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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II
2890 WOODBRIDGE AVENUE
EDISON, NEW JERSEY 08837

DATE: January 18, 2007

SUBJECT: Little Valley Superfund Site
Little Valley, Cattaraugus County, New York

FROM: Louis DiGuardia, On-Scene Coordinator
U.S. EPA Region II
Emergency & Remedial Response Division
Removal Action Branch
2890 Woodbridge Avenue (MS-211)
Edison, New Jersey 08837-3679

TO: Linda Ross, CPG
Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
270 Michigan Avenue
Buffalo New York 14203-2999

Little Valley Superfund Site - Cattaraugus Cutlery Area
U.S. EPA ERT-REAC Report dated: December 22, 2006, SVE System and Extraction Well Sampling Report

Dear Ms Ross:

Please find attached two copies of the U.S. EPA ERT-REAC Report dated: December 22, 2006, SVE System and Extraction Well Sampling Report for the Little Valley Superfund Site - Cattaraugus Cutlery Area, Little Valley, New York.

If you have any questions, please don't hesitate to contact me at 732-906-6927.

For your information, we are finalizing the information on radius of influence of the SVE system, to include the required diagrams. I appreciate your patience in this matter.

LOCKHEED MARTIN

Lockheed Martin Technology Services
Environmental Services REAC
2890 Woodbridge Avenue, Building 209 Annex
Edison, NJ 08837-3679
Telephone 732-321-4200 Facsimile 732-494-4021

DATE: December 22, 2006

TO: Jeff Catanzarita, U.S. EPA/ERT Work Assignment Manager

THROUGH: Parry Bhambra, REAC Operations Section Leader

FINAL

FROM: Christopher Sklaney, REAC Task Leader

SUBJECT: SOIL VAPOR (AIR) SAMPLING
LITTLE VALLEY SUPERFUND SITE (CATTARAUGUS CUTLERY AREA)
LITTLE VALLEY, NEW YORK
WORK ASSIGNMENT 0-165 - TRIP REPORT

INTRODUCTION

The Little Valley Superfund Site is underlain by a plume of trichloroethene (TCE)-contaminated groundwater that extends several miles between Little Valley and Salamanca, Cattaraugus County, New York (NY). This trip report presents the results of an environmental investigation conducted at a potential source area of the plume by personnel from the Lockheed Martin Response Engineering and Analytical Contract (REAC) in consultation with the Environmental Protection Agency/Environmental Response Team (EPA/ERT) Work Assignment Manager (WAM).

The work summarized in this report was conducted at a potential source area of the plume known as the Cattaraugus Cutlery Area (CCA). The CCA is located at 300-306 Sixth Street in Little Valley. Specifically, the work was conducted at one of the property parcels comprising the CCA, the former Cattaraugus Cutlery. Primary site features are outlined on Figure 1.

Six vapor extraction wells were installed in April 2006 and connected to an on-site soil vapor extraction (SVE) system. The first round of air sampling was conducted during system operation in May 2006. Twenty additional vapor extraction wells were installed and connected to the SVE system in June 2006. A second round of air sampling was conducted during system operation in September 2006. Activities outlined in this report discuss the September 2006 sampling event.

SITE BACKGROUND

The property parcels comprising the CCA were historically and are currently zoned for commercial and industrial use. Activities conducted at the site began around 1900, and included the manufacture of cutlery and voting machines, stamping of metal automobile and window parts, and more recently, the storage of commercial and industrial goods. Past owners or operators have included the W.W. Wilson Cutlery Company, Cattaraugus Cutlery, Knowles-Fischer, American Voting Machines (AVM), and according to property records, possibly King Windows. Former employees of AVM and King Windows reportedly alleged that improper disposal of chemicals occurred at the site during manufacturing processes (Tetra Tech FW, 2005).

The parcel on which the Cattaraugus Department of Public Works (CDPW) formerly operated is located immediately east of the existing on-site buildings. The Korn Razor Manufacturing Company was built on this parcel in approximately 1890 and operated as a cutlery, producing straight razors until the mid-1930s. In 1939, the building reverted to Cattaraugus County for non-payment of taxes and had been used for storage and equipment repair until being demolished at some time in the 1990s (Tetra Tech FW, 2005). The parcel is currently undeveloped.

In the 1980s, TCE was first detected in groundwater samples collected from the production well of the Luminite Products Corporation (Luminite), an industrial property located approximately four miles southeast and down gradient of the site. Subsequent sampling indicated that a plume of TCE extended down gradient several miles from Little Valley to Salamanca and was impacting as many as 200 drinking water wells. The plume was also found to extend up gradient of the Luminite property, and is currently believed to consist of several contributing sources that may also include the CCA, Bush Industries, the Great Triangle Area (also known as the Drum Storage Area), and the Ninth Street Landfill Area. Analytical results of the majority of soil samples collected from the CCA north of the central portion of the manufacturing building between 1998 and 2003 revealed TCE at concentrations of up to 550 micrograms per kilogram (µg/kg), although TCE was also reported at concentrations up to 72,000 µg/kg in isolated locations (Tetra Tech FW, 2005).

REAC conducted soil sampling at the CCA during several field events from August 2005 through April 2006. Analytical results indicated that TCE was present on the former Cattaraugus Cutlery parcel at numerous locations above the recommended soil cleanup objective (SCO) of 700 µg/kg (Lockheed Martin/REAC, 2006a), as outlined by New York State Department of Environmental Conservation (NYSDEC) (1994) Technical and Administrative Guidance Memorandum (TAGM) #4046.

In May 2006, an EPA Region 2 contractor mobilized a portable SVE system to the site in order to perform air flow testing. The six wells (SVE-1, SVE-2, SVE-3, SVE-4, SVE-5, and SVE-6) installed by REAC personnel in April 2006 and a horizontal trench installed by the contractor were connected to the system. REAC personnel subsequently collected 11 air samples during the SVE system operation. The samples were collected from individual wells, the horizontal trench, and from wells and the trench in various in-line combinations. TCE was detected in all samples, at concentrations ranging from 60,000 parts per billion by volume (ppbv), or 322,000 micrograms per cubic meter (µg/m^3) to 1,750 ppbv, or 9,400 µg/m^3 (Lockheed Martin/REAC, 2006c). In June 2006, REAC personnel installed 20 additional wells at the site. The contractor subsequently expanded the SVE system to include the additional wells.

METHODS

On September 26 and 27, 2006, 23 air samples and one trip blank were collected from various locations during air flow testing and operation of the SVE system. Twenty of the 23 samples were collected from individual wells into pre-evacuated 6-liter SUMMA® canisters during system operation. The remaining three field samples were collected from a composite flow of all wells in the system. One of the composite flow samples was collected in a canister (COMP-1C-SC1), and the other two were collected on the first and second days of sampling using charcoal tubes (COMP-1C-CT1 and COMP-1C-CT2, respectively). Well locations are presented on Figure 2.

SUMMA canister sampling was performed following guidelines in modified EPA Method TO-15, *Determination of VOCs in Ambient Air Using SUMMA Passivated Canister Sampling and Gas Chromatographic Analysis*. As part of this method, pre-evacuated 6-liter SUMMA canisters under negative pressure of approximately 30 inches of mercury are used as the sample container. Air is drawn into a canister over a period of approximately three minutes when a valve is opened. The valve is closed when the canister pressure was proximal to but not at ambient pressure. At the end of the sampling period, the sampling time and final canister pressure were recorded on the identification tag attached to the canister.

