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DATA GAP INVESTIGATION REPORT

APPLE VALLEY DRY CLEANERS

Site 3-14-084

Work Assignment No. D003821-14

Prepared for:

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1.0 INTRODUCTION

This report presents the results of a literature review and data gap study of the Apple Valley Shopping Center Site (# 3-14-084), located in the Town of LaGrange, New York. The work was performed under Work Assignment No. D003821-14 of the Superfund Standby Contract dated August 1997 between the New York State Department of Environmental Conservation (DEC) and Rust Environment and Infrastructure of N.Y., P.C. (now Earth Tech).

The purpose of the study was to identify all previous investigation reports, analytical data and other pertinent information, and to identify data gaps with respect to the nature and extent of environmental contamination at the site.

1.1 Site Background

The Apple Valley Shopping Center (AVSC) Site is located in the Town of LaGrange, New York, about seven miles east of the City of Poughkeepsie. The site consists of the Apple Valley Shopping Center, located at the southwest corner of the junction of State Route 55 and Titusville Road. The shopping center was constructed in 1967 - 1968, and contains a number of businesses including the Apple Valley Dry Cleaners (AVDC) facility, the Norgetown Laundromat, and a Grand Union supermarket.

In 1988, prompted by a homeowner's complaint, the Dutchess County Department of Health (DCDOH) collected and analyzed samples of groundwater from several residential supply wells located in the Woodbridge Estates subdivision. The samples were found to contain perchloroethylene (PCE) and its breakdown products including trichloroethylene (TCE) and isomers of dichloroethylene (DCE). The DCDOH also sampled the shopping center's supply wells, well AV-1 (abandoned due to poor yield) and its replacement, well AV-2. Much higher concentrations of the same chlorinated compounds were detected, with greater than 5,000 ppb of PCE in well AV-1. A granular activated carbon (GAC) filter system was installed to treat the shopping center's well water and, in 1989, a third supply well (AV-3) was installed in a presumed upgradient location on the shopping center property.

In 1990, the DCDOH conducted more extensive sampling of the supply wells in the subdivision, and found that a number of wells were contaminated with chlorinated compounds at levels exceeding drinking water standards. Affected residents were supplied with bottled water.

In 1992, as part of a USEPA emergency removal action, GAC filters were installed on the wells of eight residences in the subdivision. An air stripper system was installed to pre-treat the well water supplied to two residences (Lee and Robson). GAC filters were also installed at these residences as secondary treatment. A second air stripper was installed on shopping center well AV-2. The well was pumped continuously in an effort to control migration of contaminated groundwater migrating from the shopping center property. The treated well water from AV-2 was distributed for use by shopping center tenants, and excess water was discharged to the adjacent wetland. Responsibility

for operation and maintenance of the GAC filters and the air strippers was assumed by the owner of the shopping center, James Klein.

Several potential sources of the chlorinated compounds have been proposed. The AVDC facility operated as a commercial dry cleaning facility since 1968. PCE was stored at the AVDC facility until 1995. The Norgetown Laundromat contained a coin operated dry cleaning machine and stored dry cleaning fluid in a 55 gallon drum located in an unpaved closet. Morwhite, Inc. of Albany, New York supplied PCE to both facilities. Grand Union maintained a trash compactor for disposal of its waste. It has been alleged by others that leachate from the compactor contained PCE and other chlorinated compounds. A number of investigations have been undertaken by the shopping center owner, the Norgetown Laundromat, the Grand Union and others in an effort to determine the source of the contamination. These studies include several soil and soil gas sampling efforts, and limited on-site groundwater sampling.

1.2 Scope of Study

The following agencies maintain files for the site:

- New York State Dept. of Environmental Conservation Central Office, Albany New York
- New York State Dept. of Environmental Conservation Region 3 Office, New Paltz, New York
- New York State Department of Health, Division of Environmental Health Assessment, Troy, New York
- Dutchess County Department of Health, Poughkeepsie, New York
- United States Environmental Protection Agency, records maintenance facility, Edison, New Jersey

Each agency collection was inspected in its entirety, and copies of all relevant documents were requested or made while on-site. No single file appeared to contain all documents, while many documents were present in multiple copies in several files. Data and relevant information were found in a variety of forms, including complete and incomplete laboratory data reports, memoranda, tables, correspondence between various agencies, expert reports, affidavits and various pleadings submitted to the court by parties in the litigation concerning the AVSC site. In most instances, traditional investigatory reports were not available in complete form, but were compiled from the aforementioned pleadings or gleaned from other assemblages of documents.

The copies received from each agency were marked to indicate the source. Analytical data reporting forms and associated documents were compiled by sampling event. A comprehensive database of all analytical results was compiled in spreadsheet format. All analytical data packages were reviewed to determine whether the data could be validated, but no data validation was performed during this study.

Section 2 presents a review of the investigations and monitoring efforts, organized by media (soil gas, soil and groundwater). Section 3 describes the compilation and tabulation of data, and Earth Tech's assessment of whether each package can be validated. Section 4 presents an assessment of the data gaps and recommendations for investigations to close those gaps. Section 5 lists documents referenced in this report.

2.0 PREVIOUS INVESTIGATIONS

2.1 Soil Gas

Two soil gas surveys (SGS) were conducted in the early portion of the investigation of the AVSC site. The first was conducted by Dunn Geoscience Corporation (DGC) in February of 1991. The second survey was conducted at the request of TRC Corporation by Specialized Environmental Monitoring (SEM) in May of 1993. The owner/operator of SEM is a former employee of DGC and he was the staff member who conducted the 1991 SGS for DGC. Both surveys were conducted on behalf of James A. Klein.

2.1.1 Soil Gas Methodology

Both surveys used the same techniques. Soil gas samples were collected by penetrating the sub-surface soil to a depth of approximately 4 feet with a 5/8-inch stainless steel rod (slam bar). Where necessary, the asphalt cover was first opened with an impact drill. After the slam bar was driven to the desired depth, it was removed and replaced with and aluminum tube of equal diameter. The space around the tube at the top of the sampling hold was filled with local surface soil. The aluminum tube was connected to a 125-milliliter gas-sampling bulb made of glass. Soil gas was actively extracted by pumping with a battery operated personal air-monitoring pump set at a flow rate of approximately 1 liter per minute. Each sampling location was purged for approximately 2 minutes (6 "well" volumes) to ensure that the entire sampling train had been purged.

All samples (both surveys) were analyzed in the field using a Photovac 10S70, portable gas chromatograph equipped with a photo ionization detector (PID). In both cases, the instrument was calibrated before going into the field to recognize compounds with retention times equivalent to a suite of chlorinated compounds associated with dry cleaning processes. During the second SGS (May 1993) the instrument library of compounds was also constructed to include petroleum hydrocarbon compounds (aromatics, MTBE, etc.).

During the surveys, the instrument was periodically tested with calibration standards to ensure that it was still within acceptable QC parameters. Other QC analyses included periodic field duplicate sample analysis, and instrument and syringe blanks. No laboratory analyses of duplicates were performed.

No actual raw data was available for review for this report. All soil gas results from the two surveys were taken from data reporting tables and iso-concentration (isopleth) contour maps.

2.1.2 Comparison of Survey Data

The data generated during the two AVSC surveys are influenced by several variables that are inherent to soil gas investigations of this type. The concentrations of volatile organic compounds in soil gas are strongly influenced by site conditions such as temperature, barometric pressure, soil moisture, soil

porosity, the presence of a confining soil surface such as asphalt or cement, and even lunar phase. Therefore, it is difficult to compare quantitative results of analysis of soil gas samples collected over a wide period of time like that between the first (DGC) and second (TRC) survey at AVSC.

Additionally, both surveys featured samples collected from the area behind the Apple Valley Dry Cleaners, which is a paved (asphalt) area, and the Norgetown Laundromat where there is only a gravel surface. These two sampling areas both exhibited elevated concentrations of the target chlorinated compounds, with significantly higher results from behind the AVDC. The degree of influence on the sample concentration attributable to the presence of surface paving can not be determined.

2.1.3 Discussion of Soil Gas Results

Generally, vadose zone sampling for volatile organic compounds in air is a useful tool for preliminarily identifying the nature and lateral extent of sub-surface contamination at a hazardous waste site. Soil gas data is normally used to establish locations for additional, more intrusive investigations such as test pitting, soil borings, and groundwater monitoring. The data in the two surveys conducted at AVSC do not provide evidence of the vertical extent of the contamination at the site or indicate what media (soil, bedrock, and/or groundwater) are the sources of the contamination. However, the SGS data does indicate that there have been significant impacts to the sub-surface geology, either overburden or bedrock/groundwater or both. Isopleth contour maps of the soil gas data prepared Dunn (1991 data) and TRC (1993 data) are presented in Appendix B of this report. They show that the compounds of greatest concern in the vadose zone are tetrachloroethane and its daughter products (TCE, DCE, Vinyl Chloride). Additionally, the data from both surveys indicate concentrations of these compounds in the area of the AVDC to be several orders of magnitude higher than those detected near the Norgetown Laundromat. This implies that the main source of impacts to groundwater may be behind or beneath the AVDC. No other conclusions may be reliably drawn from the SGS data generated from this site.

2.2 Soil

Several soil sampling efforts were conducted on the AVSC site on behalf of the Norgetown Laundromat, Grand Union and the shopping center owner. These investigations are described in the following sections. The results of the soil analyses are summarized in Table 2. The sample locations from each study are depicted on Figure 2.

2.2.1 U.S. Hydrogeologic Soil Sampling - 1991

Methods

In August, 1991, U.S. Hydrogeologic, Inc. (USH) conducted a soil sampling investigation on behalf of the owner of the Norgetown Laundromat Facility. The results of the investigation are found in a seven page report with a map of the sample locations and analytical laboratory reporting forms (U.S.Hydrogeologic, 1991).

USH collected two surface soil samples (DS1, DS2) from the dirt floor of the indoor storage closet located in the rear of the Norgetown Laundromat. Two deeper samples (CL-18, CL-24) were collected from the closet floor at depths of 18 and 24 inches below surface. Samples were collected with stainless steel trowels. Soil samples were also collected from six outdoor locations (S1, S2, S3, S4, S6, S8) on a rectangular grid located on the gravel area immediately behind the Norgetown facility. All six samples were collected from between 18 and 24 inches below surface using a gasoline-powered auger and stainless steel trowels. The soil samples were submitted to Matrix analytical, Inc. of Hopkinton, Massachusetts. The samples were analyzed for VOCs by unspecified GC/MS methodologies.

Results

Analytical results are summarized on Figure 2. Complete analytical results for all detected compounds are tabulated in Table 2. In the Norgetown Laundromat storage closet, PCE was reported in the surface soil samples at 230-780 ppb. TCE was reported in one surface sample at 120 ppb. USH reported a noticeable organic odor resembling sewage in both samples. The storage closet samples from 18 and 24 inches below surface contained only 5 ppb of PCE.

PCE was reported in the shallow (18"-24") soil samples collected behind the Norgetown Laundromat at concentrations ranging from trace to 120 ppb. TCE was not detected in these samples.

The TAGM 4046 recommended soil cleanup objectives for PCE (1400 ppb) and TCE (700 ppb) were not exceeded in any of the analyzed samples.

2.2.2 Soiltesting, Inc. Soil Borings - 1993

Methods

On April 27, 1993, Soiltesting, Inc. conducted a soil boring program on the AVSC Site, apparently in conjunction with Ecosystems Strategies, on behalf of the owner of the Norgetown Laundromat Facility. Others have reported that this study was conducted by Ecosystems Strategies on behalf of joint defendants Norgetown Laundromat, Grand Union and Mor-White (Malcolm Pirnie. May 1993). No report for this study has been identified, and the May 1993 Summary Report prepared by Ecosystems Strategies refers only briefly to the soil borings (Ecosystems Strategies. May 24, 1993). As indicated by Soiltesting's boring logs and a sketch map provided by Ecosystems Strategies, a total of thirteen borings were advanced using hollow stem auger drilling techniques (Soiltesting, Inc. May 3, 1993; Ecosystems Strategies, Inc. May 19, 1993). Continuous soil samples were collected with 2 ½ inch split-spoon samplers. Three borings (ST-1, ST-2, ST-3) were located in the vicinity of the former septic leach field. The remaining ten borings were located in the area south of the Apple Valley Dry Cleaners facility.

Soil samples from the borings were submitted to Matrix Analytical, Inc. of Hopkinton, Massachusetts. The samples were analyzed for VOCs by USEPA SW846 Method 8010 (Matrix Analytical, Inc. May 11, 1992).

Results

The unconsolidated soil materials penetrated by the borings generally consisted of light brown to light gray, poorly sorted sand, silt and gravel with some cobbles. These materials appear to have been derived from glacial till and fill transported from local sources. Dense glacial till overlying bedrock was encountered in some borings. The till contained fine to coarse gravel and trace amounts of clay. Bedrock, as indicated by spoon refusal and rock fragments and, was generally encountered at depths from 7 to 8 feet. The type of rock encountered was not indicated in the boring logs.

Analytical results are summarized on Figure 2. Complete analytical results for all detected compounds are tabulated in Table 2. In samples from the vicinity of the former septic leach field, PCE was reported at concentrations ranging from ND to 25 ppb. No other analytes were detected. The highest concentrations (20-25 ppb) were found in samples collected from 0-4 feet below surface. No PCE was detected below the 6 foot depth.

One boring, DC1A, was located in close proximity (± 5 ft.) to the AVDC facility. PCE was reported in soil samples from this boring at concentrations ranging from 520 - 4,700 ppb. The highest concentration was found in the deepest sample, collected from 8-10 feet below surface. The concentration of PCE in two of the samples from this boring exceeded the TAGM 4046 recommended soil cleanup objective of 1400 ppb. The deepest soil sample also contained 1,2-dichlorobenzene at 19 ppb, well below the TAGM 4046 recommended soil cleanup objective of 7900 ppb. No other analytes were detected in this boring.

The remaining borings, which were advanced 80 feet or more to the south of the AVDC facility, encountered relatively low levels of PCE. Reported values ranged from ND to 35 ppb. The maximum concentration (35 ppb) was found in boring 3D in the sample collected from 0-2 feet below surface.

2.2.3 James A. Klein Soil Samples - 1997

Methods

On January 20, 1997 soil samples were collected by David Alexander of Clifton Park, New York. Information regarding the depths or means of collection of these samples has not been identified. The available information has been obtained from a chain of custody record prepared by Mr. Alexander and a map prepared by Galson Consulting (Matrix Analytical. February 10, 1997; Galson Consulting. August 21, 1998) Five of the samples [MW-RC1(1) through MW-RC1(5)] are from the boring advanced during the installation of replacement monitoring well MW-RC1, located approximately 15 feet south of the AVDC facility. No log of the geologic materials encountered during the drilling of MW-RC1 has been identified. It is assumed for the purpose of this report that the five samples were collected continuously at 2 foot depth intervals in the boring. Two additional soil samples (FS-1, FS-2) were collected at an unspecified location in the interior of the AVDC facility. Based on the referenced map by Galson Consulting, these samples appear to have been collected at a single indoor

location in the rear of the AVDC facility. All soil samples were submitted to Matrix Analytical laboratory for VOC analysis by USEPA SW-846 Method 8260

Results

Analytical results are summarized on Figure 2. Complete analytical results for all detected compounds are tabulated in Table 2. Relatively low levels of PCE (ND - 55 ppb) were reported in boring MW-RC1. Acetone was reported at concentrations that increased with depth in the boring: 720 ppb at 4-6 feet, 3600 ppb at 6-8 feet and 29,000J ppb at 8-10 feet. No other VOCs were detected in the MW-RC1 samples.

PCE was reported at 320 ppb in FS-1 and not detected in FS-2. Acetone was reported in FS-1 and FS-2 at estimated values of 28,000J and 210,000J respectively. No other VOCs were detected in these samples.

The concentrations of Acetone reported in both interior borings and in MW-RC1 exceed the TAGM 4046 recommended soil cleanup objective of 110 ppb.

2.2.4 Malcolm Pirnie Soil Borings - 1997

Methods

On January 28-29, 1997 Malcolm Pirnie conducted a soil sampling investigation in the parking lot behind the AVDC facility. Approximately seventy soil samples were collected from 15 geoprobe borings located near TRC's 1993 soil gas sampling locations (Malcolm Pirnie. March 1997). Temporary groundwater monitoring points were installed in several of the borings, but only one of the wells (GU-SB-H14) yielded enough water to allow a groundwater sample to be collected. Surface elevations, soil descriptions, the results of PID field-screening of the soil samples, and temporary well construction details are found in a compendium of boring logs prepared by Malcolm Pirnie and Parratt Wolf, Inc. (Malcolm Pirnie. January 1997).

Continuous soil samples were collected and submitted for analysis in two foot intervals from surface to the bottom of each probe. The soil samples analyzed by IEA laboratories for VOC's by USEPA SW846 Method 8260 (IEA. February 12, 1997).

Results

The soil probes encountered unconsolidated soil materials similar to those described by previous investigators. The upper 4 to 6 feet of soil was generally described as yellow-brown sand, silt and gravel with some cobbles. Dense glacial till overlying bedrock was encountered in some probes. The till contained fine to coarse gravel and trace amounts of clay. Weathered bedrock, was generally encountered at depths from 7 to 11 feet. The type of rock encountered was not indicated in the soil logs. As depicted by Malcolm Pirnie, the bedrock surface in the limited area of the soil probes dips to the west and north west.

Analytical results are summarized on Figure 2. Complete analytical results for all detected compounds are tabulated in Table 2. PCE was reported in most soil samples at concentrations ranging from 0.8 to 50 ppb. TCE was reported in 10 samples at concentrations ranging from 0.7J to 3J ppb. With the exception of chloromethane at 2J ppb in one sample, no other chlorinated VOCs were reported. Benzene was reported in two samples from boring FG-13,14 at 0.2J ppb, and total Xylenes were reported in one sample from boring I-14. In general, concentrations of PCE were highest in samples collected from the bottoms of the borings.

None of the analytes were detected at concentrations in excess of the TAGM 4046 recommended soil cleanup objectives.

2.2.5 Discussion of Soil Results

The concentration of PCE in the soils penetrated by boring DC1A, located within ten feet of the AVDC facility, are one to two orders of magnitude greater than the highest soil concentrations found elsewhere on the AVSC site. These levels indicate that the soil was impacted by a release of nonaqueous phase PCE in the vicinity of the boring. The PCE concentrations at the bottom of DC1A (8-10 ft.) are approximately three times greater than concentrations higher in the soil column. This may reflect retention of PCE by the relatively dense and impermeable till encountered at this depth, or in the weathered bedrock underlying the till. The concentration of PCE in two of the samples from DC1A exceeded the TAGM 4046 recommended soil cleanup objective of 1400 ppb.

The 25 borings advanced in the area south of DC1A encountered much lower concentrations of PCE. The highest levels of PCE (46 and 52 ppb) were found in the two locations closest to DC1A (F-14 and F-13,14). In general, the concentrations of PCE decrease with greater distance from the AVDC facility.

Figure 3 depicts a subsurface profile extending southward from boring DC1A to boring 2D. At each boring, the profile shows the elevation of the bedrock surface and the total concentration of chlorinated VOCs in each two foot depth interval. The pattern of decreasing concentration with increasing distance from the AVDC facility is evident. Furthermore, it is evident that concentrations are generally higher in the soil zone immediately overlying the bedrock than in shallower zones. This pattern suggests that the PCE and related compounds have migrated to the deeper soils south of the AVDC by one or both of the following mechanisms:

1) A groundwater plume carried the chlorinated VOCs southward from the area of the AVDC facility. The groundwater carrying the VOCs saturated the lower soil zone, and aqueous phase VOCs adsorbed directly onto the saturated soils.

2) The groundwater plume was restricted to permeable features in the bedrock. VOC's carried in the plume partitioned into the soil gas overlying the plume, diffused through and adsorbed on to the unsaturated soils.

The low concentrations of PCE and related VOCs present in the shallow soils may also be attributable to relatively small, repeated releases of dry cleaning fluid on the surface, or by adsorption of the compounds from soil gas.

Elevated concentrations of Acetone were reported in soils sampled from the interior of the AVDC facility and in the soils from MW-RC1. It can not be determined from the available reports whether this common laboratory contaminant was actually present in the soils penetrated by the borings. The concentrations of Acetone reported in both interior borings and in MW-RC1 exceed the TAGM 4046 recommended soil cleanup objective of 110 ppb.

The elevated concentrations of PCE and TCE in the surface soils inside the Norgetown Laundromat closet diminish to only 5 ppb within two feet of the surface. This suggests that, in the time frame of the sampling (1991), relatively small amounts of dry cleaning fluid were released on the surface of the closet and that the quantities were too small to penetrate significantly below the surface. The high ratio of TCE to PCE (120 ppb / 780 ppb) in sample DS-1 is not characteristic of contamination elsewhere on the AVSC site.

The low levels of PCE found in the soil borings south of the Norgetown Laundromat and near the former sanitary sewer leach field are consistent with concentrations found elsewhere. This contamination may be attributed to a) the aforementioned partitioning of VOCs from a groundwater plume and soil gas; or b) low level, repetitive surface releases of dry cleaning fluid.

2.3 Groundwater

This section reviews the available data concerning groundwater quality on the AVSC site and in the plume that has been identified in the residential areas to the south of the AVSC site. A brief review of the limited hydrologic data is also presented.

2.3.1 Site Hydrogeology

No permanent monitoring wells or piezometers have been installed in the overburden at the AVSC site. Malcolm Pirnie's geoprobe boring logs generally describe soils encountered below 6 to 8 feet as moist or wet, suggesting saturated conditions at those depths. However, as indicated on the boring logs, water was found in only one of the three temporary microwells installed in the geoprobe boreholes. No record of subsequent water level measurements in the microwells has been identified. On the basis of this very limited data, it is not possible to determine if the water table is present in the soils on the site.

The preliminary source of water in the area of the site is the bedrock aquifer. Well drillers logs for residential wells installed in the Woodbridge Estates subdivision describe the bedrock as gray and red, fractured shale (Dutchess County Dept. of Health. 1985-90). According to these logs, the top of the shale was encountered at depths ranging from surface to 15 feet. "Dry" intervals noted in the logs indicate that significant water-bearing fractures or bedding planes intersect the boreholes only

intermittently. The drillers logs indicate that well depths range from 140 to 440 feet, with typical yields ranging from 6 to 12 gpm. The lowest and highest yields were 3 and 80 gpm respectively.

On March 25, 1993 TRC measured static water levels in re-drilled AVSC Well No.1, AVSC Well No. 2, and in four of the Woodbridge Estates subdivision residential wells (TRC Environmental Corporation, Inc. April 12, 1993). The water levels measured in these wells represent a potentiometric surface in the bedrock aquifer. The water levels were converted to elevations based on casing elevations that were surveyed relative to an arbitrary datum[1]. As indicated by the potentiometric surface contour map prepared by TRC, the direction of groundwater flow from the area of the AVDC facility is west and southwest, toward the Woodbridge Estates subdivision, with a component of flow toward the northwest. The potentiometric surface and the apparent groundwater flow directions may have been influenced by pumping of the domestic supply wells and the AVSC supply well (Well No. 3) located to the east. These wells were reportedly active and pumping during the monitoring.

TRC conducted a pumping test of AVSC Well No. 2 on March 29 and April 1, 1993. Well No. 2 was pumped at a constant rate of 20 gpm for 72 hours. The other wells monitored during the test were redrilled Well No. 1 and the domestic wells on lots 3, 6, 10 and 12 of the Woodbridge Estates subdivision. Comparison of draw down plots for the monitored wells indicates that pumping in the active wells influenced water levels in the other monitored wells. All monitored wells responded to the steady pumping of Well No. 2, as indicated by the decreasing baselines over the duration of the test. TRC was unable to determine the influence of potential direct recharge of the aquifer by surface water in wetlands that may be in direct contact with the bedrock. TRC also cautioned that the transmissive fractures in re-drilled Well No. 1 may have been partially plugged by the concrete used to plug the original well.

