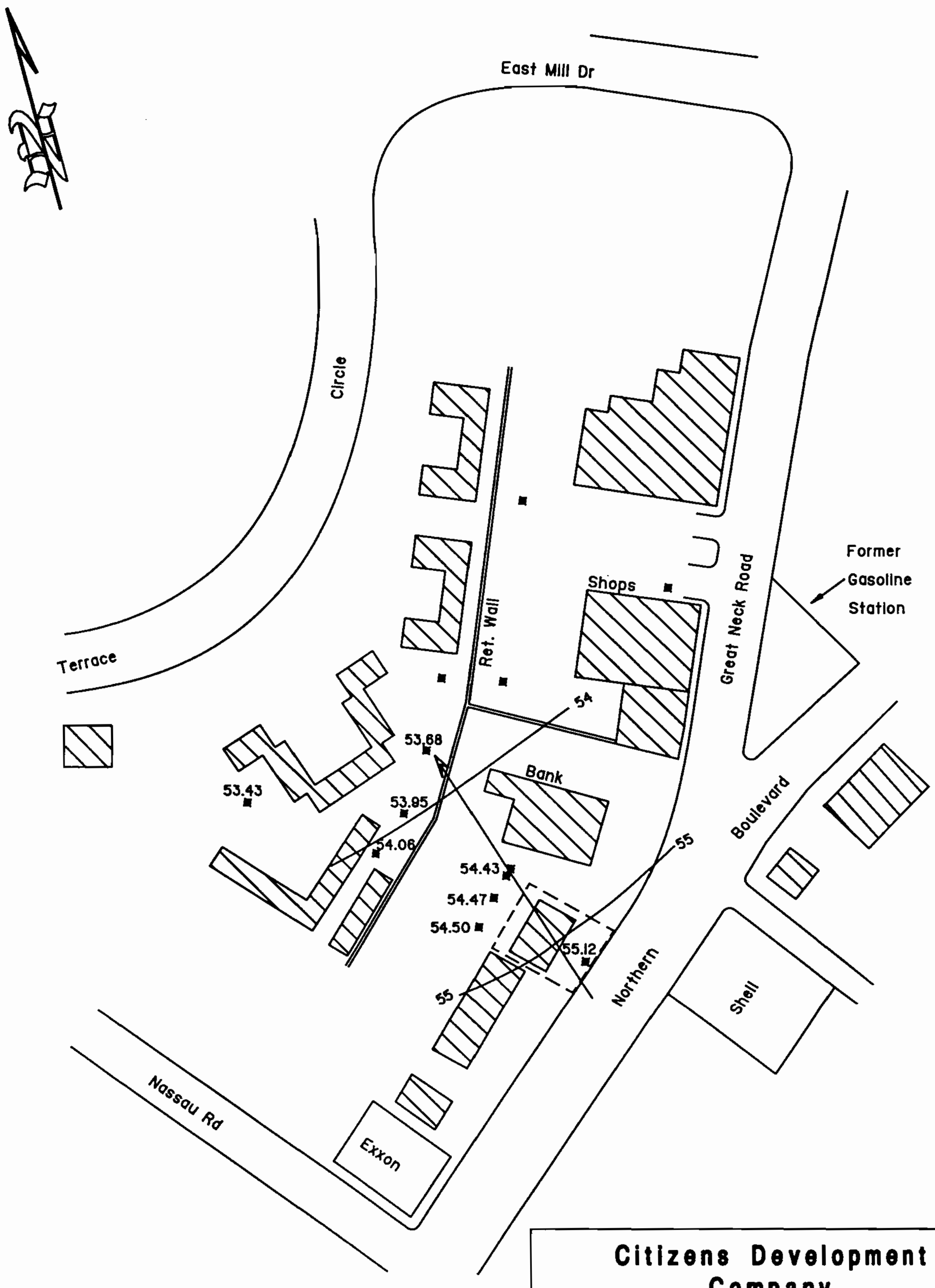


Citizens Development Company

Figure 24 - Groundwater Flow Direction - 25 Oct 1999

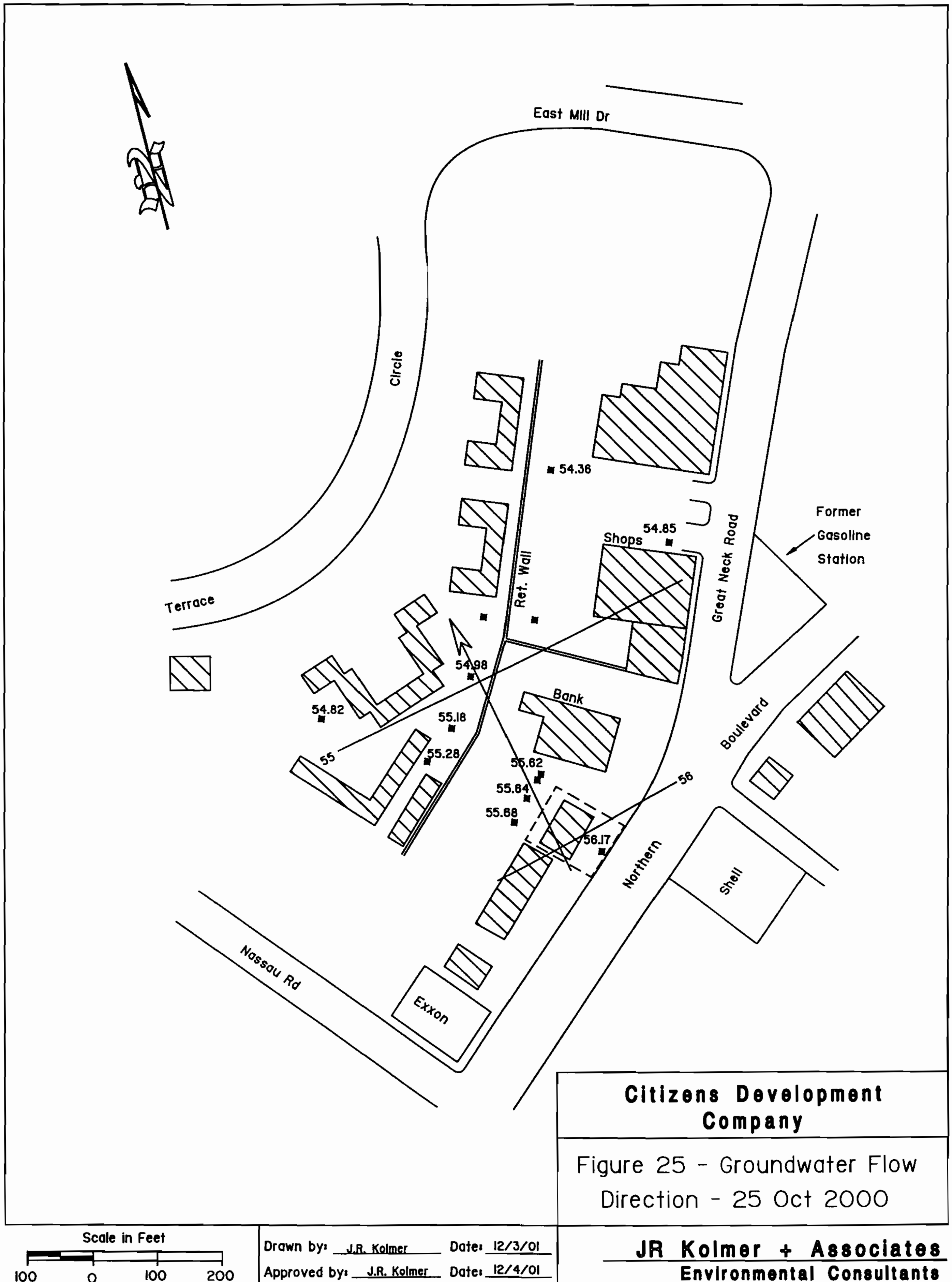
Scale in Feet

100 0 100 200

Drawn by: J.R. Kolmer Date: 12/3/01

Approved by: J.R. Kolmer Date: 12/4/01

JR Kolmer + Associates
Environmental Consultants

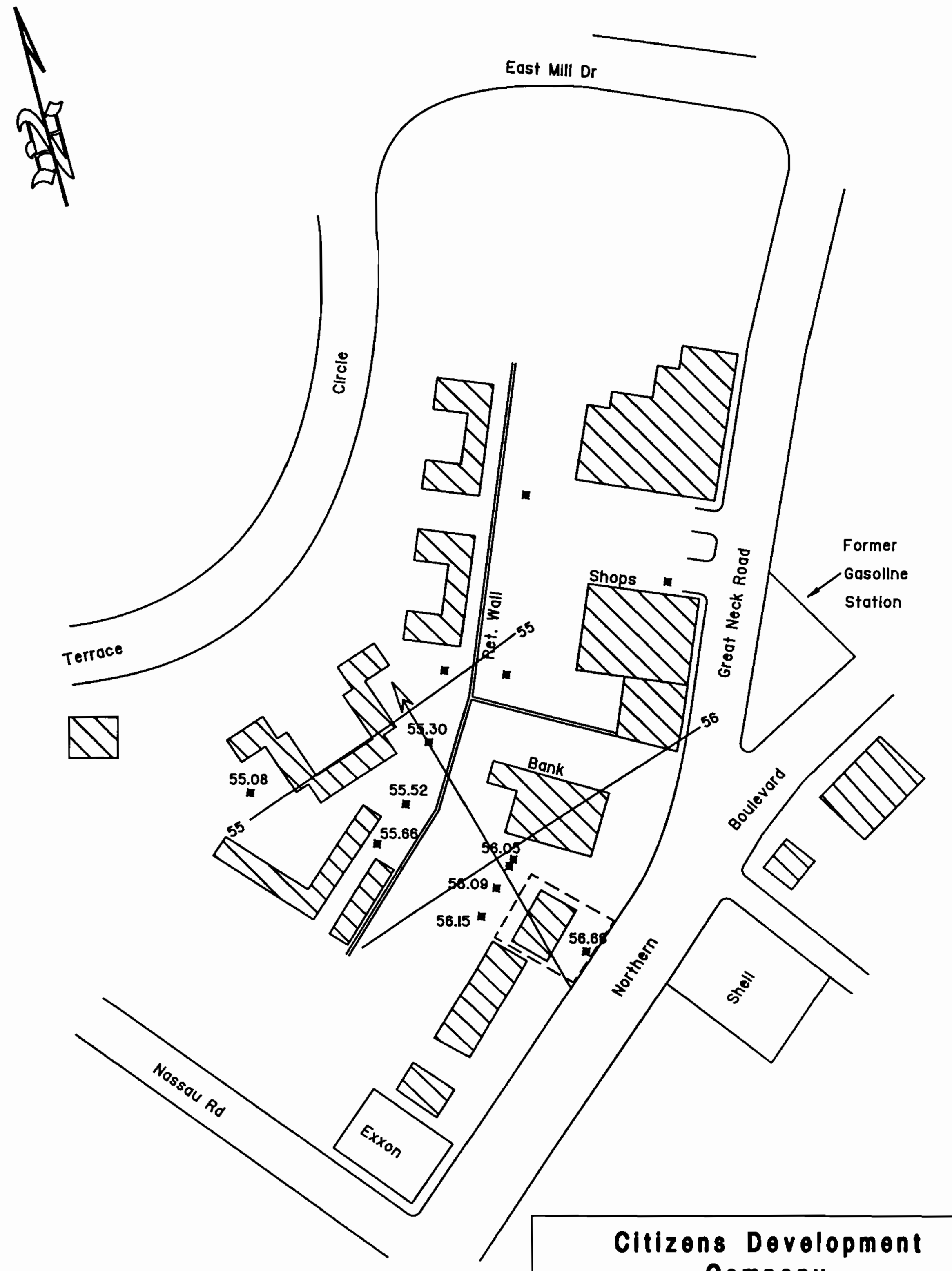


Citizens Development Company

Figure 25 - Groundwater Flow Direction - 25 Oct 2000

Drawn by: J.R. Kolmer Date: 12/3/01
Approved by: J.R. Kolmer Date: 12/4/01

JR Kolmer + Associates
Environmental Consultants



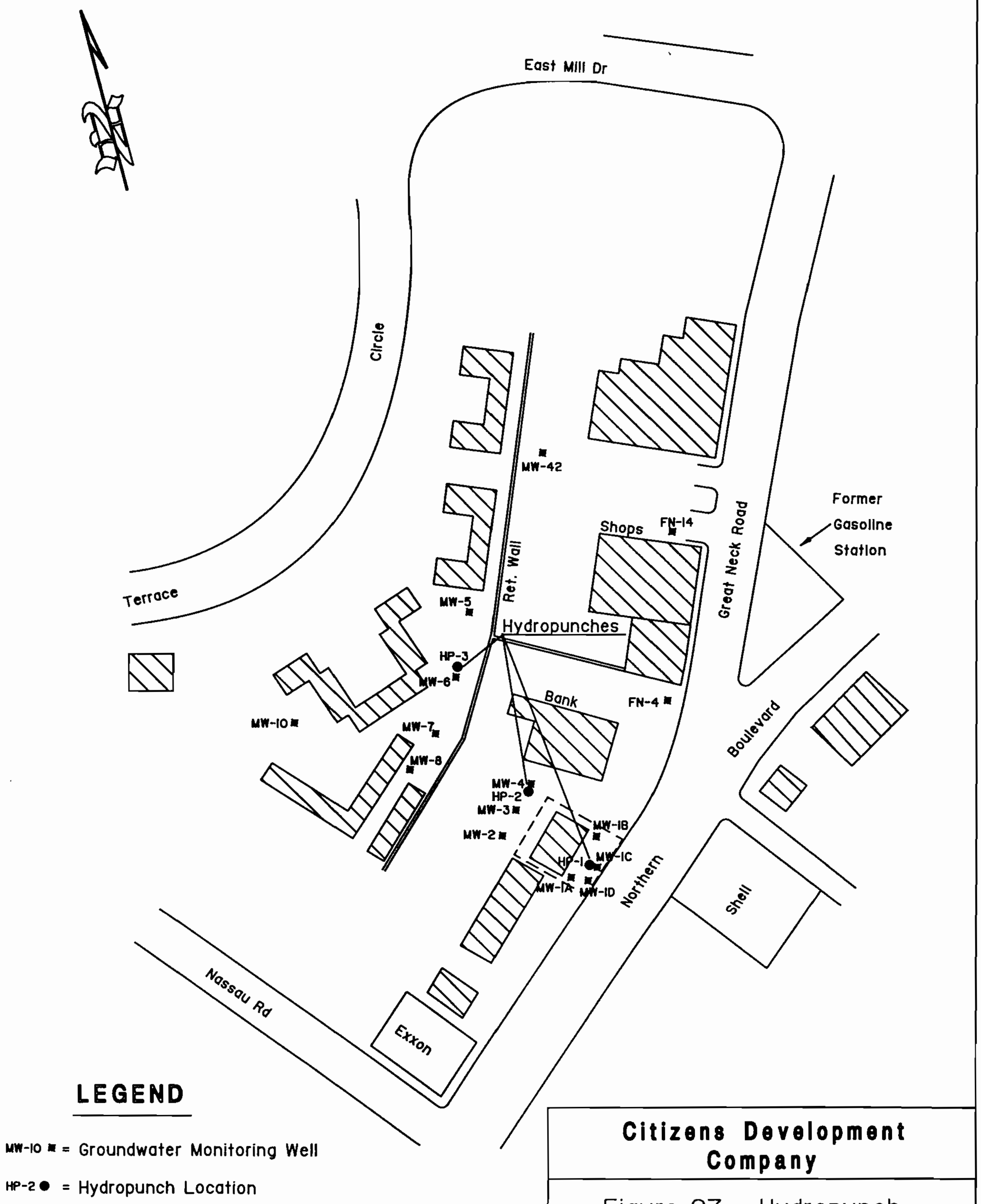
Citizens Development Company

Figure 26 - Groundwater Flow Direction - 1 Nov 2001

Drawn by: J.R. Kolmer Date: 12/3/01

Approved by: J.R. Kolmer Date: 12/4/01

JR Kolmer + Associates
Environmental Consultants



Citizens Development Company

Figure 27 - Hydropunch Locations

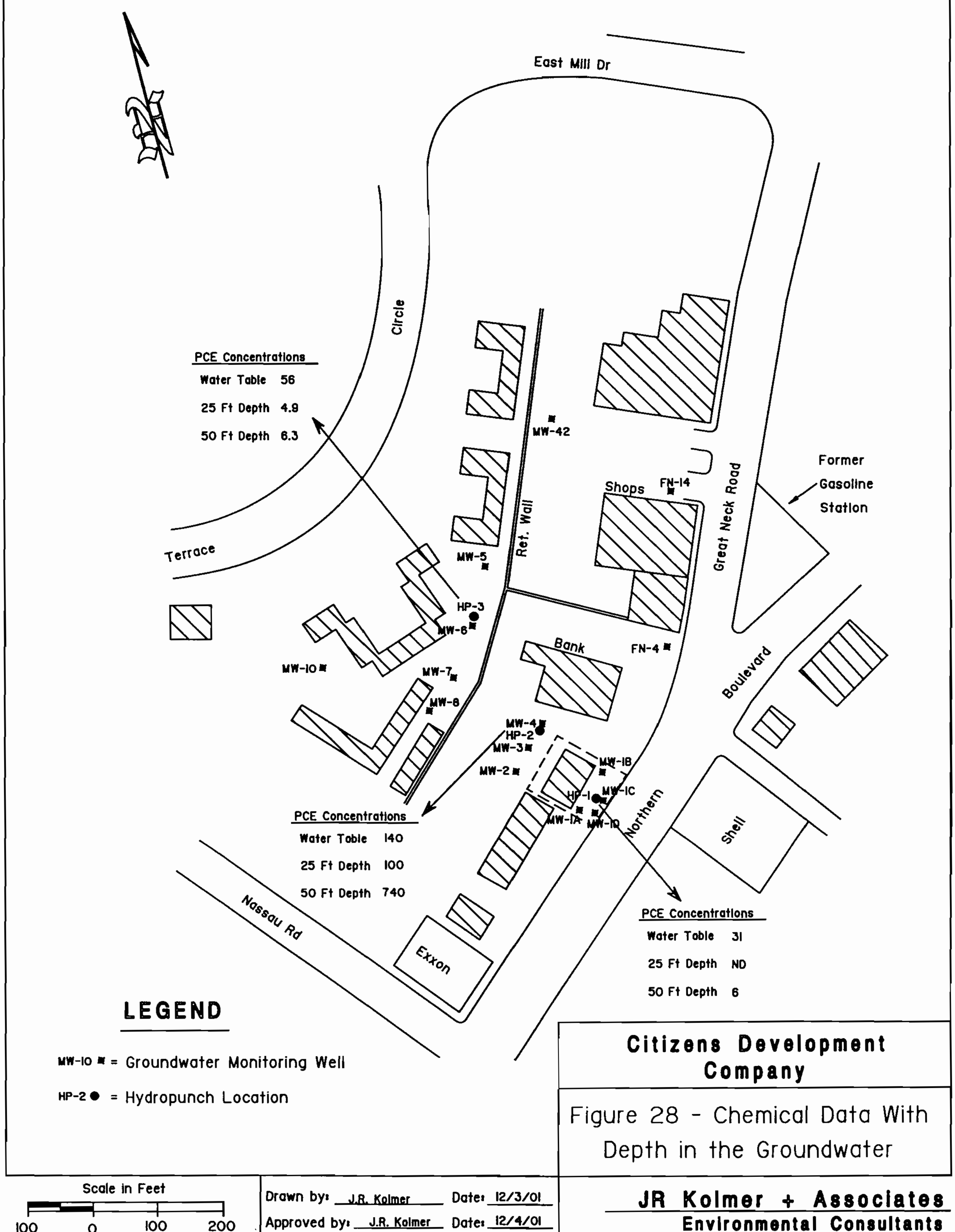
Scale in Feet

100 0 100 200

Drawn by: J.R. Kolmer Date: 12/3/01

Approved by: J.R. Kolmer Date: 12/4/01

JR Kolmer + Associates
Environmental Consultants



Citizens Development Company

Figure 28 - Chemical Data With Depth in the Groundwater

Drawn by: J.R. Kolmer Date: 12/3/01

Approved by: J.R. Kolmer Date: 12/4/01

JR Kolmer + Associates
Environmental Consultants

Appendix A

Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

Citizens Development Company
Operable Unit 1
Inactive Hazardous Waste Site
University Gardens, Nassau County
Site Number 1-30-070

March 1998

New York State Department of Environmental Conservation

GEORGE E. PATAKI, *Governor* John P. Cahill, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Citizens Development Company Inactive Hazardous Waste Site
OPERABLE UNIT 1
University Gardens, Nassau County, New York
Site No. 1-30-070

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Operable Unit 1 for (OU-1) the Citizens Development Company inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Citizens Development Company Inactive Hazardous Waste Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from Operable Unit 1 of the Citizens Development Company Site have been addressed by implementing the interim response actions identified in this ROD. Therefore, this Operable Unit no longer represents a current or potential threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Citizens Development Company, remediation of the site under previously completed Interim Remedial Measures and the criteria identified for evaluation of alternatives, the NYSDEC has selected no further action with continued groundwater monitoring for Operable Unit 1. This remedy will include:

- Monitoring and evaluating groundwater quality and flow direction at 12 existing groundwater monitoring wells annually for a period of at least three years.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

3/30/98
Date

Michael J. O'Toole
Michael J. O'Toole, Jr., Director
Division of Environmental Remediation

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RECORD OF DECISION

CITIZENS DEVELOPMENT COMPANY

Site No. 1-30-070
Operable Unit No. 1
University Gardens (V), North Hempstead (T), New York
March, 1998

SECTION 1: SITE LOCATION AND DESCRIPTION

Citizens Development Company Site #1-30-070 is located at 47 Northern Boulevard in the City of Great Neck, Town of North Hempstead, Nassau County, New York. A site location map is presented in Figure No.1. The Site consists of a one acre parcel of land containing a 3000 square foot, one story concrete building, situated in the center of the property. The building contains a basement. Adjacent to the Site are light industrial and commercial properties to the east, west and south. To the north is a residential apartment complex.

Two inactive hazardous waste disposal sites are located within one mile of the Site. They are:
* Stanton Cleaners (1-30-072), 0.5 miles north
* Mayflower Cleaners (1-30-068), 0.2 miles east

A public water supply wellfield is located approximately 2500 feet north of the Site. The wellfield is operated by the Water Authority of Great Neck North. The wellfield has been impacted by chlorinated solvents. Wellhead treatment is currently in place to remove contaminants and render the water potable.

Operable Unit 1, which is the subject of this PRAP, addresses the completed remediation of the on-site source area, previous groundwater treatment, and documents groundwater quality in the shallow aquifer. Soil and groundwater quality have been evaluated via subsurface investigation and laboratory analysis.

An Operable Unit represents a portion of the site remedy which for technical or administrative reasons can be addressed separately to eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination. The remaining operable unit for this site is described in Section 2.2 below.

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

Cleanland Drive-In Cleaners occupied the facility from approximately 1960 to 1976. Intermittently during this time, the dry cleaners stored (PCE) saturated filter media on an unpaved portion of the site immediately north of the facility (rear yard). This practice was confirmed by a former employee of Cleanland Drive-In Cleaners.

1960-1976: Facility occupied by Cleanland Drive-In Cleaners.

1976: Facility burned down.

1982-1984: Facility rebuilt and occupied by Flower Fashion, a commercial florist.

1984-present: Various commercial tenants, none of which were associated with the use or discharge of hazardous wastes.

2.2: Remedial History

The following is a chronological listing of investigations and remedial measures performed at site.

November 7, 1983: Nassau County Department of Health (NCDH) acquired a surface soil sample from the site in the rear yard. Analysis revealed 3.5 ppm of PCE (see Figure 2).

January 3, 1984: NCDH acquired a surface soil sample from the site in the rear yard. Analysis revealed 17 ppm of PCE (see Figure 2).

1984-1985: In April 1984, under NCDH oversight, the Potentially Responsible Party (PRP) installed an on-site groundwater observation well (OW) and advanced four soil borings in the rear yard. The groundwater monitoring well was screened at the water table. Soil borings B-1, and B-3 were advanced to a final vertical depth of 22 feet below land surface (bls). Soil borings B-2 and B-4 were advanced to a final vertical depth of 27 feet bls. Soil samples were acquired and analyzed for volatile organic compounds (VOCs) every five feet. PCE concentrations were observed to generally decrease with depth within the vertical soil profile (from 1300 ppm to less than 1 ppm). Two groundwater samples acquired from the on-site monitoring well revealed 4700 and 4900 ppb of PCE (see Figure 2).

