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PHIL-16366

July 2, 2002

Project Number 4192

Mr. Romuald Roman (3HS21)
United States Environmental Protection Agency (EPA)
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Reference: RAC 3 Program
EPA Contract No. 68-S8-3003

Subject: Transmittal of Soil Gas Survey Results
Valmont TCE Site
Remedial Investigation/Feasibility Study (RI/FS)
EPA Work Assignment No. 044-RICO-031M

Dear Mr. Roman:

I am forwarding the results from the soil gas survey at the subject site. The survey was conducted between June 3 and June 20, 2002 and included the collection of 144 soil gas samples for analysis. The enclosed report summarizes the project, provides raw data, and includes a figure displaying positive TCE results for the soil gas samples

Please call me if you have any questions or comments.

Sincerely,

Neil Teamerson

Neil Teamerson
Project Manager

NT/vh

Enclosure

c: Bruce Rundell (EPA Region 3) (with enclosure)
Patricia Flores (EPA Region 3) (with enclosure)
Jennifer Hubbard (EPA Region 3) (with enclosure)
John Mellow (PADEP) (with enclosure)
Leonard Johnson (Tetra Tech NUS) (without enclosure)
File 3.2

ACCUSCIENCE
ENVIRONMENTAL
1839 Ashurst Road
Philadelphia, PA 19151
Phone: (215) 477-5889
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21 June 2002

Vince Shickora
Tetra Tech NUS, Inc.
600 Clark Avenue
Suite 3
King of Prussia, PA 19406-1433

Re: Results of In-Field Gas Chromatography Analysis
Valmont TCE Site
West Hazleton, PA

Dear Vince:

Enclosed please find the Gas Chromatography Analysis Report for the subject project. The Report provides an overview of the analytical method employed during the onsite analysis, and specific information regarding the significance of analytical results.

Should you have any questions regarding this submission please feel free to contact me at (215) 477-5889.

Thank you for the opportunity to work with Tetra Tech. I look forward to working with you folks again.

Sincerely,
Carl Mastropaolo

Encl. Gas Chromatography Analysis Report

Gas Chromatography Analysis Report
Valmont TCE Site
Jaycee Road
West Hazleton, PA

21 June 2002

Prepared for:

Tetra Tech NUS
600 Clark Avenue
Suite 3
King of Prussia, PA 19406-1433

Prepared by:

ACCUSCIENCE
ENVIRONMENTAL

Carl Mastropaolo
Environmental Scientist

PROJECT SUMMARY

This Gas Chromatography Analysis Report documents the results of an in-field gas chromatography survey performed by AccuScience Environmental. Pertinent information regarding the project follows:

Project site:	Valmont TCE site, Jaycee Road, West Hazleton, PA
On-site Client Personnel:	Vince Shickora
Dates:	Monday, 3 June 2002 through Thursday, 20 June 2002
On-Site Mobile Lab Analyst:	Carl Mastropaolo
Target compounds:	During the first week of the project, Monday through Friday, 3 through 7 June 2002, AccuScience Environmental targeted 32 compounds. TetraTech NUS modified the target compound list for processing beginning on Monday 10 June to eliminate some of the original 32 target compounds and to add cis-1,2 DCE, m- + p-xylenes, o-xylene, trimethylbenzenes and styrene. AccuScience did not have styrene available and it was not added to the target compound list. On Monday, 10 June, AccuScience was informed vinyl chloride, chloroethane and the trimethylbenzenes could be dropped from the target list for processing beginning Tuesday, 11 June. Please refer to the body of this report for more details regarding targeted compounds.

Total GC analyses performed:	144
Soil vapor samples:	142
Duplicate soil vapor samples:	2

The results of the gas chromatography survey appear on the Excel spreadsheet which is attached to this report.

ANALYTICAL METHODOLOGY AND PROCEDURES

Overview of Sample Analysis

AccuScience analyzed soil vapor samples for volatile organic compounds. Details regarding target compounds are discussed below. Soil vapor samples were analyzed for volatile organic compounds by using a direct injection methodology.

Sample Collection, Handling and Preparation

After purge volumes were extracted, approximately 0.1 to 1.0 liters of soil vapor were collected directly into tedlar bags for delivery to the mobile laboratory. AccuScience Environmental added surrogate standards to the bags by injection through the septa which are integral to the bag construction. During the first week of processing, bromochloromethane, fluorobenzene, 1-chloro-2-fluorobenzene, and 4-bromo-1-chlorobenzene were used as surrogate standards, consistent with Method 8010. On Monday, 10 June, α,α,α-trifluorotoluene (TFT) and bromofluorobenzene (BFB) were used as surrogates since the retention times of some of the original surrogates conflicted with those of some of the added target parameters. On Tuesday, 11 June, BFB was eliminated as a surrogate to increase the sample processing rate. (BFB elutes after the last target compound, o-xylene).

Analyses Performed

A total of 142 soil vapor samples were collected for analysis. All samples were analyzed. Two samples were analyzed in duplicate.

Sample Processing

Samples were introduced to the gas chromatograph via the direct injection method. For soil vapor analysis, a 0.50 mL portion of the contents of the tedlar collection bag was withdrawn via syringe and injected into the GC's injector port where it is vaporized and swept into the capillary column.

Calibration of the Gas Chromatography System

The analyst used calibrant mixes containing the target compounds dissolved in methanol to calibrate the GC system.

Prior to the beginning of the project, AccuScience Environmental programmed and calibrated a gas chromatography (GC) methodology capable of identifying and quantifying 32 chemical compounds and four surrogate standards. A three point calibration was repeatedly performed to assure consistency in detector responses prior to the beginning of field work. Compounds were identified and quantified using a trio of detectors: flame ionization (FID), photoionization (PID), and electron capture (ECD). During the first week of the project, Monday through Friday, 3 through 7 June 2002, AccuScience Environmental targeted these 32 compounds.

On Friday afternoon, 7 June 2002, AccuScience was informed the target list would be modified for processing beginning on Monday 10 June. Modification included elimination of some of the original 32 target compounds plus the addition of cis-1,2 DCE, m- + p-xylenes, o-xylene, trimethylbenzenes and styrene. On Saturday, 8 June 2002, AccuScience assembled a new set of three point calibrants using available chemicals. The new calibrants included cis-1,2 DCE, m- + p-xylenes, o-xylene, 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene. Styrene was not available. AccuScience commenced to modify GC programming to accommodate this new set of targets. The original set of four surrogates was abandoned due to conflict with the retention times of some of the added target parameters. Instead, two new surrogate standards were utilized: α,α,α-trifluorotoluene (TFT) and bromofluorobenzene (BFB). On Sunday, 9 June, three-point calibration was performed for this new methodology. This was the methodology employed on Monday, 10 June 2002 at the project site.

On Monday, 10 June, AccuScience was informed vinyl chloride, chloroethane and the trimethylbenzenes could be dropped from the target list for processing beginning Tuesday, 11 June. AccuScience made modifications to the GC program on the morning of 11 June to shorten the GC run time, thereby increasing the sample processing rate. BFB was eliminated as a surrogate standard since it would have increased GC run time.

A date-specific target compound list is shown in the following table.

Target Compounds			
	3 - 7 June 2002	10 June 2002	11 - 20 June 2002
dichlorodifluoromethane	X		
chloromethane	X		
vinyl chloride	X	X	
bromomethane	X		
chloroethane	X	X	
trichlorofluoromethane	X		
1,1-DCE	X	X	X
methylene chloride	X	X	X
trans-1,2-DCE	X	X	X
1,1-DCA	X	X	X
cis-1,2 DCE		X	X
chloroform	X	X	X
1,1,1-TCA	X	X	X
carbon tetrachloride	X		
1,2-DCA	X	X	X
benzene	X	X	X
TCE	X	X	X
1,2-dichloropropane	X		
bromodichloromethane	X		
2-chloroethyl vinyl ether	X		
cis-1,3-dichloropropene	X		
toluene	X	X	X
trans-1,3-dichloropropene	X		
1,1,2-TCA	X	X	X
PCE	X	X	X
dibromochloromethane	X		
chlorobenzene	X		
ethylbenzene	X	X	X
m- + p-xylenes		X	X
o-xylene		X	X
bromoform	X		
1,1,2,2-TeCA	X		
1,3,5-trimethylbenzene		X	
1,2,4-trimethylbenzene		X	
1,3-dichlorobenzene	X		
1,4-dichlorobenzene	X		
1,2-dichlorobenzene	X		

Laboratory Performance Problems and Result Bias

Factors, which potentially introduce errors in determining unbiased target compound concentrations, are discussed below:

- Samples with relatively large mass loadings of large molecular mass compounds, particularly relatively nonvolatile compounds, tend to deposit a portion of these compounds on the coating of the capillary column, thus altering the nature of chemical partitioning within the column. This deposition may alter the retention capacity of the column and retention times of target compounds. Indeed, a shift in retention times between two successive calibrant runs is often an indication that column deposition has occurred during sample processing in the time between the two runs.