TRC concluded that bedrock aquifer transmissivities were in the range of 100 to 300 ft^2/day. Assuming a saturated thickness of 200 feet, these values correspond to hydraulic conductivity (K) values of 0.5 to 1.5 ft/day. Actual K values in the more fractured zones within the aquifer could be significantly greater. TRC was unable to accurately determine the degree of horizontal aquifer anisotropy (differential transmissivity along different horizontal axes). However, the presence of oriented sets of bedrock joints in the region would predict significant anisotropy.

2.3.2 Groundwater Emergency Removal Action

In January, 1992 a Work Plan for the implementation of a groundwater emergency removal action was submitted to the USEPA by James R. Klein Enterprises. The purpose of the removal action was to 1) treat contaminated water from residential drinking water wells in the Woodbridge Estates Subdivision, 2) control potential migration of the plume of PCE and related contaminants to the Titusville well field, and 3) extract and treat contaminated groundwater to achieve an overall

[1]The elevation of the bedrock potentiometric surface can not be compared to elevation of the bedrock surface determined during the 1997 Malcolm Pirnie geoprobe study, which appears to have been surveyed relative to MSL.

reduction of the VOC's in the groundwater at the AVSC site. As described in the Removal Action Work Plan, control of the plume was to be achieved through continuous pumping of three wells: Apple Valley Shopping Center well AV-2 and the Lee and Robson residential wells on Lots 10 and 11. Treated water was to be discharged into the adjacent wetland.

Periodic status reports were issued by TRC Environmental Corporation, consultants to James R. Klein Enterprises. According to the reports, granular activated carbon (GAC) units were installed in August-September, 1992, on eight impacted houses in the Woodbridge Estates Subdivision (Lots 4, 5, 6, 8, 9, 10, 11, and 12). The status reports indicate that during this same period an air stripper would be installed on well AV-2, and a second air stripper would be installed to treat the water from the Lee and Robson wells. No status reports have been identified for the period from August 21, 1992 to February 1994.

As previously described, a pump test of well AV-2 was conducted in March-April, 1993. According to the Removal Action Work Plan, this pilot test was to be conducted prior to full-time operation of the recovery system, suggesting that it was in operation until after March 1993. Well AV-2 was equipped with a pump capable of 30 gpm. Based on the satisfactory drawdown observed at a rate of 20 gpm, it appears likely that the system was placed in operation at this pumping rate. No information has been identified concerning the actual pumping rate of the Lee and Robson wells. However, the Removal Action Work Plan states that each of these wells would be pumped at 5 gpm, which is half of each well's estimated yield. No information is available concerning the estimated yields or pumping rates of the other residential wells.

The periodic status reports beginning in February, 1994 indicate that continuous pumping of well AV-2 and the Lee and Robson wells had commenced by that time. The pumping systems appear to have been operated continuously except during periodic cleaning of the air strippers, which typically required about five to six days.

2.3.3 Groundwater Quality

From 1988 to present there have been nearly one hundred separate groundwater sampling events in association with the AVSC Superfund Site. The vast majority of these sampling events have involved sampling of residential well water in the course of operation and maintenance of Point-Of-Entry (POE) water treatment systems for the impacted houses in the adjacent subdivision. This section discusses onsite groundwater quality as found in the three AVSC pumping wells, and offsite groundwater quality as determined through sampling of untreated water from domestic water supply wells

Onsite Groundwater Quality

Groundwater samples were collected from AVSC supply wells AV-1, AV-2 and AV-3 during the September 1992 baseline sampling event conducted by TRC. Analytical results for the onsite groundwater samples are summarized in Table 3. All three wells penetrate an unknown depth into the bedrock.

Well AV-3 is located approximately 30 feet to the east of the Grand Union store. PCE was reported at 86 ppb and TCE at 0.7 ppb in the sample from AV-3. Well AV-2, located approximately 120 feet west of the Norgetown Laundromat, had been connected to an air stripper and was slated for continuous pumping as a water supply and groundwater recovery well. The sample from AV-2 contained PCE and TCE at 2,400 and 520 ppb respectively. Also detected were cis and trans 1,2-dichloroethylene (DCE) at 1,300 and 24 ppb respectively. The DCE compounds are potential daughter products derived from degradation of the PCE and TCE. The influent to the air stripper connected to AV-2 was sampled twice per year from 1992 through 1999. PCE values range from ND to 450 ppb. TCE and cis 1,2-DCE have consistently been reported at lower values. Since 1996, the concentrations of PCE have generally remained in the range of 100-300 ppb and do not appear to be trending downward.

Production well AV-1 was sampled on September 17, 1992. It is not known if, at the time of this sampling, well AV-1 was the original well or the well that was re-bored in the original location. PCE was reported at 12,000 ppb. Lower concentrations of TCE, cis- and trans-DCE and vinyl chloride were also reported. In January 20, 1997 replacement well MW-RC1 was installed to a depth of approximately 55 feet at a location approximately 15 feet south of well AV-1 (Malcolm Pirnie. March 1997). The well was sampled on January 23, 1997. PCE was reported at 23,000 ppb. TCE and cis- and trans-DCE were also reported at lower concentrations.

The groundwater standards for PCE (5 ppb), TCE (5 ppb), DEC (5 ppb) and Vinyl Chloride (2 ppb) as set forth in T.O.G.S. 1.1.1 have been exceeded on the AVSC site.

The aqueous solubility of PCE has been commonly reported as 150 ppm or 200 ppm (Mackay, Shiu & Ma. 1993). The PCE groundwater concentrations detected in wells AV-1 and MW-RW1 are equivalent to 6 - 13% of the higher solubility value. Groundwater concentrations in the range of 1-10% of aqueous solubility have been shown to correlate with the presence of NAPL (USEPA. February 1992).

Offsite Groundwater Quality

All offsite groundwater data have been generated through sampling of tap water or treatment system influents at commercial establishments or residences in the Woodbridge Estates subdivision. Sampling of tap water was initiated by the Dutchess County Department of Health in 1988. Sampling of treatment system influents was continued by James Klein after the installation of Point of Entry (POE) systems at certain residences. The analytical results for residential supply wells are summarized in Table 4. Analytical results for commercial and other offsite supply wells are summarized in Table 5. Figures 4 through 8 depict the locations of positive and negative analytical results during selected sampling periods.

Historical exceedences of the groundwater standards for PCE (5 ppb), TCE (5 ppb), DEC (5 ppb) and Vinyl Chloride (2 ppb) have been documented in the offsite supply wells.

Figure 4 shows all offsite locations that were ever sampled as a result of concern over potential AVSC-related contamination. Those locations at which any VOCs were detected are denoted with a red symbol. Analytical results at five of these locations do not indicate impacted by contaminants related to the AVSC site. Tap water from three residences located west of the AVSC site on Stonehedge Drive (Abolafia, Cavallaro & Gent) contained low levels of chloroform and no other VOCs. Chloroform is a common byproduct of chlorinating water. In the absence of any other chlorinated compounds, it is unlikely that the chloroform in these samples was related to the AVSC contamination. Tap water from the Falciano residence, on Chestnut Road, contained 0.9 ppb of methylene chloride on one occasion. Methylene chloride is a common laboratory contaminant and, in the absence of any other chlorinated compounds, is not considered to be related to the AVSC site. Tap water from Joe's Sunoco Station, located northwest of the AVSC site, contained 43 ppb of methyl tertiary butyl ether (MTBE), and lower concentrations of benzene, toluene ethylbenzene and xylenes (BTEX). MTBE and BTEX are constituents of gasoline, and are not considered to be related to the AVSC contamination. Positive results at all remaining locations are potentially related to the AVSC contamination.

Figures 5 through 8 show the occurrence of chlorinated VOCs during selected periods from mid-1990 to early 1998. Together, these figures illustrate impact by a plume extending primarily south and southwest from the AVSC site and diminishing in extent and concentration during operation of the pump and treat system.

Figure 5 summarizes the chlorinated VOC results from samples collected during June and July, 1990. The red symbols indicate that the groundwater in the vicinity of at least eight residences on Locust Crest Court and Chestnut Road was impacted by chlorinated VOCs. Water sampled from the Cowan residence, located near the southern end of Chestnut Road, contained no chlorinated VOCs during this period, but a sample collected in November, 1990 contained 1.5 ppb of cis 1,2 dichloroethene, a potential degradation product of perchloroethene. The sample collected from the Cavallaro residence contained chloroform which, as previously mentioned, is not considered to be derived from the AVSC contamination. Pawling Savings Bank has its own water supply well (TRC Environmental Consultants. January 3, 1992). The sample from this well contained perchloroethylene at 0.6 ppb, and similarly low levels of TCE and cis 1,2-dichloroethene, suggesting potential impact by the AVSC contamination. Water samples collected at the Kent Gauge & Tool facility contained low levels of TCE and cis 1,2-dichloroethene. No perchloroethene was ever detected in the Kent water. The TCE and cis 1,2-dichloroethene are potentially AVSC site-related compounds, but are also found in the solvents and degreasing agents commonly used by the machine tool industry.

Figure 6 summarizes the chlorinated VOC results for influent samples collected during December, 1992, approximately two months after commencing operation of the pump and treat system at AVSC Well No. 2. All samples contained chlorinated VOC compounds. Total VOC concentrations ranged from 1,067 ppb at AVSC Well No. 2 to less than 10 ppb at residences along the east edge of the plume.

Figure 7 summarizes the chlorinated VOC results for influent samples collected during June, 1995. The data reflect substantial reduction in the extent and concentration of the plume. Only six of the

sampled wells exhibited any chlorinated VOCs. The sample from the well on the Killmer property contained TCE and no perchloroethylene. The only other chlorinated VOCs detected in this well were chloroform (1.0 ppb) in 1990 and 1,1,1-trichloroethane (1.0 ppb) in 1991. The latter compound has only been detected in one other location, tap water from Dutchess Recreational Vehicles, located north of the AVSC on Route 55.

Figure 8 summarizes the chlorinated VOC results for influent samples collected during March, 1998. Only 5 offsite locations were sampled. Chlorinated VOCs have been detected in two of the offsite wells. The Lee/Robson air stripper influent contained PCE, TCE and cis 1,2 DCE at a total concentration of 5.8 ppb. MTBE, while not associated with the AVSC sit, was detected in the Lee/Robson air stripper influent at 5.6 ppb and in several other wells sampled during this period.

3.0 DATA TABULATION AND VALIDATION ASSESSMENT

The data search conducted by Earth Tech located a total of 105 laboratory data reports associated with sampling events in for the AVSC site. Ninety-eight groundwater sample packages, three leachate sample packages and four soil sample packages have been identified.

3.1 Data Validation Review

Table 1 presents a list of the data packages by the sampling date. The sampling organization, laboratory, sample matrix and the "validatablility" of each data package is also indicated. Review of the data indicates that all but 14 of the packages consist of only sample data reporting sheets. These minimal report packages lack all sample raw data, instrument initial and continuing calibration data, and laboratory QC data (spikes, duplicates, etc.) needed to conduct a Data Usability Study Report (DUSR) review.

Eleven residential drinking water packages, two leachate packages and one soil package are complete to the degree necessary to compete a DUSR. Of these 14 data sets, two water, one leachate and the soil package have already been validated by a third party (other than the laboratory or sampling organization). Copies or these validation reports have been obtained.

3.2 Data Tabulation

All data present in the above referenced 105 laboratory reporting packages have been transcribed into a single summary spreadsheet with all available sample identification information. Since the data base for this project is very large, the spreadsheet only reflects those compounds that exhibit a positive result at least one time throughout the project. Five smaller spreadsheets have been constructed from the master project spreadsheet and are included in this report as Tables 2, 3, 4, 5 and 6. These tables only reflect sample results for compounds considered to be associated with the suspected source area at the site. Specifically, results for tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, and vinyl chloride have been included. Results for acetone were also included for soil samples due to some unusually high results in one set of samples.

These summary tables do not reflect several compounds that were detected in various samples over the period of the project that are un-related to tetrachloroethene and its degradation products. The unreported compounds include low levels of a chlorinated compound generally related to drinking water chlorination (chloroform), and some petroleum hydrocarbon compounds.

A complete copy of the master project spread sheet has been included in electronic format in Appendix A.

4.0 DATA GAPS AND RECOMMENDED INVESTIGATION

This section addresses the adequacy of previous investigations in defining the nature and extent of environmental contamination at the AVSC site. The discussion identifies data gaps, which are areas or media in which the nature and extent of contamination is unknown, or data that are inadequate for evaluating a possible need for remedial action. Additional investigatory actions are recommended for the purpose of closing the data gaps. The discussion is organized by source area and offsite migration issues.

4.1 Source Area

Soil gas and soil analyses suggest that a source of chlorinated VOCs exists in the general vicinity of the dry cleaning facility at the AVSC. Groundwater data from supply well AV-1 and replacement well MW-RC1 indicate that DNAPL is present in bedrock in this area. The vertical and lateral extent of such contamination is unknown. Of equal concern is the lack of information concerning the concentration of this DNAPL. It is not known if the DNAPL is present only at levels of residual saturation, or if the DNAPL also occurs in larger quantities that would permit it to migrate in bedding planes and vertical fractures within the bedrock.

Numerous soil borings and probes advanced behind the dry cleaning facility revealed higher levels of chlorinated VOC contamination in zones nearest the bedrock and closer to the dry cleaning facility. The pattern suggests that the primary contaminant release occurred adjacent to or within the dry cleaning facility. Chronic surface releases in the paved area behind the dry cleaning facility would be unlikely to produce the observed pattern of soil contamination. With the exception of boring DC1A, the concentrations of VOCs encountered by these soil borings are not high enough to suggest that these soils were directly impacted by spill(s) of dry cleaning fluid. It is not known if the soils underlying the dry cleaning retain residues of direct releases of dry cleaning fluid.

The soil data from inside the Norgetown Laundromat are indicative of near-surface impact by dry cleaning fluid spilled within the storage closet. Soil borings in the rear of the Norgetown Laundromat and near the former septic leach field reveal a pattern of low-level, near surface soil contamination that may reflect impact by VOCs partitioning from soil gas and groundwater. It is not known if deeper soils or bedrock near the Norgetown Laundromat have been directly impacted by residues of a cleaning fluid spill.

It is not known whether water table conditions occur in the overburden of the site. Intermittent saturated zones of soil were encountered in several soil borings and probes advanced behind the dry cleaning facility, suggesting possible water table conditions or zones of perched groundwater. However, water was found in only one of the three temporary microwells installed in the geoprobe boreholes and no record of subsequent water level measurements in the microwells has been identified. No data is available concerning the magnitude or direction of vertical gradients in the source area.

The operation of the pump and treat system has apparently diminished the extent of the groundwater plume by intercepting some of the aqueous phase contamination leaving the source area. It is unlikely that the current pumping well is significantly reducing the mass of chlorinated VOC contaminants retained in the source area. The efficiency of the pumping well may less than optimal due to potentially large volumes of uncontaminated groundwater entering the well bore through zones outside of the contaminated interval(s).

Recommended Investigation

Packer testing of existing supply wells AV-1, AV-2 and AV-3 would permit identification of vertical zones in which VOC contamination is migrating via groundwater. Such testing would also provide limited information regarding the depths at which DNAPL residuals may reside in the source area. Redesign of the pumping well, including relocation and/or screening the well only in contaminated intervals, may facilitate more efficient operation of a groundwater interceptor system.

Geoprobing of the soils and weathered bedrock surface below the dry cleaning facility would enable testing of VOC levels in the lower-most soils and weathered bedrock surface, further delineating the horizontal extent of the source area. A similar effort in the vicinity of the Norgetown Laundromat closet would provide data on the likelihood of significant impact to the underlying soils and bedrock in this area.

Coring of bedrock in the source area would provide data regarding the vertical extent of VOC and DNAPL contamination. However, this activity would present the potential of mobilizing DNAPLs into bedding planes or high-angle fractures that are currently unimpacted, possibly creating new migration pathways. In the event that coring is undertaken, opportunities for contaminant migration should be minimized with proper drilling techniques, casing and grouting. Rock core, rock cuttings and wash water should be examined for evidence of DNAPL using hydrophobic dye techniques[2]. Sampling of groundwater from discreet zones in the borehole would further define the vertical extent of contaminants in the source area.

4.2 Offsite Migration

A groundwater plume of chlorinated VOCs has been identified in the area south of the AVSC site, in the general vicinity of the Locust Crest Court and Chestnut Road. The maximum identified lateral extent of this plume was found in 1990, the period before commencement of the pump and treat activity at supply well AV-2. During that year, most or all of the residential supply wells in the Woodbridge Estates subdivision were sampled. Approximately 14 of those wells, all located between

[2] The reliability of detecting of colorless, low viscosity DNAPL such as PCE can be improved through the use of a hydrophobic dye (Cohen and Mercer. 1993). The hydrophobic dye (e.g. Sudan IV) will color organic fluids on contact but is relatively insoluble in water. In summary, a sample of soil or rock cuttings is placed in a vial along with water and a small quantity of the dye. The vial is agitated to facilitate separation and coloring of the DNAPL. The presence and quantity of DNAPL is determined through visual inspection.

Titusville Road and the wetlands were found to be impacted by PCE and/or its degradation products. Many of the wells sampled during 1990 were never sampled again or only sampled irregularly. Although the operation of the pump and treat system has apparently resulted in diminution of the plume, uncertainty as to the current extent of the plume arises from 1) the lack of a recent, comprehensive round of groundwater sampling, 2) a lack of groundwater quality data south of the Woodbridge Estates subdivision and east of Titusville Road. This uncertainty is compounded by the heterogeneity of permeable features in the bedrock, anisotropy of the aquifer, and a lack of knowledge concerning which permeable bedrock features are transporting the contaminants. Contaminated groundwater may be migrating in one or a number of permeable features. The contribution of these multiple pathways may depend on seasonally variable hydrogeologic conditions.

Limited groundwater quality data suggests that groundwater in the vicinity of the Pawling Savings Bank and the Kent Gauge & Tool facilities is impacted by chlorinated VOCs. The Kent Gauge & Tool contamination, which includes no PCE, may be related to chlorinated solvents and degreasers such as those commonly used in the machine tool industry. No information has been obtained regarding any use of chlorinated solvents by Kent Gauge & Tool. The presence of chlorinated VOCs in supply well AV-3, located between the source area and the Pawling Savings Bank, suggests that pumping of supply wells in upgradient or side gradient locations can draw aqueous phase contamination from the potential source areas. There are no groundwater quality data from locations between the suspected source areas and these two facilities to confirm or rule out this possibility.

No sampling of surface water or sediments in the wetlands to the south of the facility has occurred. These media may have become contaminated through discharge of contaminated groundwater at locations throughout the wetland area, or by direct discharge of contaminated effluent from supply well AV-2 and the associated air stripper. The wetland may also have been contaminated by stormwater discharging to the wetland via a subsurface pipe from a catch basin located behind the Grand Union loading dock (NYSDOH. September 25, 1995).

Recommended Investigation

A comprehensive survey of all current groundwater users in the extended area around the AVSC site should be undertaken. Wells with the potential to be impacted by AVSC site contamination may be identified in areas beyond those previously sampled. At least one round of untreated groundwater samples should be collected from these wells and from the previously sampled wells. The samples may be analyzed for PCE, TCE, and all possible degradation products, or all TCL VOCs and MTBE.

Monitoring wells or well nests should be installed at locations surrounding the identified source area. Coring of the well boreholes would identify permeability features and permit the screening of discreet intervals within the bedrock aquifer. Each location should include a well or piezometer screened at the bottom of the soil column to permit assessment of potential water table conditions in the overburden.

Synoptic water levels should be measured in all on-site monitoring wells. Depending on the temporal variability of water levels in response to pumping of supply wells, it may be useful to obtain continuous water level readings from all wells using data logging pressure transducers.

Sediment and surface water samples should be collected at locations within the wetland that extends through the Woodbridge Estates subdivision. The samples may be analyzed for PCE, TCE, and all possible degradation products, or all TCL VOCs and MTBE.

5.0 REFERENCES

The documents listed in this section were reviewed in the preparation of this report. Also reviewed, but not listed below, were voluminous laboratory data reports (listed in Table 1), large volumes of correspondence between various agencies, and various pleadings submitted to the court by parties in the litigation concerning the AVSC site.

Cohen, R.M. and J.W. Mercer. 1993. *DNAPL Site Evaluation.* Office of Research and Development, United States Environmental Protection Agency. EPA/600/R-93/022.

Dutchess County Dept. of Health. 1985-90. Well Drillers Logs and Well Completion Reports submitted to Dutchess County Dept. of Health by drilling contractors for selected lots in the Woodbridge Estates subdivision. 14 pages.

Ecosystems Strategies, Inc. May 19, 1993. Memo to Tom Vormbeck/Ken Goldstein from Paul H. Ciminello regarding location of split spoon borings taken from Apple Valley Shopping Center on April 27, 1993, including sample location map. (Ecosystems Strategies, Inc., 60 Worrall Ave., Poughkeepsie, NY 12603)

Ecosystems Strategies, Inc. May 24, 1993. *Summary Report on Environmental Conditions at the Apple Valley Shopping Center.* (Ecosystems Strategies, Inc., 60 Worrall Ave., Poughkeepsie, NY 12603)

Galson Consulting. August 21, 1998. Set of 3 Drawings: Figure A - AVSC & Woodbridge Estates Site Plan, Figure B - AVSC Site Plan, Figure C - Woodbridge Estates Lots 4 - 12 Site Plan. (Galson Consulting, 360 Linden Oaks, Rochester, N.Y. 14625)

IEA. February 12, 1997. Laboratory analytical report with Category B deliverables for soil and groundwater samples collected January 28-29, 1997. (IEA Laboratory, 200 Monroe Turnpike, Monroe, CT 06468)

Mackay, Shiu & Ma. 1993. *Illustrated Handbook of Physical-Chemical Properties and Environmental Fate for Organic Chemicals.* Volume 3. p. 523. Lewis Publishers

Malcolm Pirnie. May 1993. *Experts' Assessment Report, Apple Valley Shopping Center Superfund Site, LaGrange, New York.* (Malcolm Pirnie, Inc., Four Corporate Plaza, Washington Ave. extension, Albany, NY 12203)

Malcolm Pirnie. January 1997. Compendium of soil borings, temporary well construction logs and survey data prepared by Malcolm Pirnie and Parratt Wolf Inc. and provided to the NYSDEC by counsel to Grand Union. (Malcolm Pirnie, Inc., Four Corporate Plaza, Washington Ave. extension, Albany, NY 12203)

Malcolm Pirnie. March 1997. *Supplemental Experts' Assessment Report, Apple Valley Shopping Center Superfund Site, LaGrange, New York.* (Malcolm Pirnie, Inc., Four Corporate Plaza, Washington Ave. extension, Albany, NY 12203)

Matrix Analytical, Inc. May 11, 1992. Analytical data summary - Project No. AV9204.30. 81 pages. (Matrix Analytical, Inc., 106 South Street, Hopkinton, MA 01748)

Matrix Analytical, Inc. February 10, 1997. Analytical data summary with chain of custody record for soil and groundwater samples collected January 20-23, 1997. 46 pages. (Matrix Analytical, Inc., 106 South Street, Hopkinton, MA 01748)

NYSDOH. September 25, 1995. *Health Consultation, Apple Valley Shopping center, LaGrange, Dutchess County, New York, CERCLIS No. NYD986927713.* (New York State Department of Health under cooperative agreement with U.S. Dept. of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry.