December 1984: Approximately 75 cubic yards of soil were excavated and removed from the site. The excavation was conducted in the rear yard and encompassed an area of approximately 150 square feet and extended vertically approximately 15 - 17 feet. This soil was removed from the site by a licensed waste hauler to an approved Treatment, Storage and Disposal Facility (TSDF). Also, during this time, three additional groundwater monitoring wells were installed on the site (MW-2, MW-3, MW-4). These monitoring wells were screened at the water table. Groundwater samples were acquired from MW-2, MW-3, and MW-4 in January 1985. PCE concentrations were detected at 970 ppb, 3335 ppb, and 3503 ppb, respectively. The observation well was also sampled in January 1985 at which time 3463 ppb of PCE were detected (see Figure 3).

January 1985: Monitoring wells #5 - #10 were to have been installed off-site. However, it appears from the file search that monitoring well #9 was not installed. These monitoring wells were screened at the water table (see Figure 3).

January 1986- May 1990: In January 1986, a groundwater pump and treat system was installed on-site. The observation well installed in April 1984 was removed and replaced with a 12 inch recovery well. The recovery well was advanced to a depth of approximately 75 feet bls. Depth to groundwater on-site is approximately 43 feet bls. A submersible pump delivered groundwater to a granular activated carbon treatment system (see Figure 3). Treated effluent was regulated under a State Pollution Discharge Elimination System (SPDES) permit (NY 0206351) as overseen by the Division of Water (DOW). The treated effluent was discharged to a storm sewer catch basin. The groundwater remediation operated until May 1990, at which time mechanical failure caused the system to be shut down. Groundwater samples were acquired in August 1989 from monitoring wells MW-2, MW-3, MW-4 and the recovery well. Comparison of groundwater data collected in 1985 with groundwater data generated in 1989 reveals decreasing concentrations of PCE in MW-2, MW-3, MW-4, and the recovery well (see Table A).

December 1990: An upgradient groundwater monitoring well was installed (MW-1a). Groundwater levels were taken to confirm the site specific groundwater flow direction and monitoring wells MW-1a, MW-2 and MW-4 were sampled. Site specific groundwater flow direction was determined to be nearly due north (see Figure 3).

February 1991 - July 1991: Groundwater sampling and analysis of selected on-site (MW-1a, MW-2, MW-3, MW-4) and off-site (MW-8, MW-10) groundwater monitoring wells (see Figure 3) . This sampling effort revealed low level VOCs upgradient of the Site and elevated levels of VOCs downgradient of the Site (see Table B). Petroleum hydrocarbons were also detected during this round of groundwater sampling, however, these contaminants are not attributable to past practices at the site.

February 1993: 17 soil borings were advanced on-site. Twelve of these soil borings were advanced in the front of the facility, upgradient of the identified source area. The remaining five soil borings were advanced in the rear of the facility in the area previously identified as the source area. Soil samples were acquired from borings B-1 through B-16 for VOC analysis at vertical depth intervals of 10 and 15 feet bls. There were no detections of VOCs in any of the soils analyzed from borings B-1 through B-13 and B-15. Soil boring B-17 was sampled at five foot intervals beginning at five feet bls to an ultimate vertical depth of 40 feet bls. Analytical results revealed residual, low level PCE contamination existed in soils from borings B-14, B-16 and B-17. Only the soil sample acquired at the ten foot interval from boring B-17 exceeded NYSDEC Technical Administrative Guidance Memorandum (TAGM) #4046 soil cleanup guidelines for the protection of human health and groundwater (see Figure 4).

Two of the soil borings, B-3 and B-4, were advanced during this February 1993 investigation to the water table and monitoring wells were constructed. These became upgradient monitoring wells MW-1c and MW-1d, respectively. Also constructed was upgradient water table monitoring well, MW-1b (see Figure 4). In February and March 1993, monitoring wells MW-1a,b,c,d, MW-2 - MW4 and the recovery well were sampled for VOCs. Analytical results from this sampling effort revealed PCE in upgradient and downgradient monitoring wells (see Table A).

There are two exterior dry wells (DW-1 and DW-2) located on-site. Both dry wells were sampled during the period February 1993. Soil samples were acquired from the bottom sediments of each dry well and a second soil sample was collected five feet beneath the bottom of each dry well. The bottom sediments of DW-1 revealed the following levels of VOCs: Vinyl chloride at 10 ppb, 1,2-dichloroethene at 170 ppb, trichloroethylene at 52 ppb, and PCE at 42 ppb. These levels are below NYSDEC TAGM #4046 guidance levels, and so the sediments can be left in place. Analysis of the soil sample acquired five feet below the bottom of the dry well revealed no detections of VOCs. Laboratory analysis of the sediments and soil from dry well DW-2 revealed no detections of VOCs (see Figure 4).

April 12, 1993: Site is listed in the New York State Registry of Inactive Hazardous Waste Disposal Sites as a Class 2 site.

April 1993: During an inspection of the interior of the facility a floor sump was discovered in the basement of the facility. The sump was approximately two to three feet wide and approximately one foot deep. Samples were taken of the liquid within the sump, sediments from the side of the sump and sediments from the bottom of the sump. Additional soil samples were taken at depth, vertically through the bottom of the sump. These samples were analyzed for VOCs. Laboratory analysis of the liquid and soil within the floor sump revealed the highest levels of VOCs extended to a depth of approximately 22 inches (see Figure 4). Under the approved Interim Remedial Measure (IRM), liquid and sediment was removed from the floor sump to a depth of four feet.

Operable Unit 2 (OU-2) will further define off-site, downgradient groundwater quality at depth and further identify those receptors which may be impacted. To this end, some OU-2 work has already begun with the installation and sampling of off-site, downgradient groundwater monitoring wells. Additional groundwater sampling at depth will confirm whether or not PCE has migrated vertically within the aquifer.

SECTION 3: CURRENT STATUS

In response to a determination that the presence of hazardous waste at the Site presents a significant threat to human health and the environment, the Citizens Development Company has recently completed a Remedial Investigation/Feasibility Study (RI/FS).

3.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any remaining groundwater contamination resulting from previous activities at the site. Soil contamination was remediated during several IRMs which are discussed in detail in Section 3.2.

The RI was conducted in one phase. Field implementation of the RI took place during June through September 1997. A report entitled Remedial Investigation Report dated November 1997 has been prepared describing the field activities and findings of the RI in detail.

The RI included the following activities:

- *Background information review.*
- *Utilizing 15 groundwater monitoring wells, seven of which were located on-site and eight located off-site, groundwater elevations were acquired in June, July and September 1997 to determine if groundwater flow direction*

has fluctuated from flow direction previously observed. All the monitoring wells utilized in this survey are screened at the water table. Groundwater flow direction was found to be nearly due north as was previously observed in December 1990. (see Figure 5).

- *The collection of groundwater samples from the same 15 monitoring wells. Groundwater samples were acquired by both the Responsible Party and NYSDEC in July 1997 and submitted to a NYSDOH ELAP certified laboratory for VOC analysis (see Table A).*

To determine groundwater contamination levels of concern, the RI analytical data were compared to environmental Standards, Criteria, and Guidance (SCGs). Groundwater, SCGs identified for the Citizens Development Company site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS Sanitary Code. Soil quality data was compared to NYSDEC TAGM #4046.

Based upon the results of the remedial investigation in comparison to the SCGs and potential public health and environmental exposure routes, certain areas and media of the site require further monitoring. These are summarized below. More complete information can be found in the RI Report.

Chemical concentrations are reported in parts per billion (ppb), parts per million (ppm), For comparison purposes, SCGs are given for groundwater.

3.1.1 Nature of Contamination:

As described in the RI Report, groundwater samples were collected at the Site to characterize the nature and extent of contamination.

Groundwater Quality:

- A total of 15 monitoring wells, located both on and off the site were sampled and analyzed during the RI (see Figure 5). Previous investigations have utilized all of these monitoring well at some point for groundwater sampling and analysis (see Table A).

- Based upon past environmental investigations, and groundwater sampling and analysis for the RI, PCE is the contaminant associated with past disposal practices. Beside PCE, trichloroethylene and 1,2 dichloroethylene have been observed in groundwater samples both on and off -site. Benzene, toluene, ethyl-benzene and xylene have been discovered in sidegradient monitoring wells FN-4 and FN-14; however, those contaminants are associated with a nearby petroleum spill currently being remediated by the Division of Environmental Remediation (Spill #82-00157).

3.1.2 Extent of Contamination

Table 1 summarizes the extent of contamination for the contaminants of concern in groundwater and compares the data with the proposed remedial action levels (SCGs) for the Site. The following are the media which were investigated and a summary of the findings of the investigation.

Groundwater

The primary VOC of concern was PCE (2 to 180 ppb) which was detected in some monitoring wells above NYS groundwater standard. Other VOCs which were detected in groundwater included methylene chloride (2 to 24 ppb), trichloroethene (1 to 30 ppb), toluene (540 to 2400 ppb), ethylbenzene (310 to 900 ppb), xylene (5 to 3700 ppb), benzene (150 to 380 ppb), 1,2-dichloroethene (1 to 38 ppb) and acetone (4 ppb), (see Table 1). The groundwater standard for all of these compounds, except benzene and acetone, is 5 ppb. The groundwater standard for benzene is 0.7 ppb. The groundwater standard for acetone is 50 ppb.

3.2 Interim Remedial Measures:

Interim Remedial Measures (IRMs) are conducted at sites when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS.

January 24, 1995: NYSDEC approved an Interim Remedial Measure (IRM) work plan to remove contaminated soil from the interior floor sump and utilize soil vapor extraction (SVE) for the remediation of the remaining soil contamination on the site.

May 1995: Field implementation of the approved IRM work plan began by utilizing a truck mounted vacuum system to excavate an area approximately five feet in diameter and four feet deep from the interior floor sump. Post excavation confirmatory soil sampling revealed non detections of VOCs in two sidewall samples and 9.8 ppm of PCE and 0.1 ppm of trichloroethene in the bottom soil. Approximately four cubic yards of excavated soil material was containerized on site and vacuumed using the SVE system to remove the PCE. A perforated pipe was placed within the excavation and connected to the SVE system, to remove the residual PCE that existed after the excavation. The excavation was backfilled, and the concrete slab was patched.
Five soil vacuum extraction wells were installed outside the facility, to remove the residual PCE contamination observed in soil borings B-14, B-16 and B-17. The SVE system operated for approximately 10 months whereupon steady state emissions were observed and five confirmatory soil samples acquired to verify the success of the remedial effort (see Figure 6).

February 28, 1996: NYSDEC approved an IRM Closure Report. Confirmatory soil samples taken from five to ten below grade in the rear yard revealed residual contaminant concentrations below NYSDEC TAGM #4046.

Confirmatory soil sampling of the containerized soil/sediments revealed residual contaminant levels below TAGM #4046. The soil was spread in an unpaved portion of the site.

Contaminants identified in sediments within the two on-site drywells were below TAGM #4046 soil cleanup guidance levels.

3.3 Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the health risks can be found in Section 5.0 of the RI Report.

An exposure pathway is how an individual may come into contact with a contaminant. The five elements of an exposure pathway are 1) the source of contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

The exposure assessment evaluated the potential current and future risks to potentially exposed individuals. Potential pathways for exposures include ingestion, dermal contact, and/or inhalation.

Identified Exposure Pathways and Receptors

Current Use:

The site at present is unsecured. Entrance to the facility building is limited to its employees or customers. All potable water used at the site is obtained from a public water source. Although contaminants have been detected in the soil, sediment and groundwater under the current land use scenario exposure pathways are limited to site workers.

Review of public water supply well locations and populations indicate that everyone within a 1-1/2 mile radius of the site is connected to a public water supply system.

Future Use:

Although the use of the site in the future is likely to remain commercial, a future residential use is assumed for purposes of the risk assessment.

If residences are constructed on the site in the future, child and adult residents would be considered potential receptors. If the site remains a commercial property, on-site workers and patrons would be considered potential receptors. Potential future exposure points are soil, soil vapor and groundwater. Potential exposure pathways are, for the most part, identical for both current use (commercial) receptors such as workers or patrons and for possible future use (residential) receptors:

- Incidental ingestion of soils and sediments.
- Dermal contact with soils and sediments.
- Inhalation of contaminated air.

There are presently no potable or production wells on-site utilizing groundwater. However, if under a future residential use scenario, an on-site water supply well was used an additional exposure pathway would be:

- Ingestion of groundwater.

Exposure to contaminated sediments or soils via incidental ingestion or direct contact is not likely at present because the site is paved. Additionally, residual levels of PCE in soils are below levels identified in TAGM #4046.

The potential exists for elevated concentrations of residual PCE in indoor air. This exposure pathway will be evaluated through indoor air sampling at the site during Operable Unit 2. Air monitoring with field instrumentation has not indicated elevated concentrations of VOCs in ambient (outdoor) air.

The subject site and surrounding properties are served with treated water provided by regulated Water Districts. Consequently, construction and use of an on-site well is not likely under any scenario. At any rate, the concentration of PCE in groundwater will continue to be investigated and monitored under Operable Units 1 and 2.

Off-Site Receptors:

The primary exposure pathway of concern related to this site is the potential use of contaminated groundwater. While there are no private wells in the vicinity of the site, there are public water supply wells at the Watermill Lane wellfield approximately ½ of a mile downgradient from the site. This wellfield, which serves area residents and businesses, has been contaminated with VOCs since 1984. The Water Authority of Great Neck North is treating the water to remove these contaminants from the water prior to distribution to the community. Remedial activities at the Citizens Development Company site have resulted in substantial reductions of PCE concentrations in groundwater. Concentrations of PCE in groundwater will continue to be monitored under Operable Unit 1. Additional investigation of the aquifer at depth will occur under Operable Unit 2, followed by a re-evaluation of the need for further remedial action.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The following is the chronological enforcement history of this site.

Orders on Consent

Date	Index	Subject
9/29/94	W-1-0683-93-12	RI/FS/IRM

The NYSDEC and the Citizens Development Company entered into a Consent Order on September 29, 1994. The Order obligates the responsible parties to implement a full remedial program.

SECTION 5: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. The overall remedial goal is to meet all Standards, Criteria, and Guidance (SCGs) and be protective of human health and the environment.

At a minimum, the remedy selected should eliminate or mitigate all significant threats to the public health and to the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Mitigate the impacts of contaminated groundwater to the environment or public water supply.
- Provide for attainment of SCGs for groundwater quality at the limits of the area of concern (AOC), to the extent practicable.
- Remediate on-site soil contamination to levels below TAGM 4046.

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy should be protective of human health and the environment, be cost effective, comply with other statutory laws and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. Potential remedial alternatives for the Citizens Development Company site were identified, screened and evaluated in a Feasibility Study. This evaluation is presented in the report entitled Remedial Investigation/Feasibility Study Report, February 11, 1998.

A summary of the detailed analysis follows. As used in the following text, the time to implement reflects only the time required to implement the remedy, and does not include the time required to design the remedy, procure contracts for design and construction or to negotiate with responsible parties for implementation of the remedy.

6.1: Description of Alternatives

The potential remedies are intended to address the contaminated groundwater at the site.

Alternative 1: No Further Action

This alternative recognizes remediation of the site conducted under a previously completed IRM. Additionally, the excavation and removal of contaminated soil from the site in 1984 and the groundwater pump and treat system which operated from 1986 through 1990 have each helped to reduce the contaminant mass on-site. Based upon RI/FS data, continued groundwater monitoring would assist in evaluating the effectiveness of past remedial activities at the site. Groundwater samples would be acquired from monitoring wells MW-1a, 1b, 1c, 1d , MW-2 through MW-8 and MW-10 and analyzed for VOCs on an annual basis for three years. Groundwater levels would also be measured to confirm the groundwater flow direction.

Present Worth:	30,000
Capital Cost:	None
Annual O&M:	10,000
Time to Implement:	Immediately

Alternative 2: Groundwater Pump and Treatment

This remedial system would utilize the existing recovery well at the site. This well is adjacent to both the historical source area and the monitoring well (MW-4) currently demonstrating the highest residual concentration of PCE.

The groundwater pump and treatment system as proposed in the RI/FS would utilize a precipitation process to remove elevated mineral levels in the groundwater. Thereafter, groundwater would be treated by the carbon sorption process to remove hydrocarbons and prevent hydrocarbon fouling from a nearby gasoline spill. Treated groundwater would then be subjected to an air stripping process before being discharged to the storm sewer on Northern Boulevard. Remedial effectiveness would be evaluated through a groundwater monitoring program.

Present Worth:	600,000
Capital Cost:	300,000
Annual O&M:	100,000
Time to Implement:	Three months

Alternative 3: Groundwater Air Sparging System

A groundwater air sparging system would be installed in the area previously identified as the source area. The system would include three air sparge wells spaced approximately 20 feet apart and extending 25 feet into the groundwater. Four soil vapor extraction wells would be installed between the sparge points. The vapor extraction wells would be screened above the water table and would collect the VOC vapors resulting from the sparging operation. VOC vapors may require polishing through activated granular carbon before being exhausted into the atmosphere. Remedial effectiveness would be evaluated through a groundwater monitoring program.

Present Worth:	100,000
Capital Cost:	55,000
Annual O&M:	15,000
Time to Implement:	Two months

6.2 Evaluation of Remedial Alternatives

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6NYCRR Part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is contained in the RI/FS report.

The first two evaluation criteria are termed threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.

Alternative 1 would not immediately meet the SCGs for groundwater quality standards. However, natural attenuation would restore the aquifer to the groundwater quality standards over a period of time. The existing public water supply regulations are in effect to ensure that the drinking water standards are met within the public water supply distribution system. This would be the same regardless of the alternative selected. The existing wellhead treatment at the Watermill Lane wellfield ensures compliance with the NYS drinking water standards. Alternative 1, while not immediately meeting SCGs, would be an acceptable alternative given the relatively low concentrations of PCE recently observed in monitoring wells downgradient of the site.

Groundwater Alternatives 2 and 3 would also result in groundwater eventually complying with applicable SCGs.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

All groundwater remedial alternatives would be protective of human health and the environment. These alternatives rely upon the NYSDOH Part 5 drinking water requirements which must be met by community water suppliers. The public water supply wells located at Watermill Lane are equipped with wellhead treatment to meet these requirements. There are no potable or production wells on-site utilizing groundwater.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Worker exposure to contaminated groundwater or soil during implementation of Alternatives 2 or 3 would be controlled through a site specific health and safety plan.
It is estimated that both Alternatives 2 and 3 would have to operate for a minimum of three years before complying with SCGs.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

Under Alternative 2, treated groundwater would have to meet Groundwater Effluent Standards prior to being discharged to the municipal storm sewer system. A groundwater monitoring program would evaluate groundwater quality and the effectiveness of the remedial alternative.

Under Alternative 3, VOCs would be extracted from the groundwater via air sparging and vacuum extraction. Air emissions generated during the application of this alternative might have to be treated to comply with SCGs. A groundwater monitoring program would evaluate the effectiveness of the remedial alternative.

Alternatives 2 and 3 provide for long term effectiveness and permanence.

The Citizens Development Company site and surrounding community are utilizing public water for potable uses. The public water supply wells located at Watermill Lane are equipped with wellhead treatment to treat contaminated groundwater.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.
Neither Alternatives 1, 2 or 3 would reduce the toxicity of the groundwater contaminants at the Site.
Alternative 2 would reduce the volume of contaminants at the
Site and would also reduce the mobility due to containment around the recovery well.
Alternative 3 would reduce the volume of contaminants at the Site.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc..

All alternatives are implementable. However, Alternative 2 would be complicated by high mineral content within the groundwater (iron fouling) and the possibility of capturing hydrocarbons associated with a nearby gasoline spill.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The costs for each alternative are presented in Table 2.

This final criterion is considered a modifying criterion and is taken into account after evaluating those above. It is focused upon after public comments on the Proposed Remedial Action Plan have been received.

8. Community Acceptance - Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan have been evaluated. The "Responsiveness Summary" included as Appendix A presents the public comments received and the Department's response to the concerns raised.

SECTION 7: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the RI/FS, and the evaluation presented in Section 6, the NYSDEC is proposing Alternative 1 as the remedy for this site.

While Alternative 1 does not immediately meet SCGs, its selection is based upon the fact that three remedial actions previously undertaken at the site have been successful in remediating the soil and groundwater. Those remedial actions were:

1. Soil Excavation: Under the oversight of the NCDH, approximately 75 cubic yards of VOC contaminated soil was excavated and removed from the site in December 1984. Removal of this grossly contaminated soil greatly reduced the threat of continued contamination of on-site groundwater.

2. Groundwater Pump and Treatment: Under the supervision of the Department, a groundwater extraction and treatment system removed VOCs from on-site groundwater. The system operated from January 1986 through May 1990. PCE concentrations in the on-site recovery well diminished from 3463 ppb in January 1985 to 860 ppb in August 1989.

3. Soil Vapor Extraction (SVE) System: Under the supervision of the Division of Environmental Remediation a SVE system removed residual VOC contamination from on-site soil. The system operated from May 1995 through February 1996. Confirmatory soil sampling verified that the on-site source area and the interior floor sump had been remediated to levels below NYSDEC TAGM #4046.

Groundwater quality data generated prior to and during the RI has demonstrated that remediation of the source area and previous groundwater treatment have resulted in significantly reducing the concentrations of PCE in on-site and off-site groundwater. For example, PCE concentrations in downgradient MW-4 diminished from 3,503 ppb in January 1985 to 180 ppb in July 1997.

Groundwater quality data generated during the RI from downgradient monitoring wells, off - site has demonstrated that natural attenuation continues to reduce concentrations of PCE to nearly the SCGs.

The estimated present worth cost to implement the remedy is $30,000. The estimated average annual operation and maintenance cost for three years is $10,000.

The elements of the selected remedy are as follows:

1. Since the remedy results in untreated groundwater remaining at the site, a long term groundwater monitoring program will be instituted. This program will allow the effectiveness of past remedial actions to be monitored and would be a component of the operation and maintenance for the site.

2. The RI confirmed the site specific groundwater flow direction. Based upon these results, monitoring wells MW-1a, 1b, 1c, 1d, MW-2 through MW-8 and MW-10 will be utilized in a groundwater monitoring program. Under this program, groundwater samples will be acquired annually for VOC analysis. The results will be evaluated by NYSDEC and NYSDOH. Water levels will also be taken from this suite of monitoring wells to observe any changes in groundwater flow direction. At the end of the three year monitoring program, groundwater quality will be evaluated and a determination made as to whether to continue the monitoring program or not.

SECTION 8: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation process, a number of Citizen Participation (CP) activities were undertaken in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- A repository for documents pertaining to the site was established.

- A site mailing list was established which included nearby property owners, local political officials, local media and other interested parties.
- A RI/FS Fact Sheet was disseminated to the public in December, 1996.
- A public meeting was held on February 23, 1998 to present the Proposed Remedial Action Plan.
- In March, 1998 a Responsiveness Summary was prepared and made available to the public, to address the comments received during the public comment period for the Proposed Remedial Action Plan.

