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# FINAL ANALYTICAL TAGA REPORT LITTLE VALLEY VI EXTENT STUDY EPA Work Assignment No.: 0-210 Lockheed Martin Work Order No.: EAC00210

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

# FINAL ANALYTICAL TAGA REPORT LITTLE VALLEY VI EXTENT STUDY LITTLE VALLEY, NY OCTOBER 2006

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# FINAL ANALYTICAL TAGA REPORT LITTLE VALLEY VI EXTENT STUDY LITTLE VALLEY, NY OCTOBER 2006

U.S. EPA Work Assignment No.: 0-210 LOCKHEED MARTIN Work Order No.: EAC00210 U.S. EPA Contract No.: EP-C-04-032

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LIST O	F TABLI	ESi	v
LIST O	F FIGUR	RES	v
1.0	INTRO	DUCTION	1
1.0	INTRO		1
2.0	METHO	DDOLOGY	1
	2.1	Mass Spectrometer/Mass Spectrometer General Theory	1
	2.2	TAGA Procedure	1
		2.2.1 TAGA Mass Calibration	2
		2.2.2 TAGA Response Factor Measurements	2
		2.2.3 Transport Efficiency	2
		2.2.4 TAGA Air Monitoring	3
	2.3	Meteorological Monitoring	3
3.0	TAGA	AIR MONITORING RESULTS	3
	31	Unit Surveys	3
	3.1	TAGA File Event Summaries	З Д
	33	Graphical Presentations	- -
	3.4	TAGA Target Compound Summaries	4
4.0	DISCUS	SSION OF RESULTS	4
	4.1	Unit 111 Survey, LVS104	4
	4.2	Unit 003 Survey, LVS105	4
	4.3	Unit 112 Survey, LVS106	4
	4.4	Unit 007 Survey, LVS107	5
	4.5	Unit 113 Survey, LVS109	5
	4.6	Unit 009 Survey, LVS110	5
	4.7	Unit 010 Survey, LVS111	5
	4.8	Unit 114 Survey, LVS112	5
	4.9	Unit 114 Investigation, LVS113	5
	4.10	Unit 115 Survey, LVS114	6
	4.11	Unit 017 Survey, LVS115	6
	4.12	Unit 116 Survey, LVS120	6
	4.13	Unit 117 Survey, LVS121	6
	4.14	Unit 118 Survey, LVS122	6
	4.15	Unit 119 Survey, LVS123	6
	4.16	Unit 083 Survey, LVS125	6
	4.17	Unit 120 Survey, LVS126	7
	4.18	Unit 121 Survey, LVS127	7
	4.19	Unit 122 Survey, LVS128	7
	4.20	Unit 123 Survey, LVS129	7
	4.21	Unit 109 Survey, LVS130	7
	4.22	Unit 124 Survey, LVS135	7
	4.23	Unit 071 Survey, LVS136	7
	4.24	Unit 125 Survey, LVS137	8
	4.25	Unit 088 Survey, LVS138	8
	4.26	Unit 126 Survey, LVS139	8
	4.27	Unit 128 Survey, LVS144	8

# TABLE OF CONTENTS

PAGE

	4.28	Unit	129 Survey, LVS145	8
	4.29	Unit	130 Survey, LVS146	8
	4.30	Unit	055 Survey, LVS147	8
	4.31	Unit	041 Survey, LVS149	9
	4.32	Unit	041 Investigation, LVS150	9
	4.33	Unit	134 Survey, LVS151	9
	4.34	Unit	027 Survey, LVS152	9
	4.35	Unit	131 Survey, LVS153	9
	4.36	Unit	132 Survey, LVS154	9
	4.37	Unit	133 Survey, LVS155	9
	4.38	Unit	036 Survey, LVS156	10
5.0	QUAI	LITY AS	SSURANCE/QUALITY CONTROL	
	5.1	Inter	mediate Response Factors for Ion Pairs	
	5.2	Error	r Bars	
	5.3	Ion P	Pair Detection and Quantitation Limits	
	5.4	Com	pound Detection and Quantitation Limits	
APPEI	NDIX	А	Standard Gas Cylinder Certification	

APPENDIX A Standard Gas Cylinder Certifica APPENDIX B Compiled Meteorological Data

# LIST OF TABLES

# TABLE

1	Summary of Transport Efficiencies Measured on 15, 16, 17 and 18 August 2006
2	Summary of Meteorological Conditions during Monitoring on 15, 16, 17 and 18 August 2006
3	Summary of Response Factors and Error Bars for 15, 16, 17 and 18 August 2006
4	Summary of Detection and Quantitation Limit Data for 15, 16, 17 and 18 August 2006
5	Unit Survey Detection and Quantitation Limits

FIGURE

- 1a Unit 111 Survey Floor Plan, LVS104
- 1b TAGA File Event Summary, File: LVS104 Acquired on 15 August 2006 at 08:38:06, Title: Unit 111 Survey
- 1c Unit 111 Survey for Trichloroethene and Tetrachloroethene
- 1d TAGA Target Compound Survey Summary for Unit 111, File: LVS104 Acquired on 15 August 2006 at 08:38:06
- 2a Unit 003 Survey Floor Plan, LVS105
- 2b TAGA File Event Summary, File: LVS105 Acquired on 15 August 2006 at 09:23:17 Title: Unit 003 Survey
- 2c Unit 003 Survey for Trichloroethene and Tetrachloroethene
- 2d TAGA Target Compound Investigative Survey Summary for Unit 003, File: LVS105 Acquired on 15 August 2006 at 09:23:17
- 3a Unit 112 Survey Floor Plan, LVS106
- 3b TAGA File Event Summary, File: LVS106 Acquired on 15 August 2006 at 10:12:39, Title: Unit 112 Survey
- 3c Unit 112 Survey for Trichloroethene and Tetrachloroethene
- 3d TAGA Target Compound Survey Summary for Unit 112, File: LVS106 Acquired on 15 August 2006 at 10:12:39
- 4a Unit 007 Survey Floor Plan, LVS107
- 4b TAGA File Event Summary, File: LVS107 Acquired 15 August 2006 at 10:58:35, Title: Unit 007 Survey
- 4c Unit 007 Survey for Trichloroethene and Tetrachloroethene
- 4d TAGA Target Compound Survey Summary for Unit 007, File: LVS107 Acquired 15 August 2006 at 10:58:35
- 5a Unit 113 Survey Floor Plan, LVS109
- 5b TAGA File Event Summary, File: LVS109 Acquired on 15 August 2006 at 13:47:55, Title: Unit 113 Survey
- 5c Unit 113 Survey for Trichloroethene and Tetrachloroethene
- 5d TAGA Target Compound Survey Summary for Unit 113, File: LVS109 Acquired on 15 August 2006 at 13:47:55
- 6a Unit 009 Survey Floor Plan, LVS110
- 6b TAGA File Event Summary, File: LVS110 Acquired on 15 August 2006 at 14:35:11, Title: Unit 009 Survey