Soiltesting, Inc. May 3, 1993. Transmittal cover sheet and accompanying boring logs for borings advanced at Apple Valley Shopping Center on April 27, 1993. (Soiltesting, Inc., 140 Oxford Rd., Oxford, CT 06478)

TRC Environmental Consultants, Inc. January 3, 1992. *Work Plan, Apple Valley Shopping Center Superfund Site, LaGrange, New York, Superfund Emergency Removal Action.* Vols 1-3. (TRC Environmental Consultants, Inc., 14 Corporate Woods Blvd., Suite 102, Albany, NY 12211)

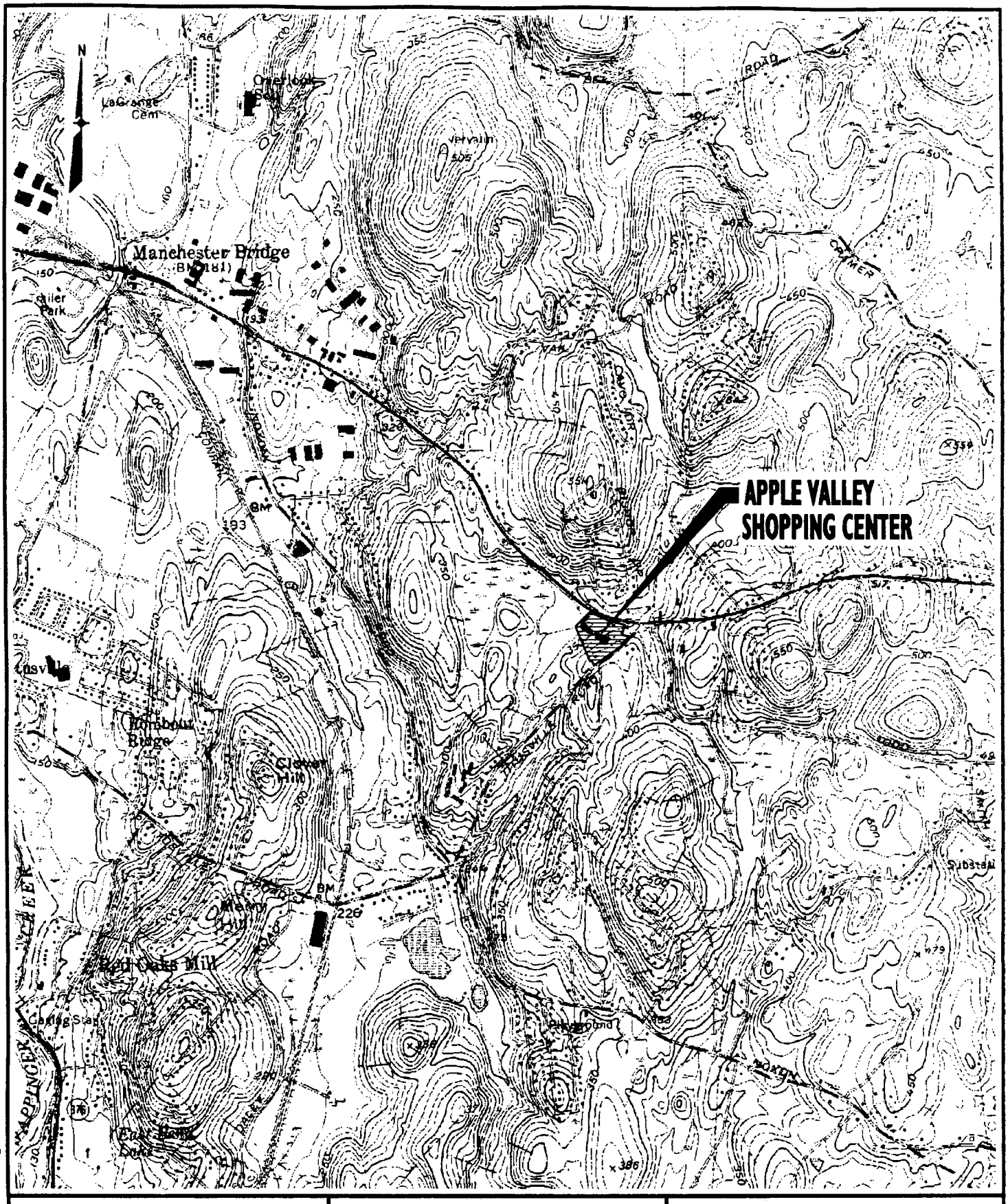
TRC Environmental Corporation, Inc. April 12, 1993. Memo from A. Konigsberg to T. Beddoe, re. Analysis of Apple Valley Well W-2 Pumping Test Data, w/ attached maps, diagrams tables and water level data. 154 pages. (TRC Environmental Corporation, Inc., 14 Corporate Woods Blvd., Suite 102, Albany, NY 12211)

TRC Environmental Corporation, Inc. May 14 1993. *Soil Gas Sampling and Analysis, Apple Valley Shopping Center Superfund Site, Town of LaGrange, Dutchess County, New York.* (TRC Environmental Corporation, Inc., 14 Corporate Woods Blvd., Suite 102, Albany, NY 12211)

USEPA. February 1992. *Evaluation of Ground-Water Extraction Remedies: Phase II, Vol. 1 Summary Report.* Publication 9355.4-05. 27 pages. (United States Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, DC 20460)

U. S. Hydrogeologic, Inc. October 24, 1991. *Final Report on the Norgetown Laundromat Facility, Apple Valley Shopping Center, LaGrange, New York* (U. S. Hydrogeologic, Inc., 328 Main Mall, Poughkeepsie, New York 12601)

FIGURES



EARTH TECH

A tyco INTERNATIONAL LTD. COMPANY

0' 1000' 2000'

SCALE

DATE : JANUARY 2000 PROJECT NO : 37014

APPLE VALLEY SNOPPING CENTER

NYSDEC SITE NO: 3 - 14 - 084

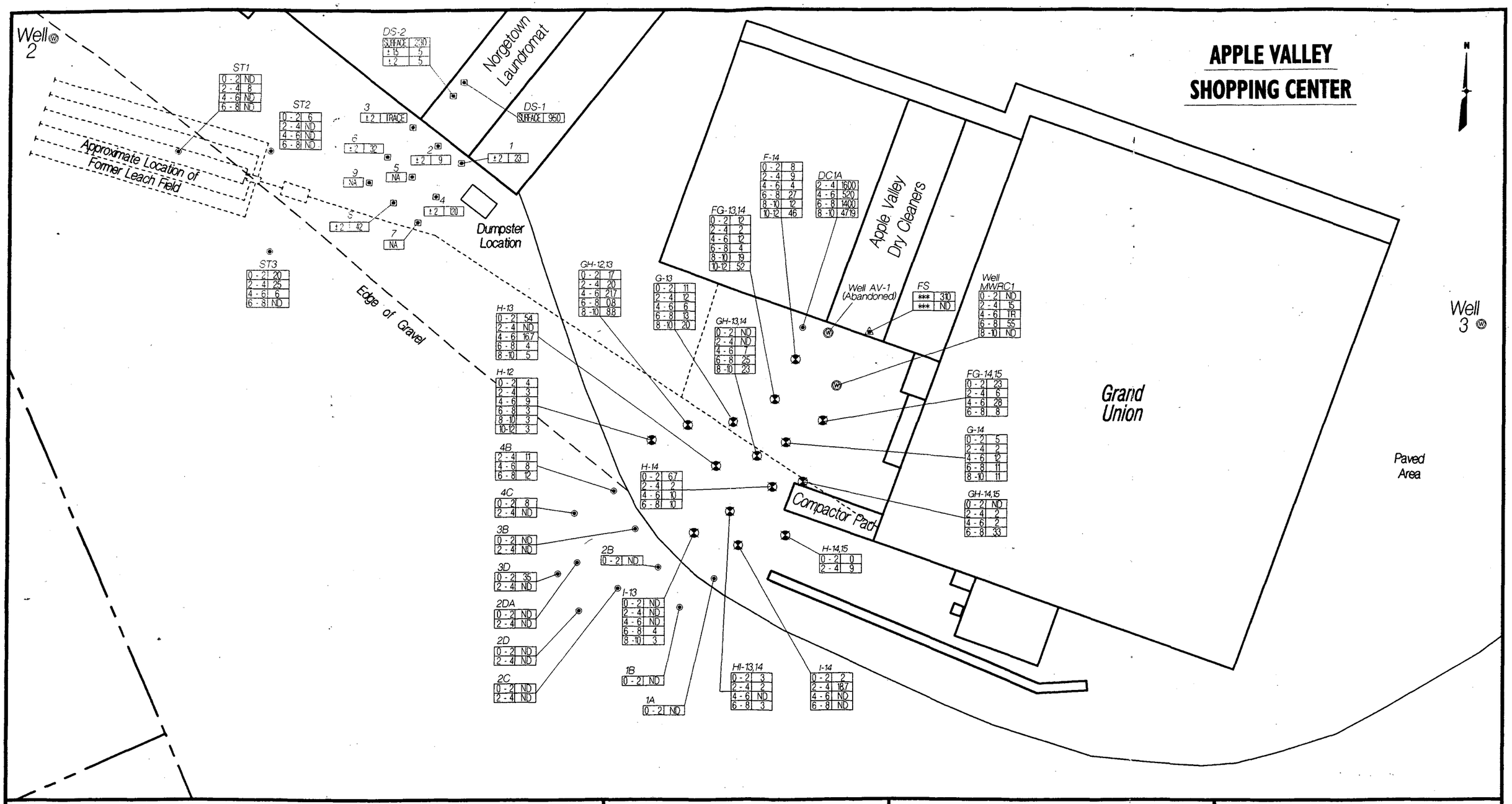
Town of LaGrange
Dutchess County, New York

FIGURE I

Site Location Plan

PLOT DATE: 02/01/2000 FILE NAME: FIG_01.DWG IMAGE: FIG-01.TIF

APPLE VALLEY SHOPPING CENTER



KEY

Well
- 3 ⊗ Well Sampling Location
- C ⊡ U.S. Hydrogeologic, Inc. Soil Sampling Location Sampled on 08/07/91
- 3C ⊛ Ecosystems Strategies, Inc. Soil Boring Location Sampled on 04/27/93
- 3C ▲ James A. Klein Soil Sample Location Sampled on 01/20/97
- 3C ⊙ Malcolm Pirnie Soil Boring Location Sampled on 01/28-29/97

Depth of Sample (feet)
Total Chlorinated VOC's (ug/kg)

0 - 2	3
2 - 4	ND
4 - 6	22
6 - 8	12
8 - 10	11
10 - 12	5

NA – Not Analyzed
ND – Not Detected
TR – Trace
*** – Depth Unknown

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0 15 30
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APPLE VALLEY SHOPPING CENTER

NYSDEC SITE NO: 3 - 14 - 084

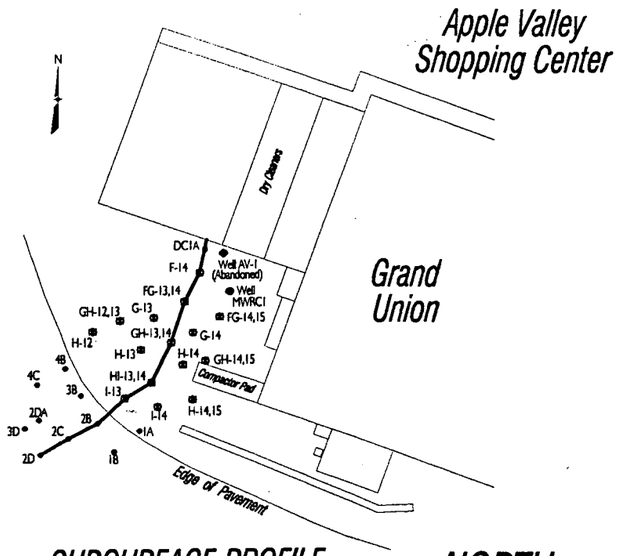
Town of LaGrange
Dutchess County, New York

FIGURE 2

Soil Analytical Results

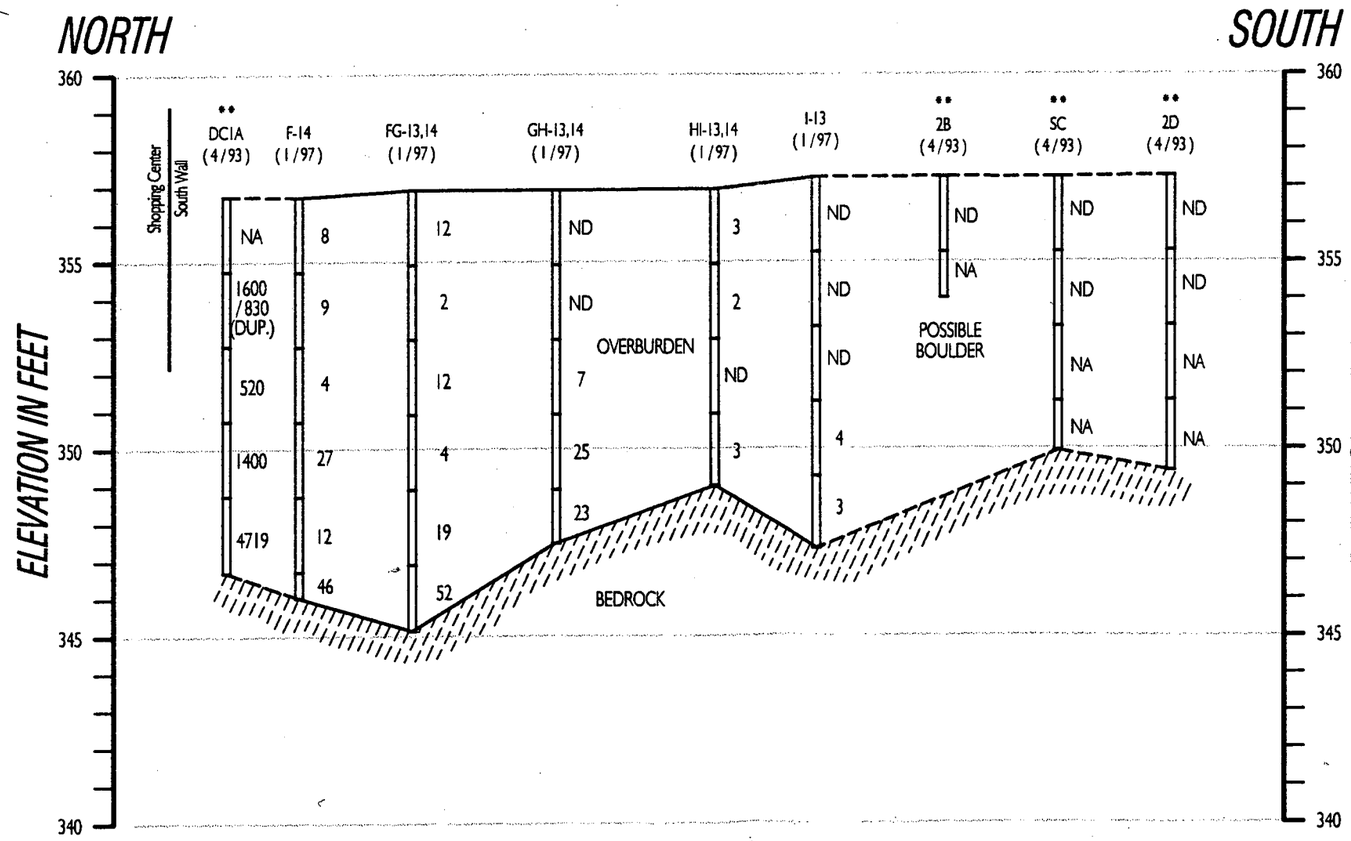
Total Chlorinated Voc's

PLOT DATE: 02/01/2000 FILE NAME: FIG_02.DWG XREF: L:\...\37014...37014-B.DWG

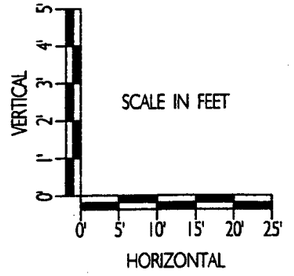


SUBSURFACE PROFILE LOCATION PLAN

NO SCALE



SUBSURFACE PROFILE



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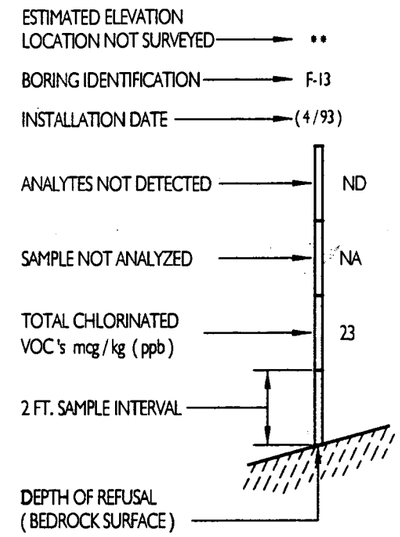

FIGURE 3

Subsurface Profile
Soil Analytical Results
Total Chlorinated Voc's

APPLE VALLEY SHOPPING CENTER

NYSDEC SITE NO: 3 - 14 - 084

Town of LaGrange
Dutchess County, New York

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DATE : JANUARY 2000 PROJECT NO : 37014

PLOT DATE: 02/01/2000 FILE NAME: FIG_03.DWG XREF: (NONE)

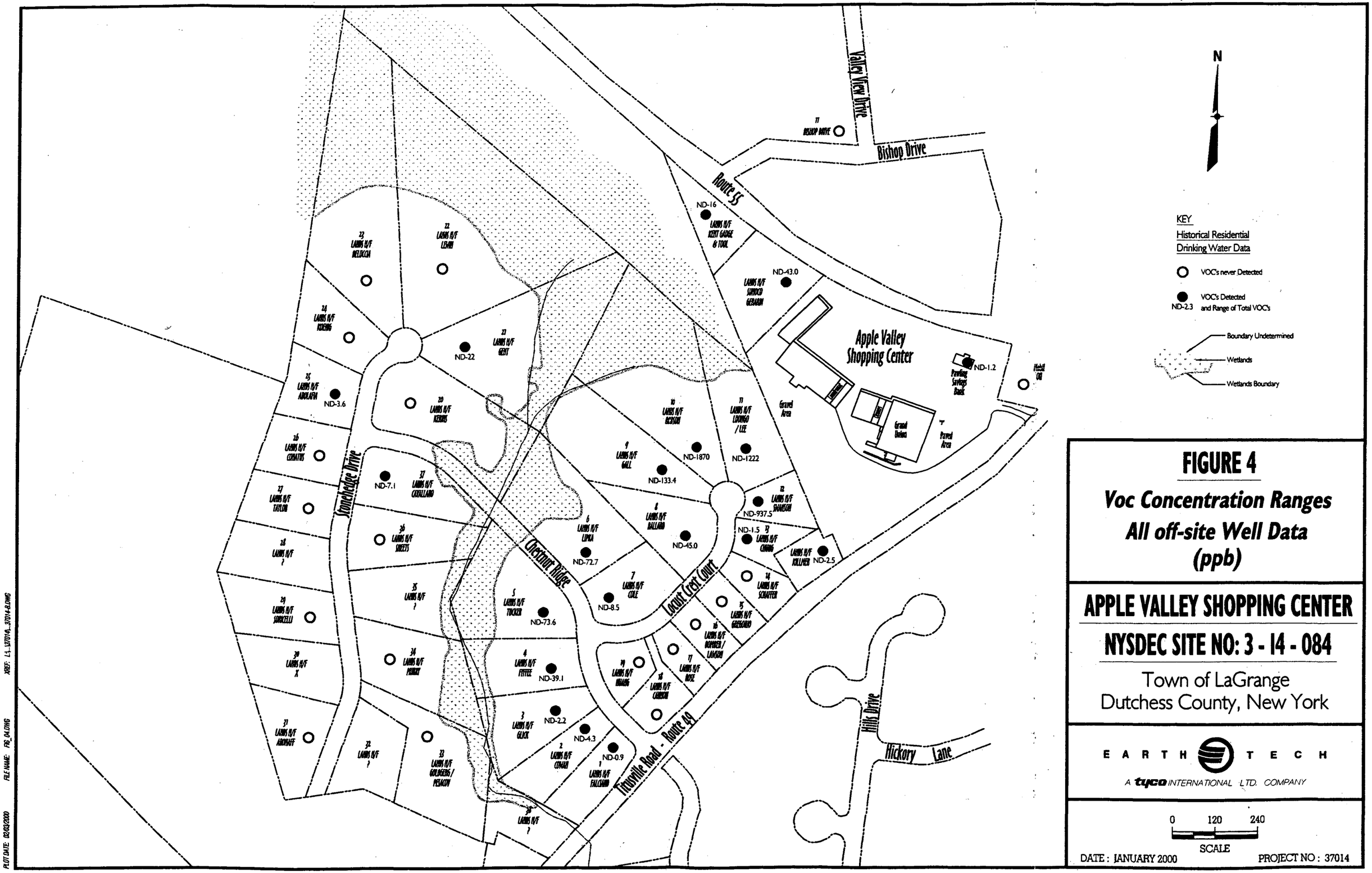

FIGURE 4

Voc Concentration Ranges
All off-site Well Data
(ppb)

APPLE VALLEY SHOPPING CENTER

NYSDEC SITE NO: 3 - 14 - 084

Town of LaGrange
Dutchess County, New York

EARTH TECH
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0 120 240
SCALE

DATE : JANUARY 2000 PROJECT NO : 37014

PLOT DATE: 12/03/2000 FILE NAME: FIG_04.DWG XREF: L1_37014-_37014-0.DWG

N

KEY

Historical Residential Groundwater Sample Data

ND Results Not Detected

19 Positive Results

Boundary Undetermined

Wetlands

Wetlands Boundary

Valley View Drive

Bishop Drive

Route 55

Apple Valley Shopping Center

Pawling Savings Bank

Gravel Area

Grand Union

Parcel Area

Fishkill Old

Stonehedge Drive

Overmount Ridge

Locust Crest Court

Tinkletown Road - Route 49

Hills Drive

Hickory Lane

16 LABRIS N/F KENT GAGNE & TOOL

LABRIS N/F SHIOCO GERARDI

23 LABRIS N/F MELOCCHI

22 LABRIS N/F LEHAN

24 LABRIS N/F KOENIG

21 LABRIS N/F GERIT

25 LABRIS N/F ABDULAFIA

29 LABRIS N/F KEEGAN

26 LABRIS N/F CONATOS

27 LABRIS N/F TAYLOR

28 LABRIS N/F ?

37 LABRIS N/F CAVALLARO

36 LABRIS N/F SHEETS

35 LABRIS N/F ?

34 LABRIS N/F MURRAY

39 LABRIS N/F SORRICELLI

38 LABRIS N/F X

31 LABRIS N/F ARONOFF

32 LABRIS N/F ?

33 LABRIS N/F GOLDBERG / PESACOV

5 LABRIS N/F TUCKER

4 LABRIS N/F FITTEE

3 LABRIS N/F GLUCK

2 LABRIS N/F COHAN

1 LABRIS N/F FALCHARO

6 LABRIS N/F LIPKA

7 LABRIS N/F COLE

8 LABRIS N/F BALLARD

9 LABRIS N/F GALL

10 LABRIS N/F ROBISON

11 LABRIS N/F LISOWSKI / LEE

12 LABRIS N/F SHANLON

13 LABRIS N/F CHIANG

LABRIS N/F KOLLMYER

14 LABRIS N/F SCHAFFER

15 LABRIS N/F GREGORIO

16 LABRIS N/F ROPIEJER / LAWSON

17 LABRIS N/F ROSE

18 LABRIS N/F CARLSON

19 LABRIS N/F HEGANS

ND

1

10.7

7.7

2.2

107

2148

19

110

17

FIGURE 5

Total Chlorinated Voc's (ppb)