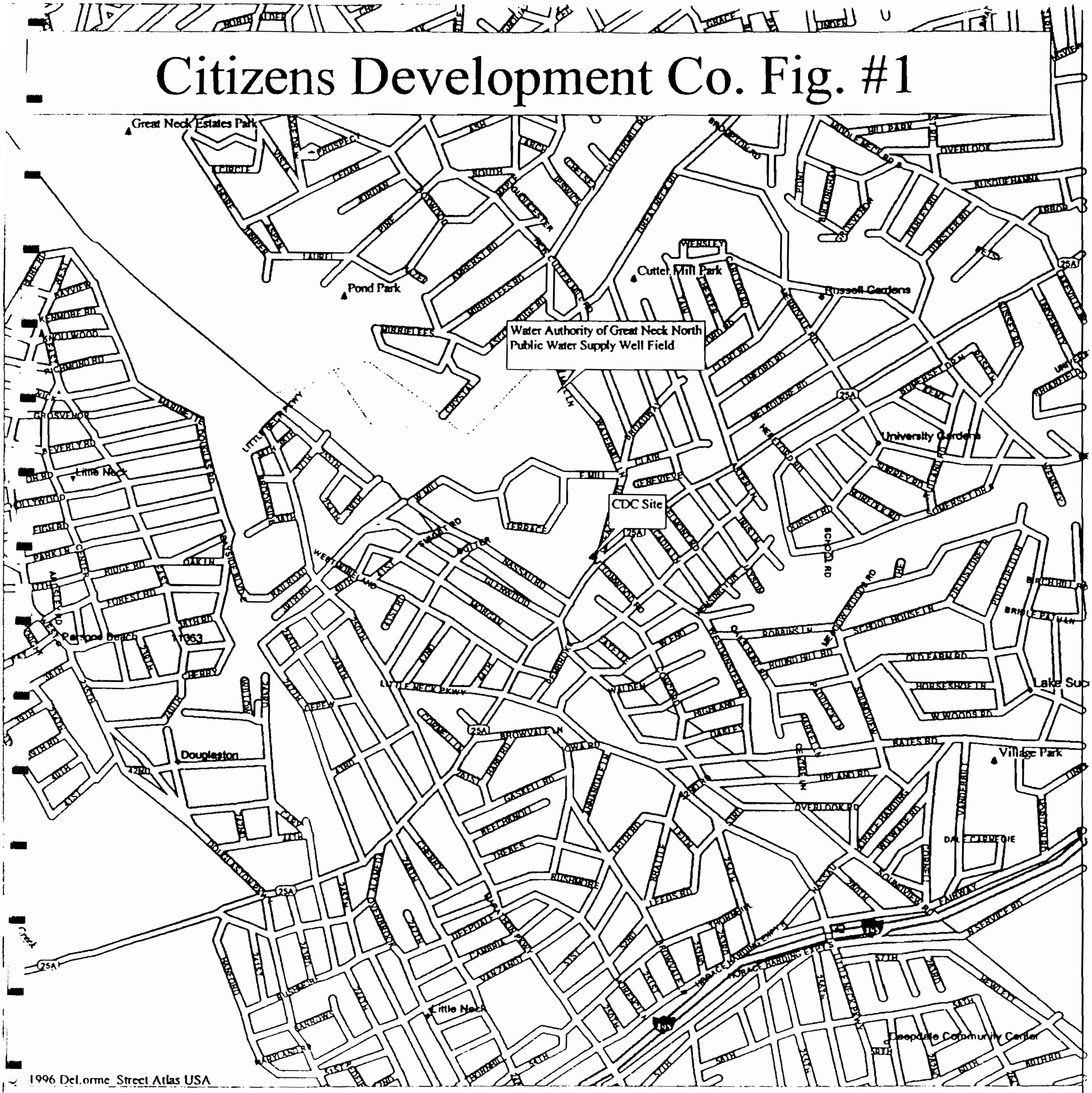
Table 1
Nature and Extent of Contamination

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	FREQUENCY of EXCEEEDING SCGs	SCG (ppb)
Groundwater	Volatile Organic Compounds (VOCs)	Methylene Chloride	2 to 24	4	5
		1,2-Dichloroethene	ND to 38	3	5
		Trichloroethene	ND to 30	2	5
		Tetrachloroethene	2 to 180	10	5
		Benzene	ND to 380	2	0.7
		Toluene	ND to 2400	3	5
		Ethylbenzene	ND to 900	3	5
		Xylene	ND to 3700	3	5
		Acetone	ND to 4	0	50

Table 2
Remedial Alternative Costs

Remedial Alternative	Capital Cost	Annual O&M	Total Present Worth
No Further Action - Monitor Only	$0	$10,000	$30,000
Groundwater Pump & Treat System	$300,000	$100,000	$600,000
Groundwater Air Sparging System	$55,000	$15,000	$100,000

Citizens Development Co. Fig. #1



1996 DeLorme Street Atlas USA
Mag 15.00
Thu Mar 26 10:29 1998
Scale 1:15,625 (at center)
1000 Feet
500 Meters

	Local Road		Locale
	Primary State Route		Exit
	Interstate/Limited Access		County Boundary
	Railroad		Population Center
	Point of Interest		Lake
	Small Town		Land
	Geographic Feature		Water
	Park/Reservation		River/Canal

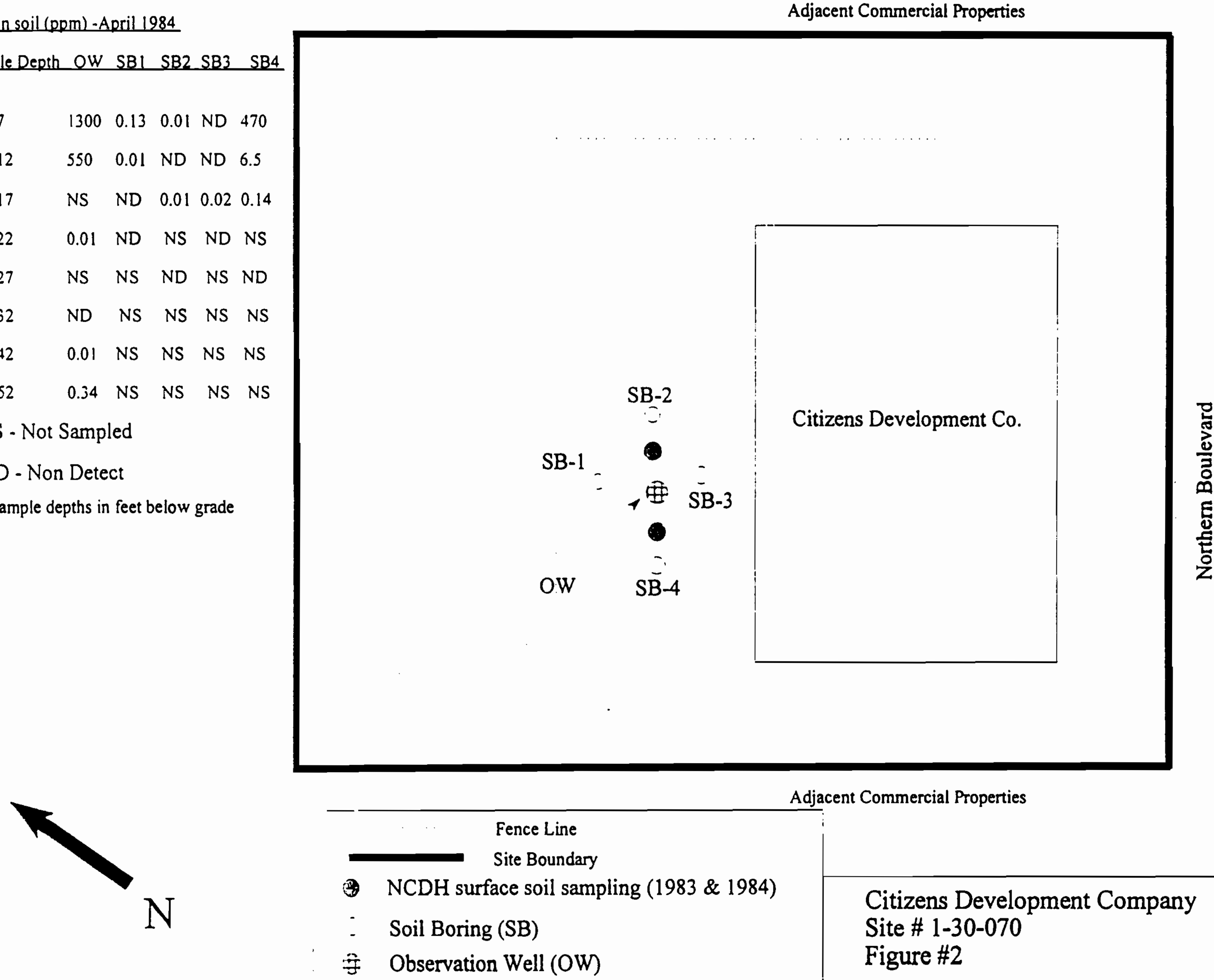
PCE in soil (ppm) -April 1984

Sample Depth	OW	SB1	SB2	SB3	SB4
5 - 7	1300	0.13	0.01	ND	470
10 - 12	550	0.01	ND	ND	6.5
15 - 17	NS	ND	0.01	0.02	0.14
20 - 22	0.01	ND	NS	ND	NS
25 - 27	NS	NS	ND	NS	ND
30 - 32	ND	NS	NS	NS	NS
40 - 42	0.01	NS	NS	NS	NS
50 - 52	0.34	NS	NS	NS	NS

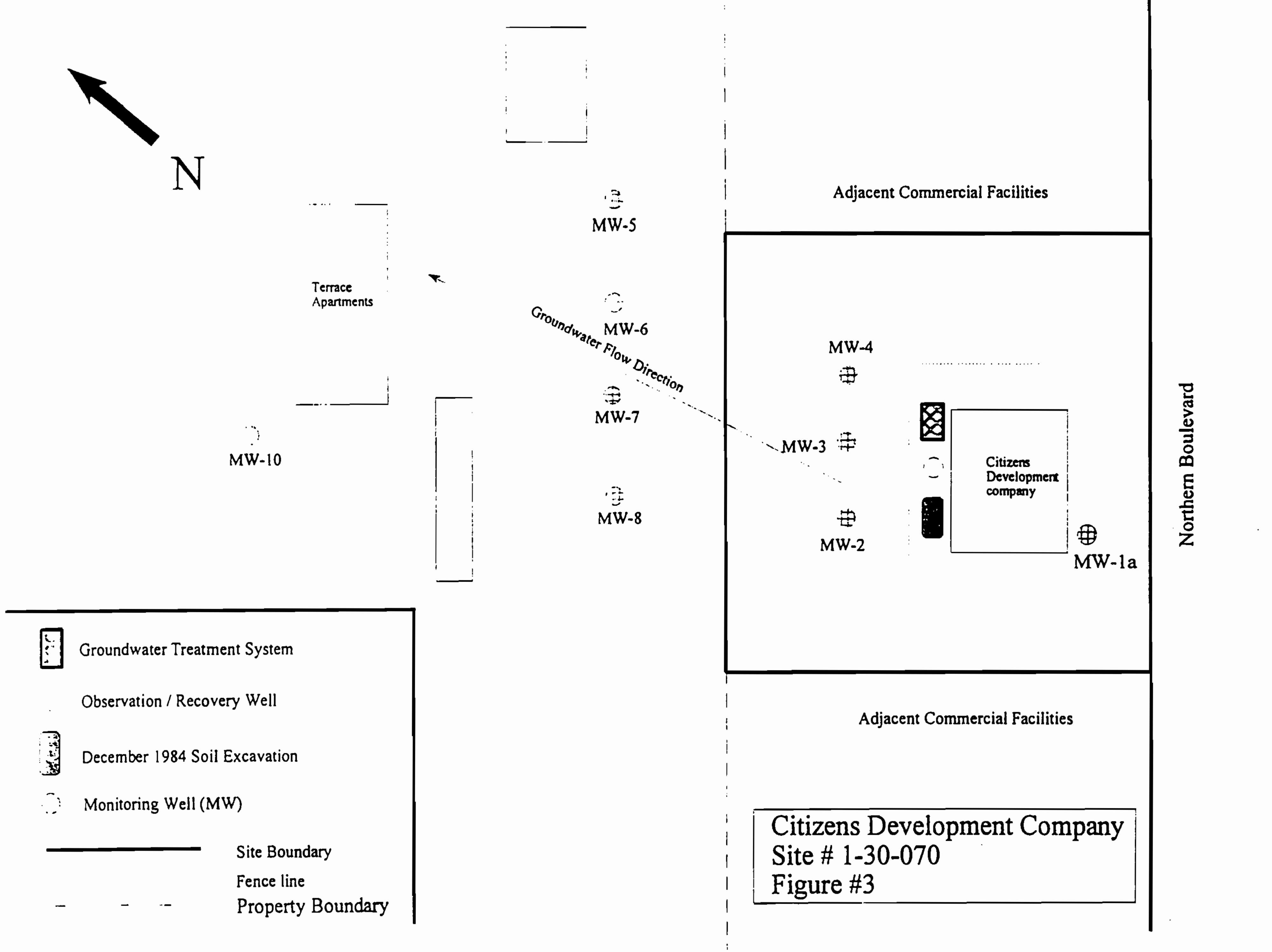
NS - Not Sampled

ND - Non Detect

All sample depths in feet below grade



Citizens Development Company
Site # 1-30-070
Figure #2



Citizens Development Company
Site # 1-30-070
Figure #3

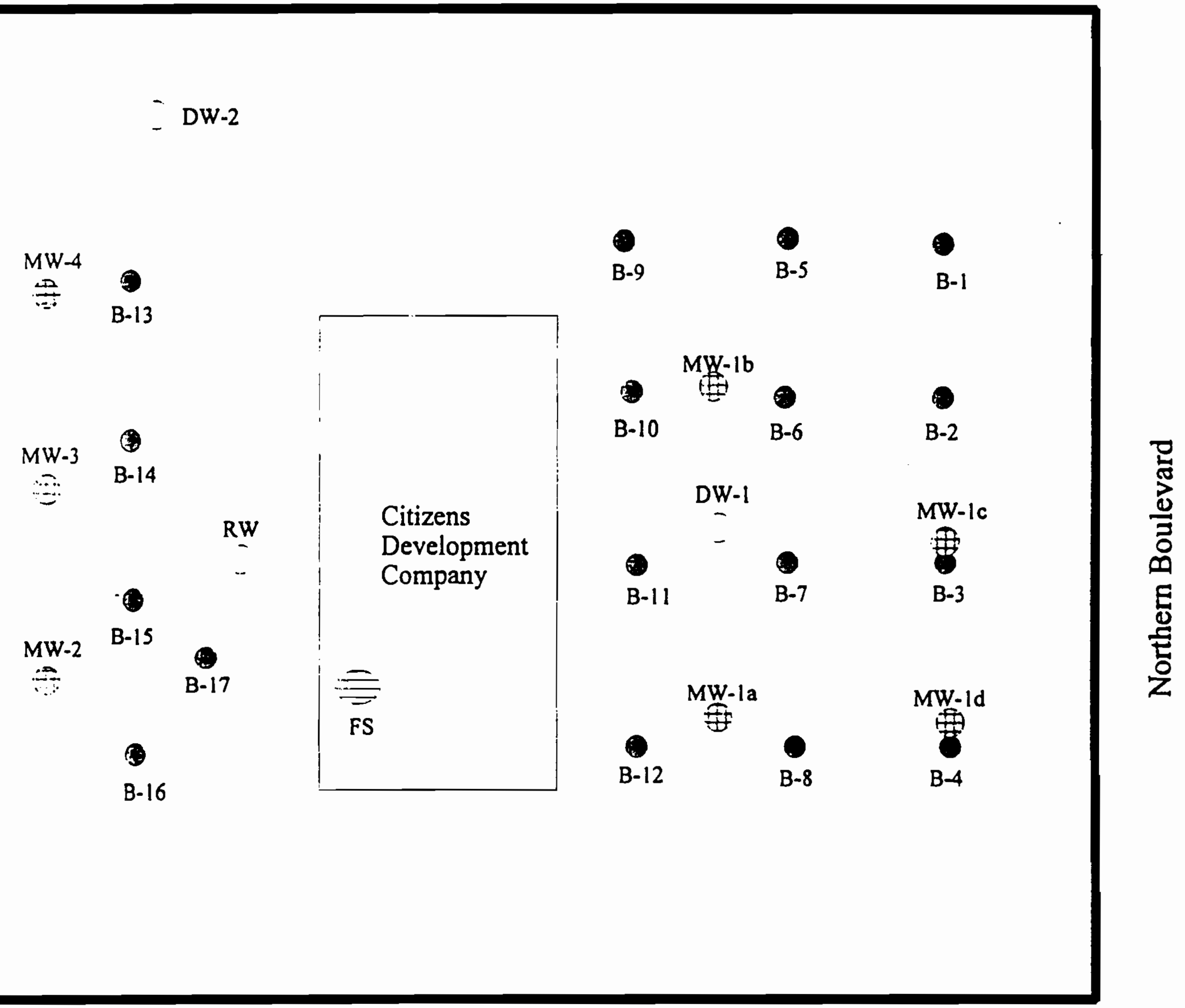
PCE in soil (ppm)	5'	10'	15'
B-14	ND	ND	0.09
B-16	ND	ND	0.01
B-17	0.85	1.7	0.006

VOCs in DW-1 (ppm)

Vinyl Chloride - 0.01
1,2-Dichloroethene (1,2-DCE) - 0.17
Trichloroethylene (TCE) - 0.05
PCE - 0.04

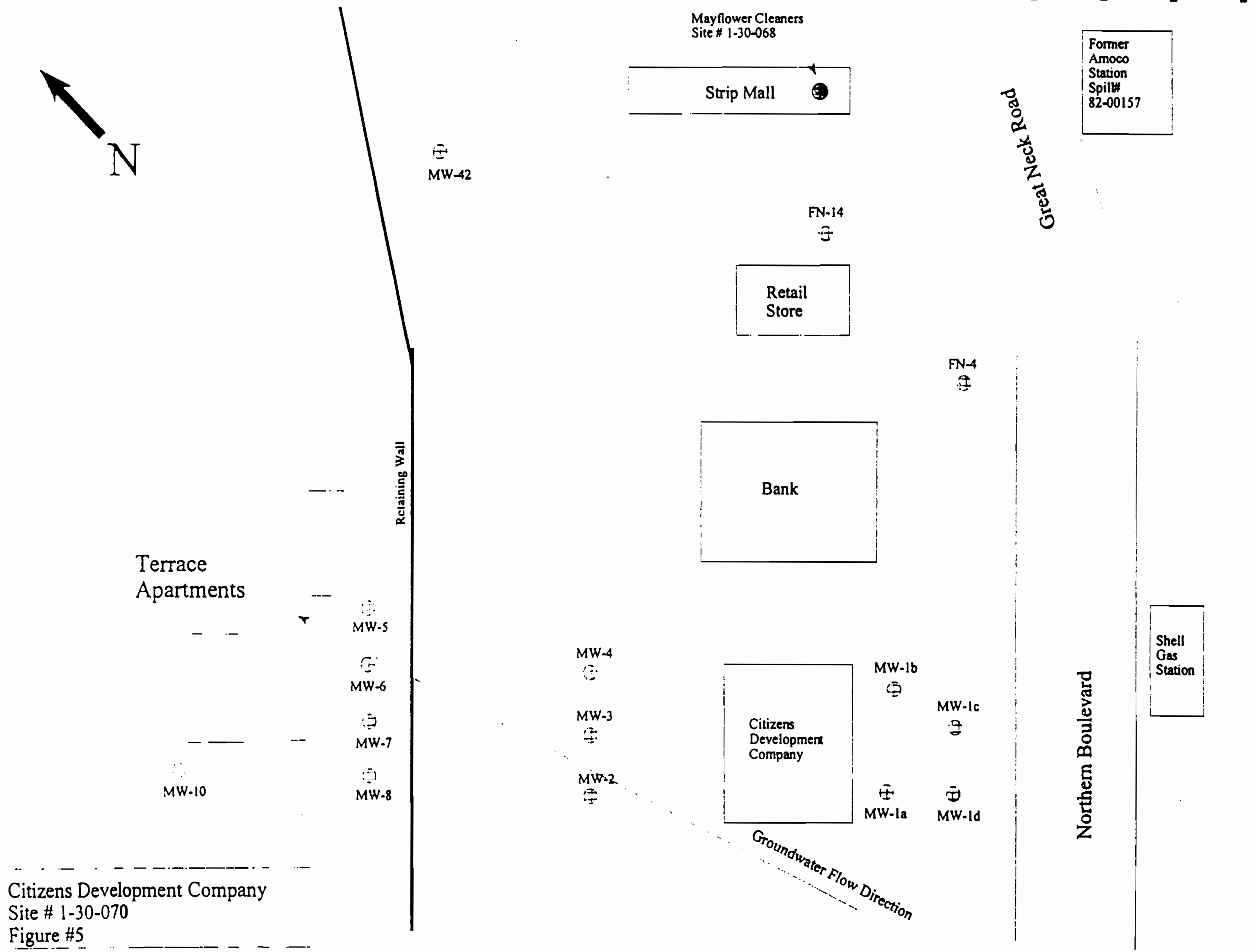
VOCs in Floor Sump (ppm)

Sample	1,2-DCE	TCE	PCE
Liquid	0.17	2.8	270
Soil @ 14"	ND	2.5	1300
Soil @ 16"	2.6	150	39000
Soil @ 20"	ND	51	13000
Soil @ 22"	ND	40	15000
Soil @ 5'	ND	0.008	0.27
Soil @ 10'	ND	ND	0.03
Soil @ 13.5'	ND	ND	0.1

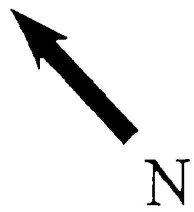


Soil Boring location
Monitoring Well (MW)
Recovery Well (RW)
Drywell (DW)
ND - Non Detect
Floor Sump (FS)

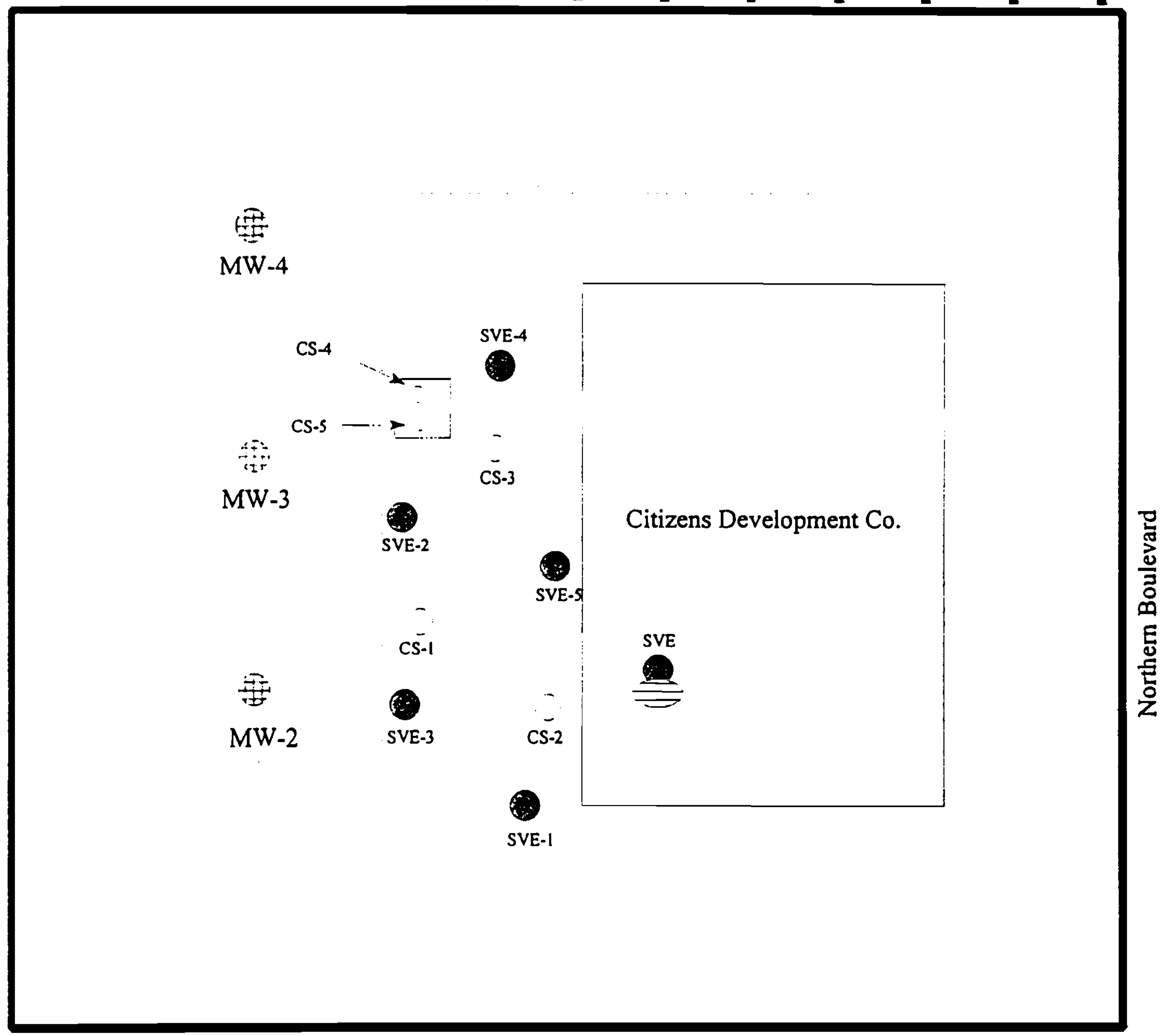
Citizens Development Company
Site # 1-30-070
Figure #4



Citizens Development Company
Site # 1-30-070
Figure #5



PCE in soil (PPM)	TAGM #4046 for PCE
CS-1 - 0.087	1.4
CS-2 - 0.009	1.4
CS-3 - 0.470	1.4
CS-4 - 0.010	1.4
CS-5 - 0.026	1.4



Confirmatory Soil Sample (CS)

Containerized Soil

Site Boundary

Floor Sump (FS)

Monitoring Well (MW)

Fence

Soil Vapor Extraction point (SVE)

Citizens Development Company
Site # 1-30-070
Figure #6

Table A: PCE in Groundwater (ppb) April 1984 - July 1997

	April 1984	January 1985	NCDH 1985	NCDH 1986	August 1989	December 1990	July 1991	February 1993	March 1993	July 1997
MW-1a						63	31	46	48	7
MW-1b								150	120	4
MW-1c								45	54	12
MW-1d								9	18	3
OW/RW	4900	3463			860				38	
MW-2		970	1100	68	29	701	772	860	8	69
MW-3		3335	3000	620	140		229	50	25	52
MW-4		3503	2000		26	1033	1780	1800	850	180
MW-5			6							3
MW-6			56							25
MW-7			340							6
MW-8			190				58			2
MW-10							104			4
FN-4										17
FN-14										36
MW-42										7

Table B: VOCs in Groundwater (ppb) February 1991 - July 1991

Monitoring Well No.	Date	PCE	Trichloroethylene	Benzene	Toluene	Ethyl-benzene	Xylene
MW-1a	February	20	3				
	March	29					
	April	37					
	May	30					
	June	38	3				
	July	31					
MW-2	February	333	42			6	12
	March	342	50				
	April	557	81		13	29	92
	May	405	49		19	32	88
	June	633	74		8	23	41
	July	772	92			25	13
MW-3	February	37	30	4			
	March	446	34				10
	April	221	12				5
	May	99					
	June	150	15				
	July	229	20				
MW-4	February	327	11				
	March	1732	55				
	April	1441	46				
	May	1367	43				
	June	1479	44				
	July	1780	54				
MW-8	February	57	5				
	July	58	8				
MW-10	February	46	19	3			
	July	104	21	135		1	2

APPENDIX A

Citizens Development Company
Site #1-30-070
March 23, 1998

RESPONSIVENESS SUMMARY

This document summarizes the comments and questions received by the New York State Department of Environmental Conservation (NYSDEC) regarding the Proposed Remedial Action Plan (PRAP) for the Citizens Development Company Site. The Department provided a comment period from February 17, 1998 to March 20, 1998 to receive comments from the public on the PRAP. The Department held a public meeting on February 23, 1998 at the Lakeville Elementary School to discuss the PRAP and the preferred alternative.