Charcoal tube sampling was performed following guidelines in National Institute for Occupational Safety and Health (NIOSH) modified Method 1501 *(Aromatic Hydrocarbons)*, 1500 *(bb 36°-126°C Hydrocarbons)*, and 1003 *(Halogenated Hydrocarbons)*. Under these methods, air is drawn through a glass tube containing 600 milligrams of coconut shell charcoal adsorbent using an SKC personal sampling pump. The pump was calibrated at a flow rate of 1.0 liter per minute and operated for 240 minutes. After sampling was completed, the glass tube was removed from

the sampling train, capped at both ends, and placed in an appropriately labeled transport container. Sample documentation and chain of custody records for all samples were prepared and stored in their respective containers. All samples were hand-delivered to the REAC Laboratory in Edison, New Jersey (NJ).

RESULTS

Data validation was not conducted, and therefore, the preliminary results should be considered as equivalent to screening data. Preliminary analytical results indicate that the following 20 compounds were detected in the canister samples at concentrations above the sample reporting limit (RL): TCE, propylene, acetone, trichlorofluoromethane, trans-1,2-dichloroethene, 2-butanone, cis-1,2-dichloroethene, hexane, tetrahydrofuran, benzene, heptane, 2-hexanone, ethylbenzene, toluene, m/p-xylene, o-xylene, ethyltoluene, 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, and tetrachloroethene (PCE). The compound detected at the highest concentration was TCE, at 46,000 $\mu g/m^3$ in the sample collected from SVE-16. TCE was detected in all field samples. The minimum reported concentration of TCE was 653 $\mu g/m^3$ in the sample collected from SVE-32. TCE was also detected in the two charcoal tube samples at concentrations of 15,500 $\mu g/m^3$ and 12,700 $\mu g/m^3$. Benzene, toluene, ethylbenzene, and xylenes, collectively referred to as "BTEX" compounds, were detected above reporting limits in the sample collected from well SVE-19 and from the system composite location. Trace levels of BTEX compounds were also reported in well SVE-32. Preliminary TCE analytical results are presented graphically on Figure 3. Complete SUMMA canister preliminary results are presented in Appendix A, and charcoal tube preliminary results, including tentatively identified compounds (TICs), are presented in Appendix B.

REFERENCES

Lockheed Martin/REAC. 2005. Field Logbook, Little Valley Superfund Site, REAC IV-B-0140.

Lockheed Martin/REAC. 2006a. Trip Report – Subsurface Soil Sampling, Little Valley Superfund Site (Cattaraugus Cutlery Area). June 2.

Lockheed Martin/REAC. 2006b. Trip Report – Subsurface Soil Sampling, Little Valley Superfund Site (Former Cattaraugus Department of Public Works Parcel). June 9.

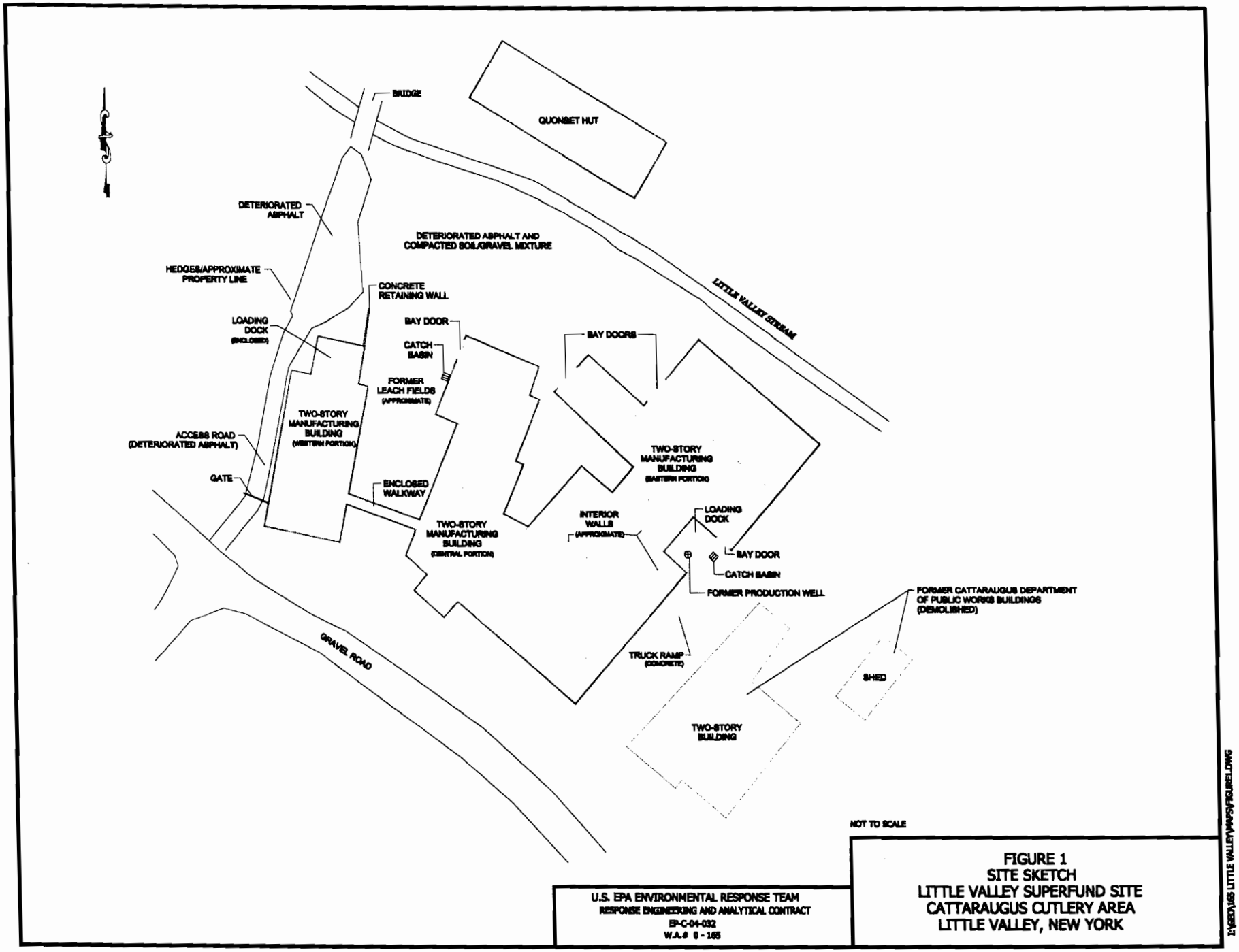
Lockheed Martin/REAC. 2006c. Trip Report – Vapor Extraction Well Installation and Air Sampling, Little Valley Superfund Site (Cattaraugus Cutlery Area). August 11.

New York State Department of Environmental Conservation. 1994. Determination of Soil Cleanup Objectives and Cleanup Levels. Technical and Administrative Guidance Memorandum #4046.

Tetra Tech FW, Inc. 2005. Remedial Investigation Report for OU-2 Remedial Investigation and Feasibility Study, Little Valley Superfund Site, Cattaraugus County, New York. EPA Region II Response Action Contract, Contract No. 68-W-98-214.