Off-site Well Data

(Mid 1990)

APPLE VALLEY SHOPPING CENTER

NYSDEC SITE NO: 3 - 14 - 084

Town of LaGrange
Dutchess County, New York

EARTH TECH

A tyco INTERNATIONAL LTD. COMPANY

0 120 240

SCALE

DATE : JANUARY 2000

PROJECT NO : 37014

PLOT DATE: 02/03/2000 FILE NAME: FIG_05.DWG XREF: L1_37014_37014-A.DWG

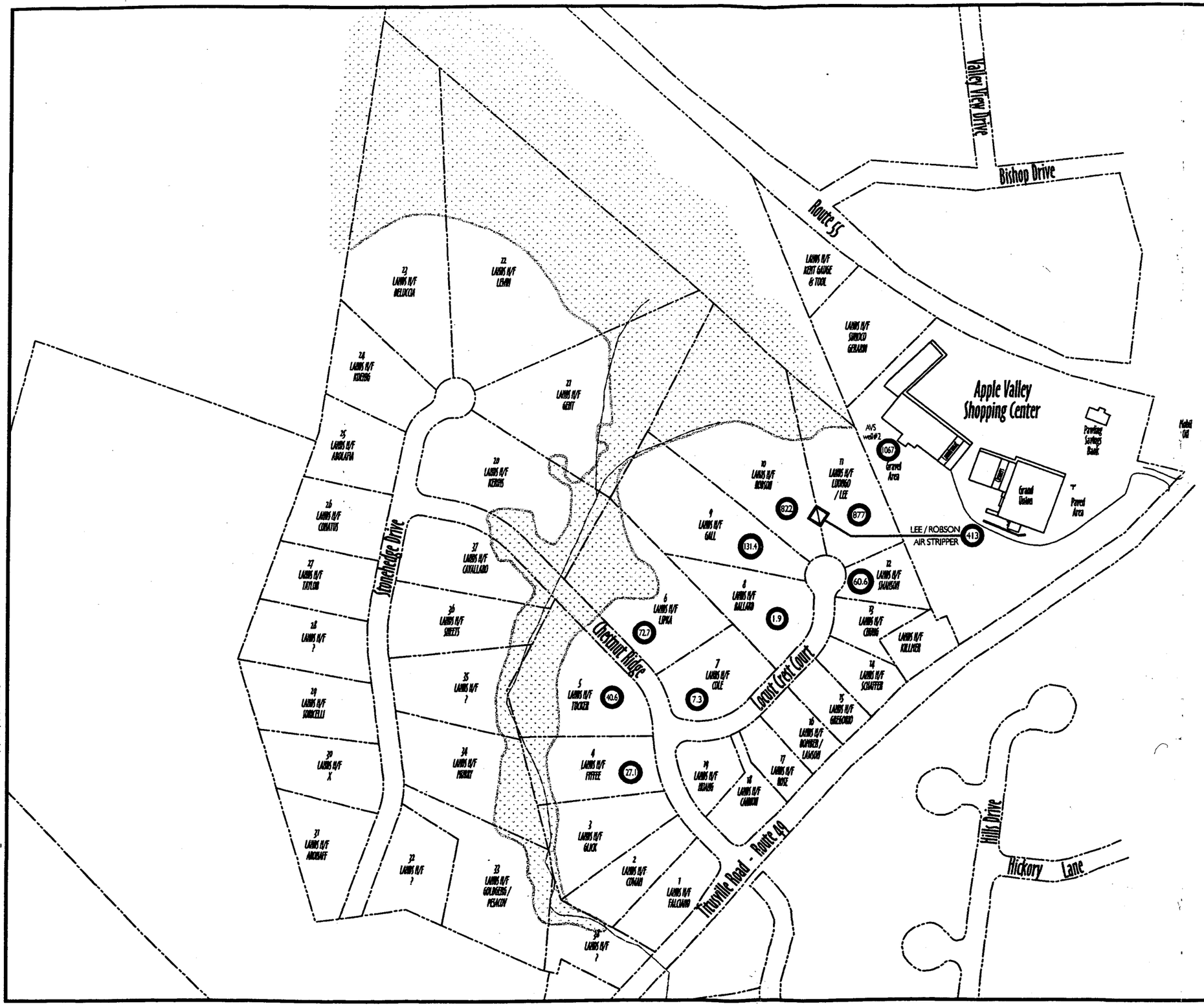


FIGURE 6

Total Chlorinated Voc's (ppb) Off-site Well Data (December 1992)

APPLE VALLEY SHOPPING CENTER

NYSDEC SITE NO: 3 - 14 - 084

Town of LaGrange
Dutchess County, New York

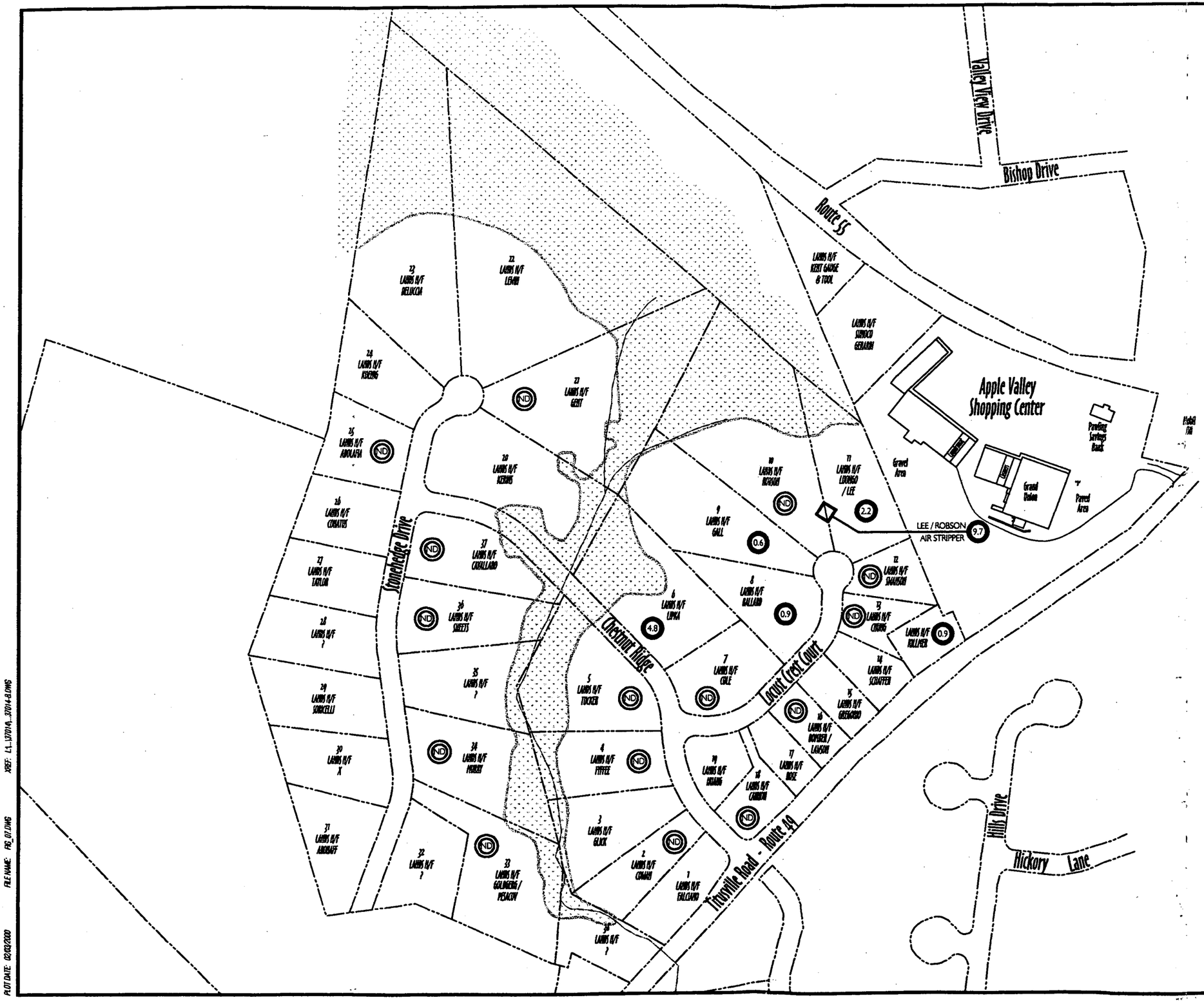
EARTH TECH
A tyco INTERNATIONAL LTD. COMPANY

0 120 240
SCALE

DATE : JANUARY 2000

PROJECT NO : 37014

PLOT DATE: 02/03/2000 FILE NAME: FIG_06.DWG XREF: L:\...\37014\...37014-B.DWG



N

KEY

Historical Residential Groundwater Sample Data

ND — Results Not Detected

19 — Positive Results

Boundary Undetermined

Wetlands

Wetlands Boundary

FIGURE 7

Total Chlorinated Voc's (ppb) Off-site Well Data (June 1995)

APPLE VALLEY SNOPPING CENTER

NYSDEC SITE NO: 3 - 14 - 084

Town of LaGrange
Dutchess County, New York

EARTH TECH

A tyco INTERNATIONAL LTD. COMPANY

0 120 240

SCALE

DATE : JANUARY 2000

PROJECT NO : 37014

PLOT DATE: 02/03/2000 FILE NAME: FIG_07.DWG XREF: L1_37014_37014-B.DWG

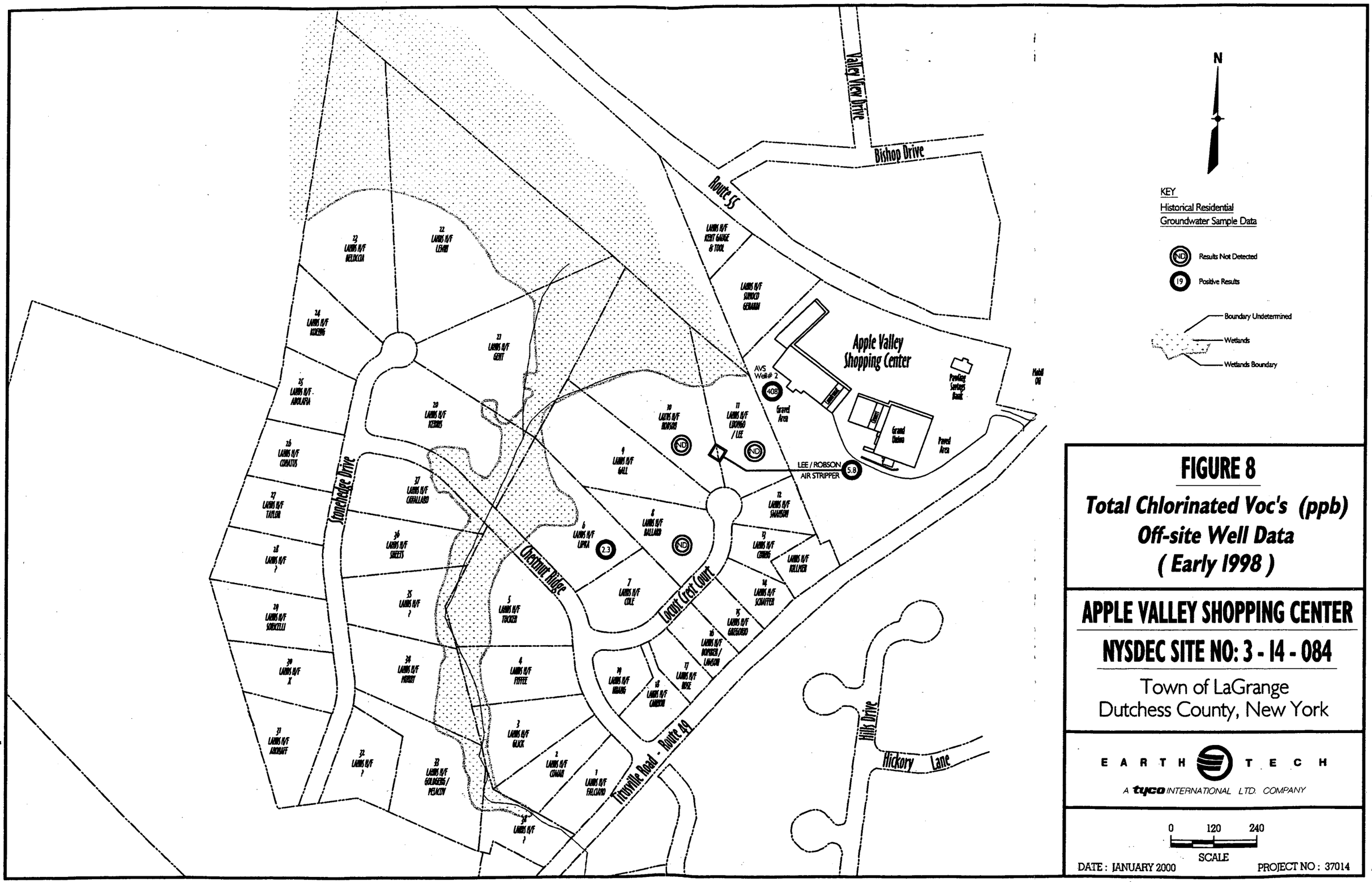


FIGURE 8

Total Chlorinated Voc's (ppb) Off-site Well Data (Early 1998)

APPLE VALLEY SHOPPING CENTER

NYSDEC SITE NO: 3 - 14 - 084

Town of LaGrange
Dutchess County, New York

EARTH TECH
A tyco INTERNATIONAL LTD. COMPANY

0 120 240
SCALE

DATE : JANUARY 2000

PROJECT NO : 37014

PLOT DATE: 02/03/2000 FILE NAME: F6_OLD.WG XREF: L:_37014_37014-B.DWG

TABLES

TABLE 1
Analytical Data Package Summary
Apple Valley Shopping Center
Superfund Site

Sampling Date	Source	Laboratory	Matirx	Validatable
9/28/88	DCDOH	CAMO	Water	No
10/20/88	DCDOH	CAMO	Water	No
11/29/88	DCDOH	CAMO	Water	No
12/2/88	MHPC	Envriotest	Water	No
12/13/88	DCDOH	CAMO	Water	No
1/9/89	DCDOH	CAMO	Water	No
12/15/88	MHPC	Envriotest	Soil	No
1/4/89	MHPC	Envriotest	Water	No
1/13/89	DCDOH	CAMO	Water	No
1/25/89	DCDOH	CAMO	Water	No
2/14/89	MHPC	Envriotest	Water	No
4/11/89	MHPC	Envriotest	Water	No
5/16/90	DCDOH	Envriotest	Water	No
6/12/90	Energy Auditors	Envriotest	Water	No
6/13/90	DCDOH	Envriotest	Water	No
6/18/90	DCDOH	Envriotest	Water	No
6/25/90	DCDOH	Envriotest	Water	No
7/24/90	DCDOH	Envriotest	Water	No
8/8/90	DCDOH	Envriotest	Water	No
8/28/90	DCDOH	Envriotest	Water	No
9/14/90	NYSDEC	NYSDEC	Water	No
10/11/90	DCDOH	Envriotest	Water	No
11/8/90	DCDOH	Envriotest	Water	No
27-Nov	DCDOH	Envriotest	Water	No
12/4/90	Roy F. Weston	Syracuse Research Corp.	Water	No
12/19/90	J.L. Klein, Inc.	Water Control Lab	Water	No
4/8/91	J.L. Klein, Inc.	Matrix	Water	No
4/11/91	DCDOH	CAMO	Water	No
5/9/91	J.L. Klein, Inc.	Matrix	Water	No
8/30/91	J.L. Klein, Inc.	Matrix	Water	No
10/10/91	J.L. Klein, Inc.	Matrix	Water	No
12/5/91	J.L. Klein, Inc.	Matrix	Water	No
12/26/91	J.L. Klein, Inc.	Matrix	Water	No
3/6/92	DCDOH	CAMO	Water	No
3/26/92	TRC	Matrix	Water	No
4/2/92	J.L. Klein, Inc.	Matrix	Water	No
4/24/92	Apple Valley Corp.	Matrix	Water	No
8/26/92	Apple Valley Corp.	Matrix	Water	Yes
9/14/92	TRC	Matrix	Water	Yes
9/17/92	TRC	Matrix	Water	Yes
9/2/92	TRC	Matrix	Water	No
10/2/92	TRC	Matrix	Water	No
10/26/92	TRC	Matrix	Water	No
10/30/92	TRC	Matrix	Water	No
11/16/92	TRC	Matrix	Water	No

TABLE 1
Analytical Data Package Summary
Apple Valley Shopping Center
Superfund Site

Sampling Date	Source	Laboratory	Matirx	Validatable
11/19/92	Apple Valley Corp.	Matrix	Water	No
11/23/92	TRC	Matrix	Water	Yes
12/15/92	TRC	Matrix	Water	No
1/18/93	TRC	Matrix	Water	No
2/15/93	TRC	Matrix	Water	No
3/15/93	TRC	Matrix	Water	No
3/29/93	Apple Valley Corp.	Matrix	Water	No
3/31/93	Apple Valley Corp.	Matrix	Water	No
4/23/93	TRC	Matrix	Water	No
4/21/93	TRC	Matrix	Water	No
4/28/93	TRC	Matrix	Water	No
4/27/93	Ecosystems Strategies	Matrix	Soil	No
4/28/93	Apple Valley Corp.	Matrix	Water	No
5/24/93	J.L. Klein, Inc.	Matrix	Water	No
6/21/93	J.L. Klein, Inc.	Matrix	Water	No
7/20/93	J.L. Klein, Inc.	Matrix	Water	No
9/20/93	J.L. Klein, Inc.	Matrix	Water	No
9/23/93	J.L. Klein, Inc.	Matrix	Water	No
9/27/93	J.L. Klein, Inc.	Matrix	Water	No
8/5/93	J.L. Klein, Inc.	Matrix	Water	No
11/15/93	J.L. Klein, Inc.	Matrix	Water	Yes/Rpt.
12/15/93	J.L. Klein, Inc.	Matrix	Water	Yes
3/17/94	TRC	Matrix	Water	Yes
7/22/94	TRC	Matrix	Water	No
7/28/94	TRC	Matrix	Water	No
9/30/94	TRC	Matrix	Water	Yes
10/3/94	TRC	Matrix	Water	Yes
12/13/94	TRC	Matrix	Water	yes
1/16/95	TRC	Matrix	Water	Yes/Rpt.
6/8/95	NYSDOH	Wadsworth Laboratory	Water	No
6/14/95	TRC	Matrix	Water	Yes
6/19/95	TRC	Matrix	Water	No
6/20/95	Apple Valley Corp.	North American Laboratories, Inc.	Water	No
8/25/95	Apple Valley Corp.	Matrix	Water	No
9/12/95	Galson	Matrix	Water	No
3/11/96	Galson	Matrix	Water	No
3/20/96	NYSDOH	Wadsworth Laboratory	Water	No
4/4/96	NYSDOH	Wadsworth Laboratory	Water	No

TABLE 1
Analytical Data Package Summary
Apple Valley Shopping Center
Superfund Site

Sampling Date	Source	Laboratory	Matirx	Validatable
4/9/96	Galson	Matrix	Water	No
9/18/96	Galson	Matrix	Water	No
12/26/96	J.L. Klein, Inc.	North American Laboratories, Inc.	Leachate	No
12/??/96	Harris, Beach & Wilcox	LSL, Inc.	Leachate	No
1/20/97	Galson	Matrix	Soil/Leachate	Yes
1/22/97	Eder Associates	Nytest	Leachate	Yes
3/11/97	Galson	Matrix	Water	No
3/27/97	Galson	Matrix	Water	No
9/23/97	Galson	Matrix	Water	No
3/18/98	Galson	Matrix	Water	No
9/14/98	Galson	Matrix	Water	No
5/20/98	Galson	Matrix	Water	No
1/28/97	Malcolm Pernie	IEA	Soil/Water	Yes/Rpt.

Notes:
1. DCDOH = Dutches County Department of Health
2. MHPC = Mid Hudson Pollution Control
3. NYSDEC = New York State Department of Environmental Conservation
4. NYSDOH = New York State Department of Health
5. TRC = TRC Environmental, Inc.