Part 1: The following questions were raised during the public meeting of February 23, 1998:

1. **Can the Public Comment Period be extended?**

   The Public Comment Period will end on March 20, 1998 rather than March 18, 1998.

2. **Has the areal extent of the groundwater plume been defined?**

   The horizontal extent of groundwater contamination has been defined. The vertical extent of groundwater contamination will be determined during Operable Unit 2 (OU-2). During OU-2 groundwater samples will be acquired at discrete depth intervals to ascertain groundwater quality within the aquifer.

3. **Has the NYSDEC ever chosen a remedy other than the Preferred Remedy specified in the Proposed Remedial Action Plan?**

   Yes, in some instances the NYSDEC has chosen an alternative remedy rather than implementing the Preferred Remedy originally described in the Proposed Remedial Action Plan.

4. **Does the pumping of the public water supply wells located on Watermill Lane have any influence on water table elevations at the Citizens Development Company Site?**

   There has been no observed influence on water table elevations attributable to the public water supply wellfield.

5. **Was there notification of the Public Meeting in any local newspapers?**

   The Public Meeting was announced in the Great Neck News, the Great Neck Record, Newsday's Government Watch and by a Meeting Invitation Fact Sheet prepared by the NYSDEC.

Part 2: The following questions/comments were raised by Ms. Shirley Siegal of the League of Women Voters of Great Neck in a letter dated February 25, 1998.

1. **Since the No Further Action Alternative results in untreated groundwater remaining at the site, it remains a threat to human health and the environment and is therefore unacceptable.**

   The No Further Action Alternative was chosen to recognize the effectiveness of past remedial activities conducted at the site. The residual concentrations of tetrachloroethylene (PCE), as observed in the downgradient groundwater monitoring wells, are not expected to pose a threat to human health or the environment. A program of groundwater monitoring - an integral part of this Alternative - will be implemented to verify this. Additionally, under Operable Unit 2, further investigation will be conducted to assess the significance of residual concentrations with respect to deeper portions of the aquifer.
   Recent observations of benzene, toluene and xylene in an upgradient on-site groundwater monitoring well suggests an upgradient source of these contaminants which will be further investigated for appropriate action.

2. **If private wells are used for watering lawns, there is a danger that the contaminated groundwater could be ingested. Blowing contaminated soil spread in the rear, and interior volatile organic compounds (VOCs) still must be addressed.**

   There are no known private wells immediately downgradient of the site. Local water supply is provided by the Water Authority of Great Neck North. The most contaminated soil was excavated from the interior floor sump and the remaining soil was subjected to soil vapor extraction. Prior to emplacement at the rear of the site, remediated soil was analyzed and found to be well below soil cleanup guidelines. Indoor air monitoring will be performed within the basement of the facility as part of OU-2.

3. **Additional monitoring wells must be installed in all three aquifers on-site and off-site to the north to determine the levels of VOCs which are flowing towards the wellfield at Watermill Lane. The monitoring wells should be tested quarterly and the data shared with the Water Authority of Great Neck North (WAGNN) and the Nassau County Department of Health. A limit of three years for this remediation is not protective of the health and welfare of the residents of area.**

   As part of OU-2, groundwater samples will be acquired at discrete vertical depths to ascertain groundwater quality at depth within the aquifer. The Groundwater Monitoring Program will utilize 12 monitoring wells located on-site and off-site, upgradient and downgradient of the site. The contaminant concentrations in groundwater samples taken during the remedial investigation have continued to show a downward trend since the source removal. As a result, groundwater samples and water levels will be acquired annually for a period of three years. This data will be shared with the local water authority and the Health Department and will be evaluated with regard for the need for further remedial action. The Groundwater Monitoring Program can be extended if warranted.

4. **Why was soil removed to a depth of four feet in the interior floor sump?**

The highest levels of soil contamination observed within the floor sump extended to a depth of 22 inches. Soil quality at a depth of five feet was found to be below soil cleanup guidelines. Excavation of soil/sludge material extended to a depth of four feet, whereupon excavation was discontinued due to physical constraints. The remaining soil was subjected to soil vapor extraction to remove residual VOCs.

5. **The soil which was removed from the floor sump was containerized and then subjected to soil vapor extraction. When remediation was complete, the soil was spread about in the unpaved alley on the west side of the facility. This soil should be removed from the site. The soil which remains in the floor sump should be retested.**

The containerized soil was analyzed after remediation and found to be below the soil cleanup guidelines. The soil cleanup guidelines are protective of human health and the environment, therefore, the soil can remain on-site.

Post excavation sampling of the floor sump revealed contaminant levels at nearly the soil cleanup guidelines. Due to the presence of residual contamination, the floor sump was subjected to soil vapor extraction to remove the remaining VOCs.

6. **The customers of the Water Authority of Great Neck North are asked to pay for the remediation of any contamination which may arrive at the wellfield from the Citizens Development Company Site. This is another reason why the No Further Action alternative is unacceptable.**

OU-2 will be conducted to determine if there is any off-site impact to the groundwater from the Citizens Development Company Site. The residual levels of tetrachloroethylene observed in the groundwater monitoring wells downgradient of the site, are not expected to pose a threat to the Watermill Lane wellfield. However, in recognition of the impacts caused to the WAGNN Watermill Lane wellfield by at least one other site, the NYSDEC will be funding the upgrade of the air stripper used by the Water Authority to treat groundwater.

7. **Tetrachloroethylene (PCE) levels have decreased over time, but where have they gone?**

PCE levels have reduced over time due to a variety of reasons. On-site source remediation, pumping and treating of contaminated groundwater, and natural attenuation have all played a part in reducing the concentration of PCE in groundwater.

8. **The No Further Action Alternative does not meet the following goals: "At a minimum, the remedy selected should eliminate or mitigate all significant threats to the public health and to the environment presented by hazardous waste disposed at the site through the proper application of scientific and engineering principles".**

On-site source remediation has been successful. The residual concentrations of PCE observed in the downgradient monitoring wells do not pose a significant threat to the public health or the environment.

9. **What do the letters U, J, B and E in Appendix A and B of the Remedial Investigation/ Feasibility Study (RI/FS) mean?**

These letters are used by the analytical laboratory to qualify analytical results. The individual definitions of these letters is described in Appendix B of the RI/FS.

10. **If the No Further Action Alternative is chosen how will benzene, toluene and xylene be removed from the groundwater?**

These contaminants have been observed coming onto the site from an upgradient source. The NYSDEC will identify and investigate the source of the observed hydrocarbon contamination and then undertake the necessary remedial effort.

11. **Please explain laboratory data sheet 1E - Tentatively Identified Compounds.**

The compounds noted on this lab sheet are hydrocarbon based, their origin is most likely due to the presence of gasoline in the groundwater.

12. **In Appendix A, what is MDL?**

MDL stands for Method Detection Limit.

13. **Finding 1300 ppm of PCE in the soil in the rear yard may indicate more was being dumped than just filters.**

The areal extent of the soil contamination in the rear yard was delineated and the source area remediated.

14. **What was the pumping rate of the groundwater pump and treatment system?**

The pumping rate was approximately 50 gallons per minute.

15. **Why was no data produced in sampling the effluent from the pump and treatment system for 1986, 1987 and 1988?**

The Division of Water was responsible for regulatory oversight of the discharge of treated groundwater from the site. A search of DOW files has revealed datá gaps during 1986 and 1987.

16. **Table A states that the PCE level for mw-4 on 7/91 was 180 ppb. Appendix A states that on 7/91 the PCE level was 1780 ppb. Why the difference?**

Table A of the Proposed Remedial Action Plan correctly represents the analytical data for mw-4. In 7/91 the concentration of PCE in mw-4 was 1780 ppb. In 7/97 the concentration of PCE in mw-4 was 180 ppb.

APPENDIX B

ANALYTICAL LABORATORY RESULTS

OCTOBER 1999

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-1C

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: Location: CDC Group:

Matrix: (soil/water) WATER Lab Sample ID: O89152

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13515.D

Level: (low/med) Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/1/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	7.6	
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	2.8	
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	31	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-1C

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP   Site: ______   Location: CDC   Group: ______

Matrix: (soil/water) WATER   Lab Sample ID: O89152

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13515.D

Level: (low/med) ______   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/1/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-1C

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No. 1393 Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89152

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13515.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/1/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-2

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ____ Location: CDC Group: ____

Matrix: (soil/water) WATER Lab Sample ID: O89153

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13516.D

Level: (low/med) ____ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/1/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	51	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-2

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89153

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13516.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/1/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration (ug/L)	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-2

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No. 1393   Site: ______   Location: CDC   Group: ______

Matrix: (soil/water) WATER   Lab Sample ID: O89153

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13516.D

Level: (low/med) ______   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/1/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Concentration Units:

Number TICs found: 0   (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-3

Lab Name: CHEMTECH　Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP　Site: ______　Location: CDC　Group: ______

Matrix: (soil/water) WATER　Lab Sample ID: O89154

Sample wt/vol: 5.0 (g/mL) ML　Lab File ID: M13517.D

Level: (low/med) ______　Date Received: 10/28/99

% Moisture: not dec. 100　Date Analyzed: 11/1/99

GC Column: RTX624　ID: 0.53 (mm)　Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)　Soil Aliquot Volume: ______ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	140	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-3

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP   Site: ____   Location: CDC   Group: ____

Matrix: (soil/water) WATER   Lab Sample ID: O89154

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13517.D

Level: (low/med) ____   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/1/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-3

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No. 1393   Site: ____   Location: CDC   Group: ____

Matrix: (soil/water) WATER   Lab Sample ID: O89154

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13517.D

Level: (low/med) ____   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/1/99

GC Column: RTX624 ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

Number TICs found: 0   Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-4

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP   Site: ____   Location: CDC   Group: ____

Matrix: (soil/water) WATER   Lab Sample ID: O89155

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13518.D

Level: (low/med) ____   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	35	
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	6.6	
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	140	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-4

Lab Name: CHEMTECH

Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP

Site:

Location: CDC

Group:

Matrix: (soil/water) WATER

Lab Sample ID: O89155

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: M13518.D

Level: (low/med)

Date Received: 10/28/99

% Moisture: not dec. 100

Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration (ug/L)	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-4

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No. 1393 Site: ____ Location: CDC Group: ____

Matrix: (soil/water) WATER Lab Sample ID: O89155

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13518.D

Level: (low/med) ____ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

Concentration Units:
Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.				
2.				
3.				
4.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-6

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89156

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13519.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	52	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	56	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-6

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89156

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13519.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-6

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No. 1393 Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89156

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13519.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-7

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89157

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13520.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	2.4	
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	36	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-7

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89157

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13520.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration (ug/L)	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-7

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No. 1393 Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89157

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13520.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-8

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ____ Location: CDC Group: ____

Matrix: (soil/water) WATER Lab Sample ID: O89158

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13521.D

Level: (low/med) ____ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	0.9	U
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-8

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89158

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13521.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-8

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No. 1393 Site: ____ Location: CDC Group: ____

Matrix: (soil/water) WATER Lab Sample ID: O89158

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13521.D

Level: (low/med) ____ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-10

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP   Site: ____   Location: CDC   Group: ____

Matrix: (soil/water) WATER   Lab Sample ID: O89159

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13522.D

Level: (low/med) ____   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration (ug/L)	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	2.9	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-10

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: Location: CDC Group:

Matrix: (soil/water) WATER Lab Sample ID: O89159

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13522.D

Level: (low/med) Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-10

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No. 1393   Site: ______   Location: CDC   Group: ______

Matrix: (soil/water) WATER   Lab Sample ID: O89159

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13522.D

Level: (low/med) ______   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Number TICs found: 1   Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	MTBE	9.04	48	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

FN-8

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89160

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13523.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	19	
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	17	
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	120	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.: FN-8

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ____ Location: CDC Group: ____

Matrix: (soil/water) WATER Lab Sample ID: O89160

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13523.D

Level: (low/med) ____ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FN-8

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No. 1393   Site: ______   Location: CDC   Group: ______

Matrix: (soil/water) WATER   Lab Sample ID: O89160

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13523.D

Level: (low/med) ______   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Number TICs found: 6   Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 78-78-4	Butane, 2-methyl-	5.28	9.8	J
2.	Unknown	8.15	6.2	J
3.	Unknown	8.85	13	J
4. 96-37-7	Cyclopentane, methyl-	11.25	5.2	J
5. 27133-93-3	2,3-Dihydro-1-methylindene	26.91	5.7	J
6.	MTBE	9.06	18	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-1S

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89161

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13539.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
74-87-3	Chloromethane	9.2	U
75-01-4	Vinyl Chloride	6.5	U
74-83-9	Bromomethane	8.3	U
75-00-3	Chloroethane	10	U
75-35-4	1,1-Dichloroethene	2.9	U
67-64-1	Acetone	25	U
75-15-0	Carbon Disulfide	25	U
75-09-2	Methylene Chloride	3.7	U
156-60-5	trans-1,2-Dichloroethene	3.4	U
75-34-4	1,1-Dichloroethane	1.9	U
156-60-5	cis-1,2-dichloroethene	4.2	U
67-66-3	Chloroform	4.2	U
71-55-6	1,1,1-Trichloroethane	4.3	U
78-93-3	2-Butanone	25	U
56-23-5	Carbon Tetrachloride	7.6	U
71-43-2	Benzene	4.3	U
107-06-2	1,2-Dichloroethane	4.5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	3	U
10061-01-5	cis-1,3-Dichloropropene	0.7	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	4.5	U
108-10-1	4-Methyl-2-Pentanone	25	U
127-18-4	Tetrachloroethene	4.5	U
124-48-1	Dibromochloromethane	5	U
591-78-6	2-Hexanone	25	U
108-90-7	Chlorobenzene	4.5	U
100-41-4	Ethylbenzene	4.5	U
1330-20-7	m&p-xylenes	6.5	U
95-47-6	o-xylene	4.5	U
100-42-5	Styrene	2.3	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-1S

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: Location: CDC Group:

Matrix: (soil/water) WATER Lab Sample ID: O89161

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13539.D

Level: (low/med) Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	5.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

HP-1S

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No. 1393 Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89161

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13539.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units:

Number TICs found: 5 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 66-25-1	Hexanal	18.77	84	J
2. 111-71-7	Heptanal	21.77	130	J
3. 124-13-0	Octanal	24.34	260	J
4.	Unknown	26.60	220	J
5. 112-31-2	Decanal	29.01	41	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-1D

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: Location: CDC Group:

Matrix: (soil/water) WATER Lab Sample ID: O89162

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13525.D

Level: (low/med) Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	44	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	6	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

HP-1D

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89162

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13525.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

HP-1D

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No. 1393 Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89162

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13525.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 59920-26-2	2,4,6,8-Tetramethyl-1-undece	24.21	5.8	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-2S

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89163

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13526.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	100	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-2S

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP   Site: ______   Location: CDC   Group: ______

Matrix: (soil/water) WATER   Lab Sample ID: O89163

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13526.D

Level: (low/med) ______   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

HP-2S

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No. 1393   Site: ____   Location: CDC   Group: ____

Matrix: (soil/water) WATER   Lab Sample ID: O89163

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13526.D

Level: (low/med) ____   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

Number TICs found: 1   Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	24.58	8.2	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-2D

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89164

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13533.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	9.8	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	550	E
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-2D

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP   Site: ____   Location: CDC   Group: ____

Matrix: (soil/water) WATER   Lab Sample ID: O89164

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13533.D

Level: (low/med) ____   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

HP-2D

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No. 1393   Site: ______   Location: CDC   Group: ______

Matrix: (soil/water) WATER   Lab Sample ID: O89164

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13533.D

Level: (low/med) ______   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Concentration Units:

Number TICs found: 0   (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-2DDL

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP   Site: ____   Location: CDC   Group: ____

Matrix: (soil/water) WATER   Lab Sample ID: O89164DL

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13540.D

Level: (low/med) ____   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 10.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	18	UD
75-01-4	Vinyl Chloride	13	UD
74-83-9	Bromomethane	17	UD
75-00-3	Chloroethane	20	UD
75-35-4	1,1-Dichloroethene	5.7	UD
67-64-1	Acetone	50	UD
75-15-0	Carbon Disulfide	50	UD
75-09-2	Methylene Chloride	7.3	UD
156-60-5	trans-1,2-Dichloroethene	6.8	UD
75-34-4	1,1-Dichloroethane	3.7	UD
156-60-5	cis-1,2-dichloroethene	8.4	UD
67-66-3	Chloroform	8.4	UD
71-55-6	1,1,1-Trichloroethane	8.6	UD
78-93-3	2-Butanone	50	UD
56-23-5	Carbon Tetrachloride	15	UD
71-43-2	Benzene	8.5	UD
107-06-2	1,2-Dichloroethane	9	UD
79-01-6	Trichloroethene	10	UD
78-87-5	1,2-Dichloropropane	10	UD
75-27-4	Bromodichloromethane	6	UD
10061-01-5	cis-1,3-Dichloropropene	1.3	UD
108-88-3	Toluene	10	UD
10061-02-6	trans-1,3-Dichloropropene	2.3	UD
79-00-5	1,1,2-Trichloroethane	9	UD
108-10-1	4-Methyl-2-Pentanone	50	UD
127-18-4	Tetrachloroethene	740	D
124-48-1	Dibromochloromethane	10	UD
591-78-6	2-Hexanone	50	UD
108-90-7	Chlorobenzene	9	UD
100-41-4	Ethylbenzene	9	UD
1330-20-7	m&p-xylenes	13	UD
95-47-6	o-xylene	9	UD
100-42-5	Styrene	4.5	UD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

HP-2DDL

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP   Site: ______   Location: CDC   Group: ______

Matrix: (soil/water) WATER   Lab Sample ID: O89164DL

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13540.D

Level: (low/med) ______   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 10.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	5	UD
79-34-5	1,1,2,2-Tetrachloroethane	11	UD

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

HP-2DDL

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No. 1393 Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89164DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13540.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Number TICs found: 0

Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-3S

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89165

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13534.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	21	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	4.9	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-3S

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP   Site: ____   Location: CDC   Group: ____

Matrix: (soil/water) WATER   Lab Sample ID: O89165

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13534.D

Level: (low/med) ____   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

HP-3S

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No. 1393   Site: ______   Location: CDC   Group: ______

Matrix: (soil/water) WATER   Lab Sample ID: O89165

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13534.D

Level: (low/med) ______   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Concentration Units:

Number TICs found: 0   (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-3SMS

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89166

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13535.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	53	
67-64-1	Acetone	12	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	52	
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	49	
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	52	
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	4.4	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	56	
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-3SMS

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: Location: CDC Group:

Matrix: (soil/water) WATER Lab Sample ID: O89166

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13535.D

Level: (low/med) Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-3SMSD

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ____ Location: CDC Group: ____

Matrix: (soil/water) WATER Lab Sample ID: O89167

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13536.D

Level: (low/med) ____ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	53	
67-64-1	Acetone	22	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	52	
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	49	
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	53	
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	4.9	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	56	
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-3SMSD

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: Location: CDC Group:

Matrix: (soil/water) WATER Lab Sample ID: O89167

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13536.D

Level: (low/med) Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

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Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89168

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13531.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	0.9	U
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

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Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP   Site: ______   Location: CDC   Group: ______

Matrix: (soil/water) WATER   Lab Sample ID: O89168

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13531.D

Level: (low/med) ______   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

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Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No. 1393 Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89168

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13531.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-3D

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP   Site: ____   Location: CDC   Group: ____

Matrix: (soil/water) WATER   Lab Sample ID: O89169

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13537.D

Level: (low/med) ____   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	13	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	6.3	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-3D

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89169

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13537.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

HP-3D

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No. 1393 Site: ______ Location: CDC Group: ______

Matrix: (soil/water) WATER Lab Sample ID: O89169

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13537.D

Level: (low/med) ______ Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-3SDUP

Lab Name: CHEMTECH Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP Site: Location: CDC Group:

Matrix: (soil/water) WATER Lab Sample ID: O89276

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13538.D

Level: (low/med) Date Received: 10/28/99

% Moisture: not dec. 100 Date Analyzed: 11/2/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.8	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.7	U
75-00-3	Chloroethane	2	U
75-35-4	1,1-Dichloroethene	0.6	U
67-64-1	Acetone	25	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	0.7	U
156-60-5	trans-1,2-Dichloroethene	0.7	U
75-34-4	1,1-Dichloroethane	0.4	U
156-60-5	cis-1,2-dichloroethene	0.8	U
67-66-3	Chloroform	0.8	U
71-55-6	1,1,1-Trichloroethane	0.9	U
78-93-3	2-Butanone	5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	0.9	U
107-06-2	1,2-Dichloroethane	0.9	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
79-00-5	1,1,2-Trichloroethane	0.9	U
108-10-1	4-Methyl-2-Pentanone	5	U
127-18-4	Tetrachloroethene	4.8	
124-48-1	Dibromochloromethane	1	U
591-78-6	2-Hexanone	5	U
108-90-7	Chlorobenzene	0.9	U
100-41-4	Ethylbenzene	0.9	U
1330-20-7	m&p-xylenes	1.3	U
95-47-6	o-xylene	0.9	U
100-42-5	Styrene	0.5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

HP-3SDUP

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No.: 13931ASP   Site: ______   Location: CDC   Group: ______

Matrix: (soil/water) WATER   Lab Sample ID: O89276

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13538.D

Level: (low/med) ______   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

HP-3SDUP

Lab Name: CHEMTECH   Contract: JR KOLMER AND ASSOCIATES

Project No. 1393   Site: ____   Location: CDC   Group: ____

Matrix: (soil/water) WATER   Lab Sample ID: O89276

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: M13538.D

Level: (low/med) ____   Date Received: 10/28/99

% Moisture: not dec. 100   Date Analyzed: 11/2/99

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

Number TICs found: 0   Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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CHEMTECH
CHAIN OF CUSTODY RECORD

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Fax (201) 567-1333

☐ 205 Campus Plaza I
Edison, NJ 08837
(732) 225-4111
Fax (732) 225-4110

☐ 515 Route 9 South
Barnegat, NJ 08005
(609) 698-0199
Fax (609) 698-0910

CHEMTECH JOB NO.:
CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: JR Kocmer + Assoc.
ADDRESS: 3763 N/High ST
CITY: Columbus STATE: OH ZIP: 43214
ATTENTION: JR Kocmer
PHONE: (614) 261-4500 FAX: (614) 261-0190

PROJECT INFORMATION

PROJECT NAME: CDC
PROJECT NO.:
PROJECT MANAGER: JR Kocmer
LOCATION:
PHONE: FAX:

BILLING INFORMATION

BILL TO: JR Kocmer+Assoc PO #:
ADDRESS: 3763 N. High ST.
CITY: Columbus STATE: OH ZIP: 43214
ATTENTION: Kocmer PHONE: (614) 261-450

DATA TURNAROUND INFORMATION

FAX: ______ DAYS *
HARD COPY: ______ DAYS *
EDD: ______ DAYS *
* TO BE APPROVED BY CHEMTECH
** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY
☐ RESULTS + QC
☐ NJ REDUCED
☐ NJ CLP
☐ EDD FORMAT: ______
☐ USEPA CLP
☐ NYS ASP "B"
☐ NYS ASP "A"
☐ EDD

ANALYSIS

1: VOA by ASP
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CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1 (A)	2	3	4	5	6	7	8	9	COMMENTS
1.	MW-1C	Aq.		X	10/25/99	1741	2	X									
2.	MW-2			X	11	1048	2	X									
3.	MW-3			X	11	1125	2	X									
4.	MW-4			X	11	1200	2	X									
5.	MW-6			X	11	1600	2	X									
6.	MW-7			X	11	1551	2	X									
7.	MW-8			X	11	1505	2	X									
8.	MW-10			X	11	1420	2	X									

← Specify Preservatives
A - HCl B - HNO_3
C - H_2SO_4 D - NaOH
E - ICE F - Other

000237

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY	DATE/TIME	RECEIVED BY
RELINQUISHED BY SAMPLER: 1. [signature]	28OCT99 1:20	1. [signature]
RELINQUISHED BY: 2.	10-25-99 1720	RECEIVED BY: 2.
RELINQUISHED BY: 3.	10/28/99	RECEIVED FOR LAB BY: 3. [signature]

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☐ Temp. of Cooler 4°C
Comments:

Page 1 of 3

Shipment Complete: Yes ______ No ______

Ver. 9-99 WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

3015(

CHEMTECH

CHAIN OF CUSTODY RECORD

Englewood, NJ 07631
(201) 567-6868
Fax (201) 567-1333

Edison, NJ 08837
(732) 225-4111
Fax (732) 225-4110

Barnegat, NJ 08005
(609) 698-0199
Fax (609) 698-0910

CHEMTECH JOB NO.:

CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: JR Kolmer + Associates, Inc
ADDRESS: 3763 N. High St.
CITY: Columbus STATE: OH ZIP: 43214
ATTENTION: JR Kolmer
PHONE: (614) 261-4500 FAX: (614) 261-0190

PROJECT INFORMATION

PROJECT NAME: CDC
PROJECT NO.:
PROJECT MANAGER: JR Kolmer
LOCATION:
PHONE: FAX:

BILLING INFORMATION

BILL TO: Kolmer Associates PO #:
ADDRESS: 3763 N. High St
CITY: Columbus STATE: OH ZIP: 43214
ATTENTION: Kolmer PHONE: (614) 261-4500

DATA TURNAROUND INFORMATION

FAX: ______ DAYS *
HARD COPY: ______ DAYS *
EDD: ______ DAYS *
* TO BE APPROVED BY CHEMTECH
** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY ☐ USEPA CLP
☐ RESULTS + QC ☐ NYS ASP "B"
☐ NJ REDUCED ☐ NYS ASP "A"
☐ NJ CLP ☐ EDD
☐ EDD FORMAT: ______

ANALYSIS

1. VOA by ASP
2.
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CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1 (A)	2	3	4	5	6	7	8	9	COMMENTS ← Specify Preservatives A – HCl B – HNO_3 C – H_2SO_4 D – NaOH E – ICE F – Other
1.	FN-8	Aq		x	10/25/99	1340	2	X									
2.	HP-1S	|		x	"		2	X									
3.	HP-1D	|		x	"		2	X									
4.																	
5.																	
6.																	
7.																	
8.																	

