



Lockheed Martin Technology Services  
Environmental Services REAC  
2890 Woodbridge Avenue, Building 209 Annex  
Edison, NJ 08837-3679  
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DATE: June 9, 2006

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

THROUGH: Parry Bhambra, REAC Operations Section Leader *PB*

FROM: Christopher Sklaney, REAC Task Leader *CS*

SUBJECT: SUBSURFACE SOIL 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 comprised of 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 (EPA) Environmental Response Team (ERT) Work Assignment Manager (WAM) during a field event in April 2006. The potential source area is known as the Cattaraugus Cutlery Area (CCA), located at 300-306 Sixth Street in Little Valley. Specifically, the environmental investigation was conducted at the vacant parcel that formerly housed the Cattaraugus Department of Public Works (CDPW) (see Study Area on Figure 1). Immediately west of the CDPW parcel is the former Cattaraugus Cutlery facility, where several interconnected two-story brick buildings in various states of disrepair are located. A subsurface soil investigation was conducted on this adjacent parcel during three field events in August, September, and November 2005. The results of this investigation are discussed in a separate trip report. Primary site features of the CCA are outlined on Figure 1.

## SITE BACKGROUND

The CCA is comprised of several parcels historically and 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. The Korn Razor Manufacturing Company was built on the CDPW 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 addition to Cattaraugus Cutlery, past owners or operators of the adjacent parcel 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).

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 ( $\mu\text{g}/\text{kg}$ ), although TCE was also reported at concentrations up to 72,000  $\mu\text{g}/\text{kg}$  in isolated locations (Tetra Tech FW, 2005).

During three separate field events conducted in August, September, and November 2005, REAC personnel conducted soil and sediment sampling at the CCA. Soil borings were advanced at 105 locations around the former Cattaraugus Cutlery manufacturing buildings and Quonset hut using a Geoprobe<sup>®</sup> Systems (Geoprobe) direct-push device. Soil borings were also advanced inside the former manufacturing buildings. The REAC Laboratory analyzed 299 samples for Target Compound List (TCL) volatile organic compounds (VOCs). Analytical results were compared to compound-specific cleanup objectives as outlined in New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) #4046 (NYSDEC, 1994). TCE was detected at 35 sample locations at concentrations above the NYSDEC TAGM soil cleanup objective of 700 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ). No other compounds were detected above their respective soil cleanup objectives (Lockheed Martin/REAC, 2006).

## **METHODOLOGY**

Prior to the initiation of soil sampling activities, a 50-foot square grid was established over a portion of the CDPW parcel east of the former manufacturing buildings. The sample locations were established approximately 50 feet apart in three parallel rows, with each row separated by 100 feet. Several sample locations on the north section of the grid were offset because of uneven topography and overgrown vegetation. A Trimble<sup>™</sup> global positioning system (GPS) unit was used to collect positional data for all sample locations. The data were recorded using the Universal Transverse Mercator (UTM) System, Zone 18 North, based on the North American Datum (NAD) 1983, State Plane Coordinates, Easting and Northing (meters). GPS data are presented in Table 1. Soil boring locations are presented on Figure 2.

On April 11, 2006, REAC personnel used a Geoprobe Model 6620DT direct-push device to advance nine borings on the CDPW parcel. Eight of the borings were advanced to 4 feet; one boring was advanced to 8 feet. Geoprobe's Macro-Core<sup>™</sup> sampling system with 4-foot-long sample tubes was used to advance and retrieve soil cores. In general, disturbed and reworked material consisting of a mixture of construction debris, gravel, and soil of varying texture with lesser quantities of coal and ash was encountered in the borings. The water table was not encountered in any boring. All borings were filled with granular bentonite upon completion. Soil boring logs are presented in Appendix A.

Qualitative screening of all soil cores was conducted upon retrieval using a RAE Systems<sup>®</sup> MultiRAE Plus four-gas meter with PID. The PID had a resolution of 0.1 parts per million (ppm) and was calibrated to isobutylene at 100 ppm. PID readings were recorded directly from the retrieved soil cores at 6-inch intervals. No PID readings above background were encountered.

Soil was transferred from the retrieved cores directly into 2-ounce sample jars and stored in a designated cooler. The samples were hand-delivered to the REAC Laboratory in Edison, New Jersey (NJ) for analysis of TCL VOCs.

## SUMMARY AND RESULTS

During the course of the investigation, REAC personnel successfully completed the following tasks at the site:

- Advanced individual soil borings up to 8 feet bgs using direct-push technologies
- Collected and analyzed soil samples for TCL VOCs
- Conducted a GPS survey to precisely record sample locations

### Soil Sampling Analytical Results

The REAC Laboratory analyzed 22 soil samples, including field quality assurance/quality control (QA/QC) samples, for TCL VOCs. No compounds were detected at concentrations exceeding compound-specific soil cleanup objectives as outlined in NYSDEC TAGM #4046 (NYSDEC, 1994). Two compounds, acetone and 1,4-dichlorobenzene, were detected at concentrations above laboratory reporting limits (RLs) in one sample. Acetone and 1,4-dichlorobenzene were present at concentrations of 128 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) and 174  $\mu\text{g}/\text{kg}$ , respectively, in sample LV-R12(3-4). Acetone is a common laboratory contaminant. The complete VOC laboratory analytical data report is provided as Appendix B.

## REFERENCES

- Lockheed Martin/REAC. 2005. Field Logbook, Little Valley, REAC IV-B-0140. Work Assignment # 0-165.
- Lockheed Martin/REAC. 2006. Trip Report – Subsurface soil sampling, Little Valley Superfund Site, Cattaraugus Cutlery Area. Work Assignment # 0-165. June 2.
- 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.

TABLES

Little Valley Superfund Site  
Cattaraugus Cutlery Area  
Trip Report  
June 2006

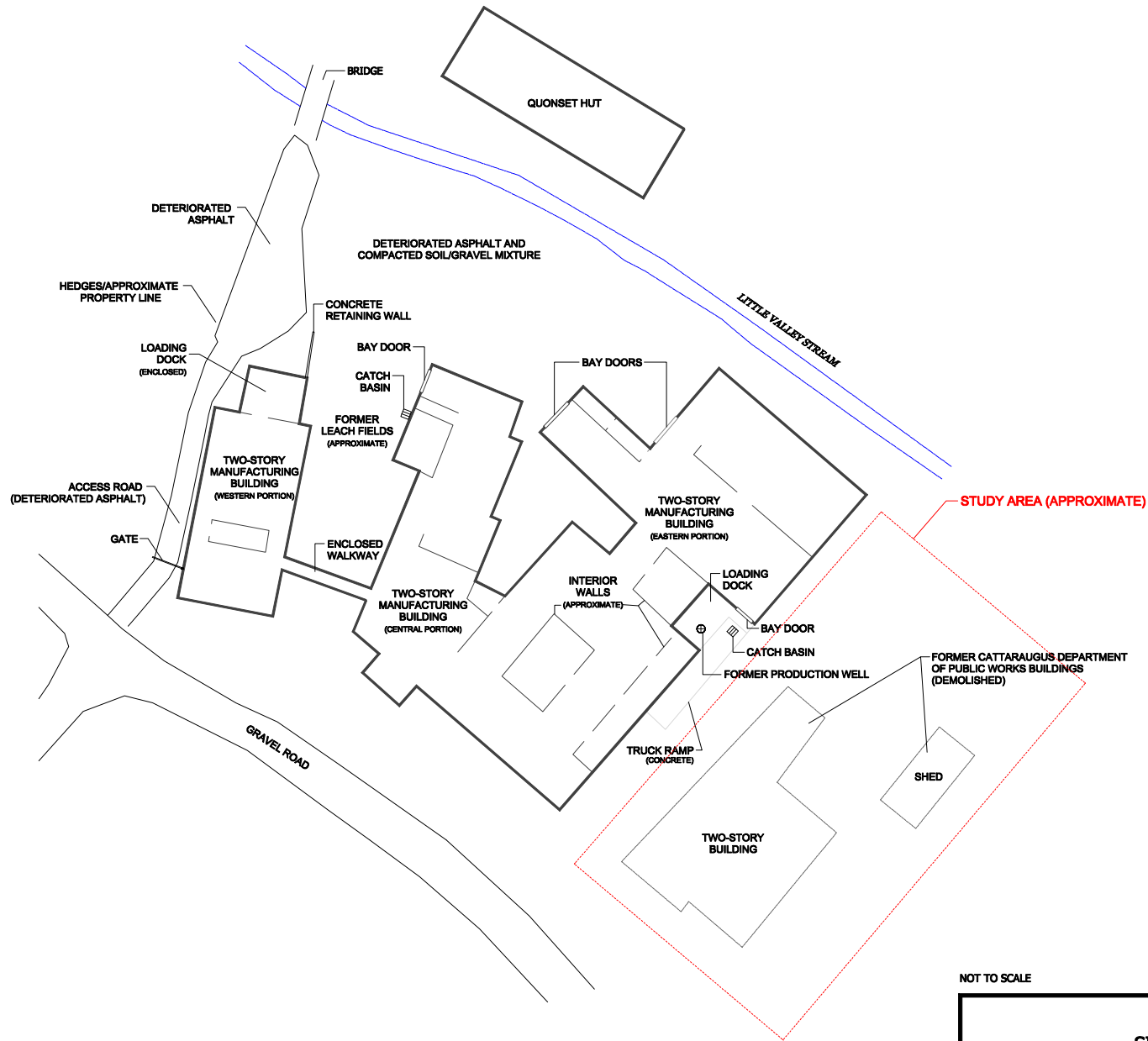
TABLE 1  
 GLOBAL POSITIONING SYSTEM DATA  
 LITTLE VALLEY SUPERFUND SITE  
 CATTARAUGUS CUTLERY AREA  
 (FORMER CATTARAUGUS DPW PARCEL)  
 LITTLE VALLEY, NEW YORK