FIGURES

Little Valley Superfund Site
Cattaraugus Cutlery Area
Trip Report



U.S. EPA ENVIRONMENTAL RESPONSE TEAM
RESPONSE ENGINEERING AND ANALYTICAL CONTRACT
EP-C-04-032
W.A.# 0 - 165

FIGURE 1
SITE SKETCH
LITTLE VALLEY SUPERFUND SITE
CATTARAUGUS CUTLERY AREA
LITTLE VALLEY, NEW YORK

I:\GIS\165 LITTLE VALLEY\MAPS\FIGURE1.DWG

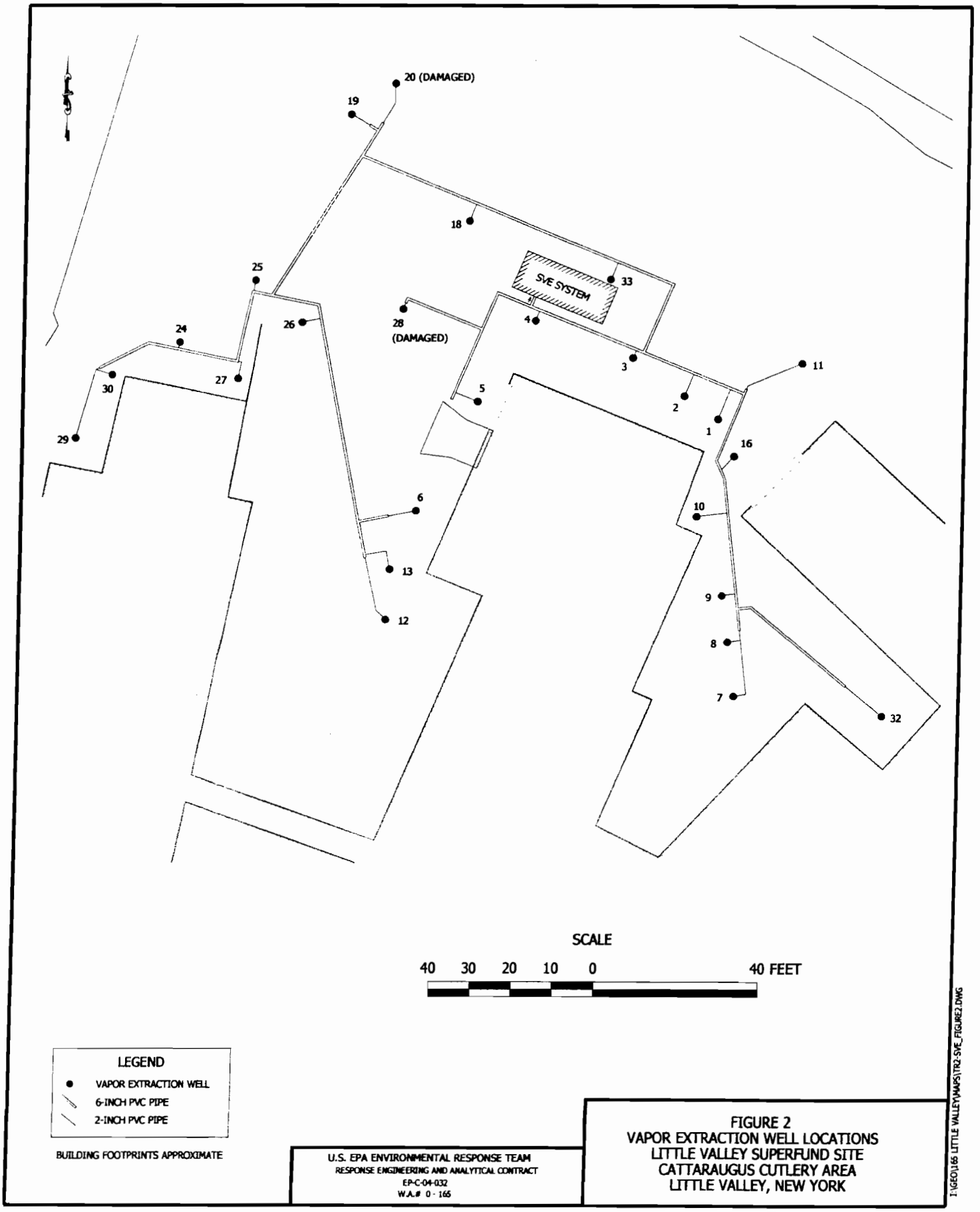

20 (DAMAGED)
19
18
25
SVE SYSTEM
33
28
(DAMAGED)
4
26
24
3
11
30
27
5
2
29
1
16
6
10
13
9
12
8
7
32
SCALE
40 30 20 10 0 40 FEET
LEGEND
VAPOR EXTRACTION WELL
6-INCH PVC PIPE
2-INCH PVC PIPE
BUILDING FOOTPRINTS APPROXIMATE
U.S. EPA ENVIRONMENTAL RESPONSE TEAM
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FIGURE 2
VAPOR EXTRACTION WELL LOCATIONS
LITTLE VALLEY SUPERFUND SITE
CATTARAUGUS CUTLERY AREA
LITTLE VALLEY, NEW YORK
I:\GEO\165 LITTLE VALLEY\MAPS\TR2-SVE_FIGURE2.DWG

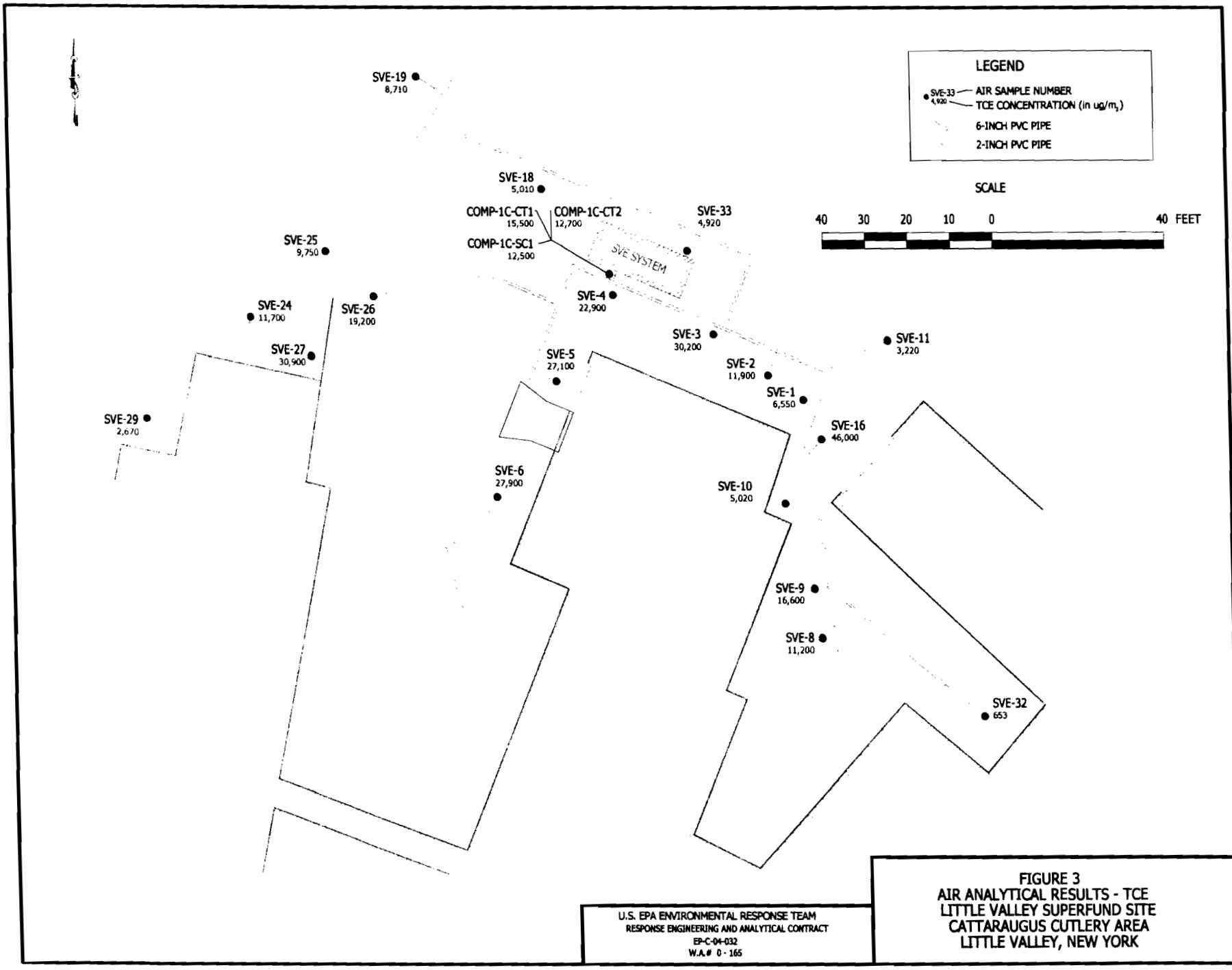

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FIGURE 3
AIR ANALYTICAL RESULTS - TCE
LITTLE VALLEY SUPERFUND SITE
CATTARAUGUS CUTLERY AREA
LITTLE VALLEY, NEW YORK