- 6c Unit 009 Survey for Trichloroethene and Tetrachloroethene
- 6d TAGA Target Compound Survey Summary for Unit 009, File: LVS110 Acquired on 15 August 2006 at 14:35:11
- 7a Unit 010 Survey Floor Plan, LVS111
- 7b TAGA File Event Summary, File: LVS111 Acquired on 15 August 2006 at 15:39:14, Title: Unit 010 Survey
- 7c Unit 010 Survey for Trichloroethene and Tetrachloroethene
- 7d TAGA Target Compound Survey Summary for Unit 010, File: LVS111 Acquired on 15 August 2006 at 15:39:14
- 8a Unit 114 Survey Floor Plan, LVS112
- 8b TAGA File Event Summary, File: LVS112 Acquired on 15 August 2006 at 16:43:36, Title: Unit 114 Survey
- 8c Unit 114 Survey for Trichloroethene and Tetrachloroethene
- 8d TAGA Target Compound Survey Summary for Unit 114, File: LVS112 Acquired on 15 August 2006 at 16:43:36
- 9a Unit 114 Investigation Floor Plan, LVS113
- 9b TAGA File Event Summary, File: LVS113 Acquired on 15 August 2006 at 17:12:36, Title: Unit 114 Investigation
- 9c Unit 114 Investigation for Trichloroethene and Tetrachloroethene
- 10a Unit 115 Survey Floor Plan, LVS114
- 10b TAGA File Event Summary, File: LVS114 Acquired 15 August 2006 at 18:05:46, Title: Unit 115 Survey
- 10c Unit 115 Survey for Trichloroethene and Tetrachloroethene
- 10d TAGA Target Compound Survey Summary for Unit 115, File: LVS114 Acquired on 15 August 2006 at 18:05:46
- 11a Unit 017 Survey Floor Plan, LVS115
- 11b TAGA File Event Summary, File: LVS115 Acquired on 15 August 2006 at 18:49:30, Title: Unit 017 Survey
- 11c Unit 017 Survey for Trichloroethene and Tetrachloroethene
- 11d TAGA Target Compound Survey Summary for Unit 017, File: LVS115 Acquired on 15 August 2006 at 18:49:30
- 12a Unit 116 Survey Floor Plan, LVS120
- 12b TAGA File Event Summary, File: LVS120 Acquired on 16 August 2006 at 08:44:36, Title: Unit 116

Survey

- 12c Unit 116 Survey for Trichloroethene and Tetrachloroethene
- 12d TAGA Target Compound Survey Summary for Unit 116, File: LVS120 Acquired on 16 August 2006 at 08:44:36
- 13a Unit 117 Survey Floor Plan, LVS121
- 13b TAGA File Event Summary, File: LVS121 Acquired on 16 August 2006 at 09:31:32, Title: Unit 117 Survey
- 13c Unit 117 Survey for Trichloroethene and Tetrachloroethene
- 13d TAGA Target Compound Survey Summary for Unit 117, File: LVS121 Acquired on 16 August 2006 at 09:31:32
- 14a Unit 118 Survey Floor Plan, LVS122
- 14b TAGA File Event Summary, File: LVS122 Acquired on 16 August 2006 at 10:10:28, Title: Unit 118 Survey
- 14c Unit 118 Survey for Trichloroethene and Tetrachloroethene
- 14d TAGA Target Compound Survey Summary for Unit 118, File: LVS122 Acquired on 16 August 2006 at 10:10:28
- 15a Unit 119 Survey Floor Plan, LVS123
- 15b TAGA File Event Summary, File: LVS123 Acquired on 16 August 2006 at 10:59:15, Title: Unit 119 Survey
- 15c Unit 119 Survey for Trichloroethene and Tetrachloroethene
- 15d TAGA Target Compound Survey Summary for Unit 119, File: LVS123 Acquired on 16 August 2006 at 10:59:15
- 16a Unit 083 Survey Floor Plan, LVS125
- 16b TAGA File Event Summary, File: LVS125 Acquired on 16 August 2006 at 13:14:30, Title: Unit 083 Survey
- 16c Unit 083 Survey for Trichloroethene and Tetrachloroethene
- 16d TAGA Target Compound Survey Summary for Unit 083, File: LVS125 Acquired on 16 August 2006 at 13:14:30
- 17a Unit 120 Survey Floor Plan, LVS126
- 17b TAGA File Event Summary, File: LVS126 Acquired on 16 August 2006 at 14:00:07, Title: Unit 120 Survey
- 17c Unit 120 Survey for Trichloroethene and Tetrachloroethene
- 17d TAGA Target Compound Survey Summary for Unit 120, File: LVS126 Acquired on 16 August 2006 at