<b>Location</b>	<b>Easting</b>	<b>Northing</b>
R11	186791.858	4684727.753
R12	186801.473	4684739.028
R13	186809.909	4684745.189
R21	186800.957	4684718.680
R22	186811.045	4684730.213
R23	186819.979	4684739.723
R31	186812.819	4684707.465
R32	186822.943	4684719.062
R33	186832.307	4684730.604

Coordinate System: UTM, Zone 18 North, NAD1983 (CONUS), meters

FIGURES

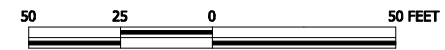
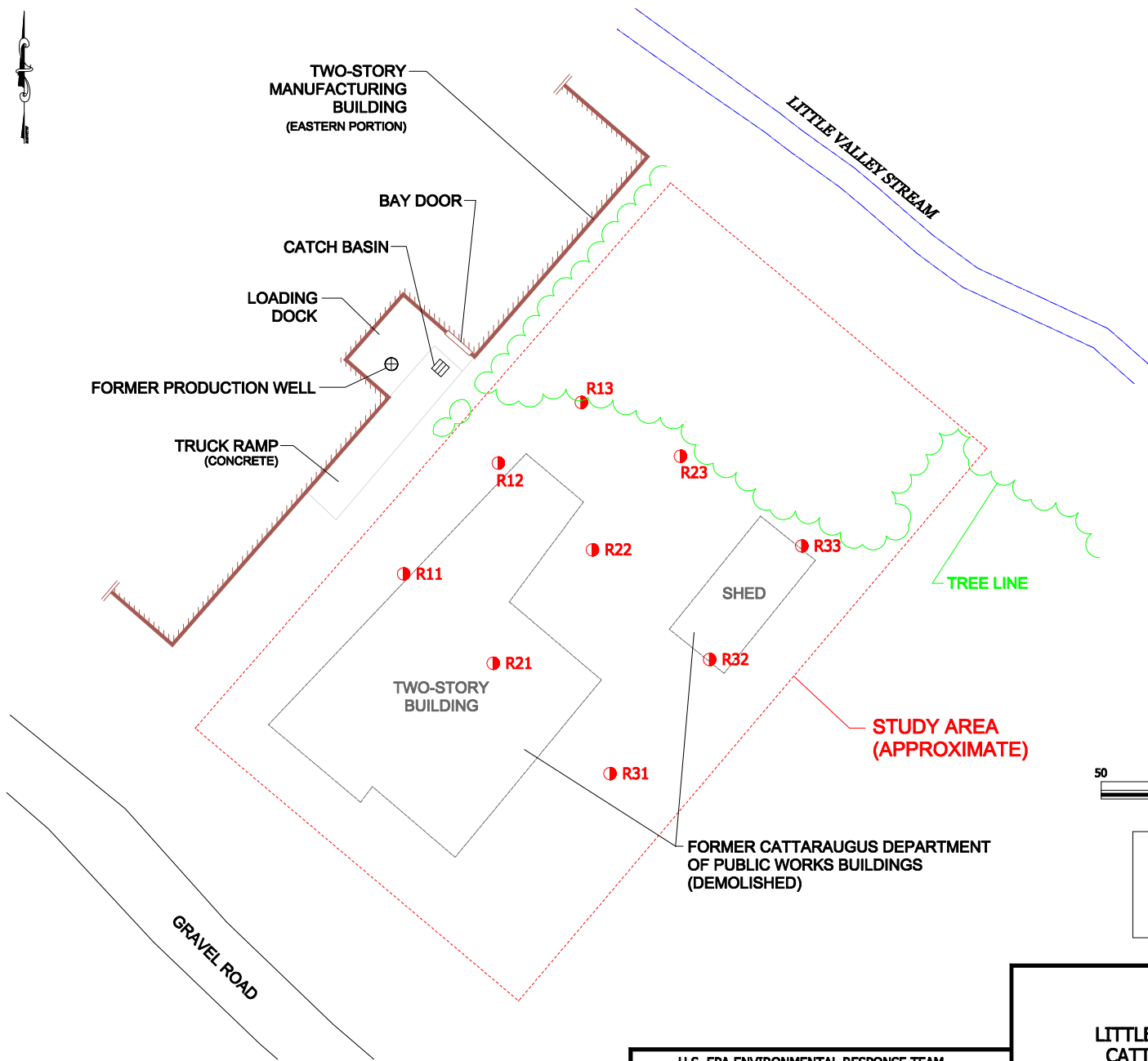
Little Valley Superfund Site  
Cattaraugus Cutlery Area  
Trip Report  
June 2006



NOT TO SCALE

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**  
**(FORMER CATTARAUGUS DPW PARCEL)**  
**LITTLE VALLEY, NEW YORK**



LEGEND	
	SOIL BORING LOCATION

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

**FIGURE 2**  
**SITE SKETCH**  
**LITTLE VALLEY SUPERFUND SITE**  
**CATTARAUGUS CUTLERY AREA**  
**(FORMER CATTARAUGUS DPW PARCEL)**  
**LITTLE VALLEY, NEW YORK**

I:\GEO\165 LITTLE VALLEY\MAPS\TR\_FIGURE2-COPW.DWG



APPENDIX A

Soil Boring Logs  
Little Valley Superfund Site  
Cattaraugus Cutlery Area  
Trip Report  
June 2006



BORING ID:  
R11

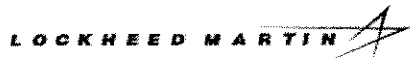
CLIENT: U.S. Environmental Response Team	CONTRACT/NO.: REAC/EP-C-04-032	DATE: 04/11/06
PROJECT: Little Valley Superfund Site	RIG: Geoprobe Model 6620	SHEET NO.: 1 OF 1
JOB NO.: EAC4-D-EAC00165	OPERATOR: B. Pullen	INSPECTOR: C. Skloney
BEGIN/END TIME: 1030 / 1045	COORDINATES: 186791.858 E / 4684727.753 N	

DEPTH (FEET)	REC. (Rec/48 in.)	TEXTURAL DESCRIPTION
0		(0-0.5') GRASS/SOD AND GRASS LITTER
2	38/48	(0.5-2.0') MEDIUM BROWN, DRY, UNSORTED FINE TO MEDIUM SAND, FINE GRAVEL, AND COARSE SAND-SIZED RED-ORANGE BRICK AND BLACK ANTHRACITE PIECES (PULVERIZED)
4		(2.0-4.0') LIGHT OLIVE-BROWN SILTY CLAY, DRY
4		BORING TERMINATED @ 4'
6		
8		
10		
12		
14		
16		
18		

NOTES:

1. Used 4-foot long, carbon steel Macro-core™ tube with dedicated PETG liner in open-piston configuration to collect boring.
2. No soil samples collected for laboratory analyses.
3. Well construction diagram not to scale.
4. Non-qualitative terms used to describe soil color.
5. GPS coordinate system UTM Zone 18 North, NAD1983 (CONUS) meters.
6. Elevation survey not conducted.

EAC00165 LITTLE VALLEY LOGS R11.DWG



BORING ID:  
R12

CLIENT: U.S. Environmental Response Team

CONTRACT/NO.: REAC/EP-C-04-032

DATE: 04/11/06

PROJECT: Little Valley Superfund Site

RIG: Geoprobe Model 6620

SHEET NO.: 1 OF 1

JOB NO.: EAC4-0-EAC00165

OPERATOR: B. Pullen

INSPECTOR: C. Skaney

BEGIN/END TIME: 1110 / 1130

COORDINATES: 186801.473 E / 4684739.028 N

DEPTH (FEET)	REC. (Rec/48 in.)	TEXTURAL DESCRIPTION
0		(0-0.5') GRASS/SOD AND GRASS LITTER
		(0.5-1.0') MEDIUM BROWN, DRY, UNSORTED FINE TO MEDIUM SAND, FINE GRAVEL, AND RED-ORANGE BRICK AND BLACK ANTHRACITE PIECES (PULVERIZED)
2	37/48	(1.0-3.0') LIGHT OLIVE-BROWN SILTY CLAY, DRY
		(3.0-4.0') LIGHT OLIVE-BROWN, POORLY SORTED FINE TO MEDIUM SAND, SOME ANGULAR COBBLES, SOME SILTY CLAY
4		BORING TERMINATED @ 4'
6		
8		
10		
12		
14		
16		
18		

NOTES:

1. Used 4-foot long, carbon steel Macro-core™ tube with dedicated PETG liner in open-piston configuration to collect boring.
2. No soil samples collected for laboratory analyses.
3. Well construction diagram not to scale.
4. Non-qualitative terms used to describe soil color.
5. GPS coordinate system UTM Zone 18 North, NAD1983 (CONUS) meters.
6. Elevation survey not conducted.