I:\GEO\165 LITTLE VALLEY\MAPS\TR2-SVE_FIGURE3.DWG

APPENDIX A

Preliminary Air Analytical Report
Volatile Organic Compounds
Samples Collected in SUMMA® Canisters
September 2006
Little Valley Superfund Site
Cattaraugus Cutlery Area
Trip Report

PRELIMINARY RESULTS - DATA NOT VALIDATED

Table 3 - Air Toxic Target Compound Results for Summa Canister Samples
Little Valley, Little Valley, New York, WA# R1A00165

Sample Number	Method Blank		0-0165-2005		0-0165-2006		0-0165-2018		0-0165-2019	
Sample Location	061003-1		SVE-5		SVE-6		SVE-9		SVE-10	
Compounds	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3
Propylene	U	0.275	U	10.3	U	10.3	U	10.3	U	10.3
Dichlorodifluoromethane	U	0.791	U	29.7	U	29.7	U	29.7	U	29.7
Chloromethane	U	0.330	U	12.4	U	12.4	U	12.4	U	12.4
Dichlorotetrafluoroethane	U	1.12	U	41.9	U	41.9	U	41.9	U	41.9
Vinyl Chloride	U	0.409	U	15.3	U	15.3	U	15.3	U	15.3
1,3-Butadiene	U	0.354	U	13.3	U	13.3	U	13.3	U	13.3
Bromomethane	U	0.621	U	23.3	U	23.3	U	23.3	U	23.3
Chloroethane	U	0.422	U	15.8	U	15.8	U	15.8	U	15.8
Acetone	U	0.760	17.8 J	28.5	14.3 J	28.5	10.7 J	28.5	32.1	28.5
Trichlorofluoromethane	U	0.899	U	33.7	U	33.7	U	33.7	U	33.7
Isopropyl Alcohol	U	0.393	U	14.7	U	14.7	U	14.7	U	14.7
1,1-Dichloroethene	U	0.634	U	23.8	U	23.8	U	23.8	U	23.8
Methylene Chloride	0.278 J	0.556	10.4 J	20.8	10.4 J	20.8	U	20.8	10.4 J	20.8
Trichlorotrifluoroethane	U	1.23	U	46.0	U	46.0	U	46.0	U	46.0
trans-1,2-Dichloroethene	U	0.634	U	23.8	U	23.8	5.95	23.8	U	23.8
1,1-Dichloroethane	U	0.648	U	24.3	U	24.3	U	24.3	U	24.3
MTBE	U	0.577	U	21.6	U	21.6	U	21.6	U	21.6
Vinyl Acetate	U	0.563	U	21.1	U	21.1	U	21.1	U	21.1
2-Butanone	U	0.472	U	17.7	U	17.7	U	17.7	26.5	17.7
cis-1,2-Dichloroethene	U	0.634	29.7	23.8	29.7	23.8	89.2	23.8	83.3	23.8
Ethyl Acetate	U	0.577	U	21.6	U	21.6	U	21.6	U	21.6
Hexane	U	0.564	U	21.1	U	21.1	U	21.1	U	21.1
Chloroform	U	0.781	22.0 J	29.3	14.6 J	29.3	U	29.3	U	29.3
Tetrahydrofuran	U	0.472	U	17.7	U	17.7	31.0	17.7	48.7	17.7
1,2-Dichloroethane	U	0.648	U	24.3	U	24.3	U	24.3	U	24.3
1,1,1-Trichloroethane	U	0.873	U	32.7	U	32.7	U	32.7	U	32.7
Benzene	U	0.511	U	19.2	U	19.2	U	19.2	U	19.2
Carbon Tetrachloride	U	1.01	U	37.7	U	37.7	U	37.7	U	37.7
Cyclohexane	U	0.551	U	20.7	U	20.7	U	20.7	U	20.7
1,2-Dichloropropane	U	0.739	U	27.7	U	27.7	U	27.7	U	27.7
1,4-Dioxane	U	0.577	U	21.8	U	21.6	U	21.6	U	21.6
Trichloroethene	U	0.860	27100	107	27900	107	16600	32.2	5020	32.2
Heptane	U	0.656	U	24.6	U	24.6	U	24.6	U	24.6
cis-1,3-Dichloropropene	U	0.726	U	27.2	U	27.2	U	27.2	U	27.2
Methyl Isobutyl Ketone	U	0.655	18.4 J	24.6	U	24.6	U	24.6	U	24.6
trans-1,3-Dichloropropene	U	0.726	U	27.2	U	27.2	U	27.2	U	27.2
1,1,2-Trichloroethane	U	0.873	U	32.7	U	32.7	U	32.7	U	32.7
Toluene	U	0.603	U	22.6	U	22.6	U	22.6	U	22.6
2-Hexanone	U	0.655	36.9	24.6	18.4 J	24.6	12.3 J	24.6	12.3 J	24.6
Dibromochloromethane	U	1.36	U	51.1	U	51.1	U	51.1	U	51.1
1,2-Dibromoethane	U	1.23	U	46.1	U	46.1	U	46.1	U	46.1
Tetrachloroethene	U	1.09	71.2	40.7	10.2 J	40.7	519	40.7	20.3 J	40.7
Chlorobenzene	U	0.737	U	27.6	U	27.6	U	27.6	U	27.6
Ethylbenzene	U	0.695	U	26.1	U	26.1	U	26.1	U	26.1
m&p-Xylene	U	0.695	U	26.1	U	26.1	U	26.1	U	26.1
Bromoform(Tribromomethane)	U	1.65	U	62.0	U	62.0	U	62.0	U	62.0
Styrene	U	0.682	U	25.6	U	25.6	U	25.6	U	25.6
1,1,2,2-Tetrachloroethane	U	1.10	U	41.2	U	41.2	U	41.2	U	41.2
o-Xylene	U	0.695	U	26.1	U	26.1	U	26.1	U	26.1
Ethyltoluene	U	0.787	7.37	29.5	U	29.5	U	29.5	U	29.5
1,3,5-trimethylbenzene	U	0.787	7.37	29.5	U	29.5	U	29.5	U	29.5
1,2,4-Trimethylbenzene	U	0.787	14.7 J	29.5	U	29.5	U	29.5	U	29.5
1,3-Dichlorobenzene	U	0.962	U	36.1	U	36.1	U	36.1	U	36.1
1,4-Dichlorobenzene	U	0.962	U	36.1	U	36.1	U	36.1	U	36.1
1,2-Dichlorobenzene	U	0.962	U	36.1	U	36.1	U	36.1	U	36.1