210-DFA-101306

14:00:07

- 18a Unit 121 Survey Floor Plan, LVS127
- 18b TAGA File Event Summary, File: LVS127 Acquired on 16 August 2006 at 15:08:09, Title: Unit 121 Survey
- 18c Unit 121 Survey for Trichloroethene and Tetrachloroethene
- 18d TAGA Target Compound Survey Summary for Unit 121, File: LVS127 Acquired on 16 August 2006 at 15:08:09
- 19a Unit 122 Survey Floor Plan, LVS128
- 19b TAGA File Event Summary, File: LVS128 Acquired on 16 August 2006 at 15:54:35, Title: Unit 122 Survey
- 19c Unit 122 Survey for Trichloroethene and Tetrachloroethene
- 19d TAGA Target Compound Survey Summary for Unit 122, File: LVS128 Acquired on 16 August 2006 at 15:54:35
- 20a Unit 123 Survey Floor Plan, LVS129
- 20b TAGA File Event Summary, File: LVS129 Acquired on 16 August 2006 at 16:37:55, Title: Unit 123 Survey
- 20c Unit 123 Survey for Trichloroethene and Tetrachloroethene
- 20d TAGA Target Compound Survey Summary for Unit 123, File: LVS129 Acquired on 16 August 2006 at 16:37:55
- 21a Unit 109 Survey Floor Plan, LVS130
- 21b TAGA File Event Summary, File: LVS130 Acquired on 16 August 2006 at 17:18:43, Title: Unit 109 Survey
- 21c Unit 109 Survey for Trichloroethene and Tetrachloroethene
- 21d TAGA Target Compound Survey Summary for Unit 109, File: LVS130 Acquired on 16 August 2006 at 17:18:43
- 22a Unit 124 Survey Floor Plan, LVS135
- 22b TAGA File Event Summary, File: LVS135 Acquired on 17 August 2006 at 12:30:42, Title: Unit 124 Survey
- 22c Unit 124 Survey for Trichloroethene and Tetrachloroethene
- 22d TAGA Target Compound Survey Summary for Unit 124, File: LVS135 Acquired on 17 August 2006 at 12:30:42
- 23a Unit 071 Survey Floor Plan, LVS136
- 23b TAGA File Event Summary, File: LVS136 Acquired on 17 August 2006 at 13:10:44, Title: Unit 071

Survey

- 23c Unit 071 Survey for Trichloroethene and Tetrachloroethene
- 23d TAGA Target Compound Survey Summary for Unit 071, File: LVS136 Acquired on 17 August 2006 at 13:10:44
- 24a Unit 125 Survey Floor Plan, LVS137
- 24b TAGA File Event Summary, File: LVS137 Acquired on 17 August 2006 at 14:24:38, Title: Unit 125 Survey
- 24c Unit 125 Survey for Trichloroethene and Tetrachloroethene
- 24d TAGA Target Compound Survey Summary for Unit 125, File: LVS137 Acquired on 17 August 2006 at 14:24:38
- 25a Unit 088 Survey Floor Plan, LVS138
- 25b TAGA File Event Summary, File: LVS138 Acquired on 17 August 2006 at 15:12:11, Title: Unit 088 Survey
- 25c Unit 088 Survey for Trichloroethene and Tetrachloroethene
- 25d TAGA Target Compound Survey Summary for Unit 088, File: LVS138 Acquired on 17 August 2006 at 15:12:11
- 26a Unit 126 Survey Floor Plan, LVS139
- 26b TAGA File Event Summary, File: LVS139 Acquired on 17 August 2006 at 16:02:01, Title: Unit 126 Survey
- 26c Unit 126 Survey for Trichloroethene and Tetrachloroethene
- 26d TAGA Target Compound Survey Summary for Unit 126, File: LVS139 Acquired on 17 August 2006 at 16:02:01
- 27a Unit 128 Survey Floor Plan, LVS144
- 27b TAGA File Event Summary, File: LVS144 Acquired on 18 August 2006 at 08:02:27, Title: Unit 128 Survey
- 27c Unit 128 Survey for Trichloroethene and Tetrachloroethene
- 27d TAGA Target Compound Survey Summary for Unit 128, File: LVS144 Acquired on 18 August 2006 at 08:02:27
- 28a Unit 129 Survey Floor Plan, LVS145
- 28b TAGA File Event Summary, File: LVS145 Acquired on 18 August 2006 at 08:44:39, Title: Unit 129 Survey
- 28c Unit 129 Survey for Trichloroethene and Tetrachloroethene
- 28d TAGA Target Compound Survey Summary for Unit 129, File: LVS145 Acquired on 18 August 2006 at

210-DFA-101306

08:44:39

- 29a Unit 130 Survey Floor Plan, LVS146
- 29b TAGA File Event Summary, File: LVS146 Acquired on 18 August 2006 at 09:35:02, Title: Unit 130 Survey
- 29c Unit 130 Survey for Trichloroethene and Tetrachloroethene
- 29d TAGA Target Compound Survey Summary for Unit 130, File: LVS146 Acquired on 18 August 2006 at 09:35:02
- 30a Unit 055 Survey Floor Plan, LVS147
- 30b TAGA File Event Summary, File: LVS147 Acquired on 18 August 2006 at 11:10:10, Title: Unit 055 Survey
- 30c Unit 055 Survey for Trichloroethene and Tetrachloroethene
- 30d TAGA Target Compound Survey Summary for Unit 055, File: LVS147 Acquired on 18 August 2006 at 11:10:10
- 31a Unit 041 Survey Floor Plan, LVS149
- 31b TAGA File Event Summary, File: LVS149 Acquired on 18 August 2006 at 12:13:06, Title: Unit 041 Survey
- 31c Unit 041 Survey for Trichloroethene and Tetrachloroethene
- 31d TAGA Target Compound Survey Summary for Unit 041, File: LVS149 Acquired on 18 August 2006 at 12:13:06
- 32a Unit 041 Investigation Floor Plan, LVS150
- 32b TAGA File Event Summary, File: LVS150 Acquired on 18 August 2006 at 12:54:22, Title: Unit 041 Investigation
- 32c Unit 041 Investigation for Trichloroethene and Tetrachloroethene
- 33a Unit 134 Survey Floor Plan, LVS151
- 33b TAGA File Event Summary, File: LVS151 Acquired on 18 August 2006 at 13:59:40, Title: Unit 134 Survey
- 33c Unit 134 Survey for Trichloroethene and Tetrachloroethene
- 33d TAGA Target Compound Survey Summary for Unit 134, File: LVS151 Acquired on 18 August 2006 at 13:59:40
- 34a Unit 027 Survey Floor Plan, LVS152
- 34b TAGA File Event Summary, File: LVS152 Acquired on 18 August 2006 at 14:41:52, Title: Unit 027 Survey
- 34c Unit 027 Survey for Trichloroethene and Tetrachloroethene