TABLE 2
SOIL DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Sampling Party	Location	Depth	Matrix	Date	USEPA Method	Tetrachloroethene		Trichloroethene		Cis-1,2-dichloroethene		Trans-1,2-dichloroethene		Benzene		Toluene		Xylene total		Acetone	
	Rec. Soil Cleanup Objective (ppb) [5]					**1400**		**700**		**250**		**300**		**60**		**1500**		**1200**		**110**	
US Hydrogeologic	DS2	0	SOIL	8/7/91	8010	230		5	U	5	U	5	U	NA		NA		NA		NA	
US Hydrogeologic	DS2	1.5	SOIL	8/7/91	8010	5		5	U	5	U	5	U	NA		NA		NA		NA	
US Hydrogeologic	DS2	2	SOIL	8/7/91	8010	5		5	U	5	U	5	U	NA		NA		NA		NA	
US Hydrogeologic	DS1	0	SOIL	8/7/91	8010	780		120		5	U	5	U	NA		NA		NA		NA	
US Hydrogeologic	S1	2	SOIL	8/7/91	8010	23		5	U	5	U	5	U	NA		NA		NA		NA	
US Hydrogeologic	S2	2	SOIL	8/7/91	8010	9		5	U	5	U	5	U	NA		NA		NA		NA	
US Hydrogeologic	S3	2	SOIL	8/7/91	8010	trace		5	U	5	U	5	U	NA		NA		NA		NA	
US Hydrogeologic	S4	2	SOIL	8/7/91	8010	120		5	U	5	U	5	U	NA		NA		NA		NA	
US Hydrogeologic	S6	2	SOIL	8/7/91	8010	32		5	U	5	U	5	U	NA		NA		NA		NA	
US Hydrogeologic	S8	2	SOIL	8/7/91	8010	42		5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	1A	0-2	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	1B	0-2	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	2B	0-2	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	2C	0-2	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	2C	2-4	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	2D	0-2	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	2D	2-4	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	2DA	0-2	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	2DA	2-4	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	3B	0-2	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	3B	2-4	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	3D	0-2	SOIL	4/27/93	8010	26		5	U	5	U	9		NA		NA		NA		NA	
Ecosystems Strategy	3D	2-4	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	4B	0-2	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	4B	2-4	SOIL	4/27/93	8010	11		5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	4B	4-6	SOIL	4/27/93	8010	7		5	U	5	U	5	U	NA		NA		NA		NA	

TABLE 2
SOIL DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Sampling Party	Location	Depth	Matrix	Date	USEPA Method	Tetrachloroethene		Trichloroethene		Cis-1,2-dichloroethene		Trans-1,2-dichloroethene		Benzene		Toluene		Xylene total		Acetone	
	Rec. Soil Cleanup Objective (ppb) [5]					1400		700		250		300		60		1500		1200		110	
Ecosystems Strategy	4C	0-2	SOIL	4/27/93	8010	8		5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	4C	4-6	SOIL	4/27/93	8010	8		5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	4C	6-8	SOIL	4/27/93	8010	12		5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	4C	2-4	SOIL	4/27/93	8010	5	U	5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	DC1A	2-4	SOIL	4/27/93	8010	1600		5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	DC1A	2-4B	SOIL	4/27/93	8010	830		5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	DC1A	4-6	SOIL	4/27/93	8010	520		5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	DC1A	6-8	SOIL	4/27/93	8010	1400		5	U	5	U	5	U	NA		NA		NA		NA	
Ecosystems Strategy	DC1A	8-10	SOIL	4/27/93	8010	4700		5	U	5	U	5	U	NA		NA		NA		NA	
Apple Valley	GUSB G13E	8-10	SOIL	1/28/97	8260A	32		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB G14A	0-2	SOIL	1/28/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB G14E	8-10	SOIL	1/28/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB H13A	0-2	SOIL	1/28/97	8260A	18		5	U	13		5	U	1	U	290		5	U	110	
Apple Valley	GUSB H13B	2-4	SOIL	1/28/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB H13C	4-6	SOIL	1/28/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB H13D	6-8	SOIL	1/28/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB H13E	8-10	SOIL	1/28/97	8260A	6		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB H14A	0-2	SOIL	1/28/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB H14B	2-4	SOIL	1/28/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB H14C	4-6	SOIL	1/28/97	8260A	7		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB H14D	6-8	SOIL	1/28/97	8260A	6		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB F14B	2-4	SOIL	1/29/97	8260A	7		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB F14C	4-6	SOIL	1/29/97	8260A	30		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB F14D	6-8	SOIL	1/29/97	8260A	7		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB F14E	8-10	SOIL	1/29/97	8260A	11		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB FG1314A	0-2	SOIL	1/29/97	8260A	10		5	U	5	U	5	U	1	U	5	U	5	U	100	U

TABLE 2
SOIL DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Sampling Party	Location	Depth	Matrix	Date	USEPA Method	Tetrachloroethene		Trichloroethene		Cis-1,2-dichloroethene		Trans-1,2-dichloroethene		Benzene		Toluene		Xylene total		Acetone	
	Rec. Soil Cleanup Objective (ppb) [5]					1400		700		250		300		60		1500		1200		110	
Apple Valley	GUSB FG1314E	8-10	SOIL	1/29/97	8260A	37		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB FG1415B	2-4	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB FG1415D	6-8	SOIL	1/29/97	8260A	14		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB GH1213C	4-6	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB GH1213C	6-8	SOIL	1/29/97	8260A	9		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB GH1314A	0-2	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB GH1314B	2-4	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB GH1314B	2-4	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB GH1314C	4-6	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB GH1314C	4-6	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB GH1314D	6-8	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB GH1314D	6-8	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB GH1314E	8-10	SOIL	1/29/97	8260A	8		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB GH1314E	8-10	SOIL	1/29/97	8260A	8		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB GH1415A	0-2	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB H12E	8-10	SOIL	1/29/97	8260A	6		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB H14A	0-2	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB HI1314A	0-2	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB HI1415A	0-2	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB I13A	0-2	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB I13E	8-10	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Apple Valley	GUSB I14C	4-6	SOIL	1/29/97	8260A	5	U	5	U	5	U	5	U	1	U	5	U	5	U	100	U
Grand Union	GUSB B17	4-6	SOIL	1/29/97	8260	3	J	5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB F14	0-2	SOIL	1/29/97	8260	8		5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB F14	10-12	SOIL	1/29/97	8260	46		5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB F14	2-4	SOIL	1/29/97	8260	9		5	U	NA		5	U	0.7	U	5	U	5	U	10	U

TABLE 2
SOIL DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Sampling Party	Location	Depth	Matrix	Date	USEPA Method	Tetrachloroethene		Trichloroethene		Cis-1,2-dichloroethene		Trans-1,2-dichloroethene		Benzene		Toluene		Xylene total		Acetone	
	Rec. Soil Cleanup Objective (ppb) [5]					1400		700		250		300		60		1500		1200		110	
Grand Union	GUSB F14	4-6	SOIL	1/29/97	8260	4	J	5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB F14	6-8	SOIL	1/29/97	8260	27		5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB F14	8-10	SOIL	1/29/97	8260	12		5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB FG1314	0-2	SOIL	1/29/97	8260	12	J	5	U	NA		5	U	0.7	U	5	U	5	U	19	B
Grand Union	GUSB FG1314	10-12	SOIL	1/29/97	8260	50		2	J	NA		5	U	0.7	U	5	U	5	U	8	IB
Grand Union	GUSB FG1314	2-4	SOIL	1/29/97	8260	2	J	5	U	NA		5	U	0.7	U	5	U	5	U	16	B
Grand Union	GUSB FG1314	4-6	SOIL	1/29/97	8260	12		5	U	NA		5	U	0.7	U	5	U	5	U	30	B
Grand Union	GUSB FG1314	6-8	SOIL	1/29/97	8260	4	J	5	U	NA		5	U	0.2	J	5	U	5	U	18	B
Grand Union	GUSB FG1314	8-10	SOIL	1/29/97	8260	19		5	U	NA		5	U	0.2	J	5	U	5	U	11	B
Grand Union	GUSB FG1415	2-4	SOIL	1/29/97	8260	6		5	U	NA		5	U	0.7	U	5	U	5	U	10	JB
Grand Union	GUSB FG1415	4-6	SOIL	1/29/97	8260	28		5	U	NA		5	U	0.7	U	5	U	5	U	21	IB
Grand Union	GUSB FG1415	6-8	SOIL	1/29/97	8260	8		5	U	NA		5	U	0.7	U	5	U	5	U	11	JB
Grand Union	GUSB FG1415	0-2	SOIL	1/29/97	8260	23		5	U	NA		5	U	0.7	U	5	U	5	U	9	JB
Grand Union	GUSB G13	0-2	SOIL	1/29/97	8260	11		5	U	NA		5	U	0.7	U	5	U	5	U	11	J
Grand Union	GUSB G13	2-4	SOIL	1/29/97	8260	12		5	U	NA		5	U	0.7	U	5	U	5	U	5	J
Grand Union	GUSB G13	4-6	SOIL	1/29/97	8260	6		5	U	NA		5	U	0.7	U	5	U	5	U	10	J
Grand Union	GUSB G13	6-8	SOIL	1/29/97	8260	13		5	U	NA		5	U	0.7	U	5	U	5	U	16	
Grand Union	GUSB G13	8-10	SOIL	1/29/97	8260	20		5	U	NA		5	U	0.7	U	5	U	5	U	20	
Grand Union	GUSB G14	0-2	SOIL	1/29/97	8260	5	J	5	U	NA		5	U	0.7	U	5	U	5	U	13	
Grand Union	GUSB G14	2-4	SOIL	1/29/97	8260	2	J	5	U	NA		5	U	0.7	U	5	U	5	U	10	J
Grand Union	GUSB G14	4-6	SOIL	1/29/97	8260	12		5	U	NA		5	U	0.7	U	5	U	5	U	8	J
Grand Union	GUSB G14	6-8	SOIL	1/29/97	8260	11		5	U	NA		5	U	0.7	U	5	U	5	U	9	J
Grand Union	GUSB G14	8-10	SOIL	1/29/97	8260	11		5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB G16	6-8	SOIL	1/29/97	8260	15		5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB G18	2-4	SOIL	1/29/97	8260	3	J	5	U	NA		5	U	0.7	U	5	U	5	U	21	B
Grand Union	GUSB GH1213	0-2	SOIL	1/29/97	8260	17		5	U	NA		5	U	0.7	U	5	U	5	U	12	B

TABLE 2
SOIL DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Sampling Party	Location	Depth	Matrix	Date	USEPA Method	Tetrachloroethene		Trichloroethene		Cis-1,2-dichloroethene		Trans-1,2-dichloroethene		Benzene		Toluene		Xylene total		Acetone	
	Rec. Soil Cleanup Objective (ppb) [5]					1400		700		250		300		60		1500		1200		110	
Grand Union	GUSB GH1213	2-4	SOIL	1/29/97	8260	20		5	U	NA		5	U	0.7	U	5	U	5	U	5	JB
Grand Union	GUSB GH1213	4-6	SOIL	1/29/97	8260	21		0.7	J	NA		5	U	0.7	U	5	U	5	U	15	B
Grand Union	GUSB GH1213	6-8	SOIL	1/29/97	8260	0.8	J	5	U	NA		5	U	0.7	U	5	U	5	U	17	
Grand Union	GUSB GH1213	8-10	SOIL	1/29/97	8260	8		0.8	J	NA		5	U	0.7	U	5	U	5	U	13	B
Grand Union	GUSB GH1314	0-2	SOIL	1/29/97	8260	5	U	5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB GH1314	2-4	SOIL	1/29/97	8260	5	U	5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB GH1314	4-6	SOIL	1/29/97	8260	7		5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB GH1314	6-8	SOIL	1/29/97	8260	23		2	J	NA		5	U	0.7	U	5	U	5	U	36	B
Grand Union	GUSB GH1314	8-10	SOIL	1/29/97	8260	23		5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB GH1415	0-2	SOIL	1/29/97	8260	5	U	5	U	NA		5	U	0.7	U	5	U	5	U	26	
Grand Union	GUSB GH1415	2-4	SOIL	1/29/97	8260	2	J	5	U	NA		5	U	0.7	U	5	U	5	U	16	
Grand Union	GUSB GH1415	4-6	SOIL	1/29/97	8260	2	J	5	U	NA		5	U	0.7	U	5	U	5	U	39	
Grand Union	GUSB GH1415	6-8	SOIL	1/29/97	8260	30		3	J	NA		5	U	0.7	U	5	U	5	U	15	B
Grand Union	GUSB H12	0-2	SOIL	1/29/97	8260	4	J	5	U	NA		5	U	0.7	U	5	U	5	U	11	B
Grand Union	GUSB H12	10-12	SOIL	1/29/97	8260	3	J	5	U	NA		5	U	0.7	U	5	U	5	U	11	J
Grand Union	GUSB H12	2-4	SOIL	1/29/97	8260	3	J	5	U	NA		5	U	0.7	U	5	U	5	U	13	B
Grand Union	GUSB H12	4-6	SOIL	1/29/97	8260	9		5	U	NA		5	U	0.7	U	5	U	5	U	16	B
Grand Union	GUSB H12	6-8	SOIL	1/29/97	8260	3	J	5	U	NA		5	U	0.7	U	5	U	5	U	9	JB
Grand Union	GUSB B17	4-6	SOIL	1/29/27	8260	3	J	5	U	NA		5	U	0.7	U	0.4	J	5	U	10	U
Grand Union	GUSB H12	8-10	SOIL	1/29/97	8260	3	J	5	U	NA		5	U	0.7	U	5	U	5	U	11	J
Grand Union	GUSB H13	0-2	SOIL	1/28/97	8260	54		5	U	NA		5	U	0.7	U	5	U	5	U	14	B
Grand Union	GUSB H13	2-4	SOIL	1/28/97	8260	5	U	5	U	NA		5	U	0.7	U	5	U	5	U	7	JB
Grand Union	GUSB H13	4-6	SOIL	1/28/97	8260	16		0.7	J	NA		5	U	0.7	U	5	U	5	U	11	B
Grand Union	GUSB H13	6-8	SOIL	1/28/97	8260	4	J	5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB H13	8-10	SOIL	1/28/97	8260	4	J	1	J	NA		5	U	0.7	U	5	U	5	U	7	J
Grand Union	GUSB H14	0-2	SOIL	1/28/97	8260	6		0.7	J	NA		5	U	0.7	U	4	J	5	U	25	B

TABLE 2
SOIL DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Sampling Party	Location	Depth	Matrix	Date	USEPA Method	Tetrachloroethene		Trichloroethene		Cis-1,2-dichloroethene		Trans-1,2-dichloroethene		Benzene		Toluene		Xylene total		Acetone	
	Rec. Soil Cleanup Objective (ppb) [5]					1400		700		250		300		60		1500		1200		110	
Grand Union	GUSB H14	2-4	SOIL	1/28/97	8260	2	J	5	U	NA		5	U	0.7	U	5	U	5	U	8	JB
Grand Union	GUSB H14	4-6	SOIL	1/28/97	8260	9		2	J	NA		5	U	0.7	U	0.4	J	5	U	12	B
Grand Union	GUSB H14	6-8	SOIL	1/28/97	8260	8		2	J	NA		5	U	0.7	U	5	U	5	U	8	JB
Grand Union	GUSB HI1314	0-2	SOIL	1/29/97	8260	3	J	5	U	NA		5	U	0.7	U	5	U	5	U	15	
Grand Union	GUSB HI1314	2-4	SOIL	1/29/97	8260	2	J	5	U	NA		5	U	0.7	U	5	U	5	U	8	JB
Grand Union	GUSB HI1314	4-6	SOIL	1/29/97	8260	5	U	5	U	NA		5	U	0.7	U	5	U	5	U	32	B
Grand Union	GUSB HI1314	6-8	SOIL	1/29/97	8260	3	J	5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB HI1415	0-2	SOIL	1/29/97	8260	0.4	J	5	U	NA		5	U	0.7	U	5	U	5	U	11	B
Grand Union	GUSB HI1415	2-4	SOIL	1/29/97	8260	9		5	U	NA		5	U	0.7	U	2	J	5	U	20	B
Grand Union	GUSB I13	0-2	SOIL	1/29/97	8260	5	U	5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB I13	2-4	SOIL	1/29/97	8260	5	U	5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB I13	4-6	SOIL	1/29/97	8260	5	U	5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB I13	6-8	SOIL	1/29/97	8260	4	J	5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB I13	8-10	SOIL	1/29/97	8260	3	J	5	U	NA		5	U	0.7	U	5	U	5	U	10	U
Grand Union	GUSB I14	0-2	SOIL	1/29/97	8260	2	J	5	U	NA		5	U	0.7	U	5	U	5	U	7	JB
Grand Union	GUSB I14	2-4	SOIL	1/29/97	8260	0.7	J	5	U	NA		5	U	2	J	5	U	5	U	17	JB
Grand Union	GUSB I14	4-6	SOIL	1/29/97	8260	5	U	5	U	NA		5	U	0.7	U	5	U	5	U	10	JB
Grand Union	GUSB I14	6-8	SOIL	1/29/97	8260	5	U	5	U	NA		5	U	0.7	U	5	U	5	U	6	JB
Grand Union	MW-RCI (1)	unknown	SOIL	1/20/97	8260A	25	U	25	U	25	U	25	U	5	U	25	U	25	U	850	
Grand Union	MW-RCI (2)	unknown	SOIL	1/20/97	8260A	15		5	U	5	U	5	U	1	U	5	U	5	U	100	U
Grand Union	MW-RCI (3)	unknown	SOIL	1/20/97	8260A	Trace		25	U	25	U	25	U	5	U	25	U	25	U	720	
Grand Union	MW-RCI (4)	unknown	SOIL	1/20/97	8260A	55		50	U	50	U	50	U	10	U	50	U	50	U	3,600	
Grand Union	MW-RCI (5)	unknown	SOIL	1/20/97	8260A	250	U	250	U	250	U	250	U	50	U	250	U	250	U	29,000	J
Grand Union	FS-1	unknown		1/20/97	8260A	310		100	U	100	U	100	U	20	U	100	U	100	U	28,000	J
Grand Union	FS-2	unknown		1/20/97	8260A	2500	U	2500	U	2500	U	2500	U	500	U	2500	U	2500	U	210,000	J

TABLE 2
SOIL DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Sampling Party	Location	Depth	Matrix	Date	USEPA Method	Tetrachloroethene		Trichloroethene		Cis-1,2-dichloroethene		Trans-1,2-dichloroethene		Benzene		Toluene		Xylene total		Acetone	
	Rec. Soil Cleanup Objective (ppb) [5]					**1400**		**700**		**250**		**300**		**60**		**1500**		**1200**		**110**	

Notes:

1. Table only presents selected analytes of concern pertaining to the AVSC Project. Some samples may have exhibited low levels of other compounds not considered to be associated with the the suspected source area.
2. All sample results are presented in micrograms per kilogram (ppb).
3. NA = Compound Not Analyzed for in this method.
4. All sample results are compiled directly from laboratory reporting sheets. Some sampling location or identification information may have been taken from other sources.
5. Recommended Soil Cleanup Objective (ppb) to Protect Groundwater Quality, TAGM 4046 (rev. 4/95). Assumes that organic content of soil is 1% and that soil is above the water table.

TABLE 3
SHOPPING CENTER SUPPLY WELL
GROUNDWATER DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Location	Sampling Point	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)				**5**		**5**		**5**		**5**		**2**	
Apple Valley	Raw	10/21/88	503.1	550		70		0.5	U	0.5	U	0.5	U
Apple Valley	Raw	10/21/88	601	640		57		0.5	U	0.5	U	0.5	U
Abd.well "behind" Grand Union	AV-1 (?)	9/13/90	Unknown	5150		0.5	U	110		0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	9/14/92	524.2	450		30		47		0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	9/14/92	524.2	370		36		48		0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	9/17/92	524.2	200		19		28		0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	10/30/92	524.2	290		22		28		0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	3/29/93	524.2	400		29		29		0.5	U	1.1	
Apple Valley Air Stripper	AV-2	3/31/93	524.2	140		12		12		0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	4/28/93	524.2	460	J	24		38		0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	5/24/93	524.2	280		21		22		0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	6/21/93	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	7/20/93	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	12/15/93	524.2	200		22		20		0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	3/17/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	7/25/94	524.2	370		32		67		0.5		1.2	
Apple Valley Air Stripper	AV-2	9/30/94	524.2	140		12		13		0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	12/13/94	524.2	140		12		13		0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	6/20/95	524.2	320		24		24		0.5	U	0.7	

TABLE 3
SHOPPING CENTER SUPPLY WELL
GROUNDWATER DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Location	Sampling Point	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)				**5**		**5**		**5**		**5**		**2**	
Apple Valley Air Stripper	AV-2	3/13/96	524.2	44		4.7		6.5		0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	4/9/96	524.2	330		30		47		0.5	U	1	
Apple Valley Air Stripper	AV-2	9/18/96	524.2	180		16		15		0.5	U	0.5	U
Apple Valley Air Stripper	AV-2	9/18/96	524.4	120		15		17		0.5	U	0.7	
Apple Valley Air Stripper	AV-2	1/23/97	524.2	740		110		200		2.4		15	
Apple Valley Shopping Center	AV-2	1/28/97	8260	2,400		520		1,300		24		64	
Apple Valley Shopping Center	AV-3	3/11/97	524.2	86		0.7		0.5	U	0.5	U	0.5	U
Apple Valley Shopping Center	AV-1	9/23/97	524.2	12,000		58		47		0.5	U	2.2	
Apple Valley Shopping Center	AV-1	3/18/98	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Replacement Well	MW-RC1	9/14/98	524.2	23000		210		190		25	U	25	U
Grand Union	GUGWH14	5/20/99	524.2	26		9	J	NA		5	U	5	U

Notes

1. Table only presents selected analytes of concern pertaining to the AVSC Project. Some with the the suspected source area.
2. All sample results are presented in micrograms per liter (ppb).
3. All sample results are compiled directly from laboratory reporting sheets. Some sampling location or identification information may have been taken from other sources.

TABLE 4
RESIDENTIAL SUPPLY WELL
GROUNDWATER DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
1 Chestnut Ridge	Falciano	L-1	8/8/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1 Chestnut Ridge	Falciano	L-1	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1 Chestnut Ridge	Falciano	L-1	11/27/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1 Chestnut Ridge	Falciano	L-1	11/27/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1 Chestnut Ridge	Falciano	L-1	4/11/91	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	5/16/90	502.1	0.5	U	71		140		0.5	U	12	
7 Locust Crest Ct	Robson	L-10	5/16/90	503.1	920		99		0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	3/26/92	524.2	600		87		170		1.3		4.4	
7 Locust Crest Ct	Robson	L-10	8/26/92	524.2	420		66		150		0.5	U	10	
7 Locust Crest Ct	Robson	L-10	9/2/92	524.2	470		69		170		0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	9/15/92	524.2	2.8		1.6		1.3		0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	10/2/92	524.2	310		45		100		0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	10/26/92	524.2	100		24		65		0.5	U	3.1	
7 Locust Crest Ct	Robson	L-10	10/26/92	524.2	100		24		65		0.5	U	3.1	
7 Locust Crest Ct	Robson	L-10	11/23/92	524.2	200		30		77		0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	12/15/92	524.2	620		62		140		0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	1/18/93	524.2	640		63		120		0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	2/15/93	524.2	760		79		220		0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	3/15/93	524.2	580		69		140		0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	4/21/93	524.2	380		21		29		0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	4/23/93	524.2	44		0.8		1.4		0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	5/24/93	524.2	35		1		1		0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	6/21/93	524.2	27		1.2		1.4		0.5	U	0.5	U

TABLE 4
RESIDENTIAL SUPPLY WELL
GROUNDWATER DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trons-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
7 Locust Crest Ct	Robson	L-10	7/20/93	524.2	17		0.6		1		0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	9/20/93	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	12/15/93	524.2	3.4	J	0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	3/17/94	524.2	2.7		0.6		1.5		0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	9/30/94	524.2	1.9		0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	12/13/94	524.2	1		0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	1/16/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	6/14/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	8/25/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	9/12/95	524.2	0.8		0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	3/11/96	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	9/18/96	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	9/23/97	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	3/18/98	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	9/14/98	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	10/20/88		2		0.5	U	0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	6/18/90	502.1	810		100		250		0.5	U	28	U
7 Locust Crest Ct	Robson	L-10	6/18/90	502.1	1600		270		0.5	U	0.5	U	0.5	U
7 Locust Crest Ct	Robson	L-10	10/10/91	624	400		52		130		0.5	U	trace	
Lee/Robson Air Stipper	Lee/Robson	L-10/11	11/16/92	524.2	250		41		120		0.9		2	
Lee/Robson Air Stipper	Lee/Robson	L-10/11	4/21/93	524.2	270		25		60		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	4/23/93	524.2	220		19		50		0.5	U	1.1	
Lee/Robson Air Stipper	Lee/Robson	L-10/11	5/24/93	524.2	80		9		24		0.5	U	0.6	U

TABLE 4
RESIDENTIAL SUPPLY WELL
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Location	Residence	Lot Nnmber	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
Lee/Robson Air Stipper	Lee/Robson	L-10/11	8/5/93	524.2	36		5.2		12		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	9/20/93	524.2	18		2.8		5.4		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	12/15/93	524.2	0.6	J	0.5	U	0.7		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	3/17/94	524.2	13		3.5		5.1		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	7/25/94	524.2	27		0.5	U	9.7		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	9/30/94	524.2	8		3.5		3.6		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	12/13/94	524.2	5.6		2.7		3.1		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	6/14/95	524.2	4.6		1.9		3.2		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	9/12/95	524.2	5.1		2.9		2.9		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	3/11/96	524.2	0.8		0.5	U	0.6		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	9/18/96	524.2	4.8		2.1		3		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	3/11/97	524.2	5.5		3		2.6		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	9/23/97	524.2	3.4		1.5		2.1		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	3/18/98	524.2	3.3		1.1		1.4		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	9/14/98	524.2	4		2.2		2.1		0.5	U	0.5	U
Lee/Robson Air Stipper	Lee/Robson	L-10/11	5/20/99	524.2	6.6		2.4		2.2		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	6/12/90	502.1	16		1.6		0.9		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	6/12/90	503.1	12		2		0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	8/26/92	524.2	980		72		170		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	9/15/92	524.2	17		4.3		9.7		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	10/2/92	524.2	490		59		140		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	10/26/92	524.2	280		39		100		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	10/26/92	524.2	280		39		100		0.5	U	0.5	U