E:\GEO\165 LITTLE VALLEY\LOGS\R12.DWG



BORING ID:  
R13

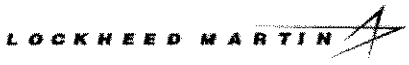
CLIENT: U.S. Environmental Response Team	CONTRACT/NO.: REAC/EP-C-04-032	DATE: 04/11/06
PROJECT: Little Valley Superfund Site	RIG: Geoprobe Model 6620	SHEET NO.: 1 OF 1
JOB NO.: EAC4-D-EAC00165	OPERATOR: B. Pulten	INSPECTOR: C. Skloney
BEGIN/END TIME: 1150 / 1210	COORDINATES: 186809.909 E / 4684745.189 N	

DEPTH (FEET)	REC. (Rec/48 in.)	TEXTURAL DESCRIPTION
0		(0-0.5') GRASS/SOD AND GRASS LITTER
		(0.5-2.0') MEDIUM BROWN AND BLACK, DRY, UNSORTED FINE TO COARSE SAND
2	30/48	(2.0-4.0') MEDIUM ORANGE-BROWN, MOIST, SILTY CLAY, SOME COBBLES
4		BORING TERMINATED @ 4'
6		
8		
10		
12		
14		
16		
18		

NOTES:

1. Used 4-foot long, carbon steel Macro-core™ tube with dedicated PETG liner in open-piston configuration to collect boring.
2. No soil samples collected for laboratory analyses.
3. Well construction diagram not to scale.
4. Non-qualitative terms used to describe soil color.
5. GPS coordinate system UTM Zone 18 North, NAD1983 (CONUS) meters.
6. Elevation survey not conducted.

INGED:\65 LITTLE VALLEY\LOGS\R13.DWG



BORING ID:  
R21

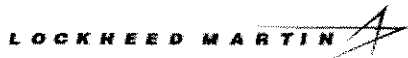
CLIENT: U.S. Environmental Response Team	CONTRACT/NO.: REAC/EP-C-04-032	DATE: 04/11/06
PROJECT: Little Valley Superfund Site	RIG: Geoprobe Model 6620	SHEET NO.: 1 OF 1
JOB NO.: EAC4-0-EAC00165	OPERATOR: B. Pullen	INSPECTOR: C. Sklaney
BEGIN/END TIME: 0955 / 1010	COORDINATES: 186800.957 E / 4684718.680 N	

DEPTH (FEET)	REC. (Rec/48 in.)	TEXTURAL DESCRIPTION
0		(0-0.5') GRASS/SOD AND GRASS LITTER
		(0.5-1.0') MEDIUM BROWN, DRY, UNSORTED FINE TO MEDIUM SAND, FINE GRAVEL, AND PIECES OF RED-ORANGE BRICK
2	38/48	(1.0-2.0') BLACK FLY ASH AND RED-ORANGE BRICK (PULVERIZED), SILT-SIZED, WET
		(2.0-4.0') LIGHT BROWN SILTY CLAY, MOIST
4		BORING TERMINATED @ 4'
6		
8		
10		
12		
14		
16		
18		

NOTES:

1. Used 4-foot long, carbon steel Macro-core™ tube with dedicated PETG liner in open-piston configuration to collect boring.
2. No soil samples collected for laboratory analyses.
3. Well construction diagram not to scale.
4. Non-qualitative terms used to describe soil color.
5. GPS coordinate system UTM Zone 18 North, NAD1983 (CONUS) meters.
6. Elevation survey not conducted.

E:\GEO\165 LITTLE VALLEY\165\R21.DWG



BORING ID:  
R22

CLIENT: U.S. Environmental Response Team

CONTRACT/NO.: REAC/EP-C-04-032

DATE: 04/11/06

PROJECT: Little Valley Superfund Site

RIG: Geoprobe Model 6620

SHEET NO.: 1 OF 1

JOB NO.: EAC4-0-EACC00165

OPERATOR: B. Pullen

INSPECTOR: C. Skloney

BEGIN/END TIME: 0800 / 0830

COORDINATES: 186811.045 E / 4684730.213 N

DEPTH (FEET)	REC. (Rec/48 in.)	TEXTURAL DESCRIPTION
0		(0-0.5') GRASS/SOD AND GRASS LITTER
		(0.5-1.5') UNSORTED MIXTURE OF MEDIUM BROWN FINE SAND TO COARSE GRAVEL, ANTHRACITE, COAL ASH, RED-ORANGE BRICK AND CONCRETE DEBRIS; DRY
2	41/48	(1.5-2.0') UNSORTED MIXTURE OF MEDIUM BROWN CLAY LOAM AND ANTHRACITE PIECES
		(2.0-3.5') MEDIUM BROWN CLAY LOAM
4		(3.5-8.0') MEDIUM BROWN CLAY LOAM AND POORLY SORTED ANGULAR FINE TO COARSE GRAVEL
6	39/48	
8		BORING TERMINATED @ 8'
10		
12		
14		
16		
18		

NOTES:

1. Used 4-foot long, carbon steel Macro-core™ tube with dedicated PETG liner in open-piston configuration to collect boring.
2. No soil samples collected for laboratory analyses.
3. Well construction diagram not to scale.
4. Non-qualitative terms used to describe soil color.
5. GPS coordinate system: UTM Zone 18 North, NAD1983 (CONUS) meters.
6. Elevation survey not conducted.



BORING ID:  
R23

CLIENT: U.S. Environmental Response Team	CONTRACT/NO.: REAC/EP-C-04-032	DATE: 04/11/06
PROJECT: Little Valley Superfund Site	RIG: Geoprobe Model 6620	SHEET NO.: 1 OF 1
JOB NO.: EAC4-0-EAC00165	OPERATOR: B. Pullen	INSPECTOR: C. Skonecny
BEGIN/END TIME: 1230 / 1250	COORDINATES: 186819.979 E / 4684739.723 N	

DEPTH (FEET)	REC. (Rec/48 in.)	TEXTURAL DESCRIPTION
0		(0-0.5') GRASS/SOD AND GRASS LITTER
2	39/48	(0.5-2.0') MEDIUM BROWN AND BLACK, DRY, UNSORTED FINE TO MEDIUM SAND, SOME CONSTRUCTION DEBRIS (CONCRETE AND BRICK)
4		(2.0-4.0') MEDIUM ORANGE-BROWN, MOIST, SILTY CLAY, SOME COBBLES
4		BORING TERMINATED @ 4'
6		
8		
10		
12		
14		
16		
18		

NOTES:

1. Used 4-foot long, carbon steel Macro-core™ tube with dedicated PETG liner in open-piston configuration to collect boring.
2. No soil samples collected for laboratory analyses.
3. Well construction diagram not to scale.
4. Non-qualitative terms used to describe soil color.
5. GPS coordinate system UTM Zone 18 North, NAD1983 (CONUS) meters.
6. Elevation survey not conducted.

PAGE 0165 - LITTLE VALLEY LOGS (R23).DWG



BORING ID:  
R31

CLIENT: U.S. Environmental Response Team	CONTRACT/NO.: REAC/EP-C-04-032	DATE: 04/11/06
PROJECT: Little Valley Superfund Site	RIG: Geoprobe Model 6620	SHEET NO.: 1 OF 1
JOB NO.: EAC4-0-EAC00165	OPERATOR: B. Pullen	INSPECTOR: C. Skloney
BEGIN/END TIME: 0925 / 0935	COORDINATES: 186812.819 E / 4684707.465 N	

DEPTH (FEET)	REC. (Rec/48 in.)	TEXTURAL DESCRIPTION
0		(0-0.5') GRASS/SOD AND GRASS LITTER
		(0.5-1.0') MEDIUM BROWN, DRY, UNSORTED FINE TO COARSE SAND AND FINE GRAVEL, SOME ANGULAR COBBLES
2	48/48	(1.0-2.0') DARK BROWN, DRY, SILTY CLAY
		(2.0-3.0') MEDIUM BROWN, UNSORTED, DRY, SILTY CLAY
		(3.0-4.0') MEDIUM BROWN, UNSORTED, DRY, FINE TO MEDIUM SAND AND SILTY CLAY
4		BORING TERMINATED @ 4'
6		
8		
10		
12		
14		
16		
18		

NOTES:

- Used 4-foot long, carbon steel Macro-core™ tube with dedicated PETG liner in open-piston configuration to collect boring.
- No soil samples collected for laboratory analyses.
- Well construction diagram not to scale.
- Non-qualitative terms used to describe soil color.
- GPS coordinate system UTM Zone 18 North, NAD1983 (CONUS) meters.
- Elevation survey not conducted.