- 34d TAGA Target Compound Survey Summary for Unit 027, File: LVS152 Acquired on 18 August 2006 at 14:41:52
- 35a Unit 131 Survey Floor Plan, LVS153
- 35b TAGA File Event Summary, File: LVS153 Acquired on 18 August 2006 at 15:39:03, Title: Unit 131 Survey
- 35c Unit 131 Survey for Trichloroethene and Tetrachloroethene
- 35d TAGA Target Compound Survey Summary for Unit 131, File: LVS153 Acquired on 18 August 2006 at 15:39:03
- 36a Unit 132 Survey Floor Plan, LVS154
- 36b TAGA File Event Summary, File: LVS154 Acquired on 18 August 2006 at 16:16:22, Title: Unit 132 Survey
- 36c Unit 132 Survey for Trichloroethene and Tetrachloroethene
- 36d TAGA Target Compound Survey Summary for Unit 132, File: LVS154 Acquired on 18 August 2006 at 16:16:22
- 37a Unit 133 Survey Floor Plan, LVS155
- 37b TAGA File Event Summary, File: LVS155 Acquired on 18 August 2006 at 17:07:32, Title: Unit 133 Survey
- 37c Unit 133 Survey for Trichloroethene and Tetrachloroethene
- 37d TAGA Target Compound Survey Summary for Unit 133, File: LVS155 Acquired on 18 August 2006 at 17:07:32
- 38a Unit 036 Survey Floor Plan, LVS156
- 38b TAGA File Event Summary, File: LVS156 Acquired on 18 August 2006 at 17:48:13, Title: Unit 036 Survey
- 38c Unit 036 Survey for Trichloroethene and Tetrachloroethene
- 38d TAGA Target Compound Survey Summary for Unit 036, File: LVS156 Acquired on 18 August 2006 at 17:48:13

## 1.0 INTRODUCTION

The Environmental Protection Agency (EPA)/Environmental Response Team (ERT) issued Work Assignment (WA) Number 0-210, Little Valley VI Extent Study in Little Valley, NY, to Lockheed Martin under the Response Engineering and Analytical Contract (REAC). As an element of this WA, REAC personnel were to conduct target compound monitoring using the ECA Trace Atmospheric Gas Analyzer (TAGA) IIe, to assist U.S. EPA Region II in its investigation of residential indoor air quality.

The TAGA air monitoring events conducted on 15, 16, 17, and 18 August 2006 were screening in nature. Air monitoring for trichloroethene and tetrachloroethene was performed in accordance with the REAC Draft Standard Operating Procedure (SOP) # 1711, *Trace Atmospheric Gas Analyzer (TAGA) IIe Operations*. Real-time monitoring for the target compounds was performed using a selected ion technique.

#### 2.0 METHODOLOGY

#### 2.1 Mass Spectrometer/Mass Spectrometer General Theory

The ECA TAGA IIe is based upon the Perkin-Elmer API 365 mass spectrometer/mass spectrometer (MS/MS) and is a direct air-monitoring instrument capable of detecting, in real time, trace levels of many organic compounds in ambient air. The technique of triple quadrupole MS/MS is used to differentiate and quantitate compounds.

The initial step in the MS/MS process involves simultaneous chemical ionization of the compounds present in a sample of ambient air. The ionization produces both positive and negative ions by donating or removing one or more electrons. The chemical ionization is a "soft" ionization technique, which allows ions to be formed with little or no structural fragmentation. These ions are called parent ions. The parent ions with different mass-to-charge (m/z) ratios are separated by the first quadrupole (the first MS of the MS/MS system). The quadrupole scans selected m/z ratios allowing only the parent ions with these ratios to pass through the quadrupole. Parent ions with m/z ratios different than those selected are discriminated electronically and fail to pass through the quadrupole.

The parent ions selected in the first quadrupole are accelerated through a collision cell containing uncharged nitrogen molecules in the second quadrupole. A portion of the parent ions entering the second quadrupole fragments as they collide with the nitrogen molecules. These fragment ions are called daughter ions. This process, in the second quadrupole, is called collision induced dissociation. The daughter ions are separated according to their m/z ratios by the third quadrupole (the second MS of the MS/MS system). The quadrupole scans selected m/z ratios, allowing only the daughter ions with these ratios to pass through the quadrupole. Daughter ions with m/z ratios different than those selected are discriminated electronically and fail to pass through the quadrupole. Daughter ions with the selected m/z ratios are then counted by an electron multiplier. The resulting signals are measured in ion counts per second (icps) for each parent/daughter ion pair selected. The intensity of the icps for each parent/daughter ion pair is directly proportional to the ambient air concentration of the organic compound that produced the ion pair. All of the ions discussed in this report have a single charge. The m/z ratios of all of the ions discussed are equal to the ion masses in atomic mass units (amu). Therefore, the terms parent and daughter masses are synonymous with parent and daughter ion m/z ratios.

#### 2.2 TAGA Procedure

The TAGA was used to analyze indoor air during monitoring events. Indoor monitoring utilized a 300-foot corrugated Teflon<sup>®</sup> sampling hose. The proximal end was attached to the TAGA source inlet, while the distal end was taken inside a unit during the monitoring event. Air was continuously drawn through the hose at a set flow rate and transported to the TAGA source during the monitoring event.

#### 2.2.1 TAGA Mass Calibration

At the beginning of the monitoring period, a gas mixture containing benzene, toluene, xylenes, ethyl benzene, tetrachloroethene, trichloroethene, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, methyl tertiary butyl ether and vinyl chloride was introduced by a mass flow controller (MFC) into the sample air flow (SAF). The tuning parameters for the first quadrupole at 30, 78, 98, 106, 130, and 164 amu, and the third quadrupole at 30, 78, 91, 105, 129, and 166 amu were optimized for sensitivity and mass assignment. The peak widths were limited between 0.55 amu and 0.85 amu. The mass assignments were set to the correct values within 0.15 amu.

#### 2.2.2 TAGA Response Factor Measurements

The TAGA was calibrated for the target compounds at the beginning, middle, and end of each day. The calibration system consisted of a regulated gas cylinder containing a gas standard mixture of the target compounds connected to an in-line MFC. The MFC was calibrated with a National Institute of Standards and Technology (NIST) traceable flow rate meter. The gas standard certification is presented in Appendix A. The gas standard containing a known mixture of target compounds, certified by the supplier, was regulated at preset flow rates, and diluted with ambient air. The dilution of the gas standard resulted in known analyte concentrations. The calibration consisted of a zero point and five known concentrations obtained by setting the MFC to 0, 10, 20, 40, 80, and 90 milliliters per minute (mL/min) with the SAF at a constant flow rate between 1,369 and 1,500 milliliters per second (mL/sec).

The approximate concentration range of standards introduced into the TAGA was between 2 and 22 parts per billion by volume (ppbv). Utilizing the analytes' concentrations, gas flow rates, air sampling flow rates, and atmospheric pressure, response factors (RFs), in units of ion counts per second per part per billion by volume (icps/ppbv), were calculated for each calibration by using a least-square-fit algorithm to calculate the slope of its curve. The coefficient of variation was checked for each ion pair's RF to ensure that it was greater than 0.90. The intermediate response factor (IRF) was calculated between pairs of calibrations and used to quantify target compounds in ambient air.