000238

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY	DATE/TIME	RECEIVED BY
RELINQUISHED BY SAMPLER: 1. [signature]	28OCT99 1400	1. [signature]
RELINQUISHED BY: 2. [signature]	10-28-99 1400	RECEIVED BY:
RELINQUISHED BY: 3.	10/28/99	RECEIVED FOR LAB BY: 3. [signature]

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☐ Temp. of Cooler 4°C
Comments:

Page 2 of 3

Shipment Complete: Yes ______ No ______

Ver. 9-99

WHITE – CHEMTECH COPY FOR RETURN TO CLIENT YELLOW – CHEMTECH COPY PINK – SAMPLER COPY

30151

CHEMTECH
CHAIN OF CUSTODY RECORD

110 ... Englewood, NJ 07631 (201) 567-6868 Fax (201) 567-1333

205 ... us Pla ... Edison, NJ 08837 (732) 225-4111 Fax (732) 225-4110

515 R... South ... Barnegat, NJ 08005 (609) 698-0199 Fax (609) 698-0910

...MTE... B NO

CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: JR Kolmer + Associates, Inc

ADDRESS: 3763 N. High St.

CITY: Columbus STATE: OH ZIP: 43214

ATTENTION: JR Kolmer

PHONE: 614-261-4500 FAX: 614-261-0190

PROJECT INFORMATION

PROJECT NAME: CDC

PROJECT NO.:

PROJECT MANAGER: JR Kolmer

LOCATION:

PHONE: FAX:

BILLING INFORMATION

BILL TO: Kolmer Associates PO #:

ADDRESS: 3763 N. High St

CITY: Columbus STATE: OH ZIP: 43214

ATTENTION: Kolmer PHONE: 614-261-4500

DATA TURNAROUND INFORMATION

FAX: ______ DAYS *
HARD COPY: ______ DAYS *
EDD: ______ DAYS *
* TO BE APPROVED BY CHEMTECH
** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY ☐ USEPA CLP
☐ RESULTS + QC ☐ NYS ASP "B"
☐ NJ REDUCED ☐ NYS ASP "A"
☐ NJ CLP ☐ EDD
☐ EDD FORMAT: ______

ANALYSIS

1. VOA by BP

CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1 (A)	2	3	4	5	6	7	8	9	COMMENTS
1.	HP-2S	WATER		X	26 OCT	1140	2	X									
2.	HP-2D	WATER		X	26 OCT	1500	2	X									NOTE: USE ONE OF THE
3.	HP-3S	WATER		X	27 OCT	1030	2	X									DUPLICATE VOA VIALS
4.	HP-3S MS MSD	WATER		X	27 OCT	1030	4	X									FOR A DUPLICATE ~~A~~
5.	FIELD BLANK	WATER		X	27 OCT	1245	2	X									ANALYSIS OF ONE
6.	HP-3D	WATER		X	27 OCT	1445	2	X									OF THE COLLECTED ~~WATER~~
7.	INDOOR AIR SAMPLE	AIR		X	27 OCT	1100	2	X									SAMPLES.
8.																	

PRESERVATIVES: ← Specify Preservatives: A – HCl, B – HNO_3, C – H_2SO_4, D – NaOH, E – ICE, F – Other

000236

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. [signature]	27 OCT 94 1830	1. [signature]
RELINQUISHED BY: 2.	DATE/TIME:	RECEIVED BY: 2.
RELINQUISHED BY: 3. [signature]	28 OCT 94 1200	RECEIVED FOR LAB BY: 3.

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☐ Temp. of Cooler 4°C

Comments: ~~Air sample shipped~~

Page 3 of 3

Shipment Complete: Yes ______ No ______

Ver. 9-99 10-28 WHITE – CHEMTECH COPY FOR RETURN TO CLIENT YELLOW – CHEMTECH COPY PINK – SAMPLER COPY

20152

APPENDIX C

ANALYTICAL LABORATORY RESULTS

OCTOBER 2000

VOLATILE ORGANICS ANALYSIS DATA SHEET

FN-8

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4500.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/2/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	3.6	J
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	3.9	J
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	16	
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

FN-8

Lab Name: CHEMTECH　Contract: JR KOLMER ASSOCIATES

Project No.: L1930　Site: NA　Location: LB10339　Group: 5970-VOA

Matrix: (soil/water) WATER　Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML　Lab File ID: D4500.D

Level: (low/med)　Date Received: 10/27/00

% Moisture: not dec. 100　Date Analyzed: 11/2/00

GC Column: DB624　ID: 0.53 (mm)　Dilution Factor: 1.0

Soil Extract Volume: (uL)　Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FN-8

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No. L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4500.D

Level: (low/med) ______   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/2/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Number TICs found: 10   Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	2.01	8.9	J
2.	Unknown	2.36	11	J
3. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.95	9.5	J
4.	Unknown	3.74	6.9	J
5.	Unknown	25.41	8.1	J
6. 934-80-5	Benzene, 4-ethyl-1,2-dimethy	26.44	5.2	J
7.	Unknown	28.69	7.4	J
8.	Unknown	30.07	14	J
9.	Unknown	30.42	5.1	J
10.	Unknown	31.52	10	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-42

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No.: L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4501.D

Level: (low/med)   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/2/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-42

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4501.D

Level: (low/med) ____ Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/2/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-42

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No. L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4501.D

Level: (low/med) ______ Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/2/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Number TICs found: 1

Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.95	10	J
2.				
3.				
4.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET

FN-14

Lab Name: CHEMTECH　Contract: JR KOLMER ASSOCIATES

Project No.: L1930　Site: NA　Location: LB10339　Group: 5970-VOA

Matrix: (soil/water) WATER　Lab Sample ID: O03

Sample wt/vol: 5.0 (g/mL) ML　Lab File ID: D4502.D

Level: (low/med) ______　Date Received: 10/27/00

% Moisture: not dec. 100　Date Analyzed: 11/2/00

GC Column: DB624　ID: 0.53 (mm)　Dilution Factor: 5.0

Soil Extract Volume: ______ (uL)　Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	25	U
75-01-4	Vinyl Chloride	25	U
74-83-9	Bromomethane	25	U
75-00-3	Chloroethane	25	U
75-35-4	1,1-Dichloroethene	25	U
67-64-1	Acetone	25	U
75-15-0	Carbon Disulfide	25	U
75-09-2	Methylene Chloride	25	U
156-60-5	trans-1,2-Dichloroethene	25	U
75-34-3	1,1-Dichloroethane	25	U
78-93-3	2-Butanone	25	U
156-59-2	cis-1,2-Dichloroethene	92	
67-66-3	Chloroform	25	U
71-55-6	1,1,1-Trichloroethane	25	U
56-23-5	Carbon Tetrachloride	25	U
71-43-2	Benzene	3700	E
107-06-2	1,2-Dichloroethane	25	U
79-01-6	Trichloroethene	11	J
78-87-5	1,2-Dichloropropane	25	U
75-27-4	Bromodichloromethane	25	U
108-10-1	4-Methyl-2-Pentanone	25	U
108-88-3	Toluene	5600	E
10061-02-6	t-1,3-Dichloropropene	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
79-00-5	1,1,2-Trichloroethane	25	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	25	U
127-18-4	Tetrachloroethene	37	
108-90-7	Chlorobenzene	25	U
100-41-4	Ethyl Benzene	1200	
1330-20-7	m/p-Xylenes	5000	E
95-47-6	o-Xylene	1800	E
100-42-5	Styrene	25	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

FN-14

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No.: L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O03

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4502.D

Level: (low/med)   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/2/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 5.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	25	U
79-34-5	1,1,2,2-Tetrachloroethane	25	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FN-14

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No. L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O03

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4502.D

Level: (low/med) ____   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/2/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 5.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

Number TICs found: 20   Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	2.01	380	J
2.	Unknown	2.36	390	J
3.	Unknown	2.56	220	J
4.	Unknown	2.88	230	J
5.	Unknown	3.43	86	J
6.	Unknown	3.70	170	J
7.	Unknown	5.24	160	J
8. 13630-61-0	2,5-Cyclohexadien-1-ol, 4-me	10.41	150	J
9.	Unknown	17.62	92	J
10. 98-82-8	Benzene, (1-methylethyl)-	21.33	230	J
11. 103-65-1	Benzene, propyl-	22.35	97	J
12. 611-14-3	Benzene, 1-ethyl-2-methyl-	22.63	520	J
13. 98-82-8	Benzene, (1-methylethyl)-	23.34	150	J
14. 95-36-3	1,2,4-Trimethylbenzene	23.69	710	J
15. 95-36-3	1,2,4-Trimethylbenzene	24.76	250	J
16.	Unknown	25.51	360	J
17. 535-77-3	Benzene, 1-methyl-3-(1-methy	26.22	110	J
18. 99-87-6	Benzene, 1-methyl-4-(1-methy	26.45	110	J
19. 527-84-4	Benzene, 1-methyl-2-(1-methy	27.32	75	J
20. 767-99-7	Benzene, (1-methyl-1-propeny	28.70	90	J
21.				
22.				
23.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET

FN-14DL

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No.: L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O03DL

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4519.D

Level: (low/med) ______   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/3/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 50.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	250	UD
75-01-4	Vinyl Chloride	250	UD
74-83-9	Bromomethane	250	UD
75-00-3	Chloroethane	250	UD
75-35-4	1,1-Dichloroethene	250	UD
67-64-1	Acetone	250	UD
75-15-0	Carbon Disulfide	250	UD
75-09-2	Methylene Chloride	560	D
156-60-5	trans-1,2-Dichloroethene	250	UD
75-34-3	1,1-Dichloroethane	250	UD
78-93-3	2-Butanone	250	UD
156-59-2	cis-1,2-Dichloroethene	69	JD
67-66-3	Chloroform	250	UD
71-55-6	1,1,1-Trichloroethane	250	UD
56-23-5	Carbon Tetrachloride	250	UD
71-43-2	Benzene	3300	D
107-06-2	1,2-Dichloroethane	250	UD
79-01-6	Trichloroethene	250	UD
78-87-5	1,2-Dichloropropane	250	UD
75-27-4	Bromodichloromethane	250	UD
108-10-1	4-Methyl-2-Pentanone	250	UD
108-88-3	Toluene	4700	D
10061-02-6	t-1,3-Dichloropropene	250	UD
10061-01-5	cis-1,3-Dichloropropene	250	UD
79-00-5	1,1,2-Trichloroethane	250	UD
591-78-6	2-Hexanone	250	UD
124-48-1	Dibromochloromethane	250	UD
127-18-4	Tetrachloroethene	250	UD
108-90-7	Chlorobenzene	250	UD
100-41-4	Ethyl Benzene	970	D
1330-20-7	m/p-Xylenes	4400	D
95-47-6	o-Xylene	1500	D
100-42-5	Styrene	250	UD

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
FN-14DL

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No.: L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O03DL

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4519.D

Level: (low/med)   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/3/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 50.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	250	UD
79-34-5	1,1,2,2-Tetrachloroethane	250	UD

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FN-14DL

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No. L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O03DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4519.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/3/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 50.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 6

Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	2.01	560	J
2.	Unknown	2.32	350	J
3. 622-96-8	Benzene, 1-ethyl-4-methyl-	22.62	1800	J
4.	Unknown	23.33	350	J
5. 526-73-8	Benzene, 1,2,3-trimethyl-	23.68	1700	J
6.	Unknown	25.42	410	J
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FB10-25

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4506.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/2/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

FB10-25

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4506.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/2/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

FB10-25

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No. L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4506.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/2/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TB10-25

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No.: L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O07

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4507.D

Level: (low/med) ______   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/2/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

TB10-25

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O07

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4507.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/2/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

TB10-25

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No. L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O07

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4507.D

Level: (low/med)   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/2/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

Concentration Units:

Number TICs found: 0   (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-4

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O08

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4508.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/2/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	2.7	J
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	16	
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	41	
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-4

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No.: L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O08

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4508.D

Level: (low/med)   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/2/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-4

Lab Name: CHEMTECH　　Contract: JR KOLMER ASSOCIATES

Project No. L1930　　Site: NA　　Location: LB10339　　Group: 5970-VOA

Matrix: (soil/water) WATER　　Lab Sample ID: O08

Sample wt/vol: 5.0 (g/mL) ML　　Lab File ID: D4508.D

Level: (low/med) ______　　Date Received: 10/27/00

% Moisture: not dec. 100　　Date Analyzed: 11/2/00

GC Column: DB624　　ID: 0.53 (mm)　　Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)　　Soil Aliquot Volume: ______ (uL)

Concentration Units:

Number TICs found: 0　　(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-3

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No.: L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O09

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4512.D

Level: (low/med)   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/3/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 5.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	25	U
75-01-4	Vinyl Chloride	25	U
74-83-9	Bromomethane	25	U
75-00-3	Chloroethane	25	U
75-35-4	1,1-Dichloroethene	25	U
67-64-1	Acetone	25	U
75-15-0	Carbon Disulfide	25	U
75-09-2	Methylene Chloride	25	U
156-60-5	trans-1,2-Dichloroethene	25	U
75-34-3	1,1-Dichloroethane	25	U
78-93-3	2-Butanone	25	U
156-59-2	cis-1,2-Dichloroethene	50	
67-66-3	Chloroform	25	U
71-55-6	1,1,1-Trichloroethane	25	U
56-23-5	Carbon Tetrachloride	25	U
71-43-2	Benzene	25	U
107-06-2	1,2-Dichloroethane	25	U
79-01-6	Trichloroethene	24	J
78-87-5	1,2-Dichloropropane	25	U
75-27-4	Bromodichloromethane	25	U
108-10-1	4-Methyl-2-Pentanone	25	U
108-88-3	Toluene	25	U
10061-02-6	t-1,3-Dichloropropene	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
79-00-5	1,1,2-Trichloroethane	25	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	25	U
127-18-4	Tetrachloroethene	820	
108-90-7	Chlorobenzene	25	U
100-41-4	Ethyl Benzene	25	U
1330-20-7	m/p-Xylenes	25	U
95-47-6	o-Xylene	25	U
100-42-5	Styrene	25	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-3

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No.: L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O09

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4512.D

Level: (low/med)   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/3/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 5.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	25	U
79-34-5	1,1,2,2-Tetrachloroethane	25	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-3

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No. L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O09

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4512.D

Level: (low/med) ______   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/3/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 5.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Number TICs found: 0   Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-2

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O10

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4513.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/3/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration (ug/L)	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	11	
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	2.4	J
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	16	
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-2

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O10

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4513.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/3/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	(ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-2

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No. L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O10

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4513.D

Level: (low/med)   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/3/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

Concentration Units:

Number TICs found: 0   (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-1C

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No.: L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O11

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4514.D

Level: (low/med) ______   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/3/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	11	
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	1.7	J
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	7	
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-1C

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O11

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4514.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/3/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-1C

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No. L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O11

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4514.D

Level: (low/med) ______ Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/3/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.: MW-8

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No.: L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O12

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4515.D

Level: (low/med)   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/3/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	11	
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-8

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O12

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4515.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/3/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-8

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No. L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O12

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4515.D

Level: (low/med) ____   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/3/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

Concentration Units:

Number TICs found: 0   (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-7

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O13

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4516.D

Level: (low/med) ______ Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/3/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	12	
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	2.1	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-7

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O13

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4516.D

Level: (low/med) ____ Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/3/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-7

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No. L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O13

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4516.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/3/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0

Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-6

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No.: L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O14

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4517.D

Level: (low/med)   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/3/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	12	
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	4.2	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

1A

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-6

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATES

Project No.: L1930   Site: NA   Location: LB10339   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O14

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D4517.D

Level: (low/med)   Date Received: 10/27/00

% Moisture: not dec. 100   Date Analyzed: 11/3/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-6

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No. L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O14

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4517.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/3/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	2.05	6.5	J
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SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-5

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O15

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4518.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/3/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	13	
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-5

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No.: L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O15

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4518.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/3/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-5

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATES

Project No. L1930 Site: NA Location: LB10339 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O15

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D4518.D

Level: (low/med) Date Received: 10/27/00

% Moisture: not dec. 100 Date Analyzed: 11/3/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	2.05	6.1	J
2.				
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CHEMTECH

CHAIN OF CUSTODY RECORD

☐ 110 Route 4
Englewood, NJ 07631
(201) 567-6868
Fax (201) 567-1333

☐ 205 Campus Plaza 1
Edison, NJ 08837
(732) 225-4111
Fax (732) 225-4110

CHEMTECH QUOTE NO:

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: JR Kolmen + Assoc., Inc.
ADDRESS: 3851 N High St
CITY: Columbus STATE: OH ZIP: 43214
ATTENTION:
PHONE: 614-261-4500 FAX: 614-261-0190

PROJECT INFORMATION

PROJECT NAME:
PROJECT NO.:
PROJECT MANAGER:
LOCATION:
PHONE: FAX:

BILLING INFORMATION

BILL TO: PO #:
ADDRESS:
CITY: STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: ______ DAYS *
HARD COPY: ______ DAYS *
EDD: ______ DAYS *
* TO BE APPROVED BY CHEMTECH
** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY
☐ RESULTS + QC
☐ NJ REDUCED
☐ NJ CLP
☐ EDD FORMAT: ______
☐ USEPA CLP
☑ NYS ASP "B"
☐ NYS ASP "A"
☐ EDD

ANALYSIS

1 VOA (8260) 2 3 4 5 6 7 8 9

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1	2	3	4	5	6	7	8	9	COMMENTS
1.	FN-8	AQ			10/26/00	2:25	2	/									
2.	MW-42	"			"	2:53	2	/									
3.	FN-14	"			"	3:25	2	/									
4.	MW-5 MS	"			"		2	/									
5.	MW-5 MSD	"			"		2	/									
6.	FB 10-25	"			"		2	/									
7.	TB 10-25	"			"		2	/									
8.																	

PRESERVATIVES

← Specify Preservatives
A - HCl B - HNO_3
C - H_2SO_4 D - NaOH
E - ICE F - Other

0289

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY	DATE/TIME	RECEIVED BY
RELINQUISHED BY SAMPLER: 1. [signature]	10/25/00 17:00	1. [signature]
RELINQUISHED BY: 2.	DATE/TIME:	RECEIVED BY: 2.
RELINQUISHED BY: 3. Chemtech.	DATE/TIME: 10/27/00 10:45	RECEIVED FOR LAB BY: 3. Sunny Patel

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☑ Temp. of Cooler 4.0C
Comments:

Page ______ of ______ Shipment Complete: Yes ______ No ______

Ver. 6/2000 WHITE – CHEMTECH COPY FOR RETURN TO CLIENT YELLOW – CHEMTECH COPY PINK – SAMPLER COPY

36917

CHEMTECH

CHAIN OF CUSTODY RECORD

Englewood, NJ 07631
(201) 567-6868
Fax (201) 567-1333

Edison, NJ 08837
(732) 225-4111
Fax (732) 225-4110

CHEMTECH JOB NO.:

CHEMTECH QUOTE NO.: L1930 A08

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: J.R. Kolmen + Assoc, Inc.
ADDRESS:
CITY: STATE: ZIP:
ATTENTION:
PHONE: FAX:

PROJECT INFORMATION

PROJECT NAME:
PROJECT NO.:
PROJECT MANAGER:
LOCATION:
PHONE: FAX:

BILLING INFORMATION

BILL TO: PO #:
ADDRESS:
CITY: STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: ______ DAYS *
HARD COPY: ______ DAYS *
EDD: ______ DAYS *
* TO BE APPROVED BY CHEMTECH
** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

- ☐ RESULTS ONLY
- ☐ RESULTS + QC
- ☐ NJ REDUCED
- ☐ NJ CLP
- ☐ EDD FORMAT: ______
- ☐ USEPA CLP
- ☑ NYS ASP "B"
- ☐ NYS ASP "A"
- ☐ EDD

ANALYSIS

1 VOA (8260)

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS ← Specify Preservatives A - HCl B - HNO_3 C - H_2SO_4 D - NaOH E - ICE F - Other
1.	MW-4	AQ			10/25/00	8:50	2	✓									
2.	MW-3	"			"	9:20	2	✓									
3.	MW-2	"			"	9:33	2	✓									
4.	MW-1C	"			"	10:12	2	✓									
5.	MW-8	"			"	10:40	2	✓									
6.	MW-7	"			"	11:00	2	✓									
7.	MW-6	"			"	11:30	2	✓									
8.	MW-5	"			"	12:30	2	✓									

0290

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY	DATE/TIME	RECEIVED BY
RELINQUISHED BY SAMPLER: 1. [signature]	10/25/00 1700	RECEIVED BY: 1. [signature]
RELINQUISHED BY: 2.	DATE/TIME:	RECEIVED BY: 2.
RELINQUISHED BY: 3. Chemtech	DATE/TIME: 10/27/00 12:45	RECEIVED FOR LAB BY: 3. Sunny Patel

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☑ Temp. of Cooler 4.0C
Comments:

Page ______ of ______

Shipment Complete: Yes ______ No ______

Ver. 6/2000 WHITE – CHEMTECH COPY FOR RETURN TO CLIENT YELLOW – CHEMTECH COPY PINK – SAMPLER COPY

36916

APPENDIX D

ANALYTICAL LABORATORY RESULTS

NOVEMBER 2000

1A

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-4DEEP

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC

Project No.: L2308 Site: GREAT NE Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5032.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/6/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	3.1	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-4DEEP

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOC.

Project No.: L2308   Site: GREAT NE   Location: LB10810   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D5032.D

Level: (low/med) ____   Date Received: 12/1/00

% Moisture: not dec. 100   Date Analyzed: 12/6/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

1E

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-4DEEP

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No. L2308 Site: GREAT N Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5032.D

Level: (low/med) ____ Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/6/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

Concentration Units:
Number TICs found: 2 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	2.01	10	J
2.	Unknown	2.44	6.6	J
3.				
4.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-4DEEPDUP

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No.: L2308 Site: GREAT NE Location: NA Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: 001

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E2003.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/8/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	4.1	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
136777-61-2	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-4DEEPDUP

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No.: L2308 Site: GREAT NE Location: NA Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E2003.D

Level: (low/med) ______ Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/8/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

Page 2 of 2

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-4DEEPDUP

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No. L2308 Site: GREAT N Location: NA Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E2003.D

Level: (low/med) ____ Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/8/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

Concentration Units:

Number TICs found: 1 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	3.28	8.3	J
2.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-4S

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No.: L2308 Site: GREAT NE Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5020.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/5/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	84	
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	6.2	
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	230	
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	23	
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	440	E
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-4S

Lab Name: CHEMTECH　　Contract: JR KOLMER ASSOC.