IN: EAC4-0-EAC00165-LITTLE VALLEY LOGS-R31.DWG





BORING ID:  
R32

CLIENT: U.S. Environmental Response Team	CONTRACT/NO.: REAC/EP-C-04-032	DATE: 04/11/06
PROJECT: Little Valley Superfund Site	RIG: Geoprobe Model 6620	SHEET NO.: 1 OF 1
JOB NO.: EAC4-D-EAC00165	OPERATOR: B. Pullen	INSPECTOR: C. Sklaney
BEGIN/END TIME: 0900 / 0915	COORDINATES: 186822.943 E / 4684719.062 N	

DEPTH (FEET)	REC. (Rec/48 in.)	TEXTURAL DESCRIPTION
0		(0-0.5') GRASS/SOD AND GRASS LITTER
		(0.5-2.5') MEDIUM BROWN, DRY, GRAVELLY CLAY LOAM
2	40/48	
		(2.5-4.0') LIGHT OLIVE BROWN, MOIST, SILTY CLAY
4		BORING TERMINATED @ 4'
6		
8		
10		
12		
14		
16		
18		

NOTES:

1. Used 4-foot long, carbon steel Macro-core™ tube with dedicated PETG liner in open-piston configuration to collect boring.
2. No soil samples collected for laboratory analyses.
3. Well construction diagram not to scale.
4. Non-qualitative terms used to describe soil color.
5. GPS coordinate system UTM Zone 18 North, NAD1983 (CONUS) meters.
6. Elevation survey not conducted.

E:\GEO\165 LITTLE VALLEY\G65\R32.DWG



BORING ID:  
R33

CLIENT: U.S. Environmental Response Team	CONTRACT/NO.: REAC/EP-C-04-032	DATE: 04/11/06
PROJECT: Little Valley Superfund Site	RIG: Geoprobe Model 6620	SHEET NO.: 1 OF 1
JOB NO.: EAC4-0-EAC00165	OPERATOR: B. Pullen	INSPECTOR: C. Skloney
BEGIN/END TIME: 0840 / 0855	COORDINATES: 186832.307 E / 4684730.604 N	

DEPTH (FEET)	REC. (Rec/48 in.)	TEXTURAL DESCRIPTION
0		(0-1.0') CONSTRUCTION DEBRIS (CONCRETE, BRICK)
2	37/48	(1.0-2.0') MEDIUM BROWN, DRY, CLAY LOAM
		(2.0-3.0') MEDIUM BROWN, DRY, GRAVELLY (ANGULAR) CLAY LOAM
		(3.0-4.0') DARK BROWN, MOIST, CLAY LOAM, SOME ANTHRACITE PIECES
4		BORING TERMINATED @ 4'
6		
8		
10		
12		
14		
16		
18		

NOTES:

1. Used 4-foot long, carbon steel Macro-core™ tube with dedicated PETG liner in open-piston configuration to collect boring.
2. No soil samples collected for laboratory analyses.
3. Well construction diagram not to scale.
4. Non-qualitative terms used to describe soil color.
5. GPS coordinate system UTM Zone 18 North, NAD1983 (CONUS) meters.
6. Elevation survey not conducted.

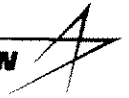
PAGE 01665 LITTLE VALLEY LOGS R33.DWG

APPENDIX B

Soil Analytical Report  
Volatile Organic Compounds  
Samples Collected in April 2006  
Little Valley Superfund Site  
Cattaraugus Cutlery Area  
Trip Report  
June 2006

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

LOCKHEED MARTIN



DATE: 15 May 2006  
TO: R. Singhvi EPA/ERTC  
FROM: V. Kansal Analytical Section Leader *V. Kansal*  
SUBJECT: DOCUMENT TRANSMITTAL UNDER WORK ASSIGNMENT #0-165

Attached please find the following document prepared under this work assignment:

Little Valley Superfund Site - Corrected Analytical Report

This report replaces the report dated 1 May 2006. Two corrections were made, acetone results and RL for sample 0-0165-0717 were changed to 128 and 116  $\mu\text{g}/\text{m}^3$  (Table 1, page 6) and tetrachloroethene results for sample 0-0165-0718 were changed to 16.1 J (Table 1, Page 7) and the case narrative was changed accordingly.

Central File WA #0-165  
J. Catanzarita  
C. Sklaney  
J. Soroka

Work Assignment Manager  
Task Leader  
Data Validation and Report Writing  
Group Leader

ANALYTICAL REPORT

Prepared by  
LOCKHEED MARTIN, Inc.

Little Valley Superfund Site  
Little Valley, NY

May 2006

EPA Work Assignment No.0-165  
LOCKHEED MARTIN Work Order EAC00165  
EPA Contract No. EP-C-04-032

Submitted to  
J. Catanzarita  
EPA-ERTC

C. Sklarney 5/16/06  
C. Sklarney Date  
Task Leader

Analysis by:  
REAC

V. Kansal 5/16/06  
V. Kansal Date  
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## Introduction

REAC in response to WA0-165, provided analytical support for environmental samples collected from Little Valley Superfund Site, located in Little Valley, NY as described in the following table. The support also included QA/QC, data review, and preparation of an analytical report containing a summary of the analytical methods, the results, and the QA/QC results.

The samples were treated with procedures consistent with those specified in SOP #1008.

COC #	Number of Samples	Sampling Date	Date Received	Matrix	Analysis (Method)	Lab	Data Package
0-0165-041106-0005	23	04/11/06	04/12/06	Soil	VOC (SOP 1807)	REAC	R 149

## Case Narrative

Values less than 25% of the reporting limits for organic analyses have not been reported.

### VOC in Soil Package R 149

Sample 0-0165-0722, the trip blank, contained 10.1 µg/kg acetone and 1.90 µg/kg tetrachloroethene. The acetone result for sample 0-0165-0718, and the tetrachloroethene result for sample 0-0165-0719 are reported not detected.

The reporting limit for compounds cis-1,3-dichloropropene, bromoform, 4-methyl-2-pentanone, 2-hexanone, 1,2-dibromo-3-chloropropane, 1,2,4-trichlorobenzene and naphthalene are based on four times the y-intercept of the regression equations for all samples and method blanks.

## Summary of Abbreviations

C	Centigrade				
cont.	Continued				
D	(Surrogate Table) value is from a diluted sample and was not calculated (Result Table) result was obtained from a diluted sample				
Dioxin	Polychlorinated Dibenzo-p-dioxins (PCDD) and Dibenzofurans (PCDF)				
CLP	Contract Laboratory Procedure				
COC	Chain of Custody				
Conc	Concentration				
CRDL	Contract Required Detection Limit				
CRQL	Contract Required Quantitation Limit				
DL	Detection Limit				
E	Value is greater than the highest linear standard and is estimated				
EMPC	Estimated maximum possible concentration				
ICAP	Inductively Coupled Argon Plasma				
IS	Internal Standard				
J	Value is estimated				
LCS	Laboratory Control Sample				
LCSD	Laboratory Control Sample Duplicate				
MDL	Method Detection Limit				
MS (BS)	Matrix Spike (Blank Spike)				
MSD (BSD)	Matrix Spike Duplicate (Blank Spike Duplicate)				
MW	Molecular Weight				
NA	either Not Applicable or Not Available				
NC	Not Calculated				
NR	Not Requested				
NS	Not Spiked				
% D	Percent Difference				
% Rec.	Percent Recovery				
PAL	Permissible Acceptance Limit				
ppbv	parts per billion by volume				
PQL	Practical Quantitation Limit				
QA/QC	Quality Assurance/Quality Control				
QL	Quantitation Limit				
RL	Reporting Limit				
RPD	Relative Percent Difference				
RSD	Relative Standard Deviation				
SIM	Selected Ion Monitoring				
Surr	Surrogate				
TCLP	Toxic Characteristics Leaching Procedure				
U	Not detected				
m <sup>3</sup>	cubic meter	kg	kilogram	µg	microgram
L	liter	g	gram	pg	picogram
mL	milliliter	mg	milligram	ng	nanogram
µL	microliter	µg/m <sup>3</sup>	microgram/cubic meter		
*	Value exceeds the acceptable QC limit				

Revision 8/03/05



Table 1.1 Results of the Analysis for VOC in Soil  
 WA # 0-165 Little Valley Superfund Site  
 Based on Dry Weight