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Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrochloroethen		Trichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
18 Locust Crest Ct	Lee	L-11	11/23/92	524.2	170		19	U	36		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	12/15/92	524.2	750		48		79		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	1/18/93	524.2	550		32		54		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	2/15/93	524.2	890		78		210		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	3/15/93	524.2	770		53		78		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	4/21/93	524.2	650		40		53		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	4/23/93	524.2	230		5.1		2.9		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	5/24/93	524.2	23		0.5	U	0.6		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	6/21/93	524.2	17		0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	8/5/93	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	9/27/93	524.2	0.5	U	0.5	U	0.5		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	12/15/93	524.2	6.6	J	0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	3/17/94	524.2	4.4		0.5	U	1.3		0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	7/25/94	524.2	1.3		0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	9/30/94	524.2	1.7		0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	12/13/94	524.2	1.1		0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	1/16/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	6/14/95	524.2	2.2		0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	8/25/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	9/12/95	524.2	1.5		0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	3/11/96	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	9/18/96	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	3/11/97	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
18 Locust Crest Ct	Lee	L-11	9/23/97	524.2	1.3		0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	3/18/98	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	9/14/98	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	8/28/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	19	
18 Locust Crest Ct	Lee	L-11	8/28/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	11/8/90	502.1	550		110		240		0.5	U	16	
18 Locust Crest Ct	Lee	L-11	11/8/90	503.1	560		140		0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	11/8/90	502.1	0.5	U	0.5	U	23		0.5	U	20	
18 Locust Crest Ct	Lee	L-11	11/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
18 Locust Crest Ct	Lee	L-11	12/4/90	502.2	940		140		0.5	U	0.5	U	21	
18 Locust Crest Ct	Lee	L-11	12/4/90	502.2	0.5	U	0.5	U	0.5	U	0.5	U	29	
18 Locust Crest Ct	Lee	L-11	10/10/91	624	590		72		170		0.5	U	11	
18 Locust Crest Ct	Luongo	L-11	9/28/88		48		8		0.5	U	16		0.5	U
18 Locust Crest Ct	Luongo	L-11	10/20/88		3		0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	12/4/90	502.2	790		120		0.5	U	0.5	U	29	
16 Locust Crest Ct	Swanson	L-12	8/26/92	524.2	320		3		2.1		0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	9/15/92	524.2	31		0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	10/2/92	524.2	630		4.8		2.6		0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	12/15/92	524.2	60		0.6		0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	1/18/93	524.2	62		0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	2/15/93	524.2	180		1.9		1.9		0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	3/15/93	524.2	120		0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	4/21/93	524.2	50		0.7	U	0.5	U	0.5	U	0.5	U

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Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrachloroethen		Trichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
16 Locust Crest Ct	Swanson	L-12	5/24/93	524.2	6		0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	6/21/93	524.2	5		0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	9/27/93	524.2	2.7		0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	12/15/93	524.2	3.9		0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	3/17/94	524.2	0.7		0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	7/25/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	9/30/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	12/13/94	524.2	0.6	U	0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	1/16/95	524.2	0.8		0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	6/14/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	8/25/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	3/11/96	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	10/20/88		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	5/16/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	5/16/90	503.1	10		0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	6/18/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	6/18/90	502.1	110		0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	12/4/90	502.2	81		0.5	U	0.5	U	0.5	U	0.5	U
16 Locust Crest Ct	Swanson	L-12	10/10/91	624	70		0.5	U	0.5	U	0.5	U	0.5	U
14 Locust Crest Ct	Chung	L-13	4/11/91	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
14 Locust Crest Ct	Chung	L-13	6/8/95	502.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
14 Locust Crest Ct	Chung	L-13	5/16/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
14 Locust Crest Ct	Chung	L-13	5/16/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrochloroethen		Trichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
14 Locust Crest Ct	Chung	L-13	6/18/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
14 Locust Crest Ct	Chung	L-13	6/18/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12 Locust Crest Ct	Schaffer	L-14	7/24/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12 Locust Crest Ct	Schaffer	L-14	7/24/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12 Locust Crest Ct	Schaffer	L-14	4/11/91	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10 Locust Crest Ct.	Gregorio	L-15	7/24/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10 Locust Crest Ct.	Gregorio	L-15	7/24/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8 Locust Crest Ct.	Lawson	L-16	7/24/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8 Locust Crest Ct.	Lawson	L-16	7/24/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8 Locust Crest Ct.	Lawson	L-16	6/8/95	502.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
6 Locust Crest Ct.	Rose	1-17	7/24/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
6 Locust Crest Ct.	Rose	L-17	7/24/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4 Locust Crest Ct	Cannon	L-18	6/8/95	502.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4 Locust Crest Ct	Cannon	L-18	8/28/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4 Locust Crest Ct	Cannon	L-18	8/28/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2 Locust Crest Ct.	Huang	L-19	7/24/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2 Locust Crest Ct.	Huang	L-19	7/24/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2 Stone Hedge Dr	Huang	L-19	11/27/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2 Stone Hedge Dr	Huang	L-19	11/27/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2 Locust Crest Ct	Huang	L-19	4/4/96	5022w	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Chestnut Ridge	Cowan	L-2	7/24/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Chestnut Ridge	Cowan	L-2	7/24/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Chestnut Ridge	Cowan	L-2	11/27/90	502.1	0.5	U	0.5	U	1.5		0.5	U	0.5	U

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Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
3 Chestnut Ridge	Cowan	L-2	11/27/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Chestnut Ridge	Cowan	L-2	6/8/95	502.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2 Stonehinge Dr.	Kerins	L-20	8/28/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2 Stonehinge Dr.	Kerins	L-20	8/28/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4 Stonehinge Dr	Gent	L-21	8/8/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4 Stonehinge Dr	Gent	L-21	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4 Stonehinge Dr	Gent	L-21	4/11/91	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4 Stonehinge Dr	Gent	L-21	6/8/95	502.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
6 Stonehinge Dr	Lewin	L-22	8/8/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
6 Stonehinge Dr	Lewin	L-22	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8 Stonehinge Dr	Deluccia	L-23	6/13/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8 Stonehinge Dr	Deluccia	L-23	6/13/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10 Stonehinge Dr.	Koenig	L-24	6/25/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10 Stonehinge Dr.	Koenig	L-24	6/25/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12 Stonehinge Dr	Abolafia	L-25	8/8/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12 Stonehinge Dr	Abolafia	L-25	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12 Stonehinge Dr	Abolafia	L-25	6/8/95	502.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
14 Stonehinge Dr	Conatus	L-26	8/8/90	502.1	.0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
14 Stonehinge Dr	Conatus	L-26	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
16 Stonehinge Dr	Taylor	L-27	8/8/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
16 Stonehinge Dr	Taylor	L-27	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
20 Stonehinge Dr	Soricelli	L-29	3/20/96	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
5 Chestnut Ridge	Glick	L-3	6/25/90	502.1	0.5	U	1.1		1.1		0.5	U	0.5	U

TABLE 4
RESIDENTIAL SUPPLY WELL
GROUNDWATER DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
5 Chestnut Ridge	Glick	L-3	6/25/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
5 Chestnut Ridge	Glick	L-3	7/24/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
5 Chestnut Ridge	Glick	L-3	7/24/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
5 Chestnut Ridge	Glick	L-3	8/28/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
5 Chestnut Ridge	Glick	L-3	8/28/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
5 Chestnut Ridge	Glick	L-3	11/27/90	502.1	0.74		0.5	U	0.5	U	0.5	U	0.5	U
5 Chestnut Ridge	Glick	L-3	11/27/90	503.1	0.9		0.5	U	0.5	U	0.5	U	0.5	U
5 Chestnut Ridge	Glick	L-3	4/11/91	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
5 Chestnut Ridge	Glick	L-3	9/16/92	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
5 Chestnut Ridge	Glick	L-3	7/25/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
5 Chestnut Ridge	Glick	L-3	9/30/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
5 Chestnut Ridge	Glick	L-3	12/13/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
24 Stonehinge Dr	Aronaff	L-30	8/8/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
24 Stonehinge Dr	Aronaff	L-30	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
23 Stonehinge Dr	Pesacov	L-33	8/8/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
23 Stonehinge Dr	Pesacov	L-33	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
23 Stonehinge Dr	Pesacov	L-33	6/8/95	502.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
21 Stonehinge Dr	Murray	L-34	6/8/95	502.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
21 Stonehinge Dr	Murray	L-34	8/28/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
21 Stonehinge Dr	Murray	L-34	8/28/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
17 Stonehinge Dr	Sheets	L-36	8/8/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
17 Stonehinge Dr	Sheets	L-36	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
17 Stonehinge Dr	Sheets	L-36	6/8/95	502.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

TABLE 4
RESIDENTIAL SUPPLY WELL
GROUNDWATER DATA SUMMARY
Apple Valley Shopping Center
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Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
15 Stonehinge Dr.	Cavallaro	L-37	8/8/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
15 Stonehinge Dr.	Cavallaro	L-37	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
15 Stonehinge Dr.	Cavallaro	L-37	11/27/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
15 Stonehinge Dr.	Cavallaro	L-37	11/27/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
15 Stonehinge Dr.	Cavallaro	L-37	6/8/95	502.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	8/26/92	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	9/16/92	524.2	20		4.5		14		0.5	U	0.6	
7 Chesnut Ridge	Fyffe	L-4	9/16/92	524.2	0.7		0.5	U	0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	10/2/92	524.2	17		2.7		11		0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	12/15/92	524.2	15		2.9		9.2		0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	3/15/93	524.2	14		3.7		10		0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	6/21/93	524.2	1.7		0.5	U	0.6		0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	9/20/93	524.2	0.7		0.5	U	0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	12/15/93	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	3/17/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	7/25/94	524.2	0.6	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	9/30/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	12/13/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	1/16/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	6/14/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	8/25/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	7/24/90	502.1	5.2		0.5	U	2.5		0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	7/24/90	503.1	5.0		0.5	U	0.5	U	0.5	U	0.5	U

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RESIDENTIAL SUPPLY WELL
GROUNDWATER DATA SUMMARY
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Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrochloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
7 Chesnut Ridge	Fyffe	L-4	8/28/90	502.1	6.9		0.5	U	4.8		0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	8/28/90	503.1	7.7		0.5	U	0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	12/4/90	502.2	9.9		1.2		0.5	U	0.5	U	0.5	U
7 Chesnut Ridge	Fyffe	L-4	10/10/91	624	13		0.5	U	5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	7/24/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	7/24/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	8/26/92	524.2	17		3.7		17		0.5	U	1.7	
9 Chestnut Ridge	Tucker	L-5	9/16/92	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	10/2/92	524.2	20		4.9		20		0.5	U	2.2	
9 Chestnut Ridge	Tucker	L-5	12/15/92	524.2	19		5.2		15		0.5	U	1.4	U
9 Chestnut Ridge	Tucker	L-5	3/15/93	524.2	29		11		30		0.5	U	3.6	U
9 Chestnut Ridge	Tucker	L-5	6/21/93	524.2	1.9		0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	9/20/93	524.2	1.3		0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	12/15/93	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	3/17/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	9/30/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	12/13/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	1/16/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	6/14/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	7/22/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	8/25/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	8/8/90	502.1	2.5		0.5	U	5.6		0.5	U	2.6	
9 Chestnut Ridge	Tucker	L-5	8/8/90	503.1	1.2		0.5	U	0.5	U	0.5	U	0.5	U

TABLE 4
RESIDENTIAL SUPPLY WELL
GROUNDWATER DATA SUMMARY
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Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
9 Chestnut Ridge	Tucker	L-5	8/28/90	502.1	1.7		0.5	U	3.7		0.5	U	1.1	
9 Chestnut Ridge	Tucker	L-5	8/28/90	503.1	2.9		0.5	U	0.5	U	0.5	U	0.5	U
9 Chestnut Ridge	Tucker	L-5	10/10/91	624	13		0.5	U	11		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	8/26/92	524.2	34		6.4		17		0.5	U	2	
8 Chestnut Ridge	Lipka	L-6	9/16/92	524.2	0.8		0.5	U	0.5	U	0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	10/2/92	524.2	32		7.2		15		0.5	U	2	
8 Chestnut Ridge	Lipka	L-6	12/15/92	524.2	43		8.8		19		0.5	U	1.9	
8 Chestnut Ridge	Lipka	L-6	3/15/93	524.2	37		9.4		17		0.5	U	1.9	
8 Chestnut Ridge	Lipka	L-6	6/21/93	524.2	18		3.8		9.4		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	9/20/93	524.2	6.6		1.7		4		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	12/15/93	524.2	7.1	J	1.4		3		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	3/17/94	524.2	4.3		0.9		1.8		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	7/25/94	524.2	4.5		0.5	U	3.5		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	9/30/94	524.2	2.5		0.9		1.6		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	12/13/94	524.2	2.1		0.8		1.2		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	1/16/95	524.2	2.2		0.8		1.3		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	6/14/95	524.2	2		1		1.8		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	8/25/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	9/12/95	524.2	1.6		0.6		1.1		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	3/11/96	524.2	0.7		0.5	U	0.5	U	0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	3/11/97	524.2	1.7		0.6		0.7		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	9/14/98	524.2	2.2		0.5	U	0.6		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	5/20/99	524.2	1.1		0.5	U	0.5	U	0.5	U	0.5	U

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RESIDENTIAL SUPPLY WELL
GROUNDWATER DATA SUMMARY
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Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
8 Chestnut Ridge	Lipka	L-6	6/25/90	502.1	0.5	U	3.7		6.2		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	6/25/90	503.1	7.3		2.2		0.5	U	0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	7/24/90	502.1	14		2.5		8.8		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	7/24/90	503.1	14		3.6		0.5	U	0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	12/4/90	502.2	29		5.5		0.5	U	0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	10/10/91	624	24		5.0		15		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	9/18/96	524.2	1.8		1		1.4		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	9/23/97	524.2	1.5		0.7		1.1		0.5	U	0.5	U
8 Chestnut Ridge	Lipka	L-6	3/18/98	524.2	1.7		0.5	U	0.6		0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	10/11/90	502.1	1.1		0.5	U	0.5	U	0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	10/11/90	503.1	1.3		0.5	U	0.5	U	0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	9/16/92	524.2	5.6		0.6		1.3		0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	12/15/92	524.2	4.3		0.7		2.3		0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	12/15/92	524.2	4.6		0.5	U	1.1		0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	3/15/93	524.2	4.8		0.9		2.8		0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	6/21/93	524.2	1.9		0.5	U	0.7		0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	6/21/93	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	9/20/93	524.2	1.9		0.5	U	1.1		0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	12/15/93	524.2	0.9		0.5	U	0.5	U	0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	3/17/94	524.2	0.7		0.5	U	0.5	U	0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	7/25/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	9/30/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	12/13/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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RESIDENTIAL SUPPLY WELL
GROUNDWATER DATA SUMMARY
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Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
6 Chestnut Ridge	Cole	L-7	1/16/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
6 Chestnut Ridge	Cole	L-7	6/19/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	6/18/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	6/18/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	6/25/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	6/25/90	503.1	0.95		0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	7/24/90	502.1	3.6		0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	7/24/90	503.1	3.2		0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	10/11/90	502.1	19		1.5		3.2		0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	10/11/90	503.1	19		1.8		0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	12/4/90	502.2	1.6		0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	8/26/92	524.2	4.4		0.5	U	0.6		0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	9/15/92	524.2	1.3		0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	10/2/92	524.2	37		2.5		7.4		0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	12/15/92	524.2	1.9		0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	6/21/93	524.2	6.1		0.5	U	0.9		0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	9/27/93	524.2	1.6		0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	12/15/93	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	3/17/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	7/25/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	9/30/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	12/13/94	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	1/16/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

TABLE 4
RESIDENTIAL SUPPLY WELL
GROUNDWATER DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorathene		cis-1,2-Dichloroethene		trans-1,2-Dichlorathene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
3 Locust Crest Ct	Ballard	L-8	6/14/95	524.2	0.9		0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	8/25/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
3 Locust Crest Ct	Ballard	L-8	3/15/98	524.4	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	5/16/90	502.1	51		7.5		19		0.5	U	3.8	
5 Locust Crest Ct	Gall	L-9	5/16/90	503.1	61		11		0.5	U	0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	6/18/90	502.1	0.5	U	10		13		0.5	U	0.92	
5 Locust Crest Ct	Gall	L-9	6/18/90	502.1	70		23		0.5	U	0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	8/26/92	524.2	62		12		19		0.5	U	2.4	
5 Locust Crest Ct	Gall	L-9	9/15/92	524.2	2.4		4		2.4		0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	10/2/92	524.2	55		12		18		0.5	U	1.5	
5 Locust Crest Ct	Gall	L-9	12/15/92	524.2	80		18		33		0.5	U	2.4	
5 Locust Crest Ct	Gall	L-9	3/15/93	524.2	46		17		28		0.5	U	2.1	
5 Locust Crest Ct	Call	L-9	6/21/93	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	9/27/93	524.2	2.6		0.9		0.6		0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	12/15/93	524.2	2.2		0.7		0.5	U	0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	3/17/94	524.2	1.3		0.6		0.5	U	0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	7/25/94	524.2	1.1		0.5	U	0.5	U	0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	9/30/94	524.2	0.9		0.5	U	0.5	U	0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	12/13/94	524.2	0.9		0.5	U	0.5	U	0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	1/16/95	524.2	0.8		0.5	U	0.5	U	0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	6/14/95	524.2	0.6		0.5	U	0.5	U	0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	8/25/95	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
5 Locust Crest Ct	Gall	L-9	12/4/90	502.2	66		14		0.5	U	0.5	U	5.8	

TABLE 4
RESIDENTIAL SUPPLY WELL
GROUNDWATER DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Location	Residence	Lot Number	Sampling Date	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
5 Locust Crest Ct	Gall	L-9	10/10/91	624	31		15		20		0.5	U	0.5	U
Woodbridge Subdivision	Cullen		7/24/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Woodbridge Subdivision	Cullen		7/24/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
353 Tiusville Rd	Giannastasio		8/28/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
353 Tiusville Rd	Giannastasio		8/28/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
353 Titusville Rd	Giannastasio		11/27/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
353 Titusville Rd	Giannastasio		11/27/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
379 Titusville Rd	Killmer		4/11/91	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
379 Titusville Rd	Killmer		6/8/95	502.2	0.5	U	0.9		0.5	U	0.5	U	0.5	U
379 Titusville Rd	Killmer		8/8/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
379 Titusville Rd	Killmer		8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
379 Titusville Rd	Killmer		8/28/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
379 Titusville Rd	Killmer		8/28/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
51 Titusville Rd	Scarpelli		8/28/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
51 Titusville Rd	Scarpelli		8/28/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Woodbridge Subdivision	Turner		12/4/90	502.2	5.5		1.3		0.5	U	0.5	U	0.5	U

Notes

1. Table only presents selected analytes of concern pertaining to the AVSC Project. Some samples may have exhibited low levels of other compounds not considered to be associated with the the suspected source area.
2. All sample results are presented in micrograms per liter (ppb).
3. All sample results are compiled directly from laboratory reporting sheets. Some sampling location or identification information may have been taken from other sources.

TABLE 5
MISCELLANEOUS WATER DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Location	Well / Identification	Sampling Poing	SAMPLING DATE	USEPA Method	Tertrachloroethen		Trichlorathene		cis-1,2-Dichloroethene		trans-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
Apple Valley	#11	Tap	5/9/91	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Apple Valley	#15	Tap	8/30/91	502.1	0.5	U	0.5	U	1.7		0.5	U	0.5	U
Gene's Mobil		Tap	6/13/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Gene's Mobil		Tap	6/13/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Grand Union	GUCLS 1	Compactor	1/22/97	8260A	100	U	100	U	100	U	100	U	100	U
Grand Union	GUCLS 2	Compactor	1/22/97	8260A	50	U	50	U	50	U	50	U	50	U
Grand Union		Tap	11/29/88		640		68		0.5	U	64		0.5	U
Grand Union		Tap	6/18/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Grand Union		Tap	6/18/90	502.1	17		0.5	U	0.5	U	0.5	U	0.5	U
Grand Union *	GUC 1	Compactor	1/22/97	8260A	100	U	100	U	100	U	100	U	40	U
Grand Union*		Compactor	12/26/96	502.2	33	U	20	U	20	U	20	U	20	U
Implant & Cosmetic Dentistry		Tap	6/25/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Implant & Cosmetic Dentistry		Tap	6/25/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Joe's Sunoco		Tap	6/13/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Joe's Sunoco		Tap	6/13/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Joe's Sunoco		Tap	6/18/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Joe's Sunoco		Tap	6/18/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Josephine's Pizza		Tap	6/18/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Josephine's Pizza		Tap	6/18/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

TABLE 5
MISCELLANEOUS WATER DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Location	Well / Identification	Sampling Poing	SAMPLING DATE	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
Kent Gauge & Tool		Tap	11/29/88		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Kent Gauge & Tool		Septic	12/13/88		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Kent Gauge & Tool		Tap	6/13/90	502.1	0.5	U	1.8		0.5	U	0.5	U	0.5	U
Kent Gauge & Tool		Tap	6/13/90	503.1	0.5	U	1.2		0.5	U	0.5	U	0.5	U
Kent Gauge & Tool		Tap	6/25/90	502.1	0.5	U	1.2		1.4		0.5	U	0.5	U
Kent Gauge & Tool		Tap	6/25/90	503.1	0.5	U	0.67		0.5	U	0.5	U	0.5	U
Kenyon Contruction		Tap	8/28/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Kenyon Contruction		Tap	8/28/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Lagrange Proffessional BLG.		Tap	5/16/90		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Mobile Station		Tap	11/29/88		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Nick-L Inn		Tap	7/24/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Nick-L Inn		Tap	7/24/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Pawling Savings Bank		Tap	1/4/89		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Pawling Savings Bank		Tap	1/13/89		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Pawling Savings Bank		Tap	6/13/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Pawling Savings Bank		Tap	6/13/90	503.1	0.6		0.5	U	0.5	U	0.5	U	0.5	U
Pawling Savings Bank		Tap	6/25/90	502.1	0.5	U	0.69		1.2		0.5	U	0.5	U
Pawling Savings Bank		Tap	6/25/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sausage Co.		Tap	10/21/88	503.1	85		11		0.5	U	0.5	U	0.5	U

TABLE 5
MISCELLANEOUS WATER DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Location	Well / Identification	Sampling Poing	SAMPLING DATE	USEPA Method	Tertrachloroethen		Trichlorothene		cis-1,2-Dichloroethene		trans-1,2-Dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
Sausage Co.		Tap	10/21/88	601	73		11		0.5	U	0.5	U	0.5	U
Sunoco		Tap	1/13/89		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
The Sausage Co.		Tap	3/6/92	502.2	0.5	U	0.5	U	0.5	U	0.5	U	19	
Sausage Company		Tap	12/13/88		3		0.5	U	0.5	U	2		0.5	U
Sunoco		Septic	12/13/88		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11 Bishop Dr		Tap	8/8/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11 Bishop Dr		Tap	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
388 Titusville Rd		Tap (space B)	8/8/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
388 Titusville Rd		Tap (space B)	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
390 Titusville Rd		Tap	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Freedom Plains Rd		Tap	8/8/90	502.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Freedom Plains Rd		Tap	8/8/90	503.1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes

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2. All sample results are presented in micrograms per liter (ppb).
3. All sample results are compiled directly from laboratory reporting sheets. Some sampling location or identification information may have been taken from other sources.