Project No.: L2308　　Site: GREAT NE　Location: LB10810　　Group: 5970-VOA

Matrix: (soil/water)　WATER　　Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML　　Lab File ID: D5020.D

Level: (low/med)　　Date Received: 12/1/00

% Moisture: not dec. 100　　Date Analyzed: 12/5/00

GC Column: DB624　ID: 0.53 (mm)　　Dilution Factor: 1.0

Soil Extract Volume: (uL)　　Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-4S

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOC.

Project No. L2308   Site: GREAT N   Location: LB10810   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D5020.D

Level: (low/med) ______   Date Received: 12/1/00

% Moisture: not dec. 100   Date Analyzed: 12/5/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

Concentration Units:

Number TICs found: 1   (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.92	9.8	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-4SDL

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOC.

Project No.: L2308   Site: GREAT NE Location: LB10810   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O02DL

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D5031.D

Level: (low/med) ______   Date Received: 12/1/00

% Moisture: not dec. 100   Date Analyzed: 12/6/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 5.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	25	UD
75-01-4	Vinyl Chloride	69	D
74-83-9	Bromomethane	25	UD
75-00-3	Chloroethane	25	UD
75-35-4	1,1-Dichloroethene	25	UD
67-64-1	Acetone	25	UD
75-15-0	Carbon Disulfide	25	UD
75-09-2	Methylene Chloride	25	UD
156-60-5	trans-1,2-Dichloroethene	25	UD
75-34-3	1,1-Dichloroethane	25	UD
78-93-3	2-Butanone	25	UD
156-59-2	cis-1,2-Dichloroethene	210	D
67-66-3	Chloroform	25	UD
71-55-6	1,1,1-Trichloroethane	25	UD
56-23-5	Carbon Tetrachloride	25	UD
71-43-2	Benzene	25	UD
107-06-2	1,2-Dichloroethane	25	UD
79-01-6	Trichloroethene	18	JD
78-87-5	1,2-Dichloropropane	25	UD
75-27-4	Bromodichloromethane	25	UD
108-10-1	4-Methyl-2-Pentanone	25	UD
108-88-3	Toluene	25	UD
10061-02-6	t-1,3-Dichloropropene	25	UD
10061-01-5	cis-1,3-Dichloropropene	25	UD
79-00-5	1,1,2-Trichloroethane	25	UD
591-78-6	2-Hexanone	25	UD
124-48-1	Dibromochloromethane	25	UD
127-18-4	Tetrachloroethene	410	D
108-90-7	Chlorobenzene	25	UD
100-41-4	Ethyl Benzene	25	UD
1330-20-7	m/p-Xylenes	25	UD
95-47-6	o-Xylene	25	UD
100-42-5	Styrene	25	UD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-4SDL

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No.: L2308 Site: GREAT NE Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O02DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5031.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/6/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration (ug/L)	Q
75-25-2	Bromoform	25	UD
79-34-5	1,1,2,2-Tetrachloroethane	25	UD

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-4SDL

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No. L2308 Site: GREAT N Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O02DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5031.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/6/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-4SDUP

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No.: L2308 Site: GREAT NE Location: NA Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E2004.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/8/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	25	U
75-01-4	Vinyl Chloride	64	
74-83-9	Bromomethane	25	U
75-00-3	Chloroethane	25	U
75-35-4	1,1-Dichloroethene	25	U
67-64-1	Acetone	25	U
75-15-0	Carbon Disulfide	25	U
75-09-2	Methylene Chloride	15	J
156-60-5	trans-1,2-Dichloroethene	25	U
75-34-3	1,1-Dichloroethane	25	U
78-93-3	2-Butanone	25	U
156-59-2	cis-1,2-Dichloroethene	230	
67-66-3	Chloroform	25	U
71-55-6	1,1,1-Trichloroethane	25	U
56-23-5	Carbon Tetrachloride	25	U
71-43-2	Benzene	25	U
107-06-2	1,2-Dichloroethane	25	U
79-01-6	Trichloroethene	22	J
78-87-5	1,2-Dichloropropane	25	U
75-27-4	Bromodichloromethane	25	U
108-10-1	4-Methyl-2-Pentanone	25	U
108-88-3	Toluene	25	U
10061-02-6	t-1,3-Dichloropropene	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
79-00-5	1,1,2-Trichloroethane	25	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	25	U
127-18-4	Tetrachloroethene	460	
108-90-7	Chlorobenzene	25	U
100-41-4	Ethyl Benzene	25	U
136777-61-2	m/p-Xylenes	25	U
95-47-6	o-Xylene	25	U
100-42-5	Styrene	25	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-4SDUP

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No.: L2308 Site: GREAT NE Location: NA Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E2004.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/8/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	25	U
79-34-5	1,1,2,2-Tetrachloroethane	25	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-4SDUP

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No. L2308 Site: GREAT N Location: NA Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E2004.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/8/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 1

Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	3.28	40	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-3

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No.: L2308 Site: GREAT NE Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: 003

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5019.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/5/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	1.8	J
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	6.3	
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	130	
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	16	
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	510	E
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-3

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No.: L2308 Site: GREAT NE Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5019.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/5/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-3

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No. L2308 Site: GREAT N Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5019.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/5/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units:

Number TICs found: 1 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.91	12	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-3DL

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No.: L2308 Site: GREAT NE Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O03DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5030.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/6/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
74-87-3	Chloromethane	25	UD
75-01-4	Vinyl Chloride	25	UD
74-83-9	Bromomethane	25	UD
75-00-3	Chloroethane	25	UD
75-35-4	1,1-Dichloroethene	25	UD
67-64-1	Acetone	25	UD
75-15-0	Carbon Disulfide	25	UD
75-09-2	Methylene Chloride	25	UD
156-60-5	trans-1,2-Dichloroethene	25	UD
75-34-3	1,1-Dichloroethane	25	UD
78-93-3	2-Butanone	25	UD
156-59-2	cis-1,2-Dichloroethene	120	D
67-66-3	Chloroform	25	UD
71-55-6	1,1,1-Trichloroethane	25	UD
56-23-5	Carbon Tetrachloride	25	UD
71-43-2	Benzene	25	UD
107-06-2	1,2-Dichloroethane	25	UD
79-01-6	Trichloroethene	9.6	JD
78-87-5	1,2-Dichloropropane	25	UD
75-27-4	Bromodichloromethane	25	UD
108-10-1	4-Methyl-2-Pentanone	25	UD
108-88-3	Toluene	25	UD
10061-02-6	t-1,3-Dichloropropene	25	UD
10061-01-5	cis-1,3-Dichloropropene	25	UD
79-00-5	1,1,2-Trichloroethane	25	UD
591-78-6	2-Hexanone	25	UD
124-48-1	Dibromochloromethane	25	UD
127-18-4	Tetrachloroethene	490	D
108-90-7	Chlorobenzene	25	UD
100-41-4	Ethyl Benzene	25	UD
1330-20-7	m/p-Xylenes	25	UD
95-47-6	o-Xylene	25	UD
100-42-5	Styrene	25	UD

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. **MW-3DL**

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOC.

Project No.: L2308   Site: GREAT NE Location: LB10810   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O03DL

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D5030.D

Level: (low/med)   Date Received: 12/1/00

% Moisture: not dec. 100   Date Analyzed: 12/6/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 5.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration (ug/L)	Q
75-25-2	Bromoform	25	UD
79-34-5	1,1,2,2-Tetrachloroethane	25	UD

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW-3DL

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No. L2308 Site: GREAT N Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O03DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5030.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/6/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 1

Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	2.05	36	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-3DUP

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOC.

Project No.: L2308   Site: GREAT NE   Location: NA   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: 003

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: E2005.D

Level: (low/med)   Date Received: 12/1/00

% Moisture: not dec. 100   Date Analyzed: 12/8/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 5.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	25	U
75-01-4	Vinyl Chloride	25	U
74-83-9	Bromomethane	25	U
75-00-3	Chloroethane	25	U
75-35-4	1,1-Dichloroethene	25	U
67-64-1	Acetone	25	U
75-15-0	Carbon Disulfide	25	U
75-09-2	Methylene Chloride	25	U
156-60-5	trans-1,2-Dichloroethene	25	U
75-34-3	1,1-Dichloroethane	25	U
78-93-3	2-Butanone	25	U
156-59-2	cis-1,2-Dichloroethene	140	
67-66-3	Chloroform	25	U
71-55-6	1,1,1-Trichloroethane	25	U
56-23-5	Carbon Tetrachloride	25	U
71-43-2	Benzene	25	U
107-06-2	1,2-Dichloroethane	25	U
79-01-6	Trichloroethene	13	J
78-87-5	1,2-Dichloropropane	25	U
75-27-4	Bromodichloromethane	25	U
108-10-1	4-Methyl-2-Pentanone	25	U
108-88-3	Toluene	25	U
10061-02-6	t-1,3-Dichloropropene	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
79-00-5	1,1,2-Trichloroethane	25	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	25	U
127-18-4	Tetrachloroethene	440	
108-90-7	Chlorobenzene	25	U
100-41-4	Ethyl Benzene	25	U
136777-61-2	m/p-Xylenes	25	U
95-47-6	o-Xylene	25	U
100-42-5	Styrene	25	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-3DUP

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No.: L2308 Site: GREAT NE Location: NA Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E2005.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/8/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
75-25-2	Bromoform	25	U
79-34-5	1,1,2,2-Tetrachloroethane	25	U

Page 2 of 2

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VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-3DUP

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No. L2308 Site: GREAT N Location: NA Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E2005.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/8/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units:

Number TICs found: 1 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	3.32	50	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

FB-1130

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOC.

Project No.: L2308   Site: GREAT NE   Location: LB10810   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O04

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: D5018.D

Level: (low/med) ____   Date Received: 12/1/00

% Moisture: not dec. 100   Date Analyzed: 12/5/00

GC Column: DB624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration (ug/L)	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	8.1	
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

FB-1130

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No.: L2308 Site: GREAT NE Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5018.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/5/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

FB-1130

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No. L2308 Site: GREAT N Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5018.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/5/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 1

Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.88	13	J
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TB-1130

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No.: L2308 Site: GREAT NE Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5017.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/5/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	7.2	
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	t-1,3-Dichloropropene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylenes	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TB-1130

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No.: L2308 Site: GREAT NE Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5017.D

Level: (low/med) Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/5/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

TB-1130

Lab Name: CHEMTECH Contract: JR KOLMER ASSOC.

Project No. L2308 Site: GREAT N Location: LB10810 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D5017.D

Level: (low/med) ______ Date Received: 12/1/00

% Moisture: not dec. 100 Date Analyzed: 12/5/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Number TICs found: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	2.05	8.5	J
2. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.92	11	J
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CHEMTECH
CHAIN OF CUSTODY RECORD

☐ 110 Route 4
Englewood, NJ 07631
(201) 567-6868
Fax (201) 567-1333

☐ 205 Campus Plaza
Edison, NJ 08837
(732) 225-4111
Fax (732) 225-4110

CHEMTECH JOB NO.: L2308ASP
CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: JR Kolmer + Assoc., Inc.
ADDRESS: 3851 N. High St, Suite B
CITY: Columbus STATE: OH ZIP: 43214
ATTENTION: JR Kolmer
PHONE: 614-261-4500 FAX: 614-261-0190

PROJECT INFORMATION

PROJECT NAME:
PROJECT NO.:
PROJECT MANAGER:
LOCATION:
PHONE: FAX:

BILLING INFORMATION

BILL TO: JR Kolmer + Assoc PO #:
ADDRESS:
CITY: STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: ______ DAYS *
HARD COPY: ______ DAYS *
EDD: ______ DAYS *
* TO BE APPROVED BY CHEMTECH
** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY
☐ RESULTS + QC
☐ NJ REDUCED
☐ NJ CLP
☐ EDD FORMAT: ______
☐ USEPA CLP
☑ NYS ASP "B"
☐ NYS ASP "A"
☐ EDD

ANALYSIS

1 TCL VOA 8260
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CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1	2	3	4	5	6	7	8	9	COMMENTS
1.	MW-4 DEEP				11/30/00		2	✓									
2.	MW-4S				"		2	✓									
3.	MW-3				"		2	✓									
4.	FB-1130				"		2	✓									
5.	TB-1130				"		2	✓									
6.	MW-3MS				"		2	✓									
7.	MW-3MSD				"		2	✓									
8.																	

PRESERVATIVES

COMMENTS
← Specify Preservatives
A - HCl B - HNO_3
C - H_2SO_4 D - NaOH
E - ICE F - Other

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY	DATE/TIME	RECEIVED BY
RELINQUISHED BY SAMPLER: 1. [illegible]	11/30/00 4:30	1. [illegible] 1730
RELINQUISHED BY: 2. [illegible]	12/1/00	RECEIVED BY: 2.
RELINQUISHED BY: 3. Chemtech	12/01/00 10:30 AM	RECEIVED FOR LAB BY: 3. [illegible]

Conditions of bottles or coolers at receipt: ☐ Compliant ☑ Non-Compliant ☐ Temp. of Cooler 4°C
Comments:

Page 1 of 1
Shipment Complete: Yes ✓ No ______

Ver. 6/2000 WHITE – CHEMTECH COPY FOR RETURN TO CLIENT YELLOW – CHEMTECH COPY PINK – SAMPLER COPY

APPENDIX E

ANALYTICAL LABORATORY RESULTS

JULY 2001

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-2

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No.: N5344 Site: GREAT NE Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0405.D

Level: (low/med) ______ Date Received: 7/27/01

% Moisture: not dec. 100 Date Analyzed: 7/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	2.8	U
75-01-4	Vinyl Chloride	1.8	U
74-83-9	Bromomethane	1.9	U
75-00-3	Chloroethane	2.3	U
75-35-4	1,1-Dichloroethene	1.6	U
67-64-1	Acetone	5.8	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	1.1	U
156-60-5	trans-1,2-Dichloroethene	1.7	U
75-34-3	1,1-Dichloroethane	1	U
78-93-3	2-Butanone	5.6	U
156-59-2	cis-1,2-Dichloroethene	7.3	
67-66-3	Chloroform	500	E
71-55-6	1,1,1-Trichloroethane	1.5	U
56-23-5	Carbon Tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	9	
78-87-5	1,2-Dichloropropane	3.6	U
75-27-4	Bromodichloromethane	3.3	
108-10-1	4-Methyl-2-Pentanone	3	U
108-88-3	Toluene	1.2	U
10061-02-6	t-1,3-Dichloropropene	1.7	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	1	U
127-18-4	Tetrachloroethene	330	E
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	1.5	U
136777-61-2	m/p-Xylenes	1.5	U
95-47-6	o-Xylene	1.7	U
100-42-5	Styrene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-2

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No.: N5344 Site: GREAT NE Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0405.D

Level: (low/med) Date Received: 7/27/01

% Moisture: not dec. 100 Date Analyzed: 7/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	1	U
79-34-5	1,1,2,2-Tetrachloroethane	2.2	U

FORM I VOA 3/90

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-2

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No. N5344 Site: GREAT N Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0405.D

Level: (low/med) Date Received: 7/27/01

% Moisture: not dec. 100 Date Analyzed: 7/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-2DL

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No.: N5344 Site: GREAT NE Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O01DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0416.D

Level: (low/med) Date Received: 07/27/01

% Moisture: not dec. 100 Date Analyzed: 08/01/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	28	UD
75-01-4	Vinyl Chloride	18	UD
74-83-9	Bromomethane	19	UD
75-00-3	Chloroethane	23	UD
75-35-4	1,1-Dichloroethene	16	UD
67-64-1	Acetone	58	UD
75-15-0	Carbon Disulfide	10	UD
75-09-2	Methylene Chloride	29	BD
156-60-5	trans-1,2-Dichloroethene	17	UD
75-34-3	1,1-Dichloroethane	10	UD
78-93-3	2-Butanone	56	UD
156-59-2	cis-1,2-Dichloroethene	18	UD
67-66-3	Chloroform	660	D
71-55-6	1,1,1-Trichloroethane	15	UD
56-23-5	Carbon Tetrachloride	10	UD
71-43-2	Benzene	10	UD
107-06-2	1,2-Dichloroethane	25	UD
79-01-6	Trichloroethene	28	UD
78-87-5	1,2-Dichloropropane	36	UD
75-27-4	Bromodichloromethane	10	UD
108-10-1	4-Methyl-2-Pentanone	30	UD
108-88-3	Toluene	12	UD
10061-02-6	t-1,3-Dichloropropene	17	UD
10061-01-5	cis-1,3-Dichloropropene	10	UD
79-00-5	1,1,2-Trichloroethane	11	UD
591-78-6	2-Hexanone	120	UD
124-48-1	Dibromochloromethane	10	UD
127-18-4	Tetrachloroethene	210	D
108-90-7	Chlorobenzene	10	UD
100-41-4	Ethyl Benzene	15	UD
136777-61-2	m/p-Xylenes	15	UD
95-47-6	o-Xylene	17	UD
100-42-5	Styrene	10	UD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-2DL

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No.: N5344 Site: GREAT NE Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O01DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0416.D

Level: (low/med) Date Received: 07/27/01

% Moisture: not dec. 100 Date Analyzed: 08/01/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	10	UD
79-34-5	1,1,2,2-Tetrachloroethane	22	UD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-3

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATE

Project No.: N5344   Site: GREAT NE Location: LB15428   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: A0406.D

Level: (low/med) ____   Date Received: 7/27/01

% Moisture: not dec. 100   Date Analyzed: 7/31/01

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	2.8	U
75-01-4	Vinyl Chloride	1.8	U
74-83-9	Bromomethane	1.9	U
75-00-3	Chloroethane	2.3	U
75-35-4	1,1-Dichloroethene	1.6	U
67-64-1	Acetone	5.8	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	2.2	
156-60-5	trans-1,2-Dichloroethene	1.7	U
75-34-3	1,1-Dichloroethane	1	U
78-93-3	2-Butanone	5.6	U
156-59-2	cis-1,2-Dichloroethene	8.2	
67-66-3	Chloroform	650	E
71-55-6	1,1,1-Trichloroethane	2.1	
56-23-5	Carbon Tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	11	
78-87-5	1,2-Dichloropropane	3.6	U
75-27-4	Bromodichloromethane	3.8	
108-10-1	4-Methyl-2-Pentanone	3	U
108-88-3	Toluene	1.2	U
10061-02-6	t-1,3-Dichloropropene	1.7	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	1	U
127-18-4	Tetrachloroethene	380	E
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	1.5	U
136777-61-2	m/p-Xylenes	1.5	U
95-47-6	o-Xylene	1.7	U
100-42-5	Styrene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-3

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATE

Project No.: N5344   Site: GREAT NE   Location: LB15428   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: A0406.D

Level: (low/med) ______   Date Received: 7/27/01

% Moisture: not dec. 100   Date Analyzed: 7/31/01

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-25-2	Bromoform	1	U
79-34-5	1,1,2,2-Tetrachloroethane	2.2	U

1E

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-3

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No. N5344 Site: GREAT N Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0406.D

Level: (low/med) Date Received: 7/27/01

% Moisture: not dec. 100 Date Analyzed: 7/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-3DL

Lab Name: CHEMTECH   Contract: JR KOLMER ASSOCIATE

Project No.: N5344   Site: GREAT NE Location: LB15428   Group: 5970-VOA

Matrix: (soil/water) WATER   Lab Sample ID: O02DL

Sample wt/vol: 5.0 (g/mL) ML   Lab File ID: A0417.D

Level: (low/med)   Date Received: 7/27/01

% Moisture: not dec. 100   Date Analyzed: 8/1/01

GC Column: RTX624   ID: 0.53 (mm)   Dilution Factor: 10.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	28	UD
75-01-4	Vinyl Chloride	18	UD
74-83-9	Bromomethane	19	UD
75-00-3	Chloroethane	23	UD
75-35-4	1,1-Dichloroethene	16	UD
67-64-1	Acetone	58	UD
75-15-0	Carbon Disulfide	10	UD
75-09-2	Methylene Chloride	32	BD
156-60-5	trans-1,2-Dichloroethene	17	UD
75-34-3	1,1-Dichloroethane	10	UD
78-93-3	2-Butanone	56	UD
156-59-2	cis-1,2-Dichloroethene	18	UD
67-66-3	Chloroform	62	D
71-55-6	1,1,1-Trichloroethane	24	BD
56-23-5	Carbon Tetrachloride	10	UD
71-43-2	Benzene	10	UD
107-06-2	1,2-Dichloroethane	25	UD
79-01-6	Trichloroethene	28	UD
78-87-5	1,2-Dichloropropane	36	UD
75-27-4	Bromodichloromethane	10	UD
108-10-1	4-Methyl-2-Pentanone	30	UD
108-88-3	Toluene	12	UD
10061-02-6	t-1,3-Dichloropropene	17	UD
10061-01-5	cis-1,3-Dichloropropene	10	UD
79-00-5	1,1,2-Trichloroethane	11	UD
591-78-6	2-Hexanone	120	UD
124-48-1	Dibromochloromethane	10	UD
127-18-4	Tetrachloroethene	400	D
108-90-7	Chlorobenzene	10	UD
100-41-4	Ethyl Benzene	15	UD
136777-61-2	m/p-Xylenes	15	UD
95-47-6	o-Xylene	17	UD
100-42-5	Styrene	10	UD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-3DL

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No.: N5344 Site: GREAT NE Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O02DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0417.D

Level: (low/med) Date Received: 7/27/01

% Moisture: not dec. 100 Date Analyzed: 8/1/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
75-25-2	Bromoform	10	UD
79-34-5	1,1,2,2-Tetrachloroethane	22	UD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-4S

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No.: N5344 Site: GREAT NE Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0409.D

Level: (low/med) ______ Date Received: 7/27/01

% Moisture: not dec. 100 Date Analyzed: 7/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	2.8	U
75-01-4	Vinyl Chloride	1.8	U
74-83-9	Bromomethane	1.9	U
75-00-3	Chloroethane	2.3	U
75-35-4	1,1-Dichloroethene	1.6	U
67-64-1	Acetone	5.8	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	1.1	U
156-60-5	trans-1,2-Dichloroethene	1.7	U
75-34-3	1,1-Dichloroethane	1	U
78-93-3	2-Butanone	5.6	U
156-59-2	cis-1,2-Dichloroethene	16	
67-66-3	Chloroform	31	
71-55-6	1,1,1-Trichloroethane	1.5	U
56-23-5	Carbon Tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	15	
78-87-5	1,2-Dichloropropane	3.6	U
75-27-4	Bromodichloromethane	1	U
108-10-1	4-Methyl-2-Pentanone	3	U
108-88-3	Toluene	1.2	U
10061-02-6	t-1,3-Dichloropropene	1.7	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	1	U
127-18-4	Tetrachloroethene	630	E
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	1.5	U
136777-61-2	m/p-Xylenes	1.5	U
95-47-6	o-Xylene	1.7	U
100-42-5	Styrene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-4S

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No.: N5344 Site: GREAT NE Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0409.D

Level: (low/med) Date Received: 7/27/01

% Moisture: not dec. 100 Date Analyzed: 7/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
75-25-2	Bromoform	1	U
79-34-5	1,1,2,2-Tetrachloroethane	2.2	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-4S

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No. N5344 Site: GREAT N Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0409.D

Level: (low/med) Date Received: 7/27/01

% Moisture: not dec. 100 Date Analyzed: 7/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-4SDL

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No.: N5344 Site: GREAT NE Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O05DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0420.D

Level: (low/med) Date Received: 07/27/01

% Moisture: not dec. 100 Date Analyzed: 08/01/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	ug/L	Q
74-87-3	Chloromethane	28	UD
75-01-4	Vinyl Chloride	18	UD
74-83-9	Bromomethane	19	UD
75-00-3	Chloroethane	23	UD
75-35-4	1,1-Dichloroethene	16	UD
67-64-1	Acetone	58	UD
75-15-0	Carbon Disulfide	10	UD
75-09-2	Methylene Chloride	29	BD
156-60-5	trans-1,2-Dichloroethene	17	UD
75-34-3	1,1-Dichloroethane	10	UD
78-93-3	2-Butanone	56	UD
156-59-2	cis-1,2-Dichloroethene	18	UD
67-66-3	Chloroform	30	D
71-55-6	1,1,1-Trichloroethane	15	UD
56-23-5	Carbon Tetrachloride	10	UD
71-43-2	Benzene	10	UD
107-06-2	1,2-Dichloroethane	25	UD
79-01-6	Trichloroethene	28	UD
78-87-5	1,2-Dichloropropane	36	UD
75-27-4	Bromodichloromethane	10	UD
108-10-1	4-Methyl-2-Pentanone	30	UD
108-88-3	Toluene	12	UD
10061-02-6	t-1,3-Dichloropropene	17	UD
10061-01-5	cis-1,3-Dichloropropene	10	UD
79-00-5	1,1,2-Trichloroethane	11	UD
591-78-6	2-Hexanone	120	UD
124-48-1	Dibromochloromethane	10	UD
127-18-4	Tetrachloroethene	620	D
108-90-7	Chlorobenzene	10	UD
100-41-4	Ethyl Benzene	15	UD
136777-61-2	m/p-Xylenes	15	UD
95-47-6	o-Xylene	17	UD
100-42-5	Styrene	10	UD

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-4SDL

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No.: N5344 Site: GREAT NE Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O05DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0420.D

Level: (low/med) Date Received: 07/27/01

% Moisture: not dec. 100 Date Analyzed: 08/01/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration (ug/L)	Q
75-25-2	Bromoform	10	UD
79-34-5	1,1,2,2-Tetrachloroethane	22	UD

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TB-726

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No.: N5344 Site: GREAT NE Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0401.D

Level: (low/med) Date Received: 7/27/01

% Moisture: not dec. 100 Date Analyzed: 7/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	2.8	U
75-01-4	Vinyl Chloride	1.8	U
74-83-9	Bromomethane	1.9	U
75-00-3	Chloroethane	2.3	U
75-35-4	1,1-Dichloroethene	1.6	U
67-64-1	Acetone	5.8	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	5.6	
156-60-5	trans-1,2-Dichloroethene	1.7	U
75-34-3	1,1-Dichloroethane	1	U
78-93-3	2-Butanone	5.6	U
156-59-2	cis-1,2-Dichloroethene	1.8	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1.5	U
56-23-5	Carbon Tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	2.8	U
78-87-5	1,2-Dichloropropane	3.6	U
75-27-4	Bromodichloromethane	1	U
108-10-1	4-Methyl-2-Pentanone	3	U
108-88-3	Toluene	1.2	U
10061-02-6	t-1,3-Dichloropropene	1.7	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	1	U
127-18-4	Tetrachloroethene	1.6	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	1.5	U
136777-61-2	m/p-Xylenes	1.5	U
95-47-6	o-Xylene	1.7	U
100-42-5	Styrene	1	U

SAMPLE NO.