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Compound	Soil Blank B 041206-2		0-0165-0701 LV-R22(1'-2)		0-0165-0702 LV-R22(1-2)D		0-0165-0703 LV-R22(3-4)		0-0165-0704 LV-R22(5-6)	
	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg
Dichlorodifluoromethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Chloromethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Vinyl Chloride	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Bromomethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Chloroethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Trichlorofluoromethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Acetone	U	20.0	U	123	U	127	U	112	U	112
1,1-Dichloroethene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Methylene Chloride	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Carbon Disulfide	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Methyl-t-butyl Ether	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
trans-1,2-Dichloroethene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,1-Dichloroethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
2-Butanone	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
2,2-Dichloropropane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
cis-1,2-Dichloroethene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Chloroform	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,1-Dichloropropene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,2-Dichloroethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,1,1-Trichloroethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Carbon Tetrachloride	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Benzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Trichloroethene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,2-Dichloropropane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Bromodichloromethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Dibromomethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
cis-1,3-Dichloropropene	U	27.1	U	167	U	172	U	152	U	152
trans-1,3-Dichloropropene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,2-Trichloroethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,3-Dichloropropane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Dibromochloromethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,2-Dibromoethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Bromoform	U	35.7	U	217	U	273	U	198	U	198
4-Methyl-2-Pentanone	U	30.7	U	190	U	194	U	172	U	172
Toluene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
2-Hexanone	U	28.0	U	173	U	177	U	157	U	157
Tetrachloroethene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Chlorobenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,1,1,2-Tetrachloroethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Ethylbenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
p&m-Xylene	U	10.0	U	61.7	U	63.3	U	56.2	U	56.2
o-Xylene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Styrene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Isopropylbenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,1,2,2-Tetrachloroethane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,2,3-Trichloropropane	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
n-Propylbenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
Bromobenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,3,5-Trimethylbenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
2-Chlorotoluene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
4-Chlorotoluene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
tert-Butylbenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,2,4-Trimethylbenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
sec-Butylbenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
p-Isopropyltoluene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,3-Dichlorobenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,4-Dichlorobenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
n-Butylbenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,2-Dichlorobenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
1,2-Dibromo-3-chloropropane	U	37.9	U	234	U	240	U	213	U	213
1,2,4-Trichlorobenzene	U	28.0	U	173	U	177	U	157	U	157
Hexachlorobutadiene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1
naphthalene	U	24.9	U	154	U	158	U	140	U	140
1,2,3-Trichlorobenzene	U	5.00	U	30.9	U	31.6	U	28.1	U	28.1

Table 1.1 (cont.) Results of the Analysis for VOC in Soil  
 WA # 0-165 Little Valley Superfund Site  
 Based on Dry Weight

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Sample # :	Soil Blank B 041206-2		0-0165-0705		0-0165-0706		0-0165-0707		0-0165-0708	
Location :			LV-R33(1-2)		LV-R33(3-4)		LV-R33(3-4)D		LV-R32(1-2)	
% Solid :	100		83		74		74		75	
Compound	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg
Dichlorodifluoromethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Chloromethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Vinyl Chloride	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Bromomethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Chloroethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Trichlorofluoromethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Acetone	U	20.0	U	120	U	135	U	135	U	133
1,1-Dichloroethene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Methylene Chloride	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Carbon Disulfide	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Methyl-t-butyl Ether	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
trans-1,2-Dichloroethene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,1-Dichloroethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
2-Butanone	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
2,2-Dichloropropane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
cis-1,2-Dichloroethene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Chloroform	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,1-Dichloropropene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,2-Dichloroethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,1,1-Trichloroethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Carbon Tetrachloride	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Benzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Trichloroethene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,2-Dichloropropane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Bromodichloromethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Dibromomethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
cis-1,3-Dichloropropene	U	27.1	U	163	U	183	U	183	U	181
trans-1,3-Dichloropropene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,1,2-Trichloroethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,3-Dichloropropane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Dibromochloromethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,2-Dibromoethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Bromoform	U	35.7	U	215	U	241	U	241	U	235
4-Methyl-2-Pentanone	U	30.7	U	185	U	207	U	207	U	205
Toluene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
2-Hexanone	U	28.0	U	169	U	189	U	189	U	187
Tetrachloroethene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Chlorobenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,1,1,2-Tetrachloroethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Ethylbenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
p&m-Xylene	U	10.0	U	60.2	U	67.6	U	67.6	U	66.7
o-Xylene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Styrene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Isopropylbenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,1,2,2-Tetrachloroethane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,2,3-Trichloropropane	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
n-Propylbenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Bromobenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,3,5-Trimethylbenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
2-Chlorotoluene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
4-Chlorotoluene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
tert-Butylbenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,2,4-Trimethylbenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
sec-Butylbenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
p-Isopropyltoluene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,3-Dichlorobenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,4-Dichlorobenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
n-Butylbenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,2-Dichlorobenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
1,2-Dibromo-3-chloropropane	U	37.9	U	228	U	256	U	256	U	253
1,2,4-Trichlorobenzene	U	28.0	U	169	U	189	U	189	U	187
Hexachlorobutadiene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3
Naphthalene	U	24.9	37.4	150	U	168	U	168	U	166
1,2,3-Trichlorobenzene	U	5.00	U	30.1	U	33.8	U	33.8	U	33.3

Table 1.1 (cont.) Results of the Analysis for VOC in Soil  
 WA # 0-165 Little Valley Superfund Site  
 Based on Dry Weight

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Sample # :	Soil Blank B 041206-2		0-0165-0709		0-0165-0710		0-0165-0711		0-0165-0712	
Location :			LV-R32(3-4)		LV-R31(1-2)		LV-R31(3-4)		LV-R21(1-2)	
% Solid :	100		85		77		84		66	
Compound	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg
Dichlorodifluoromethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Chloromethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Vinyl Chloride	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Bromomethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Chloroethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Trichlorofluoromethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Acetone	U	20.0	U	118	U	130	U	119	U	152
1,1-Dichloroethene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Methylene Chloride	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Carbon Disulfide	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Methyl-t-butyl Ether	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
trans-1,2-Dichloroethene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,1-Dichloroethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
2-Butanone	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
2,2-Dichloropropane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
cis-1,2-Dichloroethene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Chloroform	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,1-Dichloropropene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,2-Dichloroethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,1,1-Trichloroethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Carbon Tetrachloride	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Benzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Trichloroethene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,2-Dichloropropane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Bromodichloromethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Dibromomethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
cis-1,3-Dichloropropene	U	27.1	U	159	U	176	U	161	U	205
trans-1,3-Dichloropropene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,1,2-Trichloroethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,3-Dichloropropane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Dibromochloromethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,2-Dibromoethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Bromoform	U	35.7	U	210	U	229	U	213	U	270
4-Methyl-2-Pentanone	U	30.7	U	181	U	199	U	183	U	233
Toluene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
2-Hexanone	U	28.0	U	165	U	182	U	167	U	212
Tetrachloroethene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Chlorobenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,1,1,2-Tetrachloroethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Ethylbenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
p&m-Xylene	U	10.0	U	58.8	U	64.9	U	59.5	U	75.8
o-Xylene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Styrene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Isopropylbenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,1,2,2-Tetrachloroethane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,2,3-Trichloropropane	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
n-Propylbenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
Bromobenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,3,5-Trimethylbenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
2-Chlorotoluene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
4-Chlorotoluene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
tert-Butylbenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,2,4-Trimethylbenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
sec-Butylbenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
p-Isopropyltoluene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,3-Dichlorobenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,4-Dichlorobenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
n-Butylbenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,2-Dichlorobenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
1,2-Dibromo-3-chloropropane	U	37.9	U	223	U	246	U	226	U	287
1,2,4-Trichlorobenzene	U	28.0	U	165	U	182	U	167	U	212
Hexachlorocyclopentadiene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9
naphthalene	U	24.9	U	146	U	162	U	148	U	189
1,2,3-Trichlorobenzene	U	5.00	U	29.4	U	32.5	U	29.8	U	37.9

Table 1.1 (cont.) Results of the Analysis for VOC in Soil  
 WA # 0-165 Little Valley Superfund Site  
 Based on Dry Weight

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Sample # : Soil Blank B 041206-2 0-0165-0713  
 Location : LV-R21(3-4)  
 % Solid : 100 84