#### 2.2.3 Transport Efficiency

The transport efficiency and residence time for the target compounds through the 300foot length of corrugated Teflon<sup>®</sup> sampling hose was determined prior to and at the conclusion of indoor air monitoring activities each day. The transport efficiency was determined by introducing a known concentration of the target compounds into the proximal end and then into the distal end of the sampling hose. The signal intensity of each ion pair for each compound was measured in icps and the percent (%) transport efficiency calculated using the equation below:

% transport efficiency = 
$$\frac{\text{signal intensity at the distal end of the hose}}{\text{signal intensity at the proxiaml end of the hose}} \times 100$$

A transport efficiency of 85 percent is considered acceptable and results are summarized in Table 1.

The residence time is the interval, in seconds, it takes the air sample to travel the length of the sampling hose. The residence time, which reflects a time difference between the

sampling and the instruments response, is incorporated in the offset. The offset, which is the total number of sequences acquired during the residence time, is applied to the monitoring files (Figures 1b to 38b and Figures 1c to 38c). Therefore, the observations and instrument responses are temporally coordinated

## 2.2.4 TAGA Air Monitoring

TAGA monitoring was performed by continuously drawing air through the Teflon<sup>®</sup> hose at a constant flow rate between 1,369 and 1,500 mL/sec. The air was then passed through a glass splitter where the pressure gradient between the mass spectrometer core and the atmosphere causes a sample flow of approximately 10 mL/min into the ionization source through a heated transfer line. The flow into the TAGA source was controlled so that the ionization source pressure was maintained at an optimum value of approximately 1.9 torr. The remaining airflow was drawn through the air pump and vented from the TAGA bus.

Monitoring was performed in the parent/daughter ion-monitoring mode. As monitoring proceeded, the operator pressed letter keys (flags), alphabetically on a computer keyboard, to denote events or locations during the monitoring event. This information was also recorded on an event log sheet. The intensity of each parent/daughter ion pair monitored by the TAGA was recorded in a permanent file on the computer's hard drive. One set of recorded measurements of all the ion pairs is called a sequence.

At the beginning of each unit survey or investigation, a one-minute pre-entry ambient data segment was collected. At the operator's signal, the sampler then entered the unit while holding the distal end of the hose at breathing height. The sampler proceeded to each room in the unit where one-minute data segments were collected. After the rooms in the unit were monitored, a one-minute post-exit ambient data segment was collected. Upon completion of the one-minute post-exit ambient data segment, the instrumentation was challenged with the calibration standard, which was introduced at 30 mL/min (approximately 7 ppbv), to verify that the system was functioning properly.

# 2.3 Meteorological Monitoring

United States Department of Commerce, National Oceanic and Atmospheric Administration, National Climatic Data Center provided the meteorological data for 15 August through 18 August 2006. Data were collected at the Jamestown Automatic Weather Observing Station, Jamestown, NY 10 miles west of the Little Valley Site. Meteorological data, such as wind speed, wind direction, and rainfall, are summarized in Table 2 for the periods during which monitoring occurred. The compiled meteorological data are presented in Appendix B. The reported data for rainfall is an average of the data recorded during the hour preceding the time recorded in the table. The reported meteorological data for wind speed and direction represent a five-minute average collected prior to the time recorded in the table. Because of the distance of the meteorological monitoring location from the study location and the short averaging period, care should be exercised in relating meteorological conditions existing at the Little Valley VI Extent Study.

# 3.0 TAGA AIR MONITORING RESULTS

The TAGA was used to survey indoor air in residential units in the vicinity of the Little Valley VI Extent Study.

# 3.1 Unit Surveys

Figures 1a through 38a, present the approximate floor plans of each unit. The SUMMA<sup>®</sup> canister locations and monitoring locations are depicted in these figures. The monitoring locations marked by letters are the "flags" that the TAGA operator placed into the file. These "flags" mark events

and are carried through the rest of the data presentation.

#### 3.2 TAGA File Event Summaries

Figures 1b through 38b present the TAGA file event summaries. These are the observations made during the file acquisition by the TAGA operator, along with the times from the TAGA file and the letter "flags" used to mark the data, which are recorded by the TAGA computer.

## 3.3 Graphical Presentations

Figures 1c through 38c are the graphical representations of the TAGA files. A graph of each target compound concentration is presented with ppby plotted on the vertical axis, and time into the acquisition, in minutes, on the horizontal axis. The target compound concentration was calculated by averaging the concentrations obtained from the ion pairs that were monitored for each target compound. The ion pairs used are provided in Section 5. There are two horizontal lines on each graph. The lower line is set at the detection limit (DL) for the compound. The higher line is set at the concentration equal to the quantitation limit (QL) for the target compound. When high concentrations are represented, the lower DL line may not be readily discerned. Transient, momentary spikes above the QL line are occasionally observed. These spikes, electronic in nature, do not affect average concentrations. They may be distinguished from elevated concentrations because the spikes are only present for one sequence and are often only present for one ion pair for the monitored compound.

3.4 TAGA Target Compound Summaries

Figures 1d through 8d, 10d through 31d and 33d through 38d present the TAGA target compound summaries. These figures contain the concentrations of the target compounds averaged over time, at the various locations logged into the TAGA file event summaries.

#### 4.0 DISCUSSION OF RESULTS

The TAGA target compound summaries are represented in Figures 1d through 8d, 10d through 31d and 33d through 38d. During a survey, a one-minute average was measured in each room, or at various locations within a room. Only the highest average concentrations above the QL are listed below.

#### 4.1 Unit 111 Survey, LVS104

Unit 111 was surveyed on 15 August 2006 at 08:38:06 and is represented in Figures 1a through 1d. The average wind speed at the airport for the five-minute period ending at 08:54 was 8 miles per hour (mph) from 250 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

#### 4.2 Unit 003 Survey, LVS105

Unit 003 was surveyed on 15 August 2006 at 09:23:17 and is represented in Figures 2a through 2d. The average wind speed and direction for the five minutes preceding 08:54 at the airport were 8 mph from 250 degrees. There was no precipitation during the preceding hour. Tetrachloroethene was not detected above the quantitation limit at any of the monitoring locations. The highest average concentration of trichloroethene was 0.29 ppbv in the hole in the basement floor between flags B2 and C2.