TABLE 6
UNIDENTIFIABLE WATER DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Location	Well / Identification	Sampling Point	Sampling Date	USEPA Method	Tertrachloroethene		Trichlorothene		Cis-1,2-dichloroethene		Trans-1,2-dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
Grand Union		Unknown	1/25/89	Unknown	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Pumphouse	pump	Unknown	3/13/96	524.2	14		1		2.9		0.5	U	0.5	U
Pumphouse	pump	Unknown	Unknown	Unknown	12		0.9		0.9		0.5	U	0.5	U
Pumphouse	RS	Unknown	3/27/97	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Pumphouse	RS	Unknown	3/27/98	524.2	1.5		0.5	U	0.5	U	0.5	U	0.5	U
Pumphouse		Unknown	4/9/96	524.2	0.5	U	0.5	U	0.5		0.5	U	0.5	U
Pumphouse		Unknown	9/18/96	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Pumphouse		Unknown	9/18/96	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Pumphouse		Unknown	4/9/97	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Pumphouse		Unknown	9/23/97	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Pumphouse		Unknown	3/18/98	524.2	4.1		0.9		4.4		0.5	U	0.5	U
Pumphouse		Unknown	9/14/98	524.2	1.9		0.5	U	0.5	U	0.5	U	0.5	U
Unknown	#2	nished Wa	12/2/88	Unknown	5.5		0.5	U	0.5	U	0.5	U	0.5	U
Unknown	#2	nished Wa	12/13/88	Unknown	8.8		1.3		0.5	U	1.0		2.3	
Unknown	#3	Unknown	4/11/89	Unknown	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Unknown		Unknown	1/22/97	Unknown	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Apple Valley Plaza		Unknown	9/28/88	Unknown	590		120		0.5	U	140		0.5	U
Apple Valley Shopping Center		Unknown	12/5/91	624	25		0.5	U	0.5	U	0.5	U	0.5	U

TABLE 6
UNIDENTIFIABLE WATER DATA SUMMARY
Apple Valley Shopping Center
Superfund Site

Location	Well / Identification	Sampling Point	Sampling Date	USEPA Method	Tertrachloroethene		Trichlorothene		Cis-1,2-dichloroethene		Trans-1,2-dichlorethene		Vinyl Chloride	
Groundwater Standard ppb (T.O.G.S. 1.1.1)					**5**		**5**		**5**		**5**		**2**	
Apple Valley Shopping Center		Unknown	12/26/91	624	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Apple Valley Shopping Center		Unknown	4/24/92	524.2	0.5	U	0.5	U	1.3		0.5	U	0.5	U
Apple Valley Shopping Center		Raw	12/19/90	624	22		0.5	U	0.5	U	0.5	U	0.5	U
New well		Unknown	2/14/89	Unknown	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Surface		Unknown	12/13/88	Unknown	57		10		0.5	U	0.5	U	0.5	U
Titusville	T-6	Unknown	9/1/92	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Titusville	T-7	Unknown	9/1/92	524.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes

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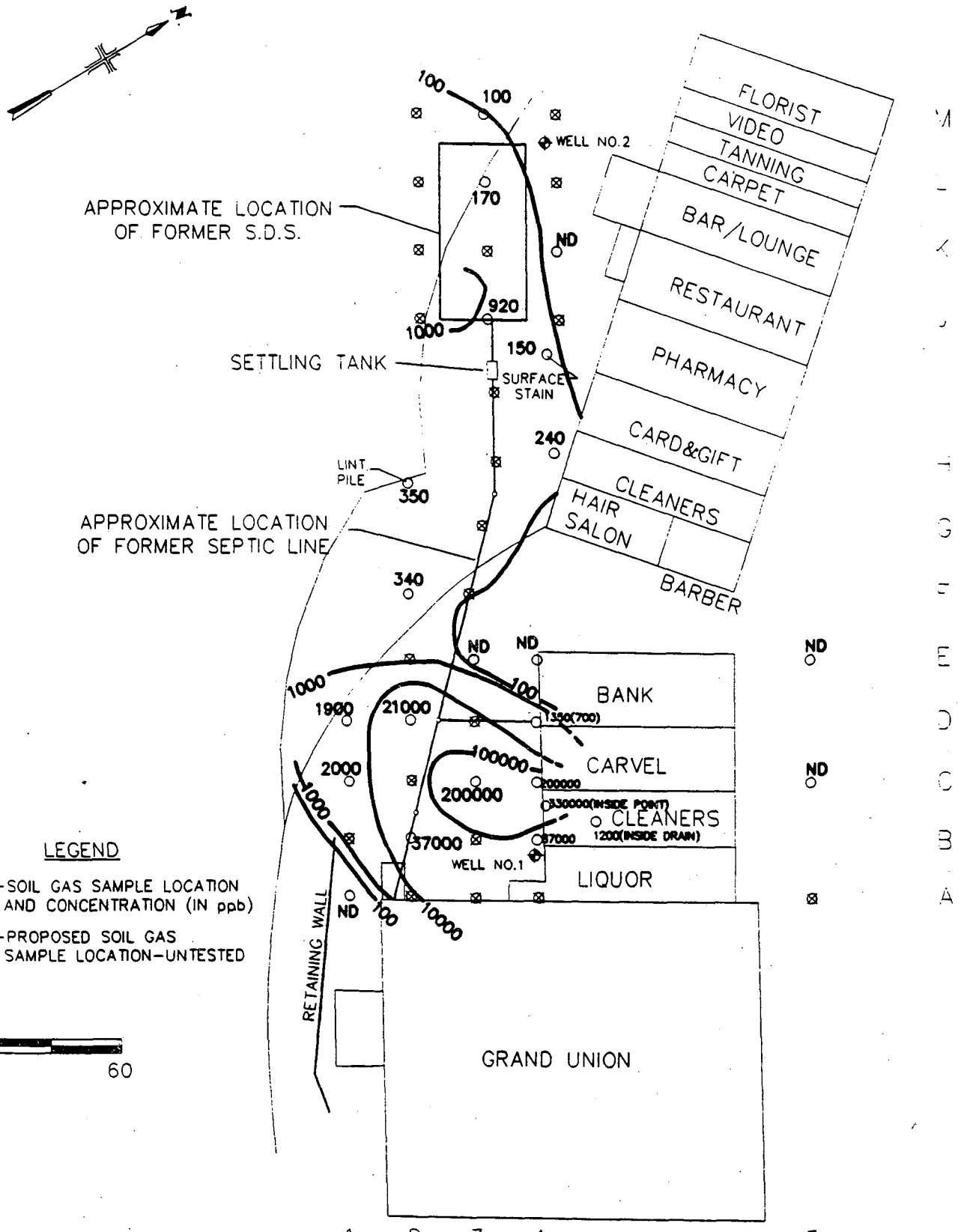
2. All sample results are presented in micrograms per liter (ppb).
3. All sample results are compiled directly from laboratory reporting sheets. Some sampling location or identification information may have been taken from other sources.

Appendix A

Data File - AVWATER.XLS (supplied on diskette and by e-mail)

Appendix B

Contour Maps of Soil Gas Data by Dunn Geoscience Corporation and TRC

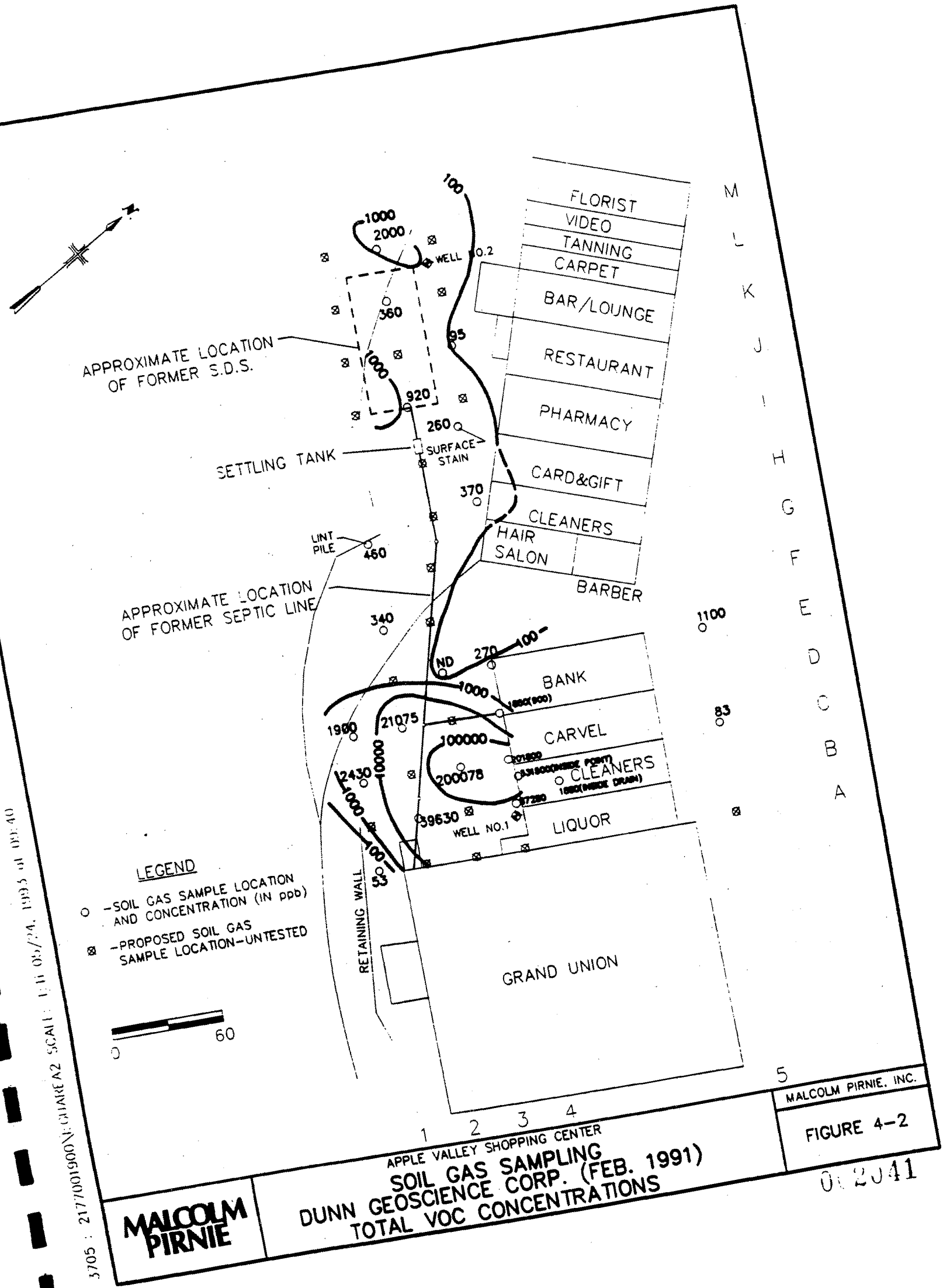


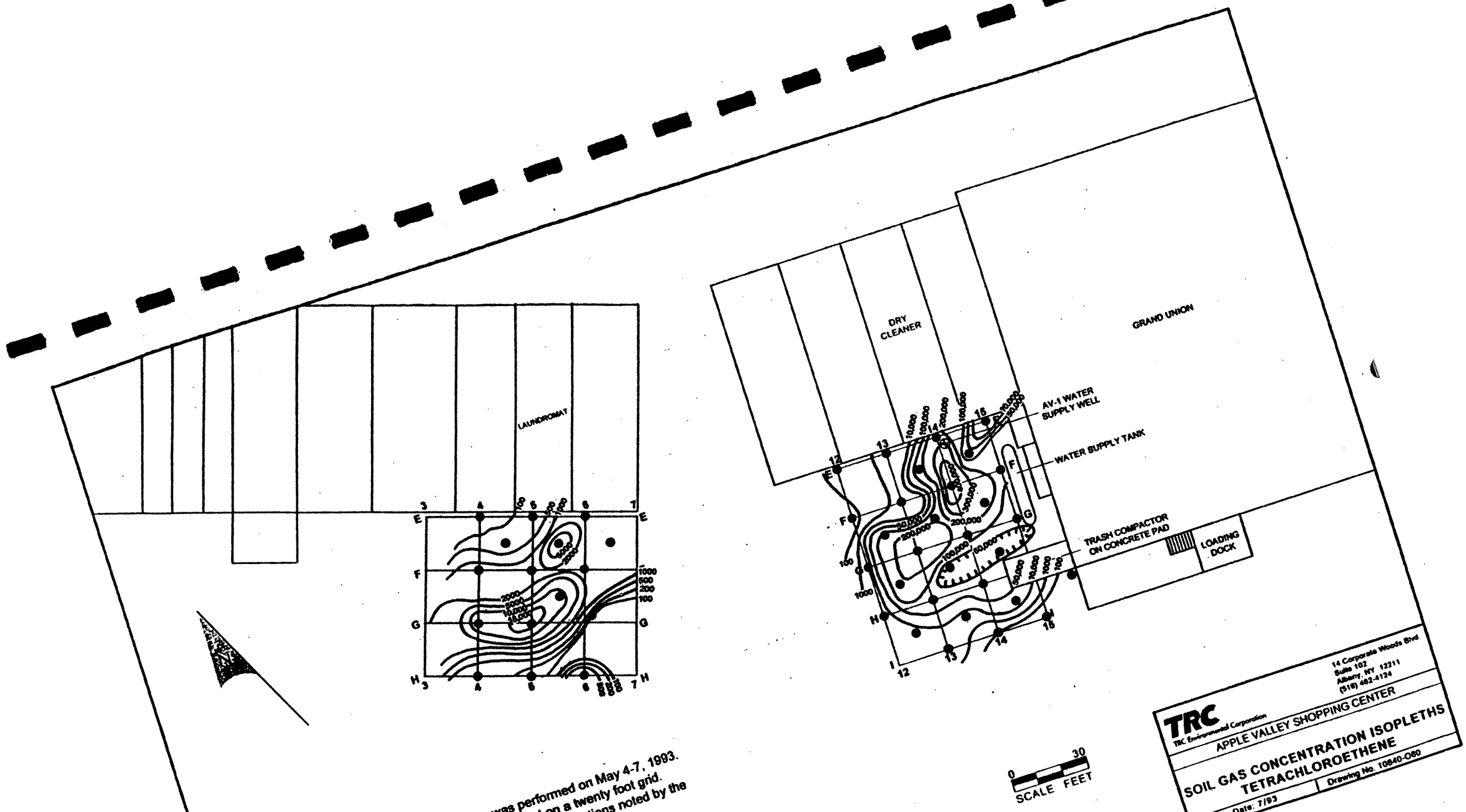
APPLE VALLEY SHOPPING CENTER

SOIL GAS SAMPLING
DUNN GEOSCIENCE CORP. (FEB. 1991)
PERCHLOROETHYLENE CONCENTRATIONS

MALCOLM PIRNIE, INC.

FIGURE 4-1


FLORIST
VIDEO
TANNING
CARPET
BAR/LOUNGE
RESTAURANT
PHARMACY
CARD&GIFT
CLEANERS
HAIR SALON
BARBER
BANK
CARVEL
CLEANERS
LIQUOR
GRAND UNION
APPROXIMATE LOCATION OF FORMER S.D.S.
SETTLING TANK
SURFACE STAIN
APPROXIMATE LOCATION OF FORMER SEPTIC LINE
LINT PILE
WELL NO.2
WELL NO.1
RETAINING WALL
1000
2000
100
360
95
1000
920
260
370
460
340
1100
270
100
ND
1000
1900
21075
100000
200078
2430
10000
39630
83
LEGEND
-SOIL GAS SAMPLE LOCATION AND CONCENTRATION (IN ppb)
-PROPOSED SOIL GAS SAMPLE LOCATION-UNTESTED
0
60
APPLE VALLEY SHOPPING CENTER
SOIL GAS SAMPLING
DUNN GEOSCIENCE CORP. (FEB. 1991)
TOTAL VOC CONCENTRATIONS
MALCOLM PIRNIE
MALCOLM PIRNIE, INC.
FIGURE 4-2
3705 : 21770019000\CHAKEA2 SCALE: 1:1 03/24, 1993 at 09:40



Notes:

1. Soil gas survey was performed on May 4-7, 1993.
2. The locations are based on a twenty foot grid.
3. Samples were taken at the locations noted by the filled circles.
4. Contour intervals as noted.
5. Concentrations are in parts per billion (ppb, vol/vol).

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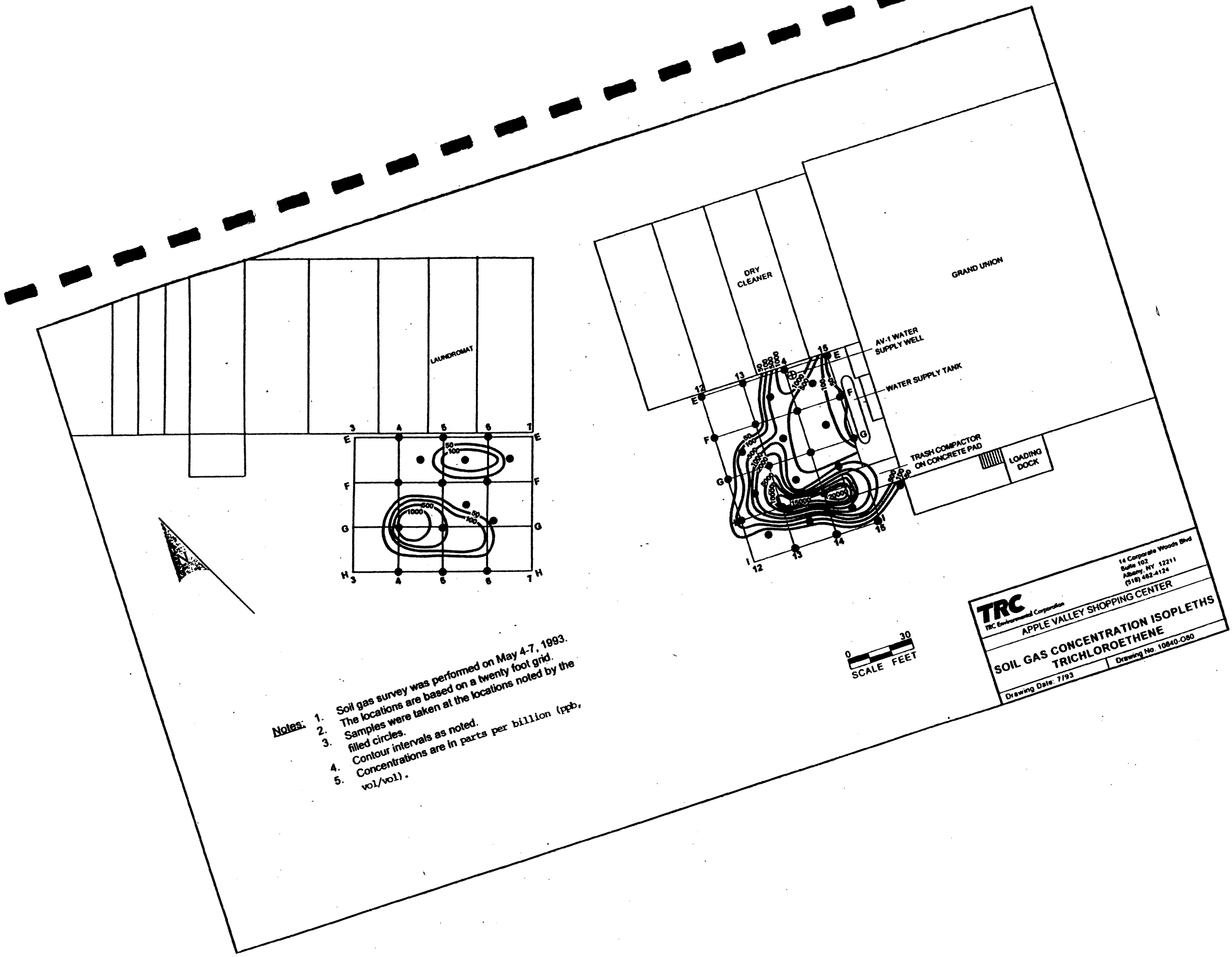
(518) 462-4124

APPLE VALLEY SHOPPING CENTER

SOIL GAS CONCENTRATION ISOPLETHS
TETRACHLOROETHENE

Drawing Date: 7/93

Drawing No. 10840-080



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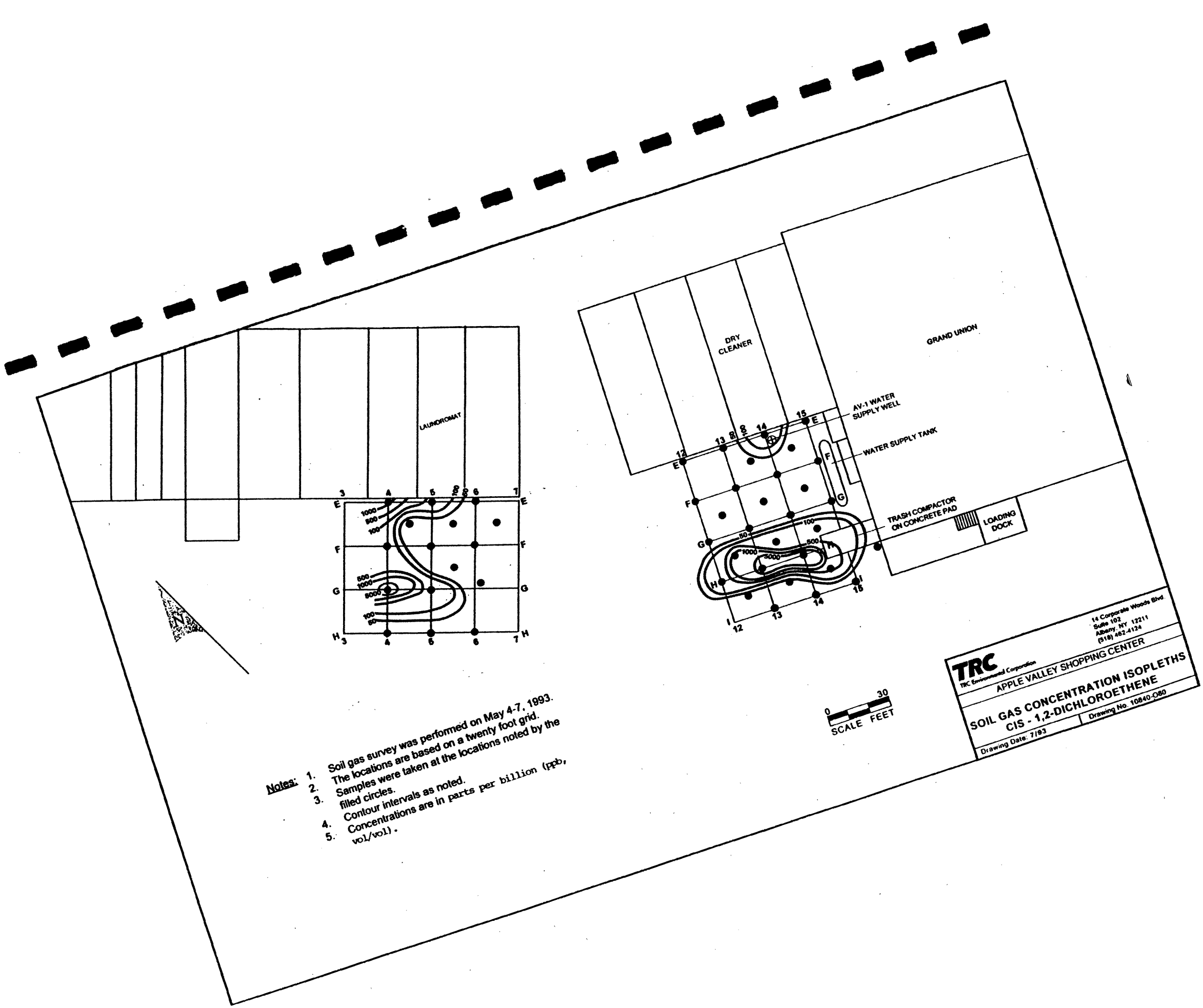
SOIL GAS CONCENTRATION ISOPLETHS TRICHLOROETHENE