Compound	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg
Dichlorodifluoromethane	U	5.00	U	29.8
Chloromethane	U	5.00	U	29.8
Vinyl Chloride	U	5.00	U	29.8
Bromomethane	U	5.00	U	29.8
Chloroethane	U	5.00	U	29.8
Trichlorofluoromethane	U	5.00	U	29.8
Acetone	U	20.0	U	119
1,1-Dichloroethene	U	5.00	U	29.8
Methylene Chloride	U	5.00	U	29.8
Carbon Disulfide	U	5.00	U	29.8
Methyl-t-butyl Ether	U	5.00	U	29.8
trans-1,2-Dichloroethene	U	5.00	U	29.8
1,1-Dichloroethane	U	5.00	U	29.8
2-Butanone	U	5.00	U	29.8
2,2-Dichloropropane	U	5.00	U	29.8
cis-1,2-Dichloroethene	U	5.00	U	29.8
Chloroform	U	5.00	U	29.8
1,1-Dichloropropene	U	5.00	U	29.8
1,2-Dichloroethane	U	5.00	U	29.8
1,1,1-Trichloroethane	U	5.00	U	29.8
Carbon Tetrachloride	U	5.00	U	29.8
Benzene	U	5.00	U	29.8
Trichloroethene	U	5.00	U	29.8
1,2-Dichloropropane	U	5.00	U	29.8
Bromodichloromethane	U	5.00	U	29.8
Dibromomethane	U	5.00	U	29.8
cis-1,3-Dichloropropene	U	27.1	U	161
trans-1,3-Dichloropropene	U	5.00	U	29.8
1,1,2-Trichloroethane	U	5.00	U	29.8
1,3-Dichloropropane	U	5.00	U	29.8
Dibromochloromethane	U	5.00	U	29.8
1,2-Dibromoethane	U	5.00	U	29.8
Bromoform	U	35.7	U	213
4-Methyl-2-Pentanone	U	30.7	U	183
Toluene	U	5.00	U	29.8
2-Hexanone	U	28.0	U	169
Tetrachloroethene	U	5.00	U	29.8
Chlorobenzene	U	5.00	U	29.8
1,1,1,2-Tetrachloroethane	U	5.00	U	29.8
Ethylbenzene	U	5.00	U	29.8
p&m-Xylene	U	10.0	U	59.5
o-Xylene	U	5.00	U	29.8
Styrene	U	5.00	U	29.8
Isopropylbenzene	U	5.00	U	29.8
1,1,2,2-Tetrachloroethane	U	5.00	U	29.8
1,2,3-Trichloropropane	U	5.00	U	29.8
n-Propylbenzene	U	5.00	U	29.8
Bromobenzene	U	5.00	U	29.8
1,3,5-Trimethylbenzene	U	5.00	U	29.8
2-Chlorotoluene	U	5.00	U	29.8
4-Chlorotoluene	U	5.00	U	29.8
tert-Butylbenzene	U	5.00	U	29.8
1,2,4-Trimethylbenzene	U	5.00	U	29.8
sec-Butylbenzene	U	5.00	U	29.8
p-Isopropyltoluene	U	5.00	U	29.8
1,3-Dichlorobenzene	U	5.00	U	29.8
1,4-Dichlorobenzene	U	5.00	U	29.8
n-Butylbenzene	U	5.00	U	29.8
1,2-Dichlorobenzene	U	5.00	U	29.8
1,2-Dibromo-3-chloropropane	U	37.9	U	226
1,2,4-Trichlorobenzene	U	28.0	U	167
Hexachlorobutadiene	U	5.00	U	29.8
Naphthalene	U	24.9	U	148
1,2,3-Trichlorobenzene	U	5.00	U	29.8

Table 1.1 (cont.) Results of the Analysis for VOC in Soil  
 WA # 0-165 Little Valley Superfund Site  
 Based on Dry Weight

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Sample # :	Soil Blank B 041306-1	0-0165-0722	0-0165-0714	0-0165-0715	0-0165-0716					
Location :		TB-60411	LV-R11(1-2)	LV-R11(3-4)	LV-R12(1-2)					
% Solid :	100	100	74	78	77					
Compound	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg
Dichlorodifluoromethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Chloromethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Vinyl Chloride	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Bromomethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Chloroethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Trichlorofluoromethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Acetone	U	20.0	10.1 J	20.0	U	135	U	25.6	U	130
1,1-Dichloroethene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Methylene Chloride	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Carbon Disulfide	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Methyl-t-butyl Ether	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
trans-1,2-Dichloroethene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,1-Dichloroethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
2-Butanone	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
2,2-Dichloropropane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
cis-1,2-Dichloroethene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Chloroform	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,1-Dichloropropene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,2-Dichloroethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,1,1-Trichloroethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Carbon Tetrachloride	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Benzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Trichloroethene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,2-Dichloropropane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Bromodichloromethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Dibromomethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
cis-1,3-Dichloropropene	U	27.1	U	27.1	U	183	U	174	U	176
trans-1,3-Dichloropropene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,1,2-Trichloroethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,3-Dichloropropane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Dibromochloromethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,2-Dibromoethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Bromoform	U	35.7	U	35.2	U	241	U	226	U	229
4-Methyl-2-Pentanone	U	30.7	U	30.5	U	207	U	197	U	199
Toluene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
2-Hexanone	U	28.0	U	28.0	U	189	U	179	U	182
Tetrachloroethene	U	5.00	1.90 J	5.00	U	33.8	U	6.41	U	32.5
Chlorobenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,1,1,2-Tetrachloroethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Ethylbenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
p&m-Xylene	U	10.0	U	10.0	U	67.6	U	12.8	U	64.9
o-Xylene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Styrene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Isopropylbenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,1,2,2-Tetrachloroethane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,2,3-Trichloropropane	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
n-Propylbenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Bromobenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,3,5-Trimethylbenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
2-Chlorotoluene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
4-Chlorotoluene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
tert-Butylbenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,2,4-Trimethylbenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
sec-Butylbenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
p-isopropyltoluene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,3-Dichlorobenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,4-Dichlorobenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
n-Butylbenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,2-Dichlorobenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
1,2-Dibromo-3-chloropropane	U	37.9	U	37.9	U	256	U	242	U	246
1,2,4-Trichlorobenzene	U	28.0	U	28.0	U	189	U	179	U	182
hexachlorobutadiene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5
Naphthalene	U	24.9	U	24.9	U	168	U	160	U	162
1,2,3-Trichlorobenzene	U	5.00	U	5.00	U	33.8	U	6.41	U	32.5

Table 1.1 (cont.) Results of the Analysis for VOC in Soil  
 WA # 0-165 Little Valley Superfund Site  
 Based on Dry Weight

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Sample # :	Soil Blank B 041306-1	0-0165-0719	0-0165-0717	0-0165-0721				
Location :		LV-R13(3-4)	LV-R12(3-4)	LV-R23(3-4)				
% Solid :	100	73	86	75				
Compound	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg
Dichlorodifluoromethane	U	5.00	U	34.2	U	29.1	U	33.3
Chloromethane	U	5.00	U	34.2	U	29.1	U	33.3
Vinyl Chloride	U	5.00	U	34.2	U	29.1	U	33.3
Bromomethane	U	5.00	U	34.2	U	29.1	U	33.3
Chloroethane	U	5.00	U	34.2	U	29.1	U	33.3
Trichlorofluoromethane	U	5.00	U	34.2	U	29.1	U	33.3
Acetone	U	20.0	U	137	128	116	U	133
1,1-Dichloroethene	U	5.00	U	34.2	U	29.1	U	33.3
Methylene Chloride	U	5.00	U	34.2	U	29.1	U	33.3
Carbon Disulfide	U	5.00	U	34.2	U	29.1	U	33.3
Methyl-t-butyl Ether	U	5.00	U	34.2	U	29.1	U	33.3
trans-1,2-Dichloroethene	U	5.00	U	34.2	U	29.1	U	33.3
1,1-Dichloroethane	U	5.00	U	34.2	U	29.1	U	33.3
2-Butanone	U	5.00	U	34.2	U	29.1	U	33.3
2,2-Dichloropropane	U	5.00	U	34.2	U	29.1	U	33.3
cis-1,2-Dichloroethene	U	5.00	U	34.2	U	29.1	U	33.3
Chloroform	U	5.00	U	34.2	U	29.1	U	33.3
1,1-Dichloropropene	U	5.00	U	34.2	U	29.1	U	33.3
1,2-Dichloroethane	U	5.00	U	34.2	U	29.1	U	33.3
1,1,1-Trichloroethane	U	5.00	U	34.2	U	29.1	U	33.3
Carbon Tetrachloride	U	5.00	U	34.2	U	29.1	U	33.3
Benzene	U	5.00	U	34.2	U	29.1	U	33.3
Trichloroethene	U	5.00	U	34.2	U	29.1	U	33.3
1,2-Dichloropropane	U	5.00	U	34.2	U	29.1	U	33.3
Bromodichloromethane	U	5.00	U	34.2	U	29.1	U	33.3
Dibromomethane	U	5.00	U	34.2	U	29.1	U	33.3
cis-1,3-Dichloropropene	U	27.1	U	186	U	158	U	181
trans-1,3-Dichloropropene	U	5.00	U	34.2	U	29.1	U	33.3
1,1,2-Trichloroethane	U	5.00	U	34.2	U	29.1	U	33.3
1,3-Dichloropropane	U	5.00	U	34.2	U	29.1	U	33.3
Dibromochloromethane	U	5.00	U	34.2	U	29.1	U	33.3
1,2-Dibromoethane	U	5.00	U	34.2	U	29.1	U	33.3
Bromoform	U	35.2	U	241	U	205	U	235
4-Methyl-2-Pentanone	U	30.7	U	210	U	178	U	205
Toluene	U	5.00	U	34.2	U	29.1	U	33.3
2-Hexanone	U	28.0	U	192	U	163	U	187
Tetrachloroethene	U	5.00	U	34.2	U	29.1	U	33.3
Chlorobenzene	U	5.00	U	34.2	U	29.1	U	33.3
1,1,1,2-Tetrachloroethane	U	5.00	U	34.2	U	29.1	U	33.3
Ethylbenzene	U	5.00	U	34.2	U	29.1	U	33.3
p&m-Xylene	U	10.0	U	68.5	U	58.1	U	66.7
o-Xylene	U	5.00	U	34.2	U	29.1	U	33.3
Styrene	U	5.00	U	34.2	U	29.1	U	33.3
Isopropylbenzene	U	5.00	U	34.2	U	29.1	U	33.3
1,1,2,2-Tetrachloroethane	U	5.00	U	34.2	U	29.1	U	33.3
1,2,3-Trichloropropane	U	5.00	U	34.2	U	29.1	U	33.3
n-Propylbenzene	U	5.00	U	34.2	U	29.1	U	33.3
Bromobenzene	U	5.00	U	34.2	U	29.1	U	33.3
1,3,5-Trimethylbenzene	U	5.00	U	34.2	U	29.1	U	33.3
2-Chlorotoluene	U	5.00	U	34.2	13.1	U	U	33.3
4-Chlorotoluene	U	5.00	U	34.2	U	29.1	U	33.3
tert-Butylbenzene	U	5.00	U	34.2	U	29.1	U	33.3
1,2,4-Trimethylbenzene	U	5.00	U	34.2	U	29.1	U	33.3
sec-Butylbenzene	U	5.00	U	34.2	U	29.1	U	33.3
p-Isopropyltoluene	U	5.00	U	34.2	U	29.1	U	33.3
1,3-Dichlorobenzene	U	5.00	U	34.2	U	29.1	U	33.3
1,4-Dichlorobenzene	U	5.00	U	34.2	174	29.1	U	33.3
n-Butylbenzene	U	5.00	U	34.2	U	29.1	U	33.3
1,2-Dichlorobenzene	U	5.00	U	34.2	U	29.1	U	33.3
1,2-Dibromo-3-chloropropane	U	37.9	U	260	U	220	U	253
1,2,4-Trichlorobenzene	U	28.0	U	192	50.4	163	U	187
Hexachlorobutadiene	U	5.00	U	34.2	U	29.1	U	33.3
Naphthalene	U	24.9	U	171	U	145	U	166
1,2,3-Trichlorobenzene	U	5.00	U	34.2	U	29.1	U	33.3