TB-726

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No.: N5344 Site: GREAT NE Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: 006

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0401.D

Level: (low/med) Date Received: 7/27/01

% Moisture: not dec. 100 Date Analyzed: 7/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration (ug/L)	Q
75-25-2	Bromoform	1	U
79-34-5	1,1,2,2-Tetrachloroethane	2.2	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

TB-726

Lab Name: CHEMTECH Contract: JR KOLMER ASSOCIATE

Project No. N5344 Site: GREAT N Location: LB15428 Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0401.D

Level: (low/med) Date Received: 7/27/01

% Moisture: not dec. 100 Date Analyzed: 7/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units:
Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.				
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CHEMTECH

CHAIN OF CUSTODY RECORD

(908) 789-8900 Fax (908) 789-8922
www.chemtech.net

CHEMTECH QUOTE NO.: N534VASP.

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: JR Kolmer + Associates
ADDRESS: 3851 North High Street
CITY: Columbus STATE: OH ZIP: 43214
ATTENTION: JR Kolmer
PHONE: (614) 261-4500 FAX: (614) 261-0190

PROJECT INFORMATION

PROJECT NAME:
PROJECT NO.:
PROJECT MANAGER:
LOCATION:
PHONE: FAX:

BILLING INFORMATION

BILL TO: PO #:
ADDRESS:
CITY: STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: ______ DAYS *
HARD COPY: ______ DAYS *
EDD: ______ DAYS *
* TO BE APPROVED BY CHEMTECH
** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

- ☐ RESULTS ONLY
- ☐ RESULTS PLUS QC
- ☐ REGULATORY FORMAT, STATE: ______
- ☐ NEW JERSEY REDUCED DELIVERABLES
- ☐ CLP
- ☐ EDD FORMAT: ______
- ☐ NY STATE CATEGORY A
- ☐ NY STATE CATEGORY B

ANALYSIS

1: TCL VOA 8260; 2; 3; 4; 5; 6; 7; 8; 9

	CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1	2	3	4	5	6	7	8	9	COMMENTS
1.	01	MW-2	AQ		x	7/26/01	1105	2	/									
2.	02	MW-3	"		x	"	1156	"	/									
3.	03	MW-3 (MS)	"		x	"	"	"	/									
4.	04	MW-3 (MSD)	"		x	"	"	"	/									
5.	05	MW-4S	"		x	"	12:31	"	/									
6.	06	TB-726	"		x	"	/	"	/									
7.																		
8.																		

PRESERVATIVES

← Specify Preservatives
A – HCl B – HNO_3
C – H_2SO_4 D – NaOH
E – ICE F – Other

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY	DATE/TIME	RECEIVED BY
RELINQUISHED BY SAMPLER: 1. [signature]	7/26/01 1400	1. FedEx.
2. FedEx	7/27/01 9:15	2. [signature]
3.		RECEIVED FOR LAB BY: 3.

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☑ Temp. of Cooler 4.0C
Comments:

Page ______ of ______

SHIPPED VIA: CLIENT: ☐ HAND DELIVERED ☐ OVERNIGHT
CHEMTECH: ☐ PICKED UP ☐ OVERNIGHT

Shipment Complete: ☐ YES ☐ NO

296

Ver. 7/2001

WHITE – CHEMTECH COPY FOR RETURN TO CLIENT YELLOW – CHEMTECH COPY PINK – SAMPLER COPY

15059

Appendix F

SEVERN TRENT SERVICES

STL Connecticut

SAMPLE DATA SUMMARY PACKAGE

Client:	JR KOLMER
Project ID:	GREAT NECK NY
P.O.	20000148
SDG #:	A2767
STL ID:	7001-2767A

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements *VOA GC/MS Method #	*BNA GC/MS Method #	*VOA GC Method #	*Pest PCBs Method #	*Metals	*Other
MW-1C	012767A-01	X					
MW-2	012767A-02	X					
MW-5	012767A-03	X					
MW-5	012767A-03MS	X					
MW-5	012767A-03MSB	X					
MW-5	012767A-03MSD	X					
MW-6	012767A-04	X					
MW-7	012767A-05	X					
MW-8	012767A-06	X					
MW-10	012767A-07	X					
FB110101	012767A-08	X					
TB110101	012767A-09	X					
FN-8	012767A-10	X					

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
012767A-01	WATER	11/01/01	11/02/01	N/A	11/07/01
012767A-02	WATER	11/01/01	11/02/01		
012767A-03	WATER	11/01/01	11/02/01		
012767A-04	WATER	11/01/01	11/02/01		11/06/01
012767A-05	WATER	11/01/01	11/02/01		11/07/01
012767A-06	WATER	11/01/01	11/02/01		11/08/01
012767A-07	WATER	11/01/01	11/02/01		
012767A-08	WATER	11/01/01	11/02/01		11/07/01
012767A-09	WATER	11/01/01	11/02/01		
012767A-10	WATER	11/01/01	11/02/01		11/08/01

7001-2767A
JR KOLMER

Case Narrative

Sample Receipt – The samples were received at 9.0°C. The client was notified, and the laboratory was instructed to proceed with the analyses.

Volatile Organics – Volatile organics were determined by purge and trap GC/MS using guidance provided in Method 5030B/8260B. The instrumentation used was a Tekmar Model 2000/2016 Concentrator interfaced with a Hewlett Packard Model 5970A GC/MS/DS.

Sample Calculation:

Sample ID –MW-2
Compound –Tetrachloroethene

$$\frac{(3208627)(250)(4)}{(3114718)(.484)(5)} = 425 = 420 \text{ UG/L.}$$

Sample MW-2 was analyzed at a 1:4 dilution due to high target compound concentrations.

The spike compound percent recoveries were within the laboratory generated guidelines in the independent source quality control samples (020PPB_QCS) except for 2-hexanone, chloromethane and acetone.

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: _____ SDG No.: A2767

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	VBLKKK	103	95	104		0
02	MW-6	110	91	104		0
03	VBLKKQ	97	89	100		0
04	020ppb QCS	96	112	104		0
05	TB110101	98	107	102		0
06	FB110101	99	109	105		0
07	MW-1C	98	111	103		0
08	MW-5	101	112	102		0
09	MW-2	99	108	102		0
10	MW-7	92	99	102		0
11	VBLKKT	101	112	101		0
12	020ppb QCS	93	111	105		0
13	MW-5FMS	108	112	107		0
14	MW-5FMSD	107	116	110		0
15	MW-5FMSB	106	113	105		0
16	MW-8	100	117	103		0
17	MW-10	96	111	98		0
18	FN-8	97	110	99		0
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		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(85-116)
SMC2 (BFB)	= Bromofluorobenzene	(78-120)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(71-129)

Column to be used to flag recovery values

* Values outside of contract required QC limits

3-ASP
WATER VOLATILE SPIKE/SPIKE DUPLICATE RECOVERY SUMMARY

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix Spike - EPA Sample No.: MW-5

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	SPIKE CONCENTRATION (ug/L)	SPIKE % REC #	QC. LIMITS REC.
Chloromethane	50	0	59	118	22-140
Bromomethane	50	0	48	96	30-135
Vinyl Chloride	50	0	54	108	30-148
Chloroethane	50	0	49	98	28-174
Methylene Chloride	50	1	44	86	58-141
Acetone	50	0	33	66	0-262
Carbon Disulfide	50	0	50	100	30-148
Vinyl Acetate	50	0	56	112	0-190
1,1-Dichloroethene	50	0	51	102	63-134
1,1-Dichloroethane	50	0	55	110	73-130
1,2-Dichloroethene (total)	100	0	100	100	73-127
Chloroform	50	0	51	102	73-129
1,2-Dichloroethane	50	0	51	102	68-133
2-Butanone	50	0	53	106	21-215
1,1,1-Trichloroethane	50	0	50	100	68-134
Carbon Tetrachloride	50	0	50	100	53-132
Bromodichloromethane	50	0	53	106	71-129
1,2-Dichloropropane	50	0	55	110	74-137
cis-1,3-Dichloropropene	50	0	54	108	73-119
Trichloroethene	50	0	51	102	66-121
Dibromochloromethane	50	0	52	104	59-136
1,1,2-Trichloroethane	50	0	53	106	75-131
Benzene	50	0	55	110	73-124
trans-1,3-Dichloropropene	50	0	53	106	71-117
Bromoform	50	0	52	104	53-133
4-Methyl-2-Pentanone	50	0	59	118	42-163
2-Hexanone	50	0	58	116	17-202
Tetrachloroethene	50	2	52	100	68-124
Toluene	50	0	53	106	72-123
1,1,2,2-Tetrachloroethane	50	0	55	110	64-147

Column to be used to flag recovery with an asterisk

* Values outside of QC limits.

Spike Recovery: 0 out of 68 outside limits

COMMENTS: ______________________________

3-ASP
WATER VOLATILE SPIKE/SPIKE DUPLICATE RECOVERY SUMMARY

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix Spike - EPA Sample No.: MW-5

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	SPIKE CONCENTRATION (ug/L)	SPIKE % REC #	QC. LIMITS REC.
Chlorobenzene	50	0	51	102	83-121
Ethylbenzene	50	0	53	106	86-121
Styrene	50	0	52	104	77-126
Xylene (total)	150	0	160	107	82-122
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Column to be used to flag recovery with an asterisk

* Values outside of QC limits.

Spike Recovery: 0 out of 68 outside limits

COMMENTS: ____

3-ASP
WATER VOLATILE SPIKE/SPIKE DUPLICATE RECOVERY SUMMARY

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: _____ SDG No.: A2767

Matrix Spike - EPA Sample No.: MW-5

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Chloromethane	50	62	124	5	20	22-140
Bromomethane	50	50	100	4	20	30-135
Vinyl Chloride	50	57	114	5	20	30-148
Chloroethane	50	52	104	6	20	28-174
Methylene Chloride	50	47	92	7	20	58-141
Acetone	50	36	72	9	20	0-262
Carbon Disulfide	50	53	106	6	20	30-148
Vinyl Acetate	50	58	116	4	20	0-190
1,1-Dichloroethene	50	56	112	9	20	63-134
1,1-Dichloroethane	50	58	116	5	20	73-130
1,2-Dichloroethene (total)	100	110	110	10	20	73-127
Chloroform	50	53	106	4	20	73-129
1,2-Dichloroethane	50	53	106	4	20	68-133
2-Butanone	50	56	112	6	20	21-215
1,1,1-Trichloroethane	50	52	104	4	20	68-134
Carbon Tetrachloride	50	53	106	6	20	53-132
Bromodichloromethane	50	56	112	6	20	71-129
1,2-Dichloropropane	50	56	112	2	20	74-137
cis-1,3-Dichloropropene	50	56	112	4	20	73-119
Trichloroethene	50	54	108	6	20	66-121
Dibromochloromethane	50	56	112	7	20	59-136
1,1,2-Trichloroethane	50	56	112	6	20	75-131
Benzene	50	56	112	2	20	73-124
trans-1,3-Dichloropropene	50	57	114	7	20	71-117
Bromoform	50	55	110	6	20	53-133
4-Methyl-2-Pentanone	50	59	118	0	20	42-163
2-Hexanone	50	59	118	2	20	17-202
Tetrachloroethene	50	54	104	4	20	68-124
Toluene	50	54	108	2	20	72-123
1,1,2,2-Tetrachloroethane	50	57	114	4	20	64-147

Column to be used to flag recovery with an asterisk

* Values outside of QC limits.

RPD: 0 out of 34 outside limits
Spike Recovery: 0 out of 68 outside limits
COMMENTS: ______________________________

3-ASP
WATER VOLATILE SPIKE/SPIKE DUPLICATE RECOVERY SUMMARY

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: _____ SDG No.: A2767

Matrix Spike - EPA Sample No.: MW-5

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Chlorobenzene	50	52	104	2	20	83-121
Ethylbenzene	50	53	106	0	20	86-121
Styrene	50	54	108	4	20	77-126
Xylene (total)	150	160	107	0	20	82-122
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Column to be used to flag recovery with an asterisk

* Values outside of QC limits.

RPD: 0 out of 34 outside limits
Spike Recovery: 0 out of 68 outside limits
COMMENTS:

3-ASP
VOLATILE MATRIX SPIKE BLANK RECOVERY SUMMARY

Lab Name: STL/CT Contract: ________

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix Spike - EPA Sample No.: MW-5

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	SPIKE CONCENTRATION (ug/L)	SPIKE % REC #	QC. LIMITS REC.
Chloromethane	50	0	57	114	22-140
Bromomethane	50	0	46	92	30-135
Vinyl Chloride	50	0	54	108	30-148
Chloroethane	50	0	48	96	28-174
Methylene Chloride	50	.6	45	89	58-141
Acetone	50	0	46	92	0-262
Carbon Disulfide	50	0	50	100	30-148
Vinyl Acetate	50	0	58	116	0-190
1,1-Dichloroethene	50	0	50	100	63-134
1,1-Dichloroethane	50	0	53	106	73-130
1,2-Dichloroethene (total)	100	0	99	99	73-127
Chloroform	50	0	50	100	73-129
1,2-Dichloroethane	50	0	52	104	68-133
2-Butanone	50	0	54	108	21-215
1,1,1-Trichloroethane	50	0	50	100	68-134
Carbon Tetrachloride	50	0	50	100	53-132
Bromodichloromethane	50	0	53	106	71-129
1,2-Dichloropropane	50	0	55	110	74-137
cis-1,3-Dichloropropene	50	0	54	108	73-119
Trichloroethene	50	0	50	100	66-121
Dibromochloromethane	50	0	54	108	59-136
1,1,2-Trichloroethane	50	0	52	104	75-131
Benzene	50	0	54	108	73-124
trans-1,3-Dichloropropene	50	0	55	110	71-117
Bromoform	50	0	53	106	53-133
4-Methyl-2-Pentanone	50	0	55	110	42-163
2-Hexanone	50	0	70	140	17-202
Tetrachloroethene	50	0	49	98	68-124
Toluene	50	0	52	104	72-123
1,1,2,2-Tetrachloroethane	50	0	56	112	64-147

Column to be used to flag recovery with an asterisk

* Values outside of QC limits.

Spike Recovery: 0 out of 34 outside limits

COMMENTS: ______________________

3-ASP
VOLATILE MATRIX SPIKE BLANK RECOVERY SUMMARY

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: _____ SDG No.: A2767

Matrix Spike - EPA Sample No.: MW-5

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	SPIKE CONCENTRATION (ug/L)	SPIKE % REC #	QC. LIMITS REC.
Chlorobenzene	50	0	52	104	83-121
Ethylbenzene	50	0	52	104	86-121
Styrene	50	0	54	108	77-126
Xylene (total)	150	0	160	107	82-122
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Column to be used to flag recovery with an asterisk

* Values outside of QC limits.

Spike Recovery: 0 out of 34 outside limits

COMMENTS: ____________

QCS Spike Summary

Spike: K7599.D

Compound	Spike Amount	Spike Result	Rec	Low	High
Chloromethane	20	21	105*	29	96
Bromomethane	20	16	80	41	109
Vinyl Chloride	20	18	90	49	135
Chloroethane	20	23	115	51	152
Methylene Chloride	20	29	145	55	162
Acetone	20	100	500*	20	359
Carbon Disulfide	20	20	100	12	146
Vinyl Acetate	20	5	25	0	128
1,1-Dichloroethene	20	24	120	46	161
1,1-Dichloroethane	20	24	120	59	145
cis-1,2-Dichloroethene	20	16	80	55	149
trans-1,2-Dichloroethene	20	24	120	42	159
Chloroform	20	24	120	63	143
1,2-Dichloroethane	20	23	115	55	134
2-Butanone	20	21	105	46	179
1,1,1-Trichloroethane	20	24	120	61	137
Carbon Tetrachloride	20	25	125	50	154
Bromodichloromethane	20	23	115	65	139
1,2-Dichloropropane	20	22	110	72	141
cis-1,3-Dichloropropene	20	23	115	69	147
Trichloroethene	20	23	115	76	135
Dibromochloromethane	20	20	100	71	139
1,1,2-Trichloroethane	20	21	105	69	144
Benzene	20	23	115	66	144
trans-1,3-Dichloropropene	20	19	95	61	147
Bromoform	20	21	105	69	150
4-Methyl-2-Pentanone	20	18	90	45	143
2-Hexanone	20	11	55	52	169
Tetrachloroethene	20	22	110	69	133
Toluene	20	22	110	66	142
1,1,2,2-Tetrachloroethane	20	22	110	51	152
Chlorobenzene	20	22	110	69	136
Ethylbenzene	20	22	110	74	134
Styrene	20	21	105	66	130
Xylene (total)mp	40	44	110	70	133
Xylene (total)o	20	23	115	74	138
Dichlorodifluoromethane	20	16	80	18	173
Trichlorofluoromethane	20	31	155*	54	145
Acrolein	20	36	180*	0	141
1,1,2-Trichlorotrifluoroethane	20	21	105	53	154
Methyl tert-Butyl Ether	20	22	110	57	142
1,2-Dibromoethane	20	20	100	58	123
1,3-Dichlorobenzene	20	20	100	75	130
1,4-Dichlorobenzene	20	22	110	71	133
1,2-Dichlorobenzene	20	22	110	67	132
1,2-Dibromo-3-chloropropane	20	16	80	23	151
1,2,4-Trichlorobenzene	20	20	100	61	128

QCS Spike Summary

Spike: K7620.D

Compound	Spike Amount	Spike Result	Rec	Low	High
Chloromethane	20	18	90	29	96
Bromomethane	20	17	85	41	109
Vinyl Chloride	20	18	90	49	135
Chloroethane	20	23	115	51	152
Methylene Chloride	20	20	100	55	162
Acetone	20	28	140	20	359
Carbon Disulfide	20	20	100	12	146
Vinyl Acetate	20	5	25	0	128
1,1-Dichloroethene	20	24	120	46	161
1,1-Dichloroethane	20	23	115	59	145
cis-1,2-Dichloroethene	20	17	85	55	149
trans-1,2-Dichloroethene	20	23	115	42	159
Chloroform	20	24	120	63	143
1,2-Dichloroethane	20	23	115	55	134
2-Butanone	20	17	85	46	179
1,1,1-Trichloroethane	20	23	115	61	137
Carbon Tetrachloride	20	25	125	50	154
Bromodichloromethane	20	20	100	65	139
1,2-Dichloropropane	20	21	105	72	141
cis-1,3-Dichloropropene	20	19	95	69	147
Trichloroethene	20	22	110	76	135
Dibromochloromethane	20	20	100	71	139
1,1,2-Trichloroethane	20	20	100	69	144
Benzene	20	22	110	66	144
trans-1,3-Dichloropropene	20	19	95	61	147
Bromoform	20	20	100	69	150
4-Methyl-2-Pentanone	20	14	70	45	143
2-Hexanone	20	6	30*	52	169
Tetrachloroethene	20	22	110	69	133
Toluene	20	20	100	66	142
1,1,2,2-Tetrachloroethane	20	20	100	51	152
Chlorobenzene	20	22	110	69	136
Ethylbenzene	20	21	105	74	134
Styrene	20	20	100	66	130
Xylene (total)mp	40	42	105	70	133
Xylene (total)o	20	21	105	74	138
Dichlorodifluoromethane	20	17	85	18	173
Trichlorofluoromethane	20	31	155*	54	145
Acrolein	20	30	150*	0	141
1,1,2-Trichlorotrifluoroethane	20	21	105	53	154
Methyl tert-Butyl Ether	20	22	110	57	142
1,2-Dibromoethane	20	19	95	58	123
1,3-Dichlorobenzene	20	19	95	75	130
1,4-Dichlorobenzene	20	21	105	71	133
1,2-Dichlorobenzene	20	20	100	67	132
1,2-Dibromo-3-chloropropane	20	15	75	23	151
1,2,4-Trichlorobenzene	20	21	105	61	128

4A
VOLATILE METHOD BLANK SUMMARY

CLIENT ID

VBLKKK

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: _____ SDG No.: A2767

Lab File ID: >K7556 Lab Sample ID: VBLKKK

Date Analyzed: 11/05/01 Time Analyzed: 1636

GC Column: 007-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: HP5970K

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	MW-6	012767A-04	>K7572	0132
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COMMENTS: ________________________________

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4A
VOLATILE METHOD BLANK SUMMARY

CLIENT ID

VBLKKQ

Lab Name: STL/CT Contract: ___________

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Lab File ID: >K7597 Lab Sample ID: VBLKKQ

Date Analyzed: 11/07/01 Time Analyzed: 1120

GC Column: 007-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: HP5970K

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	020ppb QCS	020ppb QCS	>K7599	1257
02	TB110101	012767A-09	>K7604	1558
03	FB110101	012767A-08	>K7605	1632
04	MW-1C	012767A-01	>K7609	1851
05	MW-5	012767A-03	>K7610	1924
06	MW-2	012767A-02	>K7612	2036
07	MW-7	012767A-05	>K7613	2110
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COMMENTS: ______________________

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4A
VOLATILE METHOD BLANK SUMMARY

CLIENT ID: VBLKKT

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Lab File ID: >K7619 Lab Sample ID: VBLKKT

Date Analyzed: 11/08/01 Time Analyzed: 1209

GC Column: 007-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: HP5970K

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	020ppb QCS	020ppb QCS	>K7620	1320
02	MW-5FMS	012767A-03FMS	>K7623	1516
03	MW-5FMSD	012767A-03FMSD	>K7624	1549
04	MW-5FMSB	012767A-03FMSB	>K7625	1623
05	MW-8	012767A-06	>K7628	1801
06	MW-10	012767A-07	>K7629	1835
07	FN-8	012767A-10	>K7631	1940
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COMMENTS: ______________________

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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: _____ SDG No.: A2767

Lab File ID: KB708 BFB Injection Date:10/22/01

Instrument ID: HP5970K BFB Injection Time:1222

GC Column: 007-624 ID: 0.53 Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15 - 40 percent of mass 95	19.6
75	30 - 60 percent of mass 95	55.3
95	Base peak, 100 percent relative abundance	100.0
96	5.0 - 9.0 percent of mass 95	7.0
173	Less than 2.9 percent of mass 174	0.0 (0.0)1
174	50 - 120 percent of mass 95	69.7
175	5.0 - 9.0 percent of mass 174	5.7 (8.2)1
176	95 - 101 percent of mass 174	68.0 (97.6)1
177	5.0 - 9.0 percent of mass 176	5.0 (7.3)2