# 4.3 Unit 112 Survey, LVS106

Unit 112 was surveyed on 15 August 2006 at 10:12:39 and is represented in Figures 3a through

3d. The average wind speed and direction for the five minutes preceding 10:49 at the airport were 9 mph from 310 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.4 Unit 007 Survey, LVS107

Unit 007 was surveyed on 15 August 2006 at 10:58:35 and is represented in Figures 4a through 4d. The average wind speed and direction for the five minutes preceding 10:49 at the airport were 9 mph from 310 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.5 Unit 113 Survey, LVS109

Unit 113 was surveyed on 15 August 2006 at 13:47:55 and is represented in Figures 5a through 5d. The average wind speed and direction for the five minutes preceding 13:57 at the airport were 12 mph from 290 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.6 Unit 009 Survey, LVS110

Unit 009 was surveyed on 15 August 2006 at 14:35:11 and is represented in Figures 6a through 6d. The average wind speed and direction for the five minutes preceding 14:57 at the airport were 15 mph from 280 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 0.68 ppbv at hole one in the basement floor between flags E2 and F2. Tetrachloroethene was not detected above the quantitation limit at any of the monitoring locations.

4.7 Unit 010 Survey, LVS111

Unit 010 was surveyed on 15 August 2006 at 15:39:14 and is represented in Figures 7a through 7d. The average wind speed and direction for the five minutes preceding 15:48 at the airport were 14 mph from 280 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.8 Unit 114 Survey, LVS112

Unit 114 was surveyed on 15 August 2006 at 16:43:36 and is represented in Figures 8a through 8d. The average wind speed and direction for the five minutes preceding 17:49 at the airport were 8 mph from 300 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations. There was a trichloroethene spike with a maximum instantaneous concentration of about 2.6 ppbv at 17.522 minutes while exiting the unit. This was caused by direct air impact by an unknown outside source.

4.9 Unit 114 Investigation, LVS113

Unit 114 was investigated on 15 August 2006 at 17:12:36, and is represented in Figures 9a through 9c. The average wind speed and direction for the five minutes preceding 17:49 at the airport were 8 mph from 300 degrees. There was no precipitation during the preceding hour. The highest instantaneous concentration of trichloroethene was 1.0 ppbv at 2.708 minutes upon entering the basement, between flags C and D. The highest instantaneous concentration of

tetrachloroethene was 0.13 ppbv at 18.491 minutes, exiting the basement, between flags L and M.Unit 115 Survey, LVS114

Unit 115 was surveyed on 15 August 2006 at 18:05:46 and is represented in Figures 10a through 10d. The average wind speed and direction for the five minutes preceding 17:49 at the airport were 8 mph from 300 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.11 Unit 017 Survey, LVS115

Unit 017 was surveyed on 15 August 2006 at 18:49:30 and is represented in Figures 11a through 11d. The average wind speed and direction for the five minutes preceding 18:47 at the airport were 8 mph from 280 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 0.12 ppbv in bedroom two between flags L and M. Tetrachloroethene was not detected above the quantitation limit at any of the monitoring locations.

4.12 Unit 116 Survey, File LVS120

Unit 116 was surveyed on 16 August 2006 at 08:44:36 and is represented in Figures 12a through 12d. The average wind speed and direction for the five minutes preceding 08:51 at the airport were 7 mph from 360 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.13 Unit 117 Survey, File LVS121

Unit 117 was surveyed on 16 August 2006 at 09:31:32 and is represented in Figures 13a through 13d. The average wind speed and direction for the five minutes preceding 09:48 at the airport were 5 mph from 360 degrees. There was no precipitation during the preceding hour. The highest average concentration of tetrachloroethene was 0.29 ppbv in the bathroom between flags L and M. Trichloroethene was not detected above the quantitation limit at any of the monitoring locations.

4.14 Unit 118 Survey, File LVS122

Unit 118 was surveyed on 16 August 2006 at 10:10:28 and is represented in Figures 14a through 14d. The average wind speed and direction for the five minutes preceding 09:48 at the airport were 5 mph from 360 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.15 Unit 119 Survey, File LVS123

Unit 119 was surveyed on 16 August 2006 at 10:59:15 and is represented in Figures 15a through 15d. The average wind speed and direction for the five minutes preceding 10:51 at the airport were 9 mph from 340 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.16 Unit 083 Survey, File LVS125

Unit 083 was surveyed on 16 August 2006 at 13:14:30 and is represented in Figures 16a through 16d. The average wind speed and direction for the five minutes preceding 12:49 at the airport

were 6 mph from 320 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.17 Unit 120 Survey, File LVS126

Unit 120 was surveyed on 16 August 2006 at 14:00:07 and is represented in Figures 17a through 17d. The average wind speed and direction for the five minutes preceding 13:55 at the airport were 9 mph from 320 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.18 Unit 121 Survey, File LVS127

Unit 121 was surveyed on 16 August 2006 at 15:08:09 and is represented in Figures 18a through 18d. The average wind speed and direction for the five minutes preceding 14:53 at the airport were 5 mph from 310 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.19 Unit 122 Survey, File LVS128

Unit 122 was surveyed on 16 August 2006 at 15:54:35 and is represented in Figures 19a through 19d. The average wind speed and direction for the five minutes preceding 14:53 at the airport were 5 mph from 310 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.20 Unit 123 Survey, File LVS129

Unit 123 was surveyed on 16 August 2006 at 16:37:55 and is represented in Figures 20a through 20d. The average wind speed and direction for the five minutes preceding 17:56 at the airport were 5 mph from 330 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 0.37 ppbv in the bathroom between flags L and M. Tetrachloroethene was not detected above the quantitation limit at any of the monitoring locations.

4.21 Unit 109 Survey, File LVS130

Unit 109 was surveyed on 16 August 2006 at 17:18:43 and is represented in Figures 21a through 21d. The average wind speed and direction for the five minutes preceding 17:56 at the airport were 5 mph from 330 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 5.2 ppbv at floor drain one between flags V and W. The highest average concentration of tetrachloroethene was 1.4 ppbv at floor drain two between flags D2 and E2.