Table 1.1 (cont.) Results of the Analysis for VOC in Soil  
 WA # 0-165 Little Valley Superfund Site  
 Based on Dry Weight

Method REAC SOP 1807

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Sample # :	Soil Blank B 041406-2	0-0165-0720	0-0165-0718			
Location :		LV-R23(1-2)	LV-R13(1-2)			
% Solid :	100	71	84			
Compound	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg	Conc. µg/kg	RL µg/kg
Dichlorodifluoromethane	U	5.00	U	35.2	U	59.5
Chloromethane	U	5.00	U	35.2	U	59.5
Vinyl Chloride	U	5.00	U	35.2	U	59.5
Bromomethane	U	5.00	U	35.2	U	59.5
Chloroethane	U	5.00	U	35.2	U	59.5
Trichlorofluoromethane	U	5.00	U	35.2	U	59.5
Acetone	U	20.0	U	141	U	238
1,1-Dichloroethene	U	5.00	U	35.2	U	59.5
Methylene Chloride	U	5.00	U	35.2	U	59.5
Carbon Disulfide	U	5.00	U	35.2	U	59.5
Methyl-t-butyl Ether	U	5.00	U	35.2	U	59.5
trans-1,2-Dichloroethene	U	5.00	U	35.2	U	59.5
1,1-Dichloroethane	U	5.00	U	35.2	U	59.5
2-Butanone	U	5.00	U	35.2	U	59.5
2,2-Dichloropropane	U	5.00	U	35.2	U	59.5
cis-1,2-Dichloroethene	U	5.00	U	35.2	U	59.5
Chloroform	U	5.00	U	35.2	U	59.5
1,1-Dichloropropene	U	5.00	U	35.2	U	59.5
1,2-Dichloroethane	U	5.00	U	35.2	U	59.5
1,1,1-Trichloroethane	U	5.00	U	35.2	U	59.5
Carbon Tetrachloride	U	5.00	U	35.2	U	59.5
Benzene	U	5.00	U	35.2	U	59.5
Trichloroethene	U	5.00	U	35.2	18.3 J	59.5
1,2-Dichloropropane	U	5.00	U	35.2	U	59.5
Bromodichloromethane	U	5.00	U	35.2	U	59.5
Dibromomethane	U	5.00	U	35.2	U	59.5
cis-1,3-Dichloropropene	U	27.1	U	191	U	323
trans-1,3-Dichloropropene	U	5.00	U	35.2	U	59.5
1,1,2-Trichloroethane	U	5.00	U	35.2	U	59.5
1,3-Dichloropropane	U	5.00	U	35.2	U	59.5
Dibromochloromethane	U	5.00	U	35.2	U	59.5
1,2-Dibromoethane	U	5.00	U	35.2	U	59.5
Bromoform	U	35.7	U	249	U	425
4-Methyl-2-Pentanone	U	30.7	U	216	U	365
Toluene	U	5.00	U	35.2	U	59.5
2-Hexanone	U	28.0	U	197	U	333
Tetrachloroethene	U	5.00	U	35.2	16.1 J	59.5
Chlorobenzene	U	5.00	U	35.2	U	59.5
1,1,1,2-Tetrachloroethane	U	5.00	U	35.2	U	59.5
Ethylbenzene	U	5.00	U	35.2	U	59.5
p&m-Xylene	U	10.0	U	70.4	U	119
o-Xylene	U	5.00	U	35.2	U	59.5
Styrene	U	5.00	U	35.2	U	59.5
Isopropylbenzene	U	5.00	U	35.2	U	59.5
1,1,2,2-Tetrachloroethane	U	5.00	U	35.2	U	59.5
1,2,3-Trichloropropane	U	5.00	U	35.2	U	59.5
n-Propylbenzene	U	5.00	U	35.2	U	59.5
Bromobenzene	U	5.00	U	35.2	U	59.5
1,3,5-Trimethylbenzene	U	5.00	U	35.2	U	59.5
2-Chlorotoluene	U	5.00	U	35.2	U	59.5
4-Chlorotoluene	U	5.00	U	35.2	U	59.5
tert-Butylbenzene	U	5.00	U	35.2	U	59.5
1,2,4-Trimethylbenzene	U	5.00	U	35.2	U	59.5
sec-Butylbenzene	U	5.00	U	35.2	U	59.5
p-Isopropyltoluene	U	5.00	U	35.2	U	59.5
1,3-Dichlorobenzene	U	5.00	U	35.2	U	59.5
1,4-Dichlorobenzene	U	5.00	U	35.2	U	59.5
n-Butylbenzene	U	5.00	U	35.2	U	59.5
1,2-Dichlorobenzene	U	5.00	U	35.2	U	59.5
1,2-Dibromo-3-chloropropane	U	37.9	U	267	U	451
1,2,4-Trichlorobenzene	U	28.0	U	197	U	333
Hexachlorobutadiene	U	5.00	U	35.2	U	59.5
Naphthalene	U	24.9	U	175	U	296
1,2,3-Trichlorobenzene	U	5.00	U	35.2	U	59.5

0165-DAR-051500

09

rv2112





Table 2.1 Results of the Internal Standard Areas & Surrogate Percent Recoveries for VOC in Soil  
 Little Valley WA# 0-165  
 Based on Dry Weight

Analysis Date 060412  
 Matrix Soil

File ID	Sample No.	IS 1	IS 2	IS 3	Surr. 1	Surr. 2	Surr. 3
BV4418.D	Soil Blank B041206-2	147538	1161431	641634	110	104	94
BV4420.D	LCS BS 77	138244	1167370	643586	110	102	91
BV4422.D	0-0165-0701/5x	122587	968772	498772	110	111	82
BV4423.D	0-0165-0702/5x	128265	1015957	534055	110	109	85
BV4424.D	0-0165-0703/5x	130312	1052239	586628	111	104	92
BV4425.D	0-0165-0704/5x	125514	1024301	564755	111	105	92
BV4426.D	0-0165-0705/5x	119582	972729	511995	110	110	86
BV4427.D	0-0165-0706/5x	119205	971982	491571	110	113	82
BV4428.D	0-0165-0707/5x	115526	882867	461309	111	110	84
BV4429.D	0-0165-0708/5x	124284	977332	516618	110	109	85
BV4430.D	0-0165-0709/5x	118280	979769	534284	109	106	90
BV4431.D	0-0165-0710/5x	126114	1005264	514633	112	112	84
BV4432.D	0-0165-0711/5x	124218	1017339	563131	111	105	91
BV4433.D	0-0165-0712/5x	128963	1024960	548523	112	108	88
BV4434.D	0-0165-0713/5x	111302	923588	507800	113	106	91

Cal Check Area                      BV4417.D    154397            1200300            732446

Surrogate Limits			
IS 1	Bromochloromethane	Surr. 1	1,2-Dichloroethane-d4
IS 2	1,4-Difluorobenzene	Surr. 2	Toluene-d8
IS 3	Chlorobenzene-d5	Surr. 3	p-Bromofluorobenzene
			Soil
			70-121
			84-138
			59-113

isv1190

Table 2.1 (cont.) Results of the Internal Standard Areas & Surrogate Percent Recoveries for VOC in Soil  
 Little Valley WA# 0-165  
 Based on Dry Weight