A - Assumed volume for Blanks
B - <3 times Method Blank value
C - Compound Calibration >30% RSD
D - Compound Calibration Check >30% RPD
E - Concentration exceeded calibration limit (25nL)
J - Below 0.8 nL Quantitation Limit
U - Not Detected
N/A - Not Applicable

Table 3 - Air Toxic Target Compound Results for Summa Canister Samples
Little Valley, Little Valley, New York, WA# R1A00165

Sample Number	0-0165-2004		0-0165-2003		0-0165-2020		0-0165-2021		0-0165-2015	
Sample Location	SVE-1		SVE-2		SVE-25		SVE-27		COMP-1C-SC1	
Compounds	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3
Propylene	U	10.3	U	10.3	U	10.3	U	10.3	5.16	10.3
Dichlorodifluoromethane	U	29.7	U	29.7	U	29.7	U	29.7	U	29.7
Chloromethane	U	12.4	U	12.4	U	12.4	U	12.4	U	12.4
Dichlorotetrafluoroethane	U	41.9	U	41.9	U	41.9	U	41.9	U	41.9
Vinyl Chloride	U	15.3	U	15.3	U	15.3	U	15.3	U	15.3
1,3-Butadiene	U	13.3	U	13.3	U	13.3	U	13.3	U	13.3
Bromomethane	U	23.3	U	23.3	U	23.3	U	23.3	U	23.3
Chloroethane	U	15.8	U	15.8	U	15.8	U	15.8	U	15.8
Acetone	17.8 J	28.5	10.7 J	28.5	10.7 J	28.5	24.9 J	28.5	10.7 J	28.5
Trichlorofluoromethane	U	33.7	U	33.7	16.9 J	33.7	42.1	33.7	U	33.7
Isopropyl Alcohol	U	14.7	U	14.7	U	14.7	U	14.7	U	14.7
1,1-Dichloroethene	U	23.8	U	23.8	U	23.8	U	23.8	U	23.8
Methylene Chloride	5.21	20.8	10.4 J	20.8	10.4 J	20.8	10.4 J	20.8	U	20.8
Trichlorotrifluoroethane	U	46.0	U	46.0	U	46.0	U	46.0	U	46.0
trans-1,2-Dichloroethene	5.95	23.8	11.9 J	23.8	U	23.8	U	23.8	U	23.8
1,1-Dichloroethane	U	24.3	U	24.3	U	24.3	U	24.3	U	24.3
MTBE	U	21.6	U	21.6	U	21.6	U	21.6	U	21.6
Vinyl Acetate	U	21.1	U	21.1	U	21.1	U	21.1	U	21.1
2-Butanone	8.85	17.7	U	17.7	U	17.7	31.0	17.7	U	17.7
cis-1,2-Dichloroethene	35.7	23.8	59.5	23.8	131	23.8	196	23.8	47.6	23.8
Ethyl Acetate	U	21.6	U	21.6	U	21.6	U	21.6	U	21.6
Hexane	U	21.1	U	21.1	U	21.1	U	21.1	5.29	21.1
Chloroform	U	29.3	U	29.3	U	29.3	7.32	29.3	U	29.3
Tetrahydrofuran	U	17.7	17.7	17.7	U	17.7	44.2	17.7	U	17.7
1,2-Dichloroethane	U	24.3	U	24.3	U	24.3	U	24.3	U	24.3
1,1,1-Trichloroethane	U	32.7	U	32.7	U	32.7	U	32.7	U	32.7
Benzene	U	19.2	U	19.2	U	19.2	U	19.2	9.58	19.2
Carbon Tetrachloride	U	37.7	U	37.7	U	37.7	U	37.7	U	37.7
Cyclohexane	U	20.7	U	20.7	U	20.7	U	20.7	U	20.7
1,2-Dichloropropane	U	27.7	U	27.7	U	27.7	U	27.7	U	27.7
1,4-Dioxane	U	21.6	U	21.6	U	21.6	U	21.6	U	21.6
Trichloroethene	6550	32.2	11900	32.2	9750	32.2	30900	107	12500	32.2
Heptane	U	24.6	U	24.6	U	24.6	U	24.6	24.6	24.6
cis-1,3-Dichloropropene	U	27.2	U	27.2	U	27.2	U	27.2	U	27.2
Methyl Isobutyl Ketone	U	24.6	U	24.6	U	24.6	U	24.6	U	24.6
trans-1,3-Dichloropropene	U	27.2	U	27.2	U	27.2	U	27.2	U	27.2
1,1,2-Trichloroethane	U	32.7	U	32.7	U	32.7	U	32.7	U	32.7
Toluene	U	22.6	U	22.6	U	22.6	U	22.6	215	22.6
2-Hexanone	U	24.6	U	24.6	U	24.6	U	24.6	U	24.6
Dibromochloromethane	U	51.1	U	51.1	U	51.1	U	51.1	U	51.1
1,2-Dibromoethane	U	46.1	U	46.1	U	46.1	U	46.1	U	46.1
Tetrachloroethene	10.2 J	40.7	40.7	40.7	193	40.7	529	40.7	132	40.7
Chlorobenzene	U	27.6	U	27.6	U	27.6	U	27.6	U	27.6
Ethylbenzene	U	26.1	U	26.1	U	26.1	U	26.1	32.6	26.1
m&p-Xylene	U	26.1	U	26.1	U	26.1	U	26.1	215	26.1
Bromoform(Tribromomethane)	U	62.0	U	62.0	U	62.0	U	62.0	U	62.0
Styrene	U	25.6	U	25.6	U	25.6	U	25.6	U	25.6
1,1,2,2-Tetrachloroethane	U	41.2	U	41.2	U	41.2	U	41.2	U	41.2
o-Xylene	U	26.1	U	26.1	U	26.1	U	26.1	84.7	26.1
Ethyltoluene	U	29.5	U	29.5	U	29.5	U	29.5	14.7 J	29.5
1,3,5-trimethylbenzene	U	29.5	U	29.5	U	29.5	U	29.5	14.7 J	29.5
1,2,4-Trimethylbenzene	U	29.5	U	29.5	U	29.5	U	29.5	22.1 J	29.5
1,3-Dichlorobenzene	U	36.1	U	36.1	U	36.1	U	36.1	U	36.1
1,4-Dichlorobenzene	U	36.1	U	36.1	U	36.1	U	36.1	U	36.1
1,2-Dichlorobenzene	U	36.1	U	36.1	U	36.1	U	36.1	U	36.1

A - Assumed volume for Blanks
B - <3 times Method Blank value
C - Compound Calibration >30% RSD
D - Compound Calibration Check >30% RPD
E - Concentration exceeded calibration limit (25nL)
J - Below 0.8 nL Quantitation Limit
U - Not Detected
N/A - Not Applicable

PRELIMINARY RESULTS - DATA NOT VALIDATED

Table 3 - Air Toxic Target Compound Results for Summa Canister Samples
Little Valley, Little Valley, New York, WA# R1A00165