4.22 Unit 124 Survey, File LVS135

Unit 124 was surveyed on 17 August 2006 at 12:30:42 and is represented in Figures 22a through 22d. The average wind speed and direction for the five minutes preceding 12:58 at the airport were 6 mph from 190 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.23 Unit 071 Survey, File LVS136

Unit 071 was surveyed on 17 August 2006 at 13:10:44 and is represented in Figures 23a through 23d. The average wind speed and direction for the five minutes preceding 12:58 at the airport were 6 mph from 190 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.24 Unit 125 Survey, File LVS137

Unit 125 was surveyed on 17 August 2006 at 14:24:38 and is represented in Figures 24a through 24d. The average wind speed for the five minutes preceding 14:48 at the airport was 0 mph. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.25 Unit 088 Survey, File LVS138

Unit 088 was surveyed on 17 August 2006 at 15:12:11 and is represented in Figures 25a through 25d. The average wind speed for the five minutes preceding 14:48 at the airport was 0 mph. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.26 Unit 126 Survey, File LVS139

Unit 126 was surveyed on 17 August 2006 at 16:02:01 and is represented in Figures 26a through 26d. The average wind speed for the five minutes preceding 14:48 at the airport was 0 mph. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.27 Unit 128 Survey, File LVS144

Unit 128 was surveyed on 18 August 2006 at 08:02:27 and is represented in Figures 27a through 27d. The average wind speed and direction for the five minutes preceding 07:48 at the airport were 6 mph from 190 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.28 Unit 129 Survey, File LVS145

Unit 129 was surveyed on 18 August 2006 at 08:44:39 and is represented in Figures 28a through 28d. The average wind speed and direction for the five minutes preceding 08:51 at the airport were 7 mph from 200 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.29 Unit 130 Survey, File LVS146

Unit 130 was surveyed on 18 August 2006 at 09:35:02 and is represented in Figures 29a through 29d. The average wind speed and direction for the five minutes preceding 09:50 at the airport were 12 mph from 200 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.30 Unit 055 Survey, File LVS147

Unit 055 was surveyed on 18 August 2006 at 11:10:10 and is represented in Figures 30a through 30d. The average wind speed and direction for the five minutes preceding 11:47 at the airport

were 9 mph from 180 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.31 Unit 041 Survey, File LVS149

Unit 041 was surveyed on 18 August 2006 at 12:13:06 and is represented in Figures 31a through 31d. The average wind speed and direction for the five minutes preceding 12:51 at the airport were 8 mph from 220 degrees. There was no precipitation during the preceding hour. The highest average concentration of tetrachloroethene was 2.8 ppbv at the abandoned drain pipe between flags L2 and M2. The highest average concentration of trichloroethene was 0.38 ppbv in the laundry between flags P and Q.

4.32 Unit 041 Investigation, LVS150

Unit 041 was investigated on 18 August 2006 at 12:54:22 and is represented in Figures 32a through 32c. The average wind speed and direction for the five minutes preceding 12:51 at the airport were 8 mph from 220 degrees. There was no precipitation during the preceding hour. The highest instantaneous concentration of tetrachloroethene was 0.66 ppbv at 34.473 minutes near the water service in the kitchen, between flags Q and R. The highest instantaneous concentration of trichloroethene was 1.0 ppbv at 41.079 minutes while sweeping light switches in bedroom three, between flags S and T.

4.33 Unit 134 Survey, File LVS151

Unit 134 was surveyed on 18 August 2006 at 13:59:40 and is represented in Figures 33a through 33d. The average wind speed and direction for the five minutes preceding 13:58 at the airport were 10 mph from 230 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.34 Unit 027 Survey, File LVS152

Unit 027 was surveyed on 18 August 2006 at 14:41:52 and is represented in Figures 34a through 34d. The average wind speed and direction for the five minutes preceding 14:58 at the airport were 9 mph from 230 degrees. There was no precipitation during the preceding hour. The highest average concentrations were tetrachloroethene; 2.1 ppbv and; trichloroethene 4.5 ppbv, both at the floor drain between flags Z and A2.

4.35 Unit 131 Survey, File LVS153

Unit 131 was surveyed on 18 August 2006 at 15:39:03 and is represented in Figures 35a through 35d. The average wind speed and direction for the five minutes preceding 15:56 at the airport were 7 mph from 210 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.36 Unit 132 Survey, File LVS154

Unit 132 was surveyed on 18 August 2006 at 16:16:22 and is represented in Figures 36a through 36d. The average wind speed and direction for the five minutes preceding 16:54 at the airport were 5 mph from 190 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 0.21 ppbv at the front porch between flags F and G. Tetrachloroethene was not detected above the quantitation limit at any of the monitoring locations.

## 4.37 Unit 133 Survey, File LVS155

Unit 133 was surveyed on 18 August 2006 at 17:07:32 and is represented in Figures 37a through 37d. The average wind speed and direction for the five minutes preceding 16:54 at the airport were 5 mph from 190 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

## 4.38 Unit 036 Survey, File LVS156

Unit 036 was surveyed on 18 August 2006 at 17:48:13 and is represented in Figures 38a through 38d. The average wind speed and direction for the five minutes preceding 17:51 at the airport were 5 mph from 200 degrees. There was no precipitation during the preceding hour. Tetrachloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

# 5.0 QUALITY ASSURANCE/QUALITY CONTROL

The compound parent/daughter ion pairs used are listed below.

Compound	Parent Ion Mass	Daughter Ion Mass
Trichloroethene	130	95
Trichloroethene	132	95
Trichloroethene	132	97
Tetrachloroethene	164	129
Tetrachloroethene	166	129
Tetrachloroethene	166	131

Table 3, documents the RFs and IRFs generated during the calibration procedure for the individual ion pairs. Intermediate Response Factors were used to quantitate the ion pair concentrations.

The summaries of detection and quantitation limit data for the monitoring periods (Section 5.3 and Table 4) document the concentration, in ppby, required for a compound's ion pair to be considered detectable and quantifiable during the specified monitoring period. The DL is defined as three times the standard deviation of the concentration for a compound's ion pair measured in an ambient air sample. The QL is defined as 10 times the standard deviation of the concentration of the concentration for the concentration for the same conditions.

The summaries of the target compound detection and quantitation limits measured during the monitoring periods (Section 5.4 and Table 4) document the concentration, in ppbv, required for the compound to be considered detectable and quantifiable. The detection and quantitation limits for a compound result from averaging the appropriate detection and quantitation limits of the compound's ion pairs. The DL's and QL's for each Unit Survey are presented in Table 5.