Drawing Date: 7/93

Drawing No. 10840-080



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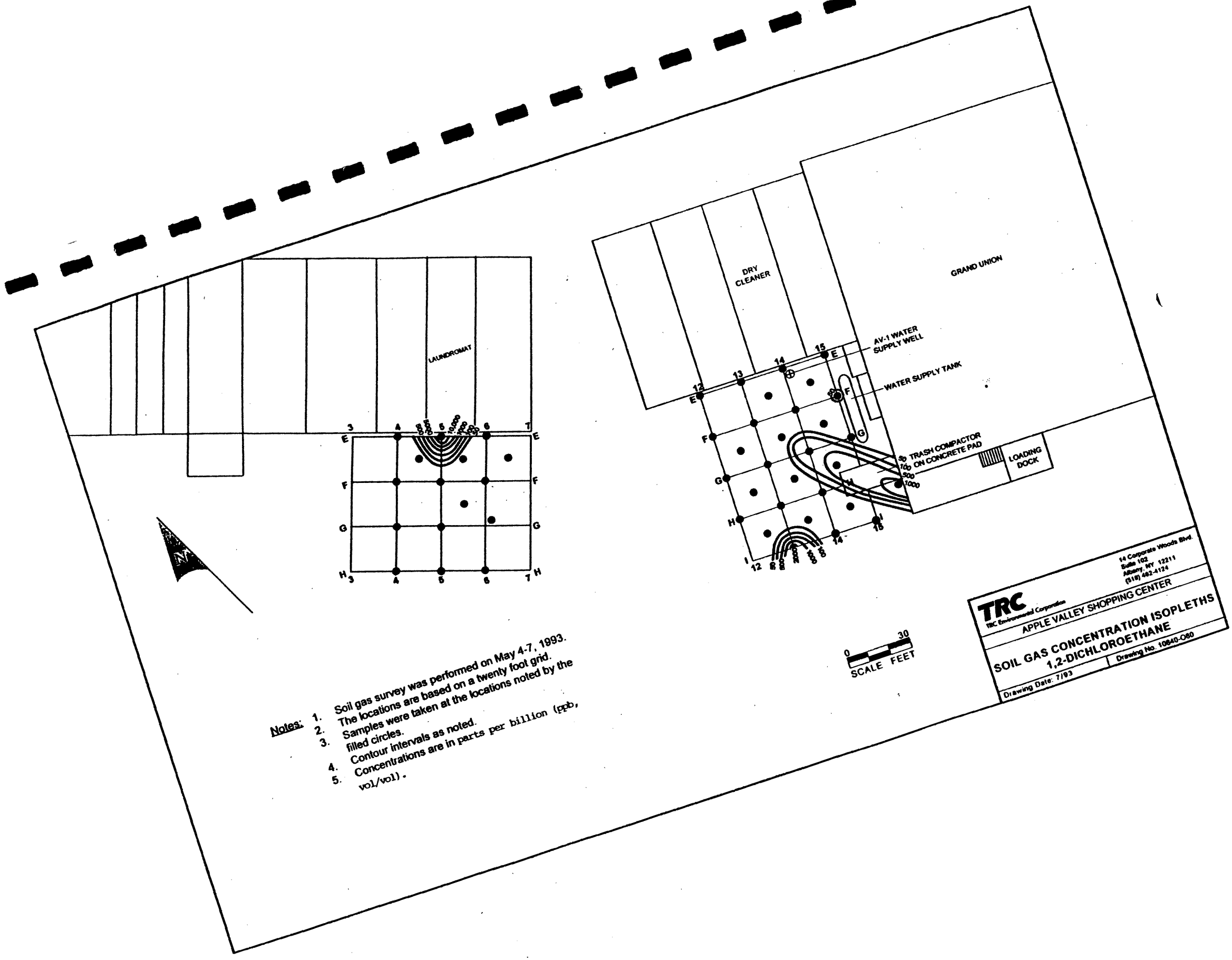
SOIL GAS CONCENTRATION ISOPLETHS
CIS - 1,2-DICHLOROETHENE

Drawing Date: 7/93

Drawing No. 10840-080



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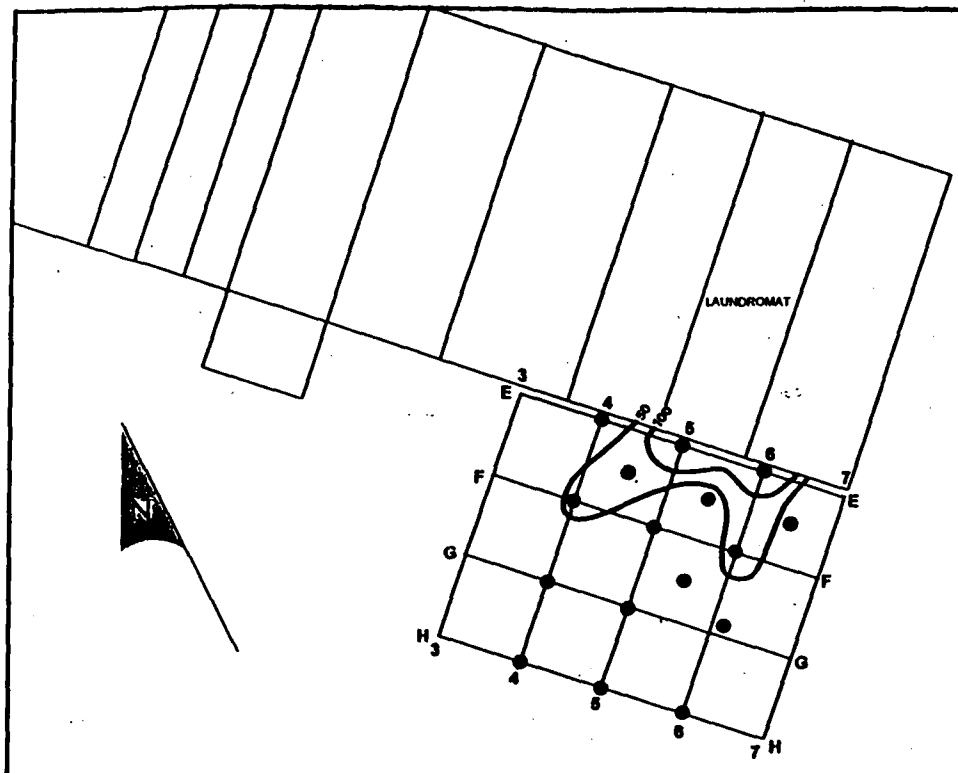
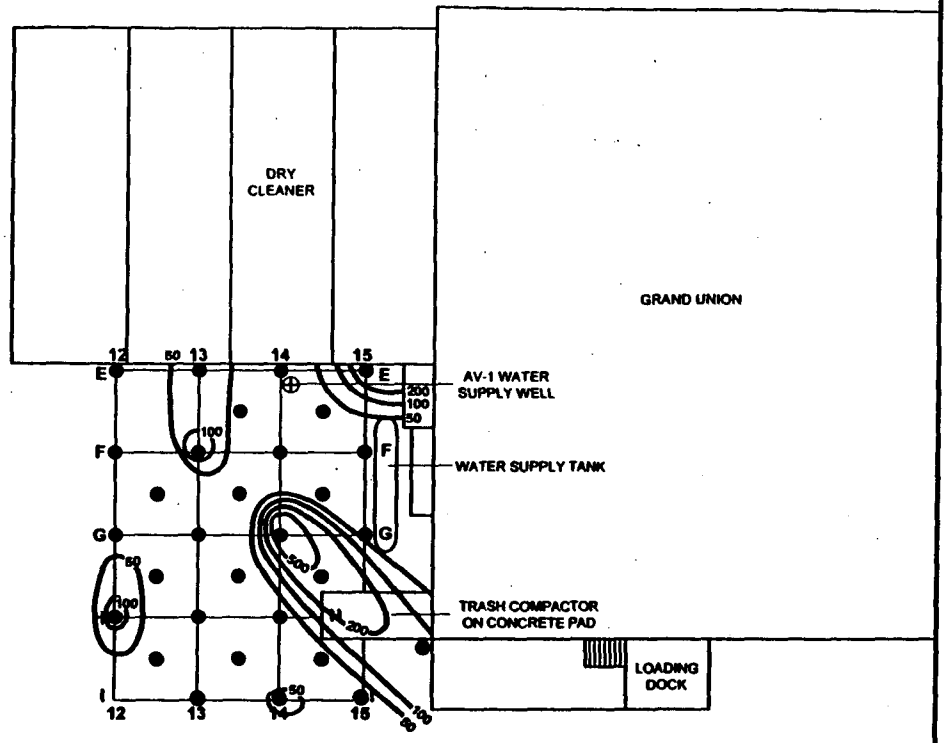
APPLE VALLEY SHOPPING CENTER

SOIL GAS CONCENTRATION ISOPLETHS
1,2-DICHLOROETHANE

Drawing Date: 7/93

Drawing No. 10840-060





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0 30
SCALE FEET

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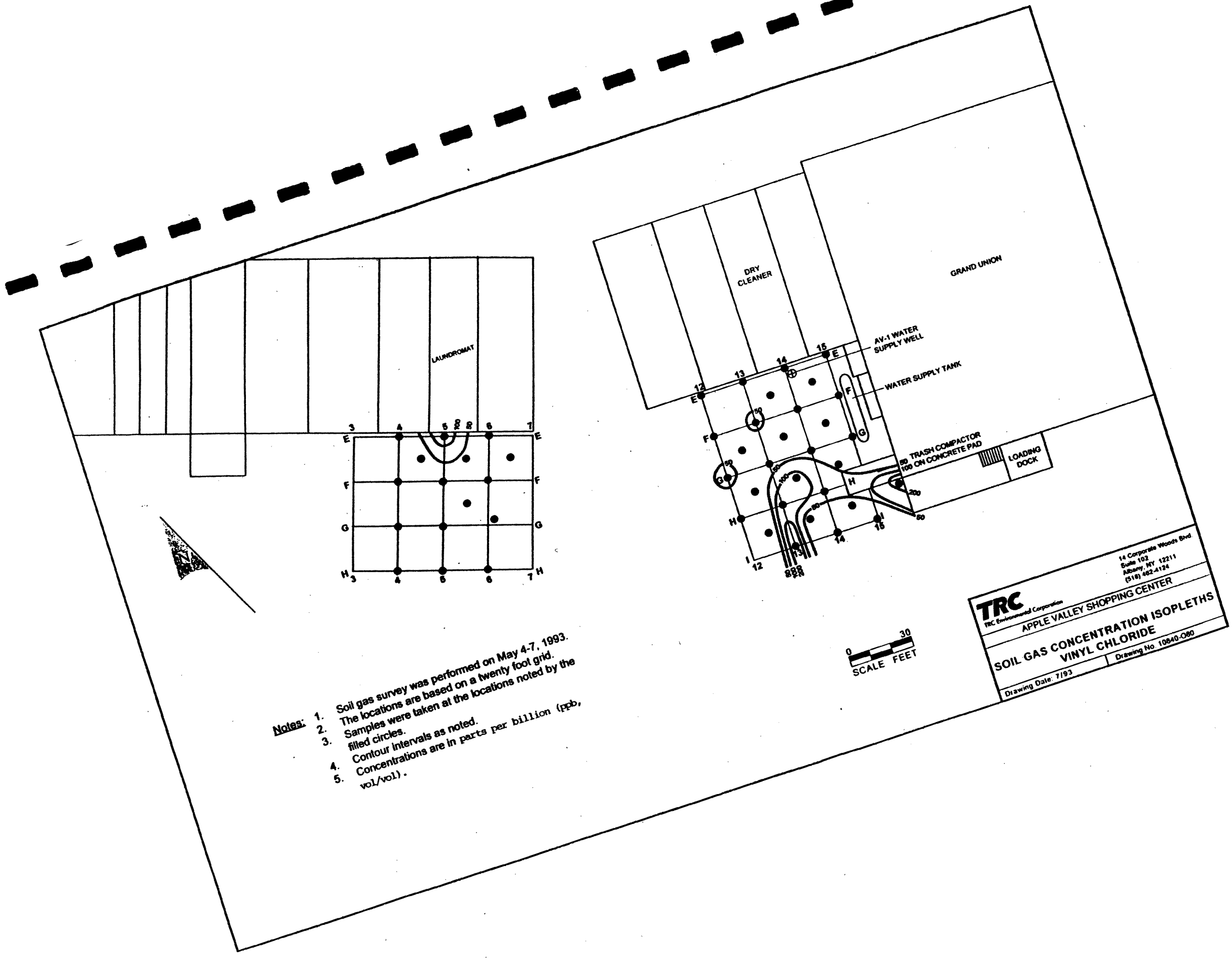
SOIL GAS CONCENTRATION ISOPLETHS
TOLUENE

Drawing Date: 7/93 | Drawing No. 10840-080



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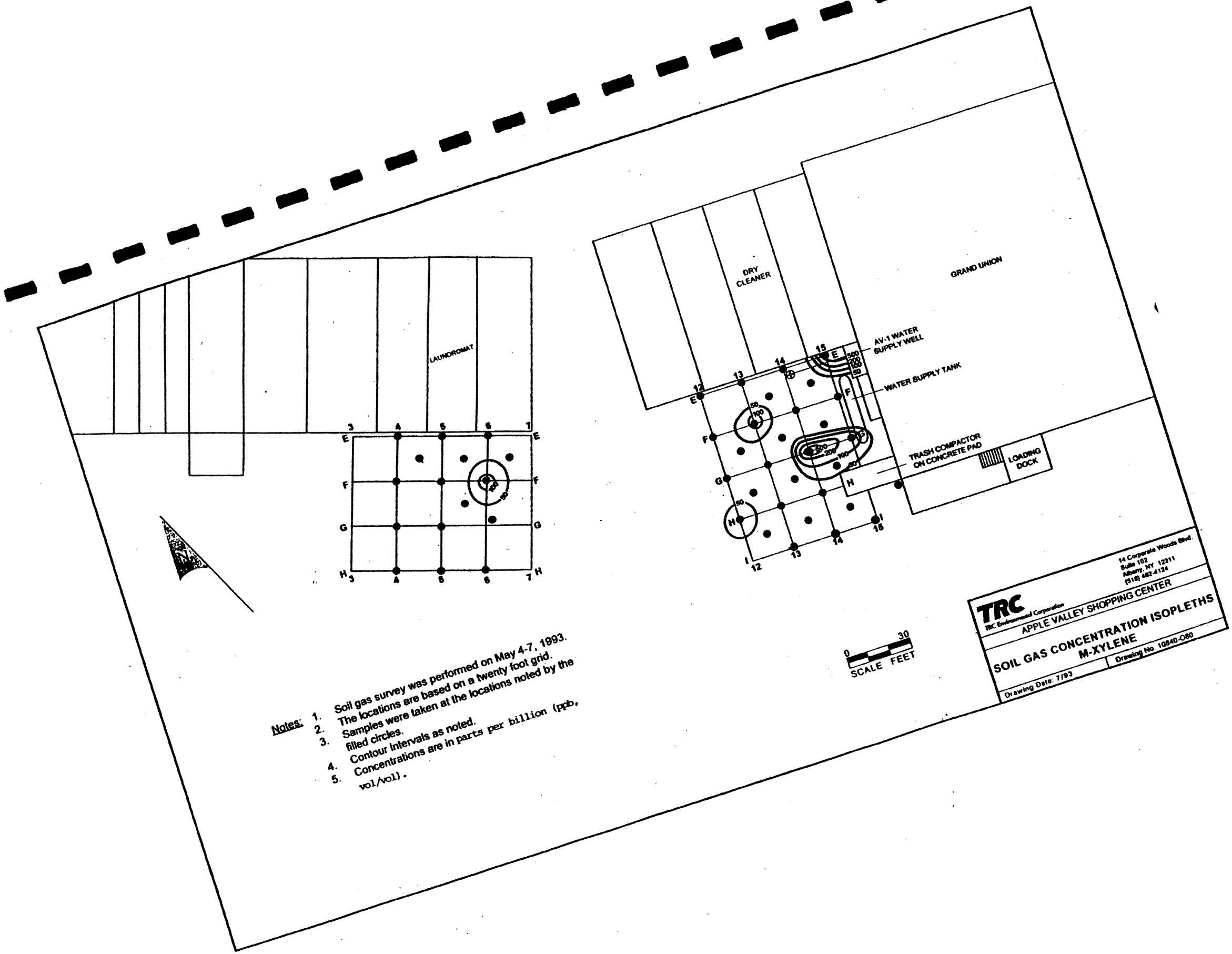
SOIL GAS CONCENTRATION ISOPLETHS
VINYL CHLORIDE

Drawing Date: 7/93

Drawing No. 10840-080



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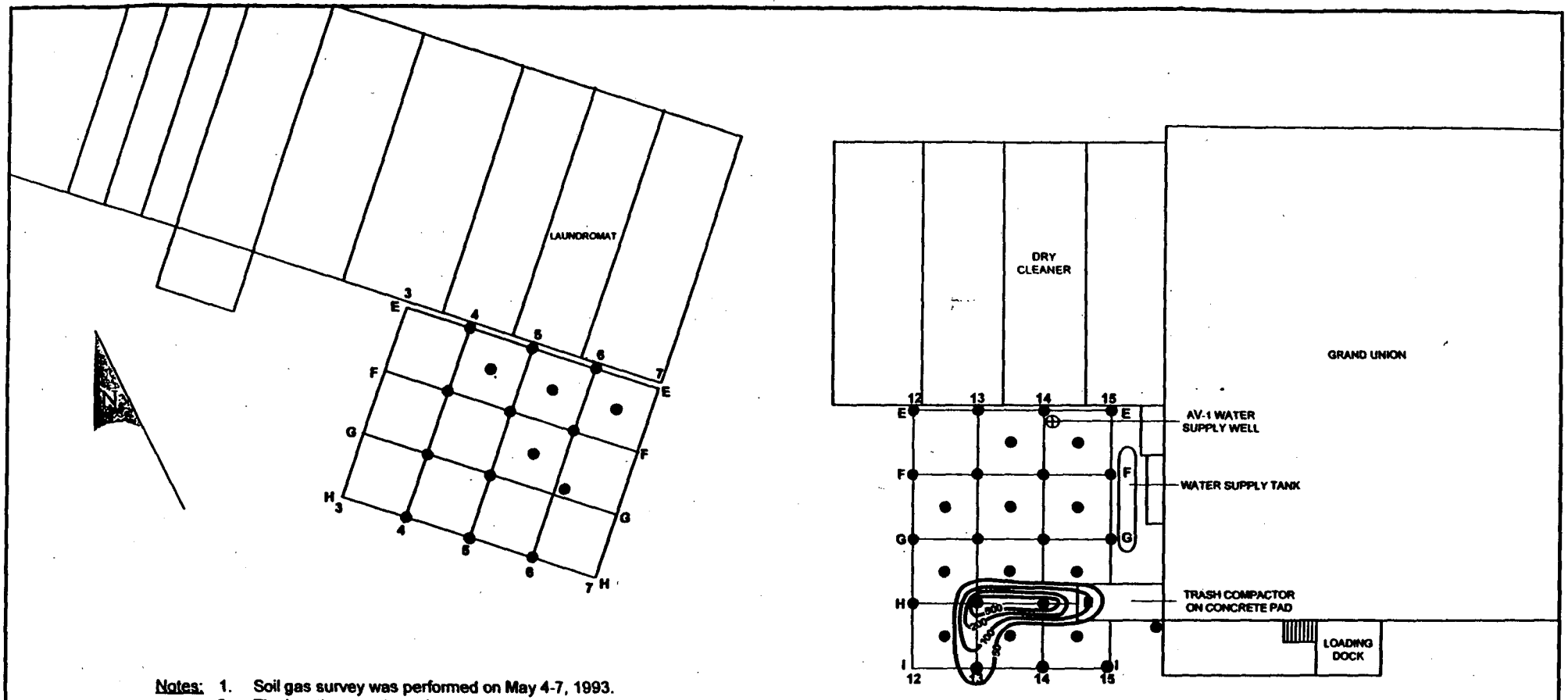
SOIL GAS CONCENTRATION ISOPLETHS
M-XYLENE

Drawing Date: 7/93

Drawing No 10840-080



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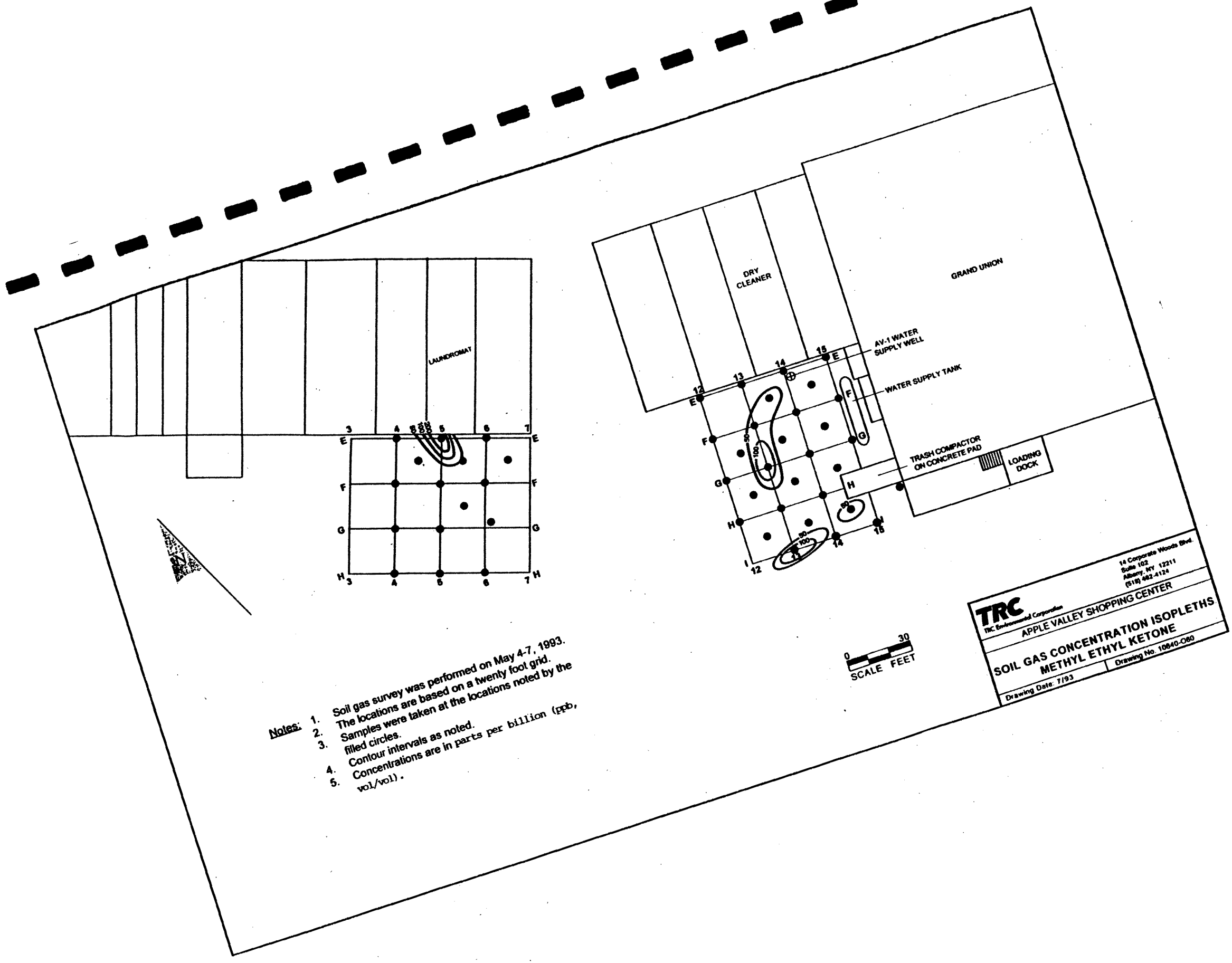
SOIL GAS CONCENTRATION ISOPLETHS METHYL TERTBUTYL ETHER

Drawing Date: 7/93

Drawing No. 10840-080



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SOIL GAS CONCENTRATION ISOPLETHS
METHYL ETHYL KETONE

Drawing Date: 7/93

Drawing No. 10840-080