Sample Number	Method Blank		0-0165-2016		0-0165-2002		0-0165-2001		0-0165-2014	
Sample Location	061004-2		TB		SVE-3		SVE-4		SVE-16	
Compounds	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3
Propylene	U	0.275	U	0.275	U	10.3	U	10.3	U	10.3
Dichlorodifluoromethane	U	0.791	U	0.791	U	29.7	U	29.7	U	29.7
Chloromethane	U	0.330	U	0.330	U	12.4	U	12.4	U	12.4
Dichlorotetrafluoroethane	U	1.12	U	1.12	U	41.9	U	41.9	U	41.9
Vinyl Chloride	U	0.409	U	0.409	U	15.3	U	15.3	U	15.3
1,3-Butadiene	U	0.354	U	0.354	U	13.3	U	13.3	U	13.3
Bromomethane	U	0.621	U	0.621	U	23.3	U	23.3	U	23.3
Chloroethane	U	0.422	U	0.422	U	15.8	U	15.8	U	15.8
Acetone	0.0950 J	0.760	0.285 J	0.760	10.7 J	28.5	17.8 J	28.5	17.8 J	28.5
Trichlorofluoromethane	U	0.899	U	0.899	U	33.7	U	33.7	U	33.7
Isopropyl Alcohol	U	0.393	U	0.393	U	14.7	U	14.7	U	14.7
1,1-Dichloroethene	U	0.634	U	0.634	U	23.8	U	23.8	U	23.8
Methylene Chloride	0.278 J	0.556	0.278 J	0.556	U	20.8	10.4 J	20.8	10.4 J	20.8
Trichlorotrifluoroethane	U	1.23	U	1.23	U	46.0	U	46.0	U	46.0
trans-1,2-Dichloroethene	U	0.634	U	0.634	5.95	23.8	U	23.8	35.7	23.8
1,1-Dichloroethane	U	0.648	U	0.648	U	24.3	U	24.3	U	24.3
MTBE	U	0.577	U	0.577	U	21.6	U	21.6	U	21.6
Vinyl Acetate	U	0.563	U	0.563	U	21.1	U	21.1	U	21.1
2-Butanone	U	0.472	U	0.472	U	17.7	U	17.7	U	17.7
cis-1,2-Dichloroethene	U	0.634	U	0.634	29.7	23.8	11.9 J	23.8	416	23.8
Ethyl Acetate	U	0.577	U	0.577	U	21.6	U	21.6	U	21.6
Hexane	U	0.564	U	0.564	U	21.1	U	21.1	U	21.1
Chloroform	U	0.781	U	0.781	U	29.3	7.32	29.3	U	29.3
Tetrahydrofuran	U	0.472	U	0.472	U	17.7	U	17.7	U	17.7
1,2-Dichloroethane	U	0.648	U	0.648	U	24.3	U	24.3	U	24.3
1,1,1-Trichloroethane	U	0.873	U	0.873	U	32.7	U	32.7	U	32.7
Benzene	U	0.511	U	0.511	U	19.2	U	19.2	U	19.2
Carbon Tetrachloride	U	1.01	U	1.01	U	37.7	U	37.7	U	37.7
Cyclohexane	U	0.551	U	0.551	U	20.7	U	20.7	U	20.7
1,2-Dichloropropane	U	0.739	U	0.739	U	27.7	U	27.7	U	27.7
1,4-Dioxane	U	0.577	U	0.577	U	21.6	U	21.6	U	21.6
Trichloroethene	0.430 J	0.860	46.2	0.860	30200	107	22900	107	46000	107
Heptane	U	0.656	U	0.656	U	24.6	U	24.6	U	24.6
cis-1,3-Dichloropropene	U	0.726	U	0.726	U	27.2	U	27.2	U	27.2
Methyl Isobutyl Ketone	U	0.655	U	0.655	U	24.6	U	24.6	U	24.6
trans-1,3-Dichloropropene	U	0.726	U	0.726	U	27.2	U	27.2	U	27.2
1,1,2-Trichloroethane	U	0.873	U	0.873	U	32.7	U	32.7	U	32.7
Toluene	U	0.603	U	0.603	U	22.6	U	22.6	U	22.6
2-Hexanone	U	0.655	U	0.655	U	24.6	U	24.6	U	24.6
Dibromochloromethane	U	1.36	U	1.36	U	51.1	U	51.1	U	51.1
1,2-Dibromoethane	U	1.23	U	1.23	U	46.1	U	46.1	U	46.1
Tetrachloroethene	U	1.09	U	1.09	20.3 J	40.7	50.9	40.7	112	40.7
Chlorobenzene	U	0.737	U	0.737	U	27.6	U	27.6	U	27.6
Ethylbenzene	U	0.695	U	0.695	U	26.1	U	26.1	U	26.1
m&p-Xylene	U	0.695	0.174 J	0.695	U	26.1	U	26.1	U	26.1
Bromoform(Tribromomethane)	U	1.65	U	1.65	U	62.0	U	62.0	U	62.0
Styrene	U	0.682	U	0.682	U	25.6	U	25.6	U	25.6
1,1,2,2-Tetrachloroethane	U	1.10	U	1.10	U	41.2	U	41.2	U	41.2
o-Xylene	U	0.695	U	0.695	U	26.1	U	26.1	U	26.1
Ethyltoluene	U	0.787	U	0.787	U	29.5	U	29.5	U	29.5
1,3,5-trimethylbenzene	U	0.787	U	0.787	U	29.5	U	29.5	U	29.5
1,2,4-Trimethylbenzene	U	0.787	U	0.787	U	29.5	U	29.5	U	29.5
1,3-Dichlorobenzene	U	0.962	U	0.962	U	36.1	U	36.1	U	36.1
1,4-Dichlorobenzene	U	0.962	U	0.962	U	36.1	U	36.1	U	36.1
1,2-Dichlorobenzene	U	0.962	U	0.962	U	36.1	U	36.1	U	36.1

A - Assumed volume for Blanks
B - <3 times Method Blank value
C - Compound Calibration >30% RSD
D - Compound Calibration Check >30% RPD
E - Concentration exceeded calibration limit (25nL)
J - Below 0.8 nL Quantitation Limit
U - Not Detected
N/A - Not Applicable

Table 3 - Air Toxic Target Compound Results for Summa Canister Samples
Little Valley, Little Valley, New York, WA# R1A00165