5.1 Intermediate Response Factor for Ion Pairs

Response factors were generated from the initial, middle, and final calibration events, as described in the procedure (Section 2.2.2.). Table 3 contains the RFs in units of icps/ppbv. The initial and final RFs were used to calculate the IRFs, which were used to calculate the reported concentration results.

The following equation was used to calculate the IRFs found in Tables 3 and 4:

$$IRF = \frac{2(RF_1 \times RF_2)}{(RF_1 + RF_2)}$$

where:

For example, the entry for the 130/95 ion pair of trichloroethene from Table 3 for files LVS101 and LVS108, 15 August 2006 is:

 $RF_1 = 789.43 \text{ icps/ppbv}$  $RF_2 = 743.83 \text{ icps/ppbv}$ 

therefore,

$$IRF = \frac{2(789.43 \times 743.83)}{(789.43 + 743.83)} = \frac{1,174,403.4}{1,533.26} = 765.95 \ icps / ppbv$$

The result 765.95 icps/ppbv is the intermediate response factor reported in Table 3 and used in Table 4.

5.2 Error Bars

The potential maximum concentration percent deviations for each target compound are presented in Table 3 and are called "error bars" for simplicity. They represent the potential bias in the concentration due to changes in the sensitivity of the TAGA instrument. Errors bars were calculated using the following equation:

error bar = 
$$\frac{\left| \text{RF}_1 - \text{RF}_2 \right|}{(\text{RF}_1 + \text{RF}_2)} \times 100$$

where:

error bar = Maximum concentration percent deviation RF<sub>1</sub> = The RF for an ion pair measured during the first calibration event (icps/ppbv) RF<sub>2</sub> = The RF for the same ion pair measured during the second calibration event (icps/ppbv)

For example, the entry for the 130/95 ion pair of trichloroethene from Table 3 for files LVS101 and LVS108, 15 August 2006 is:

 $RF_1 = 789.43 \text{ icps/ppbv}$  $RF_2 = 743.83 \text{ icps/ppbv}$ 

error bar = 
$$\frac{|789.43 - 743.83|}{(789.43 + 743.83)} \times 100 = 2.97\%$$

The % error bar calculated for the 130/95 ion pair of trichloroethene is 2.97% for files LVS101

and LVS108, 15 August 2006.

The above calculation was repeated for each ion pair. The error bars for each compound's ions were averaged to give a single value for the compound. This averaged error bar can be applied to the samples analyzed between the two calibrations of the monitoring period.

#### 5.3 Ion Pair Detection and Quantitation Limits

The DLs and QLs were calculated using the standard deviation (SD) of the compound's ion pair intensity measured in an ambient air sample and its RF. The SD reflects the variability of the instrument's response in an ambient air sample.

The following equation was used to calculate the DLs found in Tables 4 and 5:

$$DL = \frac{3 \times SD}{IRF}$$

where:

DL = Detection limit for an ion pair (ppbv) SD = Standard deviation of the ion intensity measured in an ambient air sample (icps) IRF = Intermediate response factor for an ion pair (icps/ppbv)

For example, the entry for the 130/95 ion pair of trichloroethene from Table 4, LVS101 and LVS108, 15 August 2006 is:

SD = 13.134 icps IRF = 765.95 icps/ppbv

$$DL = \frac{3 \times 13.134}{765.95} = 0.0514 \text{ ppbv}$$

The following equation was used to calculate the quantitation limits found in Tables 4 and 5:

$$QL = \frac{10 \times SD}{IRF}$$

where:

- QL = Quantitation limit concentration for an ion pair (ppbv)
- SD = Standard deviation of the ion intensity measured in an ambient air sample (icps)
- IRF = Intermediate response factor for an ion pair (icps/ppbv)

For example, the entry for the 130/95 ion pair of trichloroethene from Table 4 for files LVS101 and LVS108, 15 August 2006 is:

$$QL = \frac{10 \times 13.134}{765.95} = 0.171 \text{ ppbv}$$

5.4 Compound Detection and Quantitation Limits

Averaging the respective DLs and QLs of the target compound's ion pairs found in Table 4 generated the DLs and QLs found in Tables 4 and 5.

The following equation was used to calculate the compound's DL:

$$DL_c = \frac{DL_1 + DL_2 + \dots + DL_n}{n}$$

where:

For example, using the entries for the 130/95, 132/95, and 132/97 ion pairs of trichloroethene from Table 4 for files LVS101 and LVS108, 15 August 2006 is:

$$DL_c = \frac{0.0514 + 0.0795 + 0.0540}{3} = \frac{0.1849}{3} = 0.0616 \text{ ppbv}$$

This result, 0.0616 ppbv, rounded to 0.062 ppbv is the DL for trichloroethene used in Files LVS104 through LVS107, 15 August 2006 entry of Table 5.

The following equation was used to calculate the compound's QL:

$$QL_c = \frac{QL_1 + QL_2 + \dots QL_n}{n}$$

where:

QL <sub>c</sub>	=	Quantitation limit for a compound (ppbv)
$QL_1$	=	Quantitation limit for the first ion pair (ppbv)
$QL_2$	=	Quantitation limit for the second ion pair (ppbv)
QL <sub>n</sub>	=	Quantitation limit for the n <sup>th</sup> ion pair (ppbv)
n	=	Number of ion pairs to be averaged

For example, using the entries for the 130/95, 132/95, and 132/97 ion pairs of trichloroethene from Table 4 for files LVS101 and LVS108, 15 August 2006 is:

$$QL_c = \frac{0.171 + 0.265 + 0.180}{3} = \frac{0.616}{3} = 0.205 \text{ ppbv}$$

This result, 0.205 ppbv, rounded to 0.21 ppbv is the QL for trichloroethene used in Files LVS104 through LVS107, 15 August 2006 entry of Table 5.

TABLES

# TABLE 1 Summary of Transport Efficiencies Measured on 15, 16, 17 and 18 August 2006 Little Valley VI Extent Study Little Valley, New York October 2006

Transport Efficiency for 15 August 2006 07:52 File: LVS102				
	Start Sequence:	432	915	
End Sequence:		579	1049	
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)
Trichloroethene	130/95	17509.7	16763.6	95.7
Trichloroethene	132/95	6186.4	5895.3	95.3
Trichloroethene	132/97	12286.5	11794.1	96.0
Average Trichloroethene Transport Efficiency:				
Tetrachloroethene	164/129	21998.1	20424.8	92.9
Tetrachloroethene	