1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050K2	VSTD050K2	>K7347	10/22/01	1356
02	VSTD005K4	VSTD005K4	>K7349	10/22/01	1511
03	VSTD100K5	VSTD100K5	>K7350	10/22/01	1547
04	VSTD200K6	VSTD200K6	>K7351	10/22/01	1620
05	VSTD020K3	VSTD020K3	>K7354	10/22/01	1801
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: _____ SDG No.: A2767

Lab File ID: KB743 BFB Injection Date:11/05/01

Instrument ID: HP5970K BFB Injection Time:1507

GC Column: 007-624 ID: 0.53 Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15 - 40 percent of mass 95	18.6
75	30 - 60 percent of mass 95	55.2
95	Base peak, 100 percent relative abundance	100.0
96	5.0 - 9.0 percent of mass 95	7.8
173	Less than 2.9 percent of mass 174	0.0 (0.0)1
174	50 - 120 percent of mass 95	64.3
175	5.0 - 9.0 percent of mass 174	4.6 (7.1)1
176	95 - 101 percent of mass 174	62.5 (97.2)1
177	5.0 - 9.0 percent of mass 176	4.1 (6.6)2

1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050KK	VSTD050KK	>K7555	11/05/01	1537
02	VBLKKK	VBLKKK	>K7556	11/05/01	1636
03	MW-6	012767A-04	>K7572	11/06/01	0132
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5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: _____ SDG No.: A2767

Lab File ID: KB744 BFB Injection Date:11/06/01

Instrument ID: HP5970K BFB Injection Time:0925

GC Column: 007-624 ID: 0.53 Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15 - 40 percent of mass 95	21.3
75	30 - 60 percent of mass 95	55.3
95	Base peak, 100 percent relative abundance	100.0
96	5.0 - 9.0 percent of mass 95	7.5
173	Less than 2.9 percent of mass 174	0.0 (0.0)1
174	50 - 120 percent of mass 95	59.1
175	5.0 - 9.0 percent of mass 174	3.9 (6.5)1
176	95 - 101 percent of mass 174	58.8 (99.4)1
177	5.0 - 9.0 percent of mass 176	4.6 (7.8)2

1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050KL	VSTD050KL	>K7580	11/06/01	1303
02	VSTD020KM	VSTD020KM	>K7582	11/06/01	1458
03	VSTD100KO	VSTD100KO	>K7584	11/06/01	1605
04	VSTD200KP	VSTD200KP	>K7585	11/06/01	1638
05	VSTD005KN	VSTD005KN	>K7588	11/06/01	1818
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5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Lab File ID: KB745 BFB Injection Date:11/07/01

Instrument ID: HP5970K BFB Injection Time:0925

GC Column: 007-624 ID: 0.53 Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15 - 40 percent of mass 95	22.2
75	30 - 60 percent of mass 95	54.9
95	Base peak, 100 percent relative abundance	100.0
96	5.0 - 9.0 percent of mass 95	8.6
173	Less than 2.9 percent of mass 174	0.7 (1.1)1
174	50 - 120 percent of mass 95	62.1
175	5.0 - 9.0 percent of mass 174	4.2 (6.7)1
176	95 - 101 percent of mass 174	60.6 (97.5)1
177	5.0 - 9.0 percent of mass 176	4.5 (7.5)2

1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050KQ	VSTD050KQ	>K7596	11/07/01	1008
02	VBLKKQ	VBLKKQ	>K7597	11/07/01	1120
03	020ppb QCS	020ppb QCS	>K7599	11/07/01	1257
04	TB110101	012767A-09	>K7604	11/07/01	1558
05	FB110101	012767A-08	>K7605	11/07/01	1632
06	MW-1C	012767A-01	>K7609	11/07/01	1851
07	MW-5	012767A-03	>K7610	11/07/01	1924
08	MW-2	012767A-02	>K7612	11/07/01	2036
09	MW-7	012767A-05	>K7613	11/07/01	2110
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: _____ SDG No.: A2767

Lab File ID: KB746 BFB Injection Date: 11/08/01

Instrument ID: HP5970K BFB Injection Time: 0940

GC Column: 007-624 ID: 0.53 Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15 - 40 percent of mass 95	20.0
75	30 - 60 percent of mass 95	54.7
95	Base peak, 100 percent relative abundance	100.0
96	5.0 - 9.0 percent of mass 95	8.6
173	Less than 2.9 percent of mass 174	0.0 (0.0)1
174	50 - 120 percent of mass 95	57.1
175	5.0 - 9.0 percent of mass 174	3.8 (6.7)1
176	95 - 101 percent of mass 174	56.7 (99.4)1
177	5.0 - 9.0 percent of mass 176	4.0 (7.0)2

1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050KS	VSTD050KS	>K7617	11/08/01	1013
02	VBLKKT	VBLKKT	>K7619	11/08/01	1209
03	020ppb QCS	020ppb QCS	>K7620	11/08/01	1320
04	MW-5FMS	012767A-03FMS	>K7623	11/08/01	1516
05	MW-5FMSD	012767A-03FMSD	>K7624	11/08/01	1549
06	MW-5FMSB	012767A-03FMSB	>K7625	11/08/01	1623
07	MW-8	012767A-06	>K7628	11/08/01	1801
08	MW-10	012767A-07	>K7629	11/08/01	1835
09	FN-8	012767A-10	>K7631	11/08/01	1940
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page 1 of 1

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: _____ SDG No.: A2767

Lab File ID: (Standard): >K7555 Date Analyzed:11/05/01

Instrument ID: HP5970K Time Analyzed:1537

		IS1 (BCM) AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
	12 HOUR STD	1053319	13.03	3831608	14.91	3046479	19.84
	UPPER LIMIT	2106638	13.53	7663216	15.41	6092958	20.34
	LOWER LIMIT	526660	12.53	1915804	14.41	1523240	19.34
	EPA SAMPLE NO.						
01	VBLKKK	994939	12.93	4156314	14.82	3440747	19.75
02	MW-6	567902	12.96	2167708	14.86	1643642	19.80
03							
04							
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22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Lab File ID: (Standard): >K7596 Date Analyzed:11/07/01

Instrument ID: HP5970K Time Analyzed:1008

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	1157563	13.05	4893159	14.95	3354453	19.86
	UPPER LIMIT	2315126	13.55	9786318	15.45	6708906	20.36
	LOWER LIMIT	578782	12.55	2446580	14.45	1677226	19.36
	EPA SAMPLE NO.						
01	VBLKKQ	1194673	13.00	5046475	14.89	4131909	19.82
02	020ppb QCS	1185202	13.08	4894963	14.96	3534146	19.87
03	TB110101	1022706	13.03	4300662	14.93	3557850	19.84
04	FB110101	1013985	13.03	4179307	14.91	3488073	19.86
05	MW-1C	1009334	13.00	4216262	14.90	3442672	19.84
06	MW-5	1015730	13.02	4155411	14.91	3334106	19.86
07	MW-2	956828	13.02	3889047	14.91	3114718	19.86
08	MW-7	942095	13.03	3942225	14.93	3349598	19.86
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22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Lab File ID: (Standard): >K7617 Date Analyzed:11/08/01

Instrument ID: HP5970K Time Analyzed:1013

		IS1 (BCM) AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
	12 HOUR STD	994768	13.02	3986730	14.90	3174626	19.84
	UPPER LIMIT	1989536	13.52	7973460	15.40	6349252	20.34
	LOWER LIMIT	497384	12.52	1993365	14.40	1587313	19.34
	EPA SAMPLE NO.						
01	VBLKKT	989029	13.01	4029894	14.89	3225657	19.82
02	020ppb QCS	1144039	13.08	4742475	14.96	3502666	19.87
03	MW-5FMS	1111806	12.99	4517981	14.89	3537843	19.82
04	MW-5FMSD	1070179	12.99	4429259	14.91	3491305	19.84
05	MW-5FMSB	1160212	12.96	4660849	14.86	3586077	19.79
06	MW-8	1005814	12.96	4191565	14.86	3317215	19.80
07	MW-10	1043189	12.96	4212336	14.86	3440042	19.79
08	FN-8	1045462	12.93	4124066	14.83	3414220	19.79
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20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID

VBLKKK

Lab Name: STL/CT Contract: ______

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: VBLKKK

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7556

Level: (low/med) LOW Date Received: ______

% Moisture: not dec. ______ Date Analyzed: 11/05/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	J
67-64-1	Acetone	9	J
75-15-0	Carbon Disulfide	5	U
108-05-4	Vinyl Acetate	10	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID

MW-6

Lab Name: STL/CT Contract: ________

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: 012767A-04

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7572

Level: (low/med) LOW Date Received: 11/02/01

% Moisture: not dec. _______ Date Analyzed: 11/06/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ________ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	B
67-64-1	Acetone	24	B
75-15-0	Carbon Disulfide	5	U
108-05-4	Vinyl Acetate	10	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	48	
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID

VBLKKQ

Lab Name: STL/CT Contract: ______

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: VBLKKQ

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7597

Level: (low/med) LOW Date Received: ______

% Moisture: not dec. ______ Date Analyzed: 11/07/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	.8	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
108-05-4	Vinyl Acetate	10	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID: 020ppb_QCS

Lab Name: STL/CT Contract: ________

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: 020ppb_QCS

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7599

Level: (low/med) LOW Date Received: ________

% Moisture: not dec. ______ Date Analyzed: 11/07/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ________ (uL) Soil Aliquot Volume: ____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	21	
74-83-9	Bromomethane	16	
75-01-4	Vinyl Chloride	18	
75-00-3	Chloroethane	23	
75-09-2	Methylene Chloride	29	B
67-64-1	Acetone	100	
75-15-0	Carbon Disulfide	20	
108-05-4	Vinyl Acetate	5	J
75-35-4	1,1-Dichloroethene	24	
75-34-3	1,1-Dichloroethane	24	
156-59-2	cis-1,2-Dichloroethene	16	
156-60-5	trans-1,2-Dichloroethene	24	
67-66-3	Chloroform	24	
107-06-2	1,2-Dichloroethane	23	
78-93-3	2-Butanone	21	
71-55-6	1,1,1-Trichloroethane	24	
56-23-5	Carbon Tetrachloride	25	
75-27-4	Bromodichloromethane	23	
78-87-5	1,2-Dichloropropane	22	
10061-01-5	cis-1,3-Dichloropropene	23	
79-01-6	Trichloroethene	23	
124-48-1	Dibromochloromethane	20	
79-00-5	1,1,2-Trichloroethane	21	
71-43-2	Benzene	23	
10061-02-6	trans-1,3-Dichloropropene	19	
75-25-2	Bromoform	21	
108-10-1	4-Methyl-2-Pentanone	18	
591-78-6	2-Hexanone	11	
127-18-4	Tetrachloroethene	22	
108-88-3	Toluene	22	
79-34-5	1,1,2,2-Tetrachloroethane	22	
108-90-7	Chlorobenzene	22	
100-41-4	Ethylbenzene	22	
100-42-5	Styrene	21	
1330-20-7	Xylene (total)	67	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID: TB110101

Lab Name: STL/CT   Contract: ______

Lab Code: IEACT   Case No.: 2767A   SAS No.: ______   SDG No.: A2767

Matrix: (soil/water) WATER   Lab Sample ID: 012767A-09

Sample wt/vol: 5 (g/mL) ML   Lab File ID: >K7604

Level: (low/med) LOW   Date Received: 11/02/01

% Moisture: not dec. ______   Date Analyzed: 11/07/01

GC Column: 007-624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ______ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	JB
67-64-1	Acetone	3	J
75-15-0	Carbon Disulfide	5	U
108-05-4	Vinyl Acetate	10	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID

FB110101

Lab Name: STL/CT   Contract: ______

Lab Code: IEACT   Case No.: 2767A   SAS No.: ______   SDG No.: A2767

Matrix: (soil/water) WATER   Lab Sample ID: 012767A-08

Sample wt/vol: 5 (g/mL) ML   Lab File ID: >K7605

Level: (low/med) LOW   Date Received: 11/02/01

% Moisture: not dec. ______   Date Analyzed: 11/07/01

GC Column: 007-624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ______ (uL)   Soil Aliquot Volume: ____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	JB
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
108-05-4	Vinyl Acetate	10	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID

MW-1C

Lab Name: STL/CT Contract: ______

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: 012767A-01

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7609

Level: (low/med) LOW Date Received: 11/02/01

% Moisture: not dec. ______ Date Analyzed: 11/07/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ________(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	.9	JB
67-64-1	Acetone	2	J
75-15-0	Carbon Disulfide	5	U
108-05-4	Vinyl Acetate	10	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	6	
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	3	J
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	45	
108-88-3	Toluene	1	J
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID

MW-5

Lab Name: STL/CT Contract: ______

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: 012767A-03

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7610

Level: (low/med) LOW Date Received: 11/02/01

% Moisture: not dec. ______ Date Analyzed: 11/07/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ________(uL) Soil Aliquot Volume: ____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	JB
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
108-05-4	Vinyl Acetate	10	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	2	J
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID

MW-2

Lab Name: STL/CT Contract: ______

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: 012767A-02

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7612

Level: (low/med) LOW Date Received: 11/02/01

% Moisture: not dec. ______ Date Analyzed: 11/07/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 4.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ______ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	40	U
74-83-9	Bromomethane	40	U
75-01-4	Vinyl Chloride	40	U
75-00-3	Chloroethane	40	U
75-09-2	Methylene Chloride	4	JB
67-64-1	Acetone	14	J
75-15-0	Carbon Disulfide	20	U
108-05-4	Vinyl Acetate	40	U
75-35-4	1,1-Dichloroethene	20	U
75-34-3	1,1-Dichloroethane	20	U
156-59-2	cis-1,2-Dichloroethene	20	U
156-60-5	trans-1,2-Dichloroethene	20	U
67-66-3	Chloroform	62	
107-06-2	1,2-Dichloroethane	20	U
78-93-3	2-Butanone	40	U
71-55-6	1,1,1-Trichloroethane	20	U
56-23-5	Carbon Tetrachloride	20	U
75-27-4	Bromodichloromethane	20	U
78-87-5	1,2-Dichloropropane	20	U
10061-01-5	cis-1,3-Dichloropropene	20	U
79-01-6	Trichloroethene	10	J
124-48-1	Dibromochloromethane	20	U
79-00-5	1,1,2-Trichloroethane	20	U
71-43-2	Benzene	20	U
10061-02-6	trans-1,3-Dichloropropene	20	U
75-25-2	Bromoform	20	U
108-10-1	4-Methyl-2-Pentanone	40	U
591-78-6	2-Hexanone	40	U
127-18-4	Tetrachloroethene	420	
108-88-3	Toluene	20	U
79-34-5	1,1,2,2-Tetrachloroethane	20	U
108-90-7	Chlorobenzene	20	U
100-41-4	Ethylbenzene	20	U
100-42-5	Styrene	20	U
1330-20-7	Xylene (total)	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID

MW-7

Lab Name: STL/CT Contract: ______

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: 012767A-05

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7613

Level: (low/med) LOW Date Received: 11/02/01

% Moisture: not dec. ______ Date Analyzed: 11/07/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	.4	JB
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
108-05-4	Vinyl Acetate	10	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	2	J
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	35	
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID: VBLKKT

Lab Name: STL/CT Contract: ____________

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: VBLKKT

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7619

Level: (low/med) LOW Date Received: ____________

% Moisture: not dec. _______ Date Analyzed: 11/08/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ________ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	.6	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
108-05-4	Vinyl Acetate	10	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID

020ppb_QCS

Lab Name: STL/CT Contract: ______

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: 020ppb_QCS

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7620

Level: (low/med) LOW Date Received: ______

% Moisture: not dec. ______ Date Analyzed: 11/08/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	18	
74-83-9	Bromomethane	17	
75-01-4	Vinyl Chloride	18	
75-00-3	Chloroethane	23	
75-09-2	Methylene Chloride	20	B
67-64-1	Acetone	28	
75-15-0	Carbon Disulfide	20	
108-05-4	Vinyl Acetate	5	J
75-35-4	1,1-Dichloroethene	24	
75-34-3	1,1-Dichloroethane	23	
156-59-2	cis-1,2-Dichloroethene	17	
156-60-5	trans-1,2-Dichloroethene	23	
67-66-3	Chloroform	24	
107-06-2	1,2-Dichloroethane	23	
78-93-3	2-Butanone	17	
71-55-6	1,1,1-Trichloroethane	23	
56-23-5	Carbon Tetrachloride	25	
75-27-4	Bromodichloromethane	20	
78-87-5	1,2-Dichloropropane	21	
10061-01-5	cis-1,3-Dichloropropene	19	
79-01-6	Trichloroethene	22	
124-48-1	Dibromochloromethane	20	
79-00-5	1,1,2-Trichloroethane	20	
71-43-2	Benzene	22	
10061-02-6	trans-1,3-Dichloropropene	19	
75-25-2	Bromoform	20	
108-10-1	4-Methyl-2-Pentanone	14	
591-78-6	2-Hexanone	6	J
127-18-4	Tetrachloroethene	22	
108-88-3	Toluene	20	
79-34-5	1,1,2,2-Tetrachloroethane	20	
108-90-7	Chlorobenzene	22	
100-41-4	Ethylbenzene	21	
100-42-5	Styrene	20	
1330-20-7	Xylene (total)	63	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID

MW-5FMS

Lab Name: STL/CT Contract: ________

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: 012767A-03FMS

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7623

Level: (low/med) LOW Date Received: 11/02/01

% Moisture: not dec. ______ Date Analyzed: 11/08/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ________ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	59	
74-83-9	Bromomethane	48	
75-01-4	Vinyl Chloride	54	
75-00-3	Chloroethane	49	
75-09-2	Methylene Chloride	44	B
67-64-1	Acetone	33	
75-15-0	Carbon Disulfide	50	
108-05-4	Vinyl Acetate	56	
75-35-4	1,1-Dichloroethene	51	
75-34-3	1,1-Dichloroethane	55	
156-59-2	cis-1,2-Dichloroethene	51	
156-60-5	trans-1,2-Dichloroethene	51	
67-66-3	Chloroform	51	
107-06-2	1,2-Dichloroethane	51	
78-93-3	2-Butanone	53	
71-55-6	1,1,1-Trichloroethane	50	
56-23-5	Carbon Tetrachloride	50	
75-27-4	Bromodichloromethane	53	
78-87-5	1,2-Dichloropropane	55	
10061-01-5	cis-1,3-Dichloropropene	54	
79-01-6	Trichloroethene	51	
124-48-1	Dibromochloromethane	52	
79-00-5	1,1,2-Trichloroethane	53	
71-43-2	Benzene	55	
10061-02-6	trans-1,3-Dichloropropene	53	
75-25-2	Bromoform	52	
108-10-1	4-Methyl-2-Pentanone	59	
591-78-6	2-Hexanone	58	
127-18-4	Tetrachloroethene	52	
108-88-3	Toluene	53	
79-34-5	1,1,2,2-Tetrachloroethane	55	
108-90-7	Chlorobenzene	51	
100-41-4	Ethylbenzene	53	
100-42-5	Styrene	52	
1330-20-7	Xylene (total)	160	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID

MW-5FMSD

Lab Name: STL/CT Contract: ______

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: 012767A-03FMSD

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7624

Level: (low/med) LOW Date Received: 11/02/01

% Moisture: not dec. ______ Date Analyzed: 11/08/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	62	
74-83-9	Bromomethane	50	
75-01-4	Vinyl Chloride	57	
75-00-3	Chloroethane	52	
75-09-2	Methylene Chloride	47	B
67-64-1	Acetone	36	
75-15-0	Carbon Disulfide	53	
108-05-4	Vinyl Acetate	58	
75-35-4	1,1-Dichloroethene	56	
75-34-3	1,1-Dichloroethane	58	
156-59-2	cis-1,2-Dichloroethene	53	
156-60-5	trans-1,2-Dichloroethene	54	
67-66-3	Chloroform	53	
107-06-2	1,2-Dichloroethane	53	
78-93-3	2-Butanone	56	
71-55-6	1,1,1-Trichloroethane	52	
56-23-5	Carbon Tetrachloride	53	
75-27-4	Bromodichloromethane	56	
78-87-5	1,2-Dichloropropane	56	
10061-01-5	cis-1,3-Dichloropropene	56	
79-01-6	Trichloroethene	54	
124-48-1	Dibromochloromethane	56	
79-00-5	1,1,2-Trichloroethane	56	
71-43-2	Benzene	56	
10061-02-6	trans-1,3-Dichloropropene	57	
75-25-2	Bromoform	55	
108-10-1	4-Methyl-2-Pentanone	59	
591-78-6	2-Hexanone	59	
127-18-4	Tetrachloroethene	54	
108-88-3	Toluene	54	
79-34-5	1,1,2,2-Tetrachloroethane	57	
108-90-7	Chlorobenzene	52	
100-41-4	Ethylbenzene	53	
100-42-5	Styrene	54	
1330-20-7	Xylene (total)	160	

1A

CLIENT ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-5FMSB

Lab Name: STL/CT Contract: ______

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: 012767A-03FMSB

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7625

Level: (low/med) LOW Date Received: 11/02/01

% Moisture: not dec. ______ Date Analyzed: 11/08/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	57	
74-83-9	Bromomethane	46	
75-01-4	Vinyl Chloride	54	
75-00-3	Chloroethane	48	
75-09-2	Methylene Chloride	45	B
67-64-1	Acetone	46	
75-15-0	Carbon Disulfide	50	
108-05-4	Vinyl Acetate	58	
75-35-4	1,1-Dichloroethene	50	
75-34-3	1,1-Dichloroethane	53	
156-59-2	cis-1,2-Dichloroethene	51	
156-60-5	trans-1,2-Dichloroethene	48	
67-66-3	Chloroform	50	
107-06-2	1,2-Dichloroethane	52	
78-93-3	2-Butanone	54	
71-55-6	1,1,1-Trichloroethane	50	
56-23-5	Carbon Tetrachloride	50	
75-27-4	Bromodichloromethane	53	
78-87-5	1,2-Dichloropropane	55	
10061-01-5	cis-1,3-Dichloropropene	54	
79-01-6	Trichloroethene	50	
124-48-1	Dibromochloromethane	54	
79-00-5	1,1,2-Trichloroethane	52	
71-43-2	Benzene	54	
10061-02-6	trans-1,3-Dichloropropene	55	
75-25-2	Bromoform	53	
108-10-1	4-Methyl-2-Pentanone	55	
591-78-6	2-Hexanone	70	
127-18-4	Tetrachloroethene	49	
108-88-3	Toluene	52	
79-34-5	1,1,2,2-Tetrachloroethane	56	
108-90-7	Chlorobenzene	52	
100-41-4	Ethylbenzene	52	
100-42-5	Styrene	54	
1330-20-7	Xylene (total)	160	

1A

CLIENT ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-8

Lab Name: STL/CT Contract: ______

Lab Code: IEACT Case No.: 2767A SAS No.: ______ SDG No.: A2767

Matrix: (soil/water) WATER Lab Sample ID: 012767A-06

Sample wt/vol: 5 (g/mL) ML Lab File ID: >K7628

Level: (low/med) LOW Date Received: 11/02/01

% Moisture: not dec. ______ Date Analyzed: 11/08/01

GC Column: 007-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	JB
67-64-1	Acetone	2	J
75-15-0	Carbon Disulfide	5	U
108-05-4	Vinyl Acetate	10	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	2	J
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	1	J
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	6	
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID

MW-10

Lab Name: STL/CT   Contract: ________

Lab Code: IEACT   Case No.: 2767A   SAS No.: ______   SDG No.: A2767

Matrix: (soil/water) WATER   Lab Sample ID: 012767A-07

Sample wt/vol: 5 (g/mL) ML   Lab File ID: >K7629

Level: (low/med) LOW   Date Received: 11/02/01

% Moisture: not dec. _______   Date Analyzed: 11/08/01

GC Column: 007-624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ________(uL)   Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	.9	JB
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	.8	J
108-05-4	Vinyl Acetate	10	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	.8	J
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	2	J
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID: FN-8

Lab Name: STL/CT   Contract: ____________

Lab Code: IEACT   Case No.: 2767A   SAS No.: ______   SDG No.: A2767

Matrix: (soil/water) WATER   Lab Sample ID: 012767A-10

Sample wt/vol: 5 (g/mL) ML   Lab File ID: >K7631

Level: (low/med) LOW   Date Received: 11/02/01

% Moisture: not dec. _______   Date Analyzed: 11/08/01

GC Column: 007-624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ________ (uL)   Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	.8	J
74-83-9	Bromomethane	.3	J
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	.5	JB
67-64-1	Acetone	4	J
75-15-0	Carbon Disulfide	.3	J
108-05-4	Vinyl Acetate	10	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	4	J
124-48-1	Dibromochloromethane	.2	J
79-00-5	1,1,2-Trichloroethane	.3	J
71-43-2	Benzene	.7	J
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	2	J
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	38	
108-88-3	Toluene	.1	J
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U