Sample Number	0-0165-2013		0-0165-2023		0-0165-2022		0-0165-2012		0-0165-2011	
Sample Location	SVE-33		SVE-11		SVE-26		SVE-32		SVE-8	
Compounds	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Propylene	U	10.3	5.16	10.3	U	10.3	891	10.3	U	10.3
Dichlorodifluoromethane	U	29.7	U	29.7	U	29.7	U	29.7	U	29.7
Chloromethane	U	12.4	U	12.4	U	12.4	U	12.4	U	12.4
Dichlorotetrafluoroethane	U	41.9	U	41.9	U	41.9	U	41.9	U	41.9
Vinyl Chloride	U	15.3	U	15.3	U	15.3	U	15.3	U	15.3
1,3-Butadiene	U	13.3	U	13.3	U	13.3	U	13.3	U	13.3
Bromomethane	U	23.3	U	23.3	U	23.3	U	23.3	U	23.3
Chloroethane	U	15.8	U	15.8	U	15.8	U	15.8	U	15.8
Acetone	10.7 J	28.5	24.9 J	28.5	14.3 J	28.5	99.8	28.5	14.3 J	28.5
Trichlorofluoromethane	U	33.7	U	33.7	16.9 J	33.7	U	33.7	U	33.7
Isopropyl Alcohol	U	14.7	U	14.7	U	14.7	U	14.7	U	14.7
1,1-Dichloroethene	U	23.8	U	23.8	U	23.8	U	23.8	U	23.8
Methylene Chloride	10.4 J	20.8	10.4 J	20.8	10.4 J	20.8	U	20.8	10.4 J	20.8
Trichlorotrifluoroethane	U	46.0	U	46.0	U	46.0	U	46.0	U	46.0
trans-1,2-Dichloroethene	U	23.8	U	23.8	5.95	23.8	U	23.8	U	23.8
1,1-Dichloroethane	U	24.3	U	24.3	U	24.3	U	24.3	U	24.3
MTBE	U	21.6	U	21.6	U	21.6	U	21.6	U	21.6
Vinyl Acetate	U	21.1	U	21.1	U	21.1	217	21.1	U	21.1
2-Butanone	U	17.7	U	17.7	U	17.7	U	17.7	8.85	17.7
cis-1,2-Dichloroethene	11.9 J	23.8	17.8 J	23.8	41.6	23.8	U	23.8	35.7	23.8
Ethyl Acetate	U	21.6	U	21.6	U	21.6	U	21.6	U	21.6
Hexane	U	21.1	U	21.1	U	21.1	571	21.1	U	21.1
Chloroform	U	29.3	U	29.3	7.32	29.3	U	29.3	U	29.3
Tetrahydrofuran	U	17.7	U	17.7	U	17.7	U	17.7	U	17.7
1,2-Dichloroethane	U	24.3	U	24.3	U	24.3	U	24.3	U	24.3
1,1,1-Trichloroethane	U	32.7	U	32.7	U	32.7	U	32.7	U	32.7
Benzene	U	19.2	U	19.2	U	19.2	24.0	19.2	U	19.2
Carbon Tetrachloride	U	37.7	U	37.7	U	37.7	U	37.7	U	37.7
Cyclohexane	U	20.7	U	20.7	U	20.7	U	20.7	U	20.7
1,2-Dichloropropane	U	27.7	U	27.7	U	27.7	U	27.7	U	27.7
1,4-Dioxane	U	21.6	U	21.6	U	21.6	U	21.6	U	21.6
Trichloroethene	4920	32.2	3220	32.2	19200	32.2	653	32.2	11200	32.2
Heptane	U	24.6	U	24.6	U	24.6	252	24.6	U	24.6
cis-1,3-Dichloropropene	U	27.2	U	27.2	U	27.2	U	27.2	U	27.2
Methyl Isobutyl Ketone	U	24.6	U	24.6	U	24.6	U	24.6	U	24.6
trans-1,3-Dichloropropene	U	27.2	U	27.2	U	27.2	U	27.2	U	27.2
1,1,2-Trichloroethane	U	32.7	U	32.7	U	32.7	U	32.7	U	32.7
Toluene	U	22.6	U	22.6	U	22.6	22.6	22.6	U	22.6
2-Hexanone	U	24.6	U	24.6	U	24.6	U	24.6	U	24.6
Dibromochloromethane	U	51.1	U	51.1	U	51.1	U	51.1	U	51.1
1,2-Dibromoethane	U	46.1	U	46.1	U	46.1	U	46.1	U	46.1
Tetrachloroethene	132	40.7	61.0	40.7	132	40.7	20.3 J	40.7	478	40.7
Chlorobenzene	U	27.6	U	27.6	U	27.6	U	27.6	U	27.6
Ethylbenzene	U	26.1	U	26.1	U	26.1	6.51	26.1	U	26.1
m&p-Xylene	U	26.1	U	26.1	U	26.1	13.0 J	26.1	U	26.1
Bromoform(Tribromomethane)	U	62.0	U	62.0	U	62.0	U	62.0	U	62.0
Styrene	U	25.6	U	25.6	U	25.6	U	25.6	U	25.6
1,1,2,2-Tetrachloroethane	U	41.2	U	41.2	U	41.2	U	41.2	U	41.2
o-Xylene	U	26.1	U	26.1	U	26.1	U	26.1	U	26.1
Ethyltoluene	U	29.5	U	29.5	U	29.5	U	29.5	U	29.5
1,3,5-trimethylbenzene	U	29.5	U	29.5	U	29.5	U	29.5	U	29.5
1,2,4-Trimethylbenzene	U	29.5	U	29.5	U	29.5	U	29.5	U	29.5
1,3-Dichlorobenzene	U	36.1	U	36.1	U	36.1	U	36.1	U	36.1
1,4-Dichlorobenzene	U	36.1	U	36.1	U	36.1	U	36.1	U	36.1
1,2-Dichlorobenzene	U	36.1	U	36.1	U	36.1	U	36.1	U	36.1

A - Assumed volume for Blanks
B - <3 times Method Blank value
C - Compound Calibration >30% RSD
D - Compound Calibration Check >30% RPD
E - Concentration exceeded calibration limit (25nL)
J - Below 0 8 nL Quantitation Limit
U - Not Detected
N/A - Not Applicable

Table 3 - Air Toxic Target Compound Results for Summa Canister Samples
Little Valley, Little Valley, New York, WA# R1A00165

Sample Number	0-0165-2009		0-0165-2010		0-0165-2008		0-0165-2007	
Sample Location	SVE-29		SVE-24		SVE-18		SVE-19	
Compounds	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Propylene	U	10.3	U	10.3	U	10.3	U	10.3
Dichlorodifluoromethane	U	29.7	U	29.7	U	29.7	U	29.7
Chloromethane	U	12.4	U	12.4	U	12.4	U	12.4
Dichlorotetrafluoroethane	U	41.9	U	41.9	U	41.9	U	41.9
Vinyl Chloride	U	15.3	U	15.3	U	15.3	U	15.3
1,3-Butadiene	U	13.3	U	13.3	U	13.3	U	13.3
Bromomethane	U	23.3	U	23.3	U	23.3	U	23.3
Chloroethane	U	15.8	U	15.8	U	15.8	U	15.8
Acetone	17.8 J	28.5	17.8 J	28.5	10.7 J	28.5	10.7 J	28.5
Trichlorofluoromethane	16.9 J	33.7	118 J	33.7	U	33.7	U	33.7
Isopropyl Alcohol	U	14.7	U	14.7	U	14.7	U	14.7
1,1-Dichloroethene	U	23.8	U	23.8	U	23.8	U	23.8
Methylene Chloride	10.4 J	20.8	10.4 J	20.8	10.4 J	20.8	10.4 J	20.8
Trichlorotrifluoroethane	U	46.0	U	46.0	U	46.0	U	46.0
trans-1,2-Dichloroethene	U	23.8	U	23.8	U	23.8	U	23.8
1,1-Dichloroethane	U	24.3	U	24.3	U	24.3	U	24.3
MTBE	U	21.6	U	21.6	U	21.6	U	21.6
Vinyl Acetate	U	21.1	U	21.1	U	21.1	10.6 J	21.1
2-Butanone	31.0	17.7	26.5	17.7	13.3 J	17.7	U	17.7
cis-1,2-Dichloroethene	U	23.8	35.7	23.8	U	23.8	U	23.8
Ethyl Acetate	U	21.6	U	21.6	U	21.6	U	21.6
Hexane	U	21.1	U	21.1	U	21.1	15.9 J	21.1
Chloroform	U	29.3	7.32	29.3	U	29.3	U	29.3
Tetrahydrofuran	U	17.7	U	17.7	U	17.7	U	17.7
1,2-Dichloroethane	U	24.3	U	24.3	U	24.3	U	24.3
1,1,1-Trichloroethane	U	32.7	16.4 J	32.7	U	32.7	U	32.7
Benzene	U	19.2	U	19.2	U	19.2	47.9	19.2
Carbon Tetrachloride	U	37.7	U	37.7	U	37.7	U	37.7
Cyclohexane	U	20.7	U	20.7	U	20.7	U	20.7
1,2-Dichloropropane	U	27.7	U	27.7	U	27.7	U	27.7
1,4-Dioxane	U	21.6	U	21.6	U	21.6	U	21.6
Trichloroethene	2670	32.2	11700	32.2	5010	32.2	8710	32.2
Heptane	U	24.6	U	24.6	U	24.6	111 J	24.6
cis-1,3-Dichloropropene	U	27.2	U	27.2	U	27.2	U	27.2
Methyl Isobutyl Ketone	U	24.6	U	24.6	U	24.6	U	24.6
trans-1,3-Dichloropropene	U	27.2	U	27.2	U	27.2	U	27.2
1,1,2-Trichloroethane	U	32.7	U	32.7	U	32.7	U	32.7
Toluene	U	22.6	U	22.6	5.65	22.6	893	22.6
2-Hexanone	U	24.6	U	24.6	U	24.6	U	24.6
Dibromochloromethane	U	51.1	U	51.1	U	51.1	U	51.1
1,2-Dibromoethane	U	46.1	U	46.1	U	46.1	U	46.1
Tetrachloroethene	U	40.7	71.2	40.7	91.6	40.7	102	40.7
Chlorobenzene	U	27.6	U	27.6	U	27.6	U	27.6
Ethylbenzene	U	26.1	U	26.1	U	26.1	137	26.1
m&p-Xylene	U	26.1	U	26.1	6.51	26.1	840	26.1
Bromoform(Tribromomethane)	U	62.0	U	62.0	U	62.0	U	62.0
Styrene	U	25.6	U	25.6	U	25.6	U	25.6
1,1,2,2-Tetrachloroethane	U	41.2	U	41.2	U	41.2	U	41.2
o-Xylene	U	26.1	U	26.1	U	26.1	352	26.1
Ethyltoluene	U	29.5	U	29.5	U	29.5	66.4	29.5
1,3,5-trimethylbenzene	U	29.5	U	29.5	U	29.5	66.4	29.5
1,2,4-Trimethylbenzene	U	29.5	U	29.5	U	29.5	95.9	29.5
1,3-Dichlorobenzene	U	36.1	U	36.1	U	36.1	U	36.1
1,4-Dichlorobenzene	U	36.1	U	36.1	U	36.1	U	36.1
1,2-Dichlorobenzene	U	36.1	U	36.1	U	36.1	U	36.1