Analysis Date 060413  
 Matrix Soil

File ID	Sample No.	IS 1	IS 2	IS 3	Surr. 1	Surr. 2	Surr. 3
BV4437.D	Soil Blank B 041306-1	140237	1102014	605398	109	104	95
BV4438.D	LCS BS 78	136164	1130469	626177	111	102	92
BV4439.D	0-0165-0722	136367	1049586	595602	111	102	93
BV4440.D	0-0165-0714/5x	118649	961158	520585	111	107	88
BV4441.D	0-0165-0715/5x	92232	746653	400278	110	108	89
BV4442.D	0-0165-0714/5x ms	127649	1063315	566377	110	105	87
BV4443.D	0-0165-0714/5x msd	127953	1079537	571980	111	105	87
BV4444.D	0-0165-0716/5x	121237	980141	520885	110	107	87
BV4445.D	0-0165-0719/5x	126040	1009630	541356	110	107	88
BV4446.D	0-0165-0719/5x ms	128458	1090826	574155	109	106	87
BV4447.D	0-0165-0719/5x msd	127220	1082302	574017	111	105	87
BV4448.D	0-0165-0717/5x	116476	878371	469520	109	99	90
BV4449.D	0-0165-0721/5x	160416	1327229	690032	100	107	95
BV4450.D	0-0165-0721/5x ms	165839	1354066	689771	102	108	88
BV4451.D	0-0165-0721/5x msd	148482	1221063	629227	104	107	87

Cal Check Area BV4436D 139830 1077016 644051

Surrogate Limits				Soil
IS 1	Bromochloromethane	Surr. 1	1,2-Dichloroethane-d4	70-121
IS 2	1,4-Difluorobenzene	Surr. 2	Toluene-d8	84-138
IS 3	Chlorobenzene-d5	Surr. 3	p-Bromofluorobenzene	59-113

isv1193

Table 2.1 (cont.) Results of the Internal Standard Areas & Surrogate Percent Recoveries for VOC in Soil  
 Little Valley WA# 0-165  
 Based on Dry Weight

Analysis Date 060414  
 Matrix Soil

File ID	Sample No.	IS 1	IS 2	IS 3	Surr. 1	Surr. 2	Surr. 3
BV4455.D	Soil Blank B 041406-2	123326	989202	547541	111	105	93
BV4457.D	0-0165-0720/5x	112876	908706	478825	111	109	86
BV4459.D	0-0165-0718/10x	125040	969992	496132	112	112	80

Cal Check Area                      BV4453.D    155045            1154760            691145

Surrogate Limits			
IS 1	Bromochloromethane	Surr. 1	1,2-Dichloroethane-d4
IS 2	1,4-Difluorobenzene	Surr. 2	Toluene-d8
IS 3	Chlorobenzene-d5	Surr. 3	p-Bromofluorobenzene

isv1195

Table 2.2 Results of MS/MSD Analysis for VOC in Soil  
 WA # 0-165 Little Valley Superfund Site  
 Based on Dry Weight

Sample No. : 0-0165-0719/5x

Compound Name	Sample Conc. (µg/kg)	MS Spike Added (µg/kg)	MSD Spike Added (µg/kg)	MS Conc. (µg/kg)	MSD Conc. (µg/kg)	MS % Rec.	MSD % Rec.	QC Limits		
								RPD	RPD	% Rec.
1,1-Dichloroethene	U	342	342	488	484	143	141	1	22	59 - 172
Benzene	U	342	342	372	372	109	109	0	21	66 - 142
Trichloroethene	U	342	342	364	361	106	105	1	24	62 - 137
Toluene	U	342	342	408	404	119	118	1	21	59 - 139
Chlorobenzene	U	342	342	384	380	112	111	1	21	60 - 133

msv743

Table 2.2 (cont.) Results of MS/MSD Analysis for VOC in Soil  
 WA # 0-165 Little Valley Superfund Site  
 Based on Dry Weight

Sample No. : 0-0165-0714/5x

Compound Name	Sample Conc. (µg/kg)	MS Spike Added (µg/kg)	MSD Spike Added (µg/kg)	MS Conc. (µg/kg)	MSD Conc. (µg/kg)	MS % Rec.	MSD % Rec.	RPD	QC Limits	
									RPD	% Rec.
1,1-Dichloroethene	U	338	338	456	480	135	142	5	22	59 - 172
Benzene	U	338	338	366	368	108	109	1	21	66 - 142
Trichloroethene	U	338	338	356	361	105	107	2	24	62 - 137
Toluene	U	338	338	399	405	118	120	1	21	59 - 139
Chlorobenzene	U	338	338	383	382	113	113	0	21	60 - 133

msv742

Table 2.2 (cont.) Results of MS/MSD Analysis for VOC in Soil  
 WA # 0-165 Little Valley Superfund Site  
 Based on Dry Weight

Sample No. : 0-0165-0721/5x

Compound Name	Sample Conc. (µg/kg)	MS	MSD	MS	MSD	MS	MSD	RPD	RPD	QC Limits	
		Spike Added (µg/kg)	Spike Added (µg/kg)	Conc. (µg/kg)	Conc. (µg/kg)	% Rec.	% Rec.			% Rec.	
1,1-Dichloroethene	U	333	333	389	388	117	117	0	22	59 -	172
Benzene	U	333	333	339	342	102	103	1	21	66 -	142
Trichloroethene	U	333	333	317	312	95	94	2	24	62 -	137
Toluene	U	333	333	369	367	111	110	0	21	59 -	139
Chlorobenzene	U	333	333	339	339	102	102	0	21	60 -	133

msv744

Table 2.3 Results of LCS Analysis for VOC in Soil  
 WA # 0-165 Little Valley Superfund Site

Method REAC SOP 1808

Sample ID: LCS BS 77

Compound Name	LCS Spike Added (µg/Kg)	LCS Conc. (µg/Kg)	LCS % Rec.	QC Limits % Rec.
1,1-Dichloroethene	50.0	51.7	103	70 - 130
Benzene	50.0	43.8	88	70 - 130
Trichloroethene	50.0	43.7	87	70 - 130
Toluene	50.0	48.2	96	70 - 130
Chlorobenzene	50.0	48.9	98	70 - 130

Table 2.3 (cont.) Results of LCS Analysis for VOC in Soil  
 WA # 0-165 Little Valley Superfund Site

Method REAC SOP 1808

Sample ID: LCS BS 78

Compound Name	LCS Spike Added (µg/Kg)	LCS Conc. (µg/Kg)	LCS % Rec.	QC Limits % Rec.
1,1-Dichloroethene	50.0	60.6	121	70 - 130
Benzene	50.0	48.5	97	70 - 130
Trichloroethene	50.0	47.2	94	70 - 130
Toluene	50.0	51.1	102	70 - 130
Chlorobenzene	50.0	49.6	99	70 - 130



0165-DAR-051506

EPA Contract #: EP-C-04-032

**CHAIN OF CUSTODY RECORD**

Site #: 0-0165

Contact Name: Chris Skalaney

Contact Phone: 732-321-4200

No: 0-0165-041106-0005

Lab: REAC

Lab Phone: 732-321-4200

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
9885	0-0165-0701	LV-R22(1-2)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9886	0-0165-0702	LV-R22(1-2)D	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9887	0-0165-0703	LV-R22(3-4)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9888	0-0165-0704	LV-R22(5-6)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9889	0-0165-0705	LV-R33(1-2)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9890	0-0165-0706	LV-R33(3-4)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9891	0-0165-0707	LV-R33(3-4)D	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9892	0-0165-0708	LV-R32(1-2)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9893	0-0165-0709	LV-R32(3-4)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9894	0-0165-0710	LV-R31(1-2)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9895	0-0165-0711	LV-R31(3-4)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9896	0-0165-0712	LV-R21(1-2)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9897	0-0165-0713	LV-R21(3-4)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9898	0-0165-0714	LV-R11(1-2)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9899	0-0165-0715	LV-R11(3-4)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9900	0-0165-0716	LV-R12(1-2)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9901	0-0165-0717	LV-R12(3-4)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9902	0-0165-0718	LV-R13(1-2)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9903	0-0165-0719	LV-R13(3-4)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9904	0-0165-0720	LV-R23(1-2)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9905	0-0165-0721	LV-R23(3-4)	VOCs	Soil	4/11/2006	1	2 oz glass jar	4 C	N
9906	0-0165-0722	TB-80411	VOCs	Lab Sand	4/11/2006	1	2 oz glass jar	4 C	N

Special Instructions: QC: C. Skalaney 04/11/06

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #  
Received 30C JAM 4/12/06

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All/Analyses	M. Z	4/11/06	Jenny Martin	4/12/06	9:45	All/Analyses	Jenny Martin	4/12/06	Jenny Martin	4/12/06	10:25
All/Ret Stov	M. Z	4-20-06	Jenny Martin	4/20/06	11:00						