  After reviewing all chromatograms for this project, AccuScience Environmental suggests this factor had little or no effect in reporting target compound concentrations.

- Carryover of target compounds from GC run to run sometimes causes problems in properly identifying and quantifying target compounds. Such carryover may arise from several sources, including adsorption on the injector septum, syringe contamination, or column contamination.

  After reviewing all chromatograms for this project, AccuScience Environmental suggests that GC system carryover had minimal or no impact in identifying and quantifying target compounds. A total of 13 method blanks and 78 syringe blanks were performed during the project. Target compounds had virtually non-detectable concentrations in all 91 quality check runs.

  One exception is methylene chloride. On the sixth day of processing, 10 June, a bromofluorobenzene (BFB) surrogate standard dissolved in methylene chloride was inadvertently used to spike several samples. Methylene chloride was therefore erroneously identified as a component of several samples on that processing day. AccuScience discovered the error and spiked the remaining samples with BFB dissolved in methanol, a non-target compound. In addition, methylene chloride was used as a GC system cleaning agent a number of times throughout the project, contributing to system carryover.

During re-calibration during the weekend between the first two weeks in the field, AccuScience discovered that calibration during the first week of processing was erroneously based upon target compound mass in lieu of moles. Target compound concentrations were therefore erroneously reported during the first week of the project. AccuScience submitted a letter to Neil Teamerson, the project manager, describing the nature of the error and included a table of corrected target compound concentrations.

During sample processing on Friday, 14 June, AccuScience noted a significant decrease in detector response and attempted to isolate the problem to no avail. AccuScience was finally able to isolate the problem on Sunday, 16 June, at which point, all samples collected on 14 June were analyzed.

Finally, on Monday, 17 June, the photoionization detector (PID) experienced an electrical malfunction and could not be used for the last four days of the project. It was therefore necessary to use the FID to identify and quantify BTEX compounds (benzene, toluene, ethylbenzene, m- + p-xylenes, and o-xylene), resulting in increased MDLs for these compounds since the FID is not as sensitive as the PID.

Method Detection Limits

The method detection limit (MDL) is defined as the response associated with a signal to noise ratio of 2. AccuScience tracked detector noise / carryover throughout the project. Observations made during the onsite gas chromatography analytical event, and a review of printed chromatograms, indicate that, in general, detector noise produced peaks with minimal areas. The PID and FID detectors generally produced noise with areas on the order of 10 millivolt-seconds while the more sensitive ECD produced noise with areas on the order of 1000 millivolt-seconds.

One exception was methylene chloride. All detectors produce somewhat erratic baselines near the beginning of sample runs and immediately after the methanol solvent peak. (All surrogate standards were dissolved in methanol. Methanol peaks were therefore present in every sample run). As a result, detector noise was consistently high near the retention time of methylene chloride. This noise level was tracked and used to determine the methylene chloride MDL.

Compound-specific method detection limits were computed for each sample analyzed during this project. A conservative background noise level of 10 (FID and PID) or 1000 (ECD) millivolt-seconds was used to calculate the MDLs except in cases where GC system carryover exceeded this value, in which case the carryover was used to calculate the MDL. Compound-specific MDLs are shown on the Summary of Analytical Results spreadsheet which is attached to this report.

Sample Results

An Excel spreadsheet, which provides all sample results in spreadsheet format, is attached to this report.

Disclaimer

Gas chromatography is an analytical method which identifies target compounds and determines their sample concentrations based strictly upon the retention times of compounds in the capillary column. Chromatography is unable to determine which of two or more compounds with nearly identical retention times exist in a given sample. While the analyst has applied sound scientific reasoning in drawing conclusions regarding the existence and concentration of target compounds during this analytical event, misidentifications are possible. The analyst can not be held responsible for misidentifying compounds with elution times which are nearly identical to the compounds targeted in this project.

Valmont TCE Site, Hazleton, PA	Samples collected and analyzed Monday, 3 June 2002											
Soil Vapor Sample Concentration (ppb by volume)												
	B-00	**Q**	**B-50**	**Q**	**B-100**	**Q**	**B-150**	**Q**	**B-200**		**B-250**	**Q**
dicholordifluoromethane	< 2.7		< 2.7		< 2.7		< 2.7		< 2.7		< 2.7	
chloromethane	< 730		< 730		< 730		< 730		< 730		< 730	
vinyl chloride	< 73		< 73		< 73		< 73		< 73		< 73	
bromomethane	< 390		< 390		< 390		< 390		< 390		< 390	
chloroethane	< 19		< 19		< 19		< 19		< 19		< 19	
trichlorofluoromethane	< 0.18		< 0.18		< 0.18		< 0.18		< 0.18		< 0.18	
1,1-DCE	< 3.0		< 3.0		< 3.0		< 3.0		< 3.0		< 3.0	
MeCl	< 13		< 13		< 13		< 13		< 13		< 13	
trans-1,2-DCE	< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3	
1,1-DCA	< 44		< 44		< 44		< 44		< 44		< 44	
chloroform	< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3	
1,1,1-TCA	< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59	
carbon tetrachloride	< 0.20		< 0.20		< 0.20		< 0.20		< 0.20		< 0.20	
1,2-DCA	< 46		< 46		< 46		< 46		< 46		< 46	
benzene	< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1	
TCE	< 0.52		< 0.52		< 0.52		< 0.52		< 0.52		< 0.52	
1,2-dichloropropane	< 22		< 22		< 22		< 22		< 22		< 22	
bromodichloromethane	< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1	
2-chloroethyl vinyl ether	< 1.5		< 1.5		< 1.5		< 1.5		< 1.5		< 1.5	
cis-1,3-dichloropropene	< 2.6		< 2.6		< 2.6		< 2.6		< 2.6		< 2.6	
toluene	< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1	
t-1,3-dichloropropene	< 2.5		< 2.5		< 2.5		< 2.5		< 2.5		< 2.5	
1,1,2-TCA	< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9	
PCE	< 0.06		< 0.06		< 0.06		< 0.06		< 0.06		< 0.06	
dibromochloromethane	< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38	
chlorobenzene	< 0.73		< 0.73		< 0.73		< 0.73		< 0.73		< 0.73	
ethylbenzene	< 1.0		< 1.0		< 1.0		< 1.0		< 1.0		< 1.0	
bromoform	< 0.77		< 0.77		< 0.77		< 0.77		< 0.77		< 0.77	
1,1,2,2-TeCA	< 0.74		< 0.74		< 0.74		< 0.74		< 0.74		< 0.74	
1,3-dichlorobenzene	< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62	

1,4-dichlorobenzene		< 0.77		< 0.77		< 0.77		< 0.77		< 0.77		< 0.77	
1,2-dichlorobenzene		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47	

Valmont TCE Site, Hazleton, PA		Samples collected and analyzed Tuesday, 4 June 2002													
L =	Contaminant potentially introduced in the laboratory.														
Soil Vapor Sample Concentration (ppb by volume)															
	B-300	Q	B-350	Q	B-400	Q	C-400	Q	D-400	Q	E-400	Q	F-400	Q
dicholordifluoromethane	< 140		< 140		< 140		< 140		< 140		< 140		< 140	
chloromethane	< 730		< 730		< 730		< 730		< 730		< 730		< 730	
vinyl chloride	< 73		< 73		< 73		< 73		< 73		< 73		< 73	
bromomethane	< 390		< 390		< 390		< 390		< 390		< 390		< 390	
chloroethane	< 19		< 19		< 19		< 19		< 19		< 19		< 19	
trichlorofluoromethane	< 0.18		< 0.18		< 0.18		< 0.18		< 0.18		< 0.18		< 0.18	
1,1-DCE	< 3		< 3		< 3		< 3		< 3		62		41	
MeCl	< 13		< 13		< 13		3,600	L	2,000	L	< 13		< 13	
trans-1,2-DCE	< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		200		10	
1,1-DCA	< 44		< 44		< 44		< 44		< 44		< 44		< 44	
chloroform	< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3	
1,1,1-TCA	< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59	
carbon tetrachloride	< 0.2		< 0.2		< 0.2		< 0.2		< 0.2		< 0.2		< 0.2	
1,2-DCA	< 46		< 46		< 46		< 46		< 46		< 46		< 46	
benzene	< 1.1		< 1.1		< 1.1		< 1.1		51		< 1.1		< 1.1	
TCE	< 0.5		< 0.5		< 0.5		740		110		440		68	
1,2-dichloropropane	< 22		< 22		< 22		< 22		< 22		< 22		< 22	
bromodichloromethane	< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1	
2-chloroethyl vinyl ether	< 1.5		< 1.5		< 1.5		< 1.5		< 1.5		< 1.5		< 1.5	
cis-1,3-dichloropropene	< 2.6		< 2.6		< 2.6		< 2.6		< 2.6		< 2.6		< 2.6	
toluene	< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1	
t-1,3-dichloropropene	< 2.5		< 2.5		< 2.5		< 2.5		< 2.5		< 2.5		< 2.5	
1,1,2-TCA	< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9	
PCE	< 0.06		< 0.06		< 0.06		< 0.06		< 0.06		< 0.06		< 0.06	
dibromochloromethane	< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38	
chlorobenzene	< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7	
ethylbenzene	< 1		< 1		< 1		< 1		< 1		< 1		< 1	
bromoform	< 0.8		< 0.8		< 0.8		< 0.8		< 0.8		< 0.8		< 0.8	
1,1,2,2-TeCA	< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7	
1,3-dichlorobenzene	< 400		< 400		< 400		< 400		< 400		< 400		< 400	

1,4-dichlorobenzene		< 0.8		< 0.8		< 0.8		< 0.8		< 0.8		< 0.8		< 0.8	
1,2-dichlorobenzene		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47	

Valmont TCE Site, Hazleton, PA																		
							Samples collected and analyzed Wednesday, 5 June 2002											
Soil Vapor Sample Concentration (ppb by volume)																		
	G-400	Q	H-400	Q	I-400	Q	J-400	Q	J-348	Q	J-300	Q	J-250	Q	J-200	Q		
dicholordifluoromethane	< 140		< 140		< 140		< 140		< 140		< 140		< 140		< 140			
chloromethane	< 730		< 730		< 730		< 730		< 730		< 730		< 730		< 730			
vinyl chloride	< 73		< 73		< 73		< 73		< 73		< 73		< 73		< 73			
bromomethane	< 4300		< 4300		< 4300		< 4300		< 4300		< 4300		< 4300		< 4300			
chloroethane	< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19			
trichlorofluoromethane	< 0.18		< 0.18		< 0.18		< 0.18		< 0.18		< 0.18		< 0.18		< 0.18			
1,1-DCE	< 3		< 3		< 3		< 3		< 3		< 3		< 3		< 3			
MeCl	< 190		< 190		< 190		< 190		< 190		230		< 190		< 190			
trans-1,2-DCE	< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3			
1,1-DCA	< 44		< 44		< 44		< 44		< 44		< 44		< 44		< 44			
chloroform	< 26		< 26		< 26		< 26		< 26		< 26		< 26		< 26			
1,1,1-TCA	< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		60		1,500		270			
carbon tetrachloride	< 0.2		< 0.2		< 0.2		< 0.2		< 0.2		< 0.2		< 0.2		< 0.2			
1,2-DCA	< 46		< 46		< 46		< 46		< 46		< 46		< 46		< 46			
benzene	< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1			
TCE	360		30		< 0.5		170		140		330		11,000		11,000			
1,2-dichloropropane	< 22		< 22		< 22		< 22		< 22		< 22		< 22		< 22			
bromodichloromethane	< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1			
2-chloroethyl vinyl ether	< 1.5		< 1.5		< 1.5		< 1.5		< 1.5		< 1.5		< 1.5		< 1.5			
cis-1,3-dichloropropene	< 2.6		< 2.6		< 2.6		< 2.6		< 2.6		< 2.6		< 2.6		< 2.6			
toluene	< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		22		< 1.1		22			
t-1,3-dichloropropene	< 2.5		< 2.5		< 2.5		< 2.5		< 2.5		< 2.5		< 2.5		< 2.5			
1,1,2-TCA	< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9			
PCE	< 0.057		< 0.057		< 0.057		< 0.057		< 0.057		< 0.057		30		6			
dibromochloromethane	< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38			
chlorobenzene	< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7			
ethylbenzene	< 1		< 1		< 1		< 1		< 1		< 1		< 1		47			
bromoform	< 0.8		< 0.8		< 0.8		< 0.8		< 0.8		< 0.8		< 0.8		< 0.8			
1,1,2,2-TeCA	< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7			
1,3-dichlorobenzene	< 87		< 87		< 87		< 87		< 87		< 87		< 87		< 87			

1,4-dichlorobenzene		< 930		< 930		< 930		< 930		< 930		< 930		< 930		< 930		
1,2-dichlorobenzene		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47		

Valmont TCE Site, Hazleton, PA						Samples collected and analyzed Thursday, 6 June 2002											
Soil Vapor Sample Concentration (ppb by volume)																	
	J-150	Q	J-100	Q	J-50	Q	J-00	Q	I-00	Q	H-00	Q	G-00	Q	F-00	Q
dicholordifluoromethane	< 140		< 140		< 140		< 140		< 140		< 140		< 140		< 140	
chloromethane	< 730		< 730		< 730		< 730		< 730		< 730		< 730		< 730	
vinyl chloride	< 73		< 73		< 73		< 73		< 73		< 73		< 73		< 73	
bromomethane	< 4300		< 4300		< 4300		< 4300		< 4300		< 4300		< 4300		< 4300	
chloroethane	< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19	
trichlorofluoromethane	< 0.18		< 0.18		< 0.18		< 0.18		< 0.18		< 0.18		< 0.18		< 0.18	
1,1-DCE	< 3		< 3		< 3		< 3		< 3		< 3		< 3		< 3	
MeCl	< 190		< 190		< 190		< 190		< 190		< 190		< 190		< 190	
trans-1,2-DCE	< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3	
1,1-DCA	< 44		< 44		< 44		< 44		< 44		< 44		< 44		< 44	
chloroform	< 26		< 26		< 26		< 26		< 26		< 26		< 26		< 26	
1,1,1-TCA	< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59	
carbon tetrachloride	< 0.2		< 0.2		< 0.2		< 0.2		< 0.2		< 0.2		< 0.2		< 0.2	
1,2-DCA	< 46		< 46		< 46		< 46		< 46		< 46		< 46		< 46	
benzene	< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1	
TCE	< 0.5		< 0.5		< 0.5		< 0.5		< 0.5		< 0.5		< 0.5		< 0.5	
1,2-dichloropropane	< 22		< 22		< 22		< 22		< 22		< 22		< 22		< 22	
bromodichloromethane	< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1	
2-chloroethyl vinyl ether	< 1.5		< 1.5		< 1.5		< 1.5		< 1.5		< 1.5		< 1.5		< 1.5	
cis-1,3-dichloropropene	< 2.6		< 2.6		< 2.6		< 2.6		< 2.6		< 2.6		< 2.6		< 2.6	
toluene	< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1	
t-1,3-dichloropropene	< 2.5		< 2.5		< 2.5		< 2.5		< 2.5		< 2.5		< 2.5		< 2.5	
1,1,2-TCA	< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9	
PCE	< 0.057		< 0.057		< 0.057		< 0.057		< 0.057		< 0.057		< 0.057		< 0.057	
dibromochloromethane	< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38	
chlorobenzene	< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7	
ethylbenzene	< 1		< 1		75		< 1		< 1		< 1		< 1		< 1	
bromoform	< 0.8		< 0.8		< 0.8		< 0.8		< 0.8		< 0.8		< 0.8		< 0.8	
1,1,2,2-TeCA	< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7	
1,3-dichlorobenzene	< 320		< 320		< 320		< 320		< 320		< 320		< 320		< 320	

1,4-dichlorobenzene		< 220		< 220		< 220		< 220		< 220		< 220		< 220		< 220		< 220		
1,2-dichlorobenzene		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47		< 0.47		

Valmont TCE Site, Hazleton, PA		Samples collected and analyzed Friday, 7 June 2002													
Soil Vapor Sample Concentration (ppb by volume)															
	E-00	Q	D-00	Q	C-00	Q	C-350	Q	D-350	Q	E-350	Q	C-300	Q	D-300	Q
dicholordifluoromethane	< 140		< 140		< 140		< 140		< 140		< 140		< 140		< 140	
chloromethane	< 730		< 730		< 730		< 730		< 730		< 730		< 730		< 730	
vinyl chloride	< 73		< 73		< 73		< 73		< 73		< 73		< 73		< 73	
bromomethane	< 4300		< 4300		< 4300		< 4300		< 4300		< 4300		< 4300		< 4300	
chloroethane	< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19	
trichlorofluoromethane	< 0.18		< 0.18		< 0.18		< 0.18		< 0.18		< 0.18		< 0.18		< 0.18	
1,1-DCE	< 3		< 3		< 3		< 3		< 3		< 3		< 3		< 3	
MeCl	< 13		< 13		< 13		< 13		< 13		< 13		< 13		< 13	
trans-1,2-DCE	< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3	
1,1-DCA	< 44		< 44		< 44		< 44		< 44		< 44		< 44		< 44	
chloroform	< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3	
1,1,1-TCA	< 0.59		30		< 0.59		< 0.59		22		22		< 0.59		< 0.59	
carbon tetrachloride	< 0.2		< 0.2		< 0.2		< 0.2		< 0.2		< 0.2		< 0.2		< 0.2	
1,2-DCA	< 46		< 46		< 46		< 46		< 46		< 46		< 46		< 46	
benzene	< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1	
TCE	< 0.53		68		< 0.53		300		170		760		76		320	
1,2-dichloropropane	< 22		< 22		< 22		< 22		< 22		< 22		< 22		< 22	
bromodichloromethane	< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1		< 1.1	
2-chloroethyl vinyl ether	< 1.5		< 1.5		< 1.5		< 1.5		< 1.5		< 1.5		< 1.5		< 1.5	
cis-1,3-dichloropropene	< 2.6		< 2.6		< 2.6		< 2.6		< 2.6		< 2.6		< 2.6		< 2.6	
toluene	< 1.1		< 1.1		< 1.1		110		< 1.1		< 1.1		< 1.1		170	
t-1,3-dichloropropene	< 2.5		< 2.5		< 2.5		< 2.5		< 2.5		< 2.5		< 2.5		< 2.5	
1,1,2-TCA	< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9	
PCE	< 0.057		< 0.057		< 0.057		< 0.057		< 0.057		< 0.057		< 0.057		< 0.057	
dibromochloromethane	< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38	
chlorobenzene	< 0.73		< 0.73		< 0.73		< 0.73		< 0.73		< 0.73		< 0.73		< 0.73	
ethylbenzene	< 1.0		< 1.0		< 1.0		< 1.0		< 1.0		< 1.0		< 1.0		< 1.0	
bromoform	< 0.77		< 0.77		< 0.77		< 0.77		< 0.77		< 0.77		< 0.77		< 0.77	
1,1,2,2-TeCA	< 0.74		< 0.74		< 0.74		< 0.74		< 0.74		< 0.74		< 0.74		< 0.74	
1,3-dichlorobenzene	< 68		< 68		< 68		< 68		< 68		< 68		< 68		< 68	

1,4-dichlorobenzene		< 140		< 140		< 140		< 140		< 140		< 140		< 140		< 140		< 140	
1,2-dichlorobenzene		< 200		< 200		< 200		< 200		< 200		< 200		< 200		< 200		< 200	

Valmont TCE Site, Hazleton, PA									Samples collected and analyzed Monday, 10 June 2002													
L =	Contaminant potentially introduced in the laboratory.																					
Soil Vapor Sample Concentration (ppb by volume)																						
			A-00	Q	A-50	Q	A-100	Q	A-150	Q	A-200	Q	A-250	Q	A-300	Q	A-350	Q	A-400	Q
vinyl chloride			< 65		< 65		< 65		< 65		< 65		< 65		< 65		< 65		< 65	
chloroethane			< 6.3		< 6.3		< 6.3		< 6.3		< 6.3		< 6.3		< 6.3		< 6.3		< 6.3	
1,1-DCE			< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3	
MeCl			< 150	L	25,000	L	74,000	L	71,000	L	48,000	L	48,000	L	160	L	310	L	380	L
trans-1,2-DCE + MTBE			< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70	
1,1-DCA			< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30	
cis-1,2-DCE			< 0.80		< 0.80		< 0.80		< 0.80		< 0.80		< 0.80		< 0.80		< 0.80		< 0.80	
chloroform			< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31	
1,1,1-TCA			< 0.17		< 0.17		< 0.17		3		< 0.17		< 0.17		< 0.17		< 0.17		< 0.17	
1,2-DCA + benzene			< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2	
TCE			7		< 0.19		< 0.19		< 0.19		< 0.19		< 0.19		< 0.19		< 0.19		< 0.19	
toluene			< 9.8		11		< 9.8		22		< 9.8		< 9.8		< 9.8		< 9.8		< 9.8	
1,1,2-TCA			< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7	
PCE			< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025	
ethylbenzene			< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71	
m+p-xylenes			< 4.5		5		5		13		< 4.5		5		< 4.5		< 4.5		5	
o-xylene			50		65		260		250		270		210		300		300		290	
1,3,5-TMB			< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48	
1,2,4-TMB			< 0.64		< 0.64		< 0.64		< 0.64		< 0.64		< 0.64		< 0.64		< 0.64		< 0.64	

Valmont TCE Site, Hazleton, PA									Samples collected and analyzed Tuesday, 11 June 2002															
Soil Vapor Sample Concentration (ppb by volume)																								
	A-450	Q	A-500	Q	A-545	Q	B-450	Q	B-500	Q	B-540	Q	C-450	Q	D-450	Q	E-450	Q	F-450	Q	G-450	Q
1,1-DCE	< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		160		< 1.3		< 1.3		230		120	
MeCl	< 74		< 74		< 74		92		< 74		< 74		< 74		< 74		< 74		< 74		100	
t-1,2-DCE + MTBE	< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		44		520		200		22	
1,1-DCA	< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30	
cis-1,2-DCE	< 5.5		< 5.5		< 5.5		< 5.5		< 5.5		< 5.5		< 5.5		430		8,200		7,300		140	
chloroform	< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		5	
1,1,1-TCA	< 0.17		< 0.17		< 0.17		< 0.17		< 0.17		< 0.17		3		< 0.17		< 0.17		110		140	
1,2-DCA+benzene	< 0.65		< 0.65		< 0.65		9		5		6		< 0.65		< 0.65		6		5		14	
TCE	< 0.19		< 0.19		< 0.19		4		< 0.19		< 0.19		140		61		1,300		6,400		2,300	
toluene	< 0.7		< 0.7		33		7		< 0.7		380		98		31		< 0.7		< 0.7		11	
1,1,2-TCA	< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7	
PCE	< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		2		2	
ethylbenzene	< 0.71		< 0.71		12		< 0.71		< 0.71		190		46		11		< 0.71		3		< 0.71	
m+p-xylenes	< 0.61		< 0.61		49		< 0.61		< 0.61		480		230		29		< 0.61		6		< 0.61	
o-xylene	180		120		330		480		250		410		240		300		190		220		190	

Valmont TCE Site, Hazleton, PA										Samples collected and analyzed Wednesday, 12 June 2002																					
T = compound is tentatively identified																															
Soil Vapor Sample Concentration (ppb by volume)																															
	H-450	Q	I-450	Q	J-450	Q	H-500	Q	G-500	Q	F-500	Q	E-500	Q	F-350	Q	G-350	Q	G-300	Q	F-300	Q	E-300	Q
1,1-DCE	< 1.3		< 1.3		< 1.3		49		< 1.3		8		< 1.3		320	T	< 1.3		< 1.3		< 1.3		< 1.3	
MeCl	< 5		< 5		< 5		< 5		< 5		< 5		< 5		< 5		< 5		< 5		< 5		< 5	
t-1,2-DCE + MTBE	< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		17		67		< 0.7		< 0.7		< 0.7		3		< 0.7	
1,1-DCA	< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30	
cis-1,2-DCE	14		< 0.8		< 0.8		< 0.8		9		160		730		12		4		< 0.8		150		< 0.8	
chloroform	4		< 0.31		< 0.31		< 0.31		4		< 0.31		< 0.31		5		< 0.31		< 0.31		< 0.31		6	
1,1,1-TCA	52		< 0.17		< 0.17		39		35		4		< 0.17		120		28		5		< 0.17		< 0.17	
1,2-DCA+benzene	5		< 4.3		< 4.3		< 4.3		< 4.3		< 4.3		< 4.3		< 4.3		< 4.3		< 4.3		< 4.3		< 4.3	
TCE	3,400		21		6		220		1,100		110		96		1,000		610		4		31		370	
toluene	7		< 5.1		< 5.1		< 5.1		< 5.1		< 5.1		< 5.1		< 5.1		< 5.1		< 5.1		< 5.1		< 5.1	
1,1,2-TCA	< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7	
PCE	< 0.025		< 0.025		< 0.025		< 0.025		1		< 0.025		< 0.025		< 0.025		4		< 0.025		< 0.025		< 0.025	
ethylbenzene	< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71	
m+p-xylenes	< 6.8		< 6.8		< 6.8		< 6.8		< 6.8		< 6.8		< 6.8		< 6.8		< 6.8		8		< 6.8		< 6.8	
o-xylene	50		57		35		27		24		94		69		98		110		61		80		36	

Valmont TCE Site, Hazleton, PA									Samples collected and analyzed Thursday, 13 June 2002																	
Soil Vapor Sample Concentration (ppb by volume)																										
	H-350	Q	I-300	Q	H-300	Q	I-250	Q	H-245	Q	G-245	Q	F-250	Q	E-250	Q	D-250	Q	C-250	Q	C-200	Q	C-150	Q
1,1-DCE	< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3	T	< 1.3		< 1.3		< 1.3		< 1.3	
MeCl	< 5.3		< 5.3		< 5.3		< 5.3		< 5.3		< 5.3		< 5.3		< 5.3		< 5.3		< 5.3		< 5.3		< 5.3	
t-1,2-DCE + MTBE	< 0.70		< 0.70		< 0.70		< 0.70		2		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70	
1,1-DCA	< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30		< 30	
cis-1,2-DCE	< 0.80		< 0.80		< 0.80		12		< 0.80		< 0.80		< 0.80		< 0.80		< 0.80		< 0.80		< 0.80		< 0.80	
chloroform	< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31	
1,1,1-TCA	< 0.17		59		< 0.17		97		18		< 0.17		< 0.17		< 0.17		< 0.17		< 0.17		< 0.17		< 0.17	
1,2-DCA+benzene	< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65	
TCE	3		42		< 0.19		140		13		11		7		1		< 0.19		< 0.19		< 0.19		< 0.19	
toluene	< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70	
1,1,2-TCA	< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7		< 1.7	
PCE	< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025		< 0.025	
ethylbenzene	< 0.71		< 0.71		< 0.71		< 0.71		4		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71	
m+p-xylenes	< 0.61		< 0.61		< 0.61		< 0.61		< 0.61		< 0.61		< 0.61		< 0.61		< 0.61		< 0.61		< 0.61		< 0.61	
o-xylene	54		26		91		37		120		92		91		93		140		60		27		12	

Valmont TCE Site, Hazleton, PA																								
Note:	Samples collected on Friday 14 June, and analyzed Sunday 16 June 2002, due to problems with GC system.																							
Soil Vapor Sample Concentration (ppb by volume)																								
			D-200	Q	E-200	Q	F-200	Q	G-200	Q	D-150	Q	E-150	Q	F-150	Q	G-150	Q	H-200	Q	I-200	Q	H-150	Q
1,1-DCE			< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3		< 1.3	
MeCl			< 210		260		< 210		< 210		< 210		< 210		340		320		< 210		< 210		< 210	
t-1,2-DCE + MTBE			16		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		6		< 0.7		< 0.7		< 0.7		< 0.7	
1,1-DCA			< 450		< 450		< 450		< 450		< 450		< 450		< 450		< 450		< 450		< 450		< 450	
cis-1,2-DCE			310		< 0.8		< 0.8		6		33		< 0.8		24		6		< 0.8		< 0.8		< 0.8	
chloroform			15		< 4.6		< 4.6		< 4.6		< 4.6		< 4.6		< 4.6		< 4.6		< 4.6		< 4.6		< 4.6	
1,1,1-TCA			< 2.5		< 2.5		19		7		< 2.5		< 2.5		200		140		11		170		< 2.5	
1,2-DCA+benzene			< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65	
TCE			1,600		10		21		11		120		< 2.8		500		370		73		730		22	
toluene			< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7		< 0.7	
1,1,2-TCA			< 26		< 26		< 26		< 26		< 26		< 26		< 26		< 26		< 26		< 26		< 26	
PCE			< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38		< 0.38	
ethylbenzene			< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71	
m+p-xylenes			< 0.61		< 0.61		< 0.61		< 0.61		< 0.61		< 0.61		< 0.61		< 0.61		< 0.61		< 0.61		< 0.61	
o-xylene			420		380		410		370		400		350		280		630		270		240		400	

Valmont TCE Site, Hazleton, PA

Samples collected and analyzed Monday, 17 June 2002.

Samples collected and analyzed Monday, 17 June 2002

Soil Vapor Sample Concentration (ppb by volume)

	C-500	Q	C-530	Q	D-500	Q	D-535	Q	E-535	Q	F-535	Q	G-535	Q	H-525	Q	I-500	Q	B-325	Q	J2-225	Q
1,1-DCE	< 38		< 38		< 38		< 38		< 38		< 38		< 38		< 38		< 38		< 38		< 38	
MeCl	< 140		< 140		< 140		< 140		< 140		180		< 140		< 140		< 140		< 140		150	
t-1,2-DCE + MTBE	< 13		< 13		< 13		< 13		< 13		< 13		< 13		< 13		< 13		< 13		< 13	
1,1-DCA	< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19	
cis-1,2-DCE	< 13		< 13		110		< 13		< 13		< 13		< 13		< 13		< 13		< 13		< 13	
chloroform	< 4.2		< 4.2		< 4.2		< 4.2		< 4.2		< 4.2		< 4.2		< 4.2		< 4.2		< 4.2		< 4.2	
1,1,1-TCA	< 2.9		< 2.9		< 2.9		< 2.9		< 2.9		< 2.9		< 2.9		< 2.9		< 2.9		< 2.9		< 2.9	
1,2-DCA+benzene	< 4.8		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8	
TCE	< 2.4		< 2.4		230		< 2.4		< 2.4		< 2.4		< 2.4		< 2.4		3		< 2.4		< 2.4	
toluene	< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5	
1,1,2-TCA	< 14		< 14		< 14		< 14		< 14		< 14		< 14		< 14		< 14		< 14		< 14	
PCE	< 0.28		< 0.28		< 0.28		< 0.28		< 0.28		< 0.28		< 0.28		< 0.28		< 0.28		< 0.28		< 0.28	
ethylbenzene	< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1	
m+p-xylenes	< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9	
o-xylene	30		35		55		54		43		< 4.0		< 4.0		< 4.0		< 4.0		< 4.0		< 4.0	

	J2-175	Q	I2-225	Q
1,1-DCE	< 38		< 38	
MeCl	< 140		< 140	
t-1,2-DCE + MTBE	< 13		< 13	
1,1-DCA	< 19		< 19	
cis-1,2-DCE	< 13		24	
chloroform	< 4.2		< 4.2	
1,1,1-TCA	< 2.9		13	
1,2-DCA+benzene	< 4.8		< 4.8	
TCE	7		69	
toluene	< 4.5		< 4.5	
1,1,2-TCA	< 14		< 14	
PCE	< 0.28		< 0.28	
ethylbenzene	< 4.1		< 4.1	

m+p-xylenes		< 3.9		< 3.9																					
o-xylene		< 4.0		< 4.0																					

Valmont TCE Site, Hazleton, PA — Samples collected and analyzed Tuesday, 18 June 2002

Qualifiers: **E** Concentration exceeds upper limits of calibration.

Soil Vapor Sample Concentration (ppb by volume)

	C-100	Q	D-100	Q	E-100	Q	F-100	Q	G-100	Q	H-100	Q	I-100	Q	I-150	Q	D-175	Q	D2-200	Q	C2-200	Q
1,1-DCE	< 25		< 25		< 25		< 25		< 25		< 25		< 25		< 25		< 25		< 25		< 25	
MeCl	< 170		< 170		< 170		< 170		< 170		< 170		< 170		< 170		< 170		< 170		< 170	
t-1,2-DCE + MTBE	< 13		< 13		< 13		< 13		< 13		< 13		< 13		< 13		< 13		< 13		< 13	
1,1-DCA	< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19	
cis-1,2-DCE	< 13		62		< 13		< 13		< 13		< 13		< 13		< 13		< 13		< 13		< 13	
chloroform	< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8	
1,1,1-TCA	< 1.9		< 1.9		< 1.9		< 1.9		2		< 1.9		< 1.9		4		< 1.9		< 1.9		< 1.9	
1,2-DCA+benzene	< 4.8		< 4.8		< 4.8		< 4.8		28		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8	
TCE	< 1.6		3		56		< 1.6		15		< 1.6		< 1.6		21		< 1.6		< 1.6		< 1.6	
toluene	< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5	
1,1,2-TCA	< 14		< 14		< 14		< 14		< 14		< 14		< 14		< 14		< 14		< 14		< 14	
PCE	< 0.19		< 0.19		< 0.19		< 0.19		< 0.19		< 0.19		< 0.19		< 0.19		< 0.19		< 0.19		< 0.19	
ethylbenzene	< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1	
m+p-xylenes	< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9	
o-xylene	13		31		< 4		< 4		49		22		< 4		11		< 4		< 4		< 4	

	D-225	Q	I-350	Q
1,1-DCE	3,900		< 25	
MeCl	< 170		< 170	
t-1,2-DCE + MTBE	< 13		< 13	
1,1-DCA	< 19		< 19	
cis-1,2-DCE	< 13		< 13	
chloroform	12		< 2.8	
1,1,1-TCA	5		< 1.9	
1,2-DCA+benzene	< 4.8		< 4.8	
TCE	12,000	E	< 1.6	
toluene	< 4.5		< 4.5	
1,1,2-TCA	< 14		< 14	
PCE	1		< 0.19	
ethylbenzene	< 4.1		< 4.1	

m+p-xylenes		< 3.9		< 3.9																			
o-xylene		< 4		< 4																			

Valmont TCE Site, Hazleton, PA		Samples collected and analyzed Wednesday 19 June 2002																					
Soil Vapor Sample Concentration (ppb by volume)																							
	E-425	Q	E-425 Dupl	Q	F-425	Q	G-425	Q	H-425	Q	H2-450	Q	H-475	Q	G-475	Q	F-475	Q	E-475	Q	D2-450	Q
1,1-DCE	< 25		< 25		< 25		< 25		< 25		170		89		< 25		< 25		< 25		43	
MeCl	< 150		< 150		< 150		< 150		< 150		< 150		< 150		< 150		< 150		< 150		< 150	
t-1,2-DCE + MTBE	82		430		< 13		< 13		< 13		< 13		< 13		< 13		130		< 13		< 13	
1,1-DCA	< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19	
cis-1,2-DCE	900		2,300		< 13		< 13		< 13		< 13		< 13		< 13		720		< 13		560	
chloroform	< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8		< 2.8	
1,1,1-TCA	< 1.9		< 1.9		< 1.9		< 1.9		< 1.9		28		57		13		18		< 1.9		< 1.9	
1,2-DCA+benzene	< 4.8		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8		< 4.8	
TCE	44		100		16		< 1.6		82		1,500		210		610		740		49		1,200	
toluene	< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5		< 4.5	
1,1,2-TCA	< 14		< 14		< 14		< 14		< 14		< 14		< 14		< 14		< 14		< 14		< 14	
PCE	< 0.19		< 0.19		< 0.19		< 0.19		2		< 0.19		< 0.19		< 0.19		< 0.19		< 0.19		< 0.19	
ethylbenzene	< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1		< 4.1	
m+p-xylenes	< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9		< 3.9	
o-xylene	53		25		13		< 4.0		18		43		< 4.0		37		32		20		28	
	F2-500	Q	G2-500	Q																		
1,1-DCE	< 25		< 25																			
MeCl	< 150		< 150																			
t-1,2-DCE + MTBE	< 13		< 13																			
1,1-DCA	< 19		< 19																			
cis-1,2-DCE	54		< 13																			
chloroform	< 2.8		< 2.8																			
1,1,1-TCA	10		5																			
1,2-DCA+benzene	< 4.8		< 4.8																			
TCE	340		160																			
toluene	< 4.5		< 4.5																			
1,1,2-TCA	< 14		< 14																			
PCE	< 0.19		4																			
ethylbenzene	< 4.1		< 4.1																			

m+p-xylenes		< 3.9		< 3.9																			
o-xylene		37		45																			

Valmont TCE Site, Hazleton, PA		Samples collected and analyzed Thursday 20 June 2002																					
Soil Vapor Sample Concentration (ppb by volume)																							
	C-50	**Q**	**D-50**	**Q**	**E-50**	**Q**	**F-50**	**Q**	**G-50**	**Q**	**H-50**	**Q**	**I-50**	**Q**	**C2-225**	**Q**	**D2-250**	**Q**	**ALS-01**	**Q**
1,1-DCE	< 13		< 13		< 13		< 13		< 13		< 13		< 13		< 13		440		< 13	
MeCl	< 51		< 51		< 51		< 51		< 51		< 51		< 51		< 51		< 51		< 51	
t-1,2-DCE + MTBE	< 15		< 15		< 15		< 15		< 15		< 15		< 15		< 15		< 15		< 15	
1,1-DCA	< 24		< 24		< 24		< 24		< 24		< 24		< 24		< 24		< 24		< 24	
cis-1,2-DCE	< 15		< 15		< 15		< 15		< 15		< 15		< 15		< 15		< 15		< 15	
chloroform	< 1.6		< 1.6		< 1.6		< 1.6		< 1.6		< 1.6		< 1.6		< 1.6		4		< 1.6	
1,1,1-TCA	< 1.4		15		< 1.4		30		9		< 1.4		4		< 1.4		5		< 1.4	
1,2-DCA+benzene	< 6.8		< 6.8		< 6.8		< 6.8		< 6.8		< 6.8		< 6.8		< 6.8		< 6.8		< 6.8	
TCE	3		34		6		45		10		2		9		< 0.86		1,500		1	
toluene	< 6.0		< 6.0		< 6.0		< 6.0		< 6.0		< 6.0		< 6.0		< 6.0		< 6.0		< 6.0	
1,1,2-TCA	< 7.1		< 7.1		< 7.1		< 7.1		< 7.1		< 7.1		< 7.1		< 7.1		< 7.1		< 7.1	
PCE	< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19		< 19	
ethylbenzene	< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2	
m+p-xylenes	< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2		< 5.2	
o-xylene	26		79		63		19		24		52		61		< 5.2		17		< 5.2	
	SWB-01	**Q**	***CWC-01***	**Q**																
1,1-DCE	< 13		< 13																	
MeCl	< 51		< 51																	
t-1,2-DCE + MTBE	< 15		< 15																	
1,1-DCA	< 24		< 24																	
cis-1,2-DCE	< 15		< 15																	
chloroform	< 1.6		< 1.6																	
1,1,1-TCA	< 1.4		< 1.4																	
1,2-DCA+benzene	< 6.8		< 6.8																	
TCE	< 0.86		< 0.86																	
toluene	< 6.0		< 6.0																	
1,1,2-TCA	< 7.1		< 7.1																	
PCE	< 19		< 19																	
ethylbenzene	< 5.2		< 5.2																	

m+p-xylenes			< 5.2		< 5.2																		
o-xylene			36		18																		

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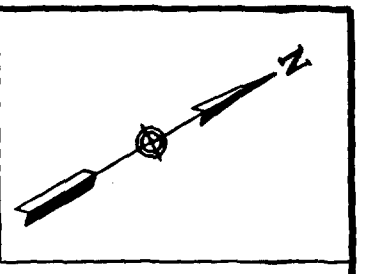
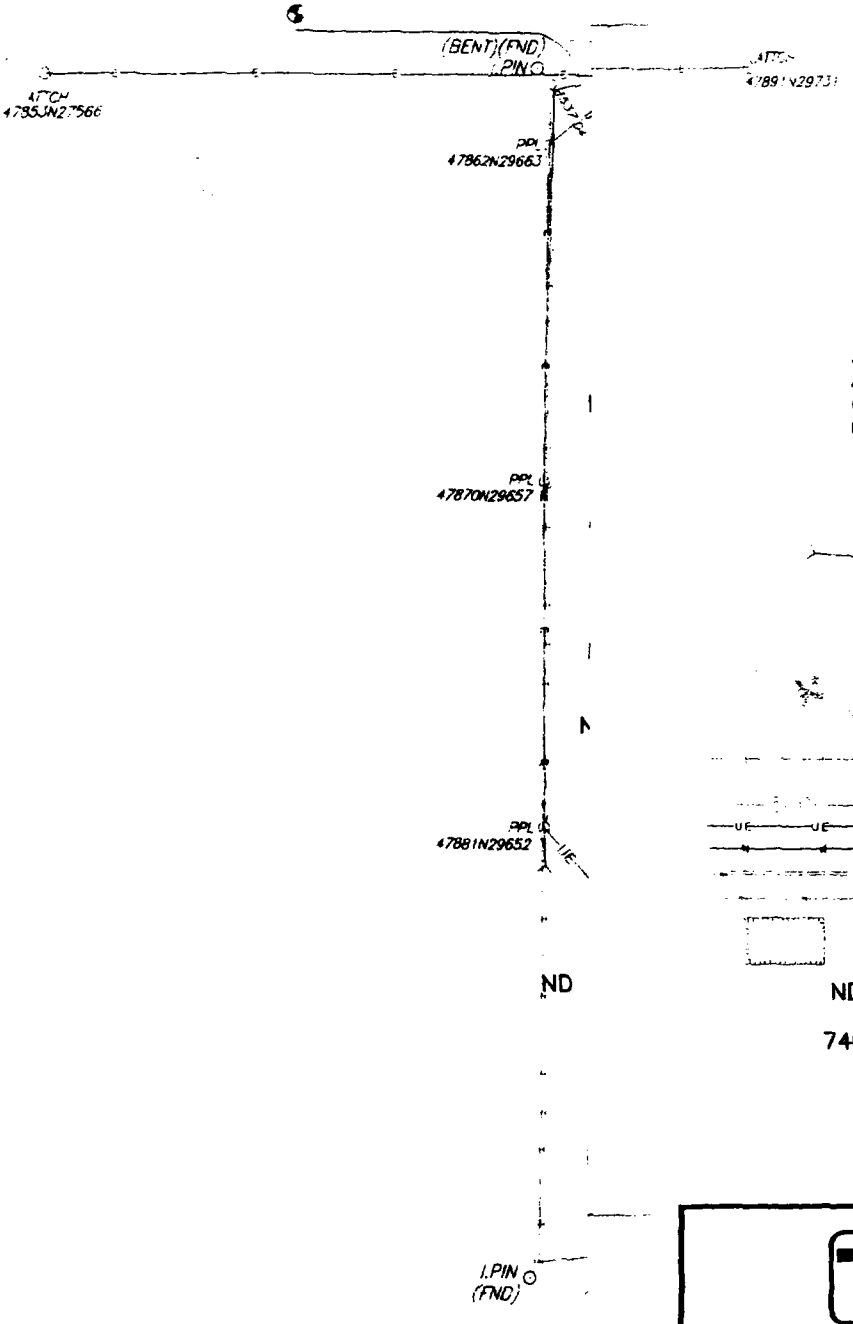




LEGEND

- △ = SOIL GAS SAMPLE LOCATION
- ▲ = PROPOSED SOIL SAMPLE LOCATION
- ⊖ = EXIST. WELL
- = CATCH BASIN (C.B.)
- = SANITARY OR STORM MANHOLES (AS INDICATED)
- = WATER VALVE CAP
- = SPRINKLER
- = FIRE HYDRANT
- = CLEAN OUT/VENT (C.O.)
- = UTILITY POLE W/GUY WIRE
- = BOLLARD
- = ELECTRIC BOX
- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
- = EXISTING TREES
- = WOODS LINE
- = GUIDE RAIL
- = EXIST. CONTOURS
- = EXIST. INDEX CONTOURS
- = EXIST. UNDERTGROUND ELEC.
- = EXIST. WATERLINE
- = EXIST. STORM SEWER LINE
- = EXIST. FENCE LINE
- = EXISTING BUILDINGS

ND = NOT DETECTED

740 = TCE SOIL VAPOR CONCENTRATION (PPB BY VOLUME)

0 75 150

SCALE IN FEET

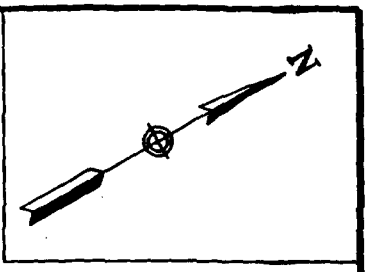
TETRA TECH NUS, INC.

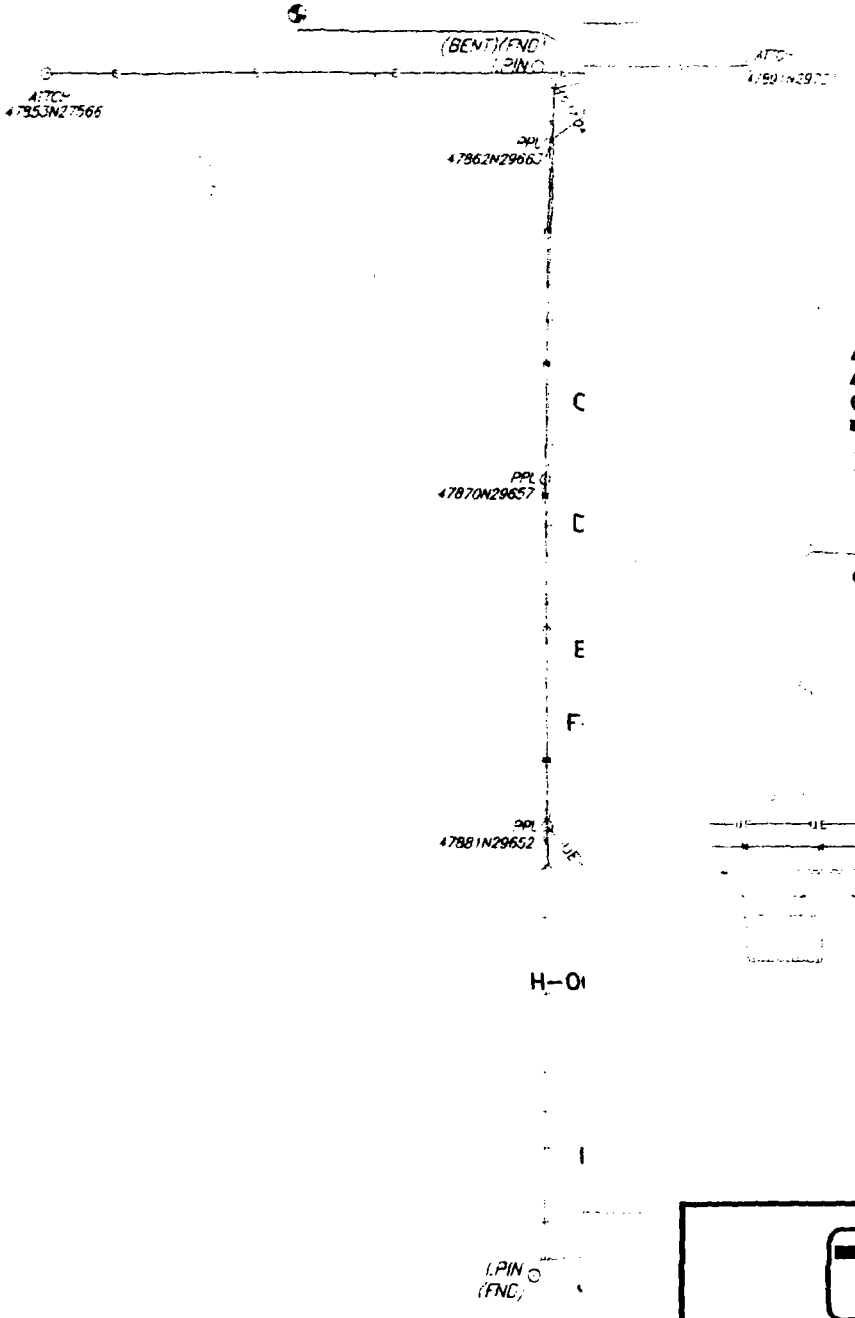
TCE SOIL VAPOR CONCENTRATIONS
VALMONT TCE SITE
HAZLE TOWNSHIP AND WEST HAZLETON BOROUGH
LUZERNE COUNTY, PA

FILE	SCALE
4192gm02 7/1/02 LDL PHL	AS NOTED
FIGURE NUMBER: FIGURE 1	REV / DATE: 7/1/02

AR100004JJ

ACAD: 4192gm02.dwg 6/18/02 LDL





LEGEND

- △ = SOIL GAS SAMPLE LOCATION
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- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
- = EXISTING TREES
- = WOODS LINE
- = GUIDE RAIL
- = EXIST. CONTOURS
- = EXIST. INDEX CONTOURS
- = EXIST. UNDERTGROUND ELEC.
- = EXIST. WATERLINE
- = EXIST. STORM SEWER LINE
- = EXIST. FENCE LINE
- = EXISTING BUILDINGS

0 75 150

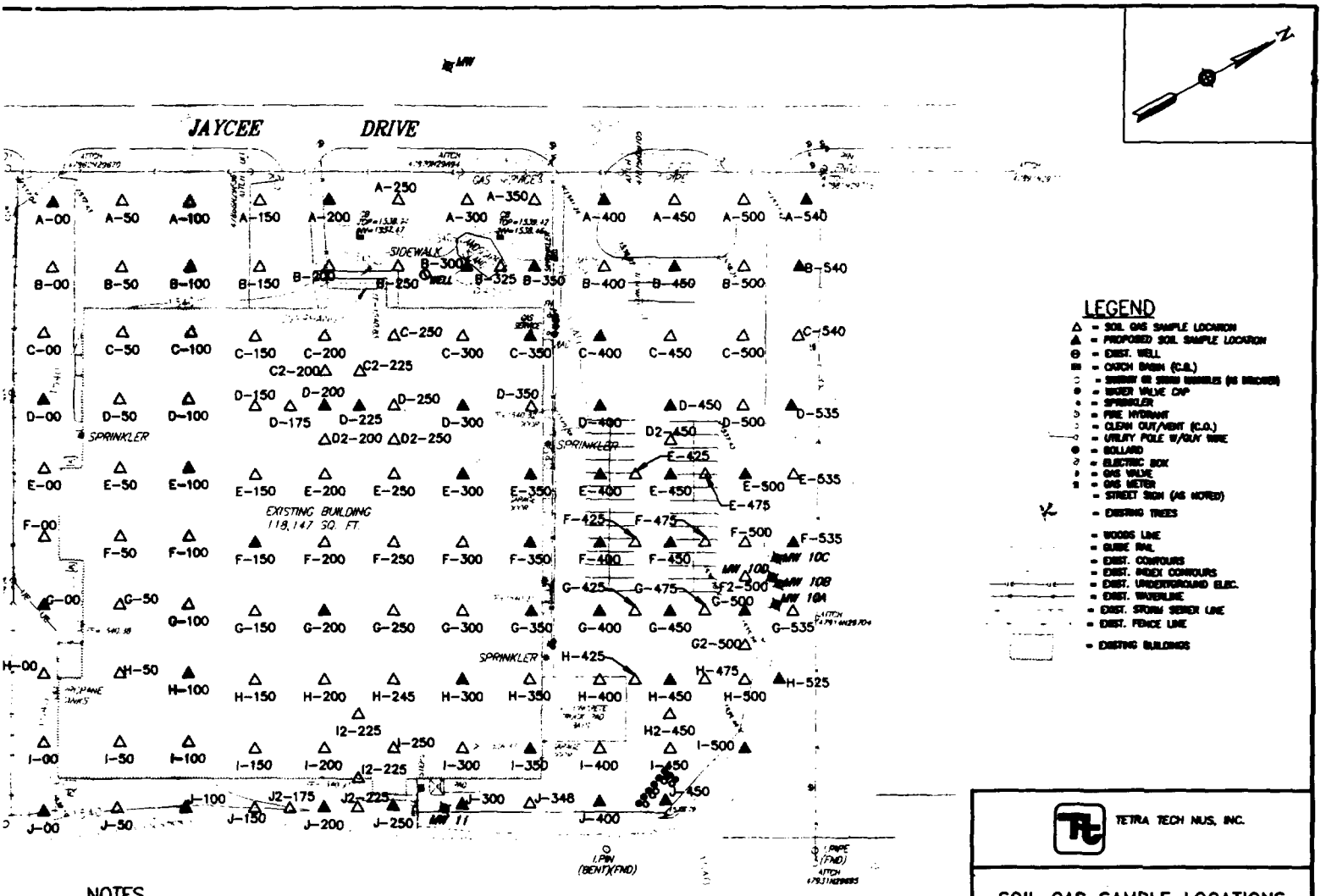
SCALE IN FEET

TETRA TECH NUS, INC.

SOIL GAS SAMPLE LOCATIONS
VALMONT TCE SITE
HAZLE TOWNSHIP AND WEST HAZLETON BOROUGH
LUZERNE COUNTY, PA

FILE	SCALE
4192gm02 6/18/02 LDL PHL	AS NOTED
FIGURE NUMBER: FIGURE 1	REV / DATE: 6/19/02

AR100004KK



NOTES

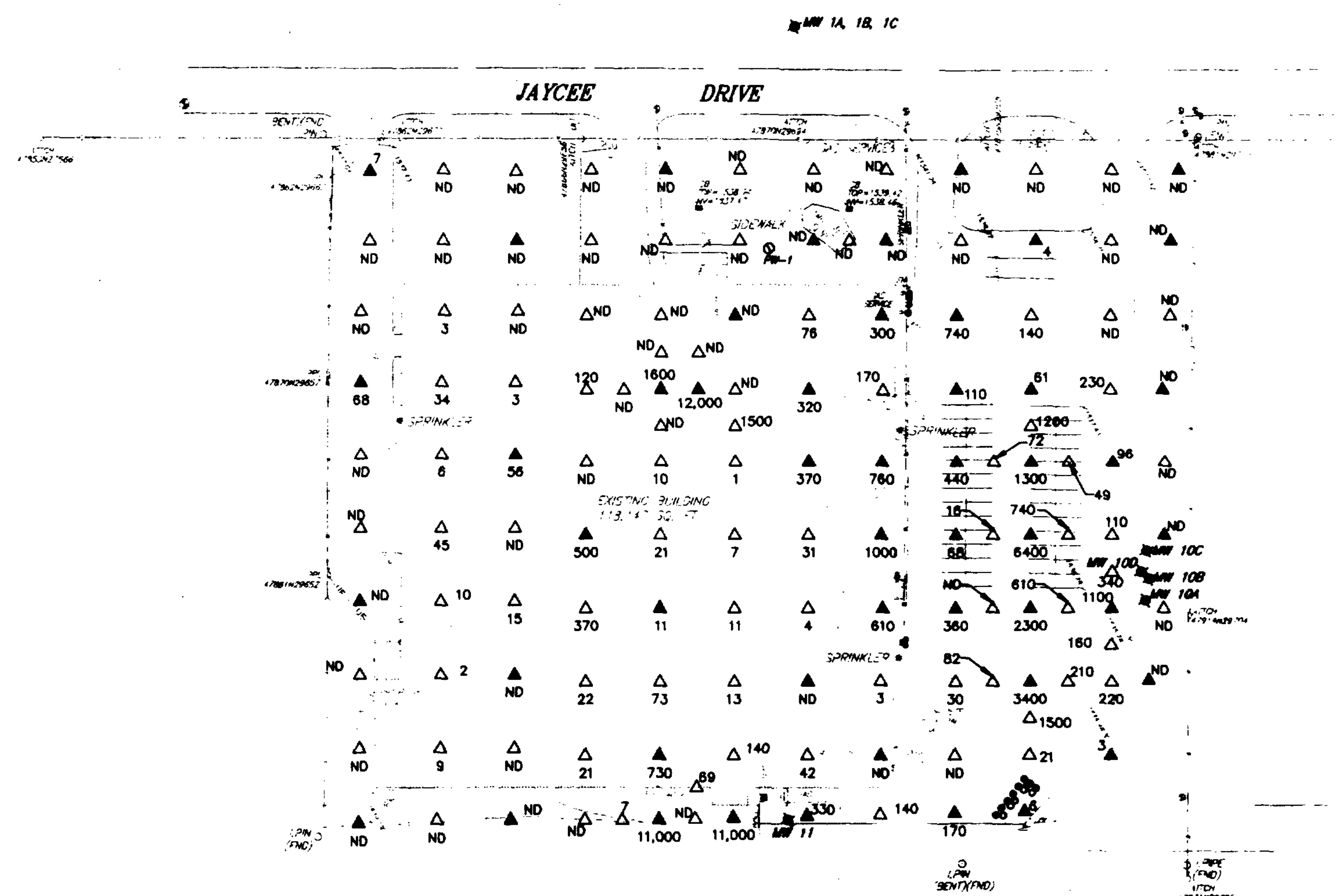
1. SITE FEATURES SHOWN PER 5/21/02 FIELD SURVEY BY LEC.
2. SURVEY CONTROL:
   HORIZONTAL: PA STATE PLAN(FT) NORTH
   VERTICAL: NGVD 29
2. SURVEY ACCURACY
   HORIZONTAL LOCATION: +/- 0.05'
   LISTED ELEVATIONS: +/- 0.05'
   CONTOURS: ONE OF CONTOURS ACCURATE TO WITHIN 0.5'
   ONE OF CONTOURS ACCURATE TO WITHIN 1.0'

TETRA TECH NUS, INC.

SOIL GAS SAMPLE LOCATIONS
VALMONT TCE SITE
HAZLE TOWNSHIP AND WEST HAZLETON BOROUGH
LUZERNE COUNTY, PA

FILE	SCALE
4192gm02 6/18/02 LDL PHL	AS NOTED
FIGURE NUMBER: FIGURE 1	REV / DATE: 6/19/02

ACAD: 4182pm03.dwg 7/1/02 LDL



NOTES

1. SITE FEATURES SHOWN PER 5/21/02 FIELD SURVEY BY LEC.
2. SURVEY CONTROL
   HORIZONTAL: PA STATE PLAN(FT) NORTH
   VERTICAL: NGVD 29
2. SURVEY ACCURACY
   HORIZONTAL LOCATION: +/- 0.05'
   LISTED ELEVATIONS: +/- 0.05'
   CONTOURS: 90% OF CONTOURS ACCURATE TO WITHIN 0.5'
   10% OF CONTOURS ACCURATE TO WITHIN 1.0'

0 75 150
SCALE IN FEET

AR100004MM