A - Assumed volume for Blanks
B - <3 times Method Blank value
C - Compound Calibration >30% RSD
D - Compound Calibration Check >30% RPD
E - Concentration exceeded calibration limit (25nL)
J - Below 0.8 nL Quantitation Limit
U - Not Detected
N/A - Not Applicable

APPENDIX B

Preliminary Air Analytical Report
Volatile Organic Compounds
Samples Collected in Charcoal Tubes
September 2006
Little Valley Superfund Site
Cattaraugus Cutlery Area
Trip Report

Table 1.1 (cont.) Results of the Analysis for VOC in Air
WA # 0-165 Little Valley Site

Sample No.	ABLK092906		0-0165-2017		0-0165-2024	
Sampling Location	-		COMP-1C-CT1		COMP-1C-CT2	
Volume (L)	0		240		240	
Compound Name	Conc. µg	RL µg	Conc. µg / m³	RL µg / m³	Conc. µg / m³	RL µg / m³
1,1,1-Trichloroethane	U	2.09	U	8.72	U	8.72
Cyclohexane	U	2.08	U	8.66	U	8.66
Benzene	U	2.18	13.8	9.10	10.2	9.10
Carbon Tetrachloride	U	2.10	U	8.75	U	8.75
Cyclohexene	U	2.10	U	8.75	U	8.75
n-Heptane	U	2.03	35.1	8.47	U	8.47
1,2-Dichlorpropane	U	2.09	U	8.72	U	8.72
Trichloroethene	0.659 J	1.94	15500	404	12700	404
1,4-Dioxane	U	2.45	U	10.2	U	10.2
Methylcyclohexane	U	2.02	18.3	8.42	13.1	8.42
Methylisobutylketone	U	2.68	U	11.2	U	11.2
Toluene	U	2.17	249	9.04	161	9.04
n-Octane	U	2.01	33.9	8.36	19.3	8.36
Tetrachloroethene	U	2.10	159	8.75	132	8.75
Chlorobenzene	U	2.28	U	9.51	U	9.51
Ethylbenzene	U	2.09	39.1	8.71	23.2	8.71
para-Xylene	U	2.16	246	9.02	178	9.02
Bromoform	U	2.40	U	10.0	U	10.0
Styrene	U	4.62	U	19.2	U	19.2
ortho-Xylene	U	2.32	104	9.65	96.6	9.65
n-Nonene	U	2.16	U	9.00	5.39 J	9.00
n-Nonane	U	2.05	12.2	8.56	U	8.56
1,1,2,2-Tetrachloroetha	U	2.42	U	10.1	U	10.1
Cumene	U	2.09	4.28 J	8.73	3.06 J	8.73
Mesitylene	U	2.21	23.1	9.23	23.0	9.23
Alpha-methylstyrene	U	3.96	U	16.5	U	16.5
1,3-Dichlorobenzene	U	2.45	U	10.2	U	10.2
1,4-Dichlorobenzene	U	2.54	U	10.6	U	10.6
1,2-Dichlorobenzene	U	2.63	U	11.0	U	11.0
Benzyl Chloride	U	3.45	U	14.4	U	14.4
alpha-Terpinene	U	11.1	U	46.3	U	46.3
D-Limonene	U	2.27	U	9.46	U	9.46
4-tert-Butyltoluene	U	2.04	U	8.49	U	8.49
1,2,4-Trichlorobenzene	U	2.90	U	12.1	U	12.1
Naphthalene	U	11.3	U	47.0	U	47.0
4-Phenylcyclohexene	U	2.65	U	11.0	U	11.0
n-Decene	U	2.12	U	8.83	U	8.83
n-Decane	U	2.05	U	8.54	U	8.54
n-Undecene	U	2.03	U	8.45	U	8.45
n-Undecane	U	2.06	U	8.59	U	8.59
n-Nonanal	U	6.74	U	28.1	U	28.1
n-Dodecane	U	2.14	U	8.91	U	8.91
n-Tridecane	U	2.20	U	9.18	U	9.18
n-Tetradecane	U	2.27	U	9.46	U	9.46
n-Pentadecane	U	2.44	U	10.2	U	10.2
n-Hexadecane	U	2.59	U	10.8	U	10.8

Table 1. 2 (Cont) Results of the TIC for VOC's in Air: Carbon Tube Analysis
WA # 0-165 Little Valley Site

Sample No. (REAC #)	Sample Identification	Compound Identification	CAS#	Q	RT	Conc.*	Unit
12481	0-0165-2017	No TICs detected					µg/m3
12488	0-0165-2024	No TICs detected					µg/m3

COC# 0-0165-092806

* Esimated Concentration (Response Factor = 1)

Table 2.1 (cont.) Results of BS/BSD for VOC's in Air
WA # 0-165 Little Valley Site

Sample ID: BS/BSD-1
COC # 0-0165-092806

Compound	Spike Added µg	BS Recovered µg	BS Percent Recovery	BSD Recovered µg	BSD Percent Recovery	BS & BSD RPD	QC Limits % Recovery	QC Limits RPD
Cyclohexane	50	52.1	104	51.1	102	2	70-130	20
1,2-Dichloropropane	50	50.9	102	49.9	100	2	70-130	20
Bromoform	50	52.4	105	51.5	103	2	70-130	20
Mesitylene	50	55.2	110	53.9	108	2	70-130	20
1,2,4-Trichlorobenzene	50	49.7	99	48.5	97	2	70-130	20
4-Phenylcyclohexene	50	58.3	117	57.1	114	2	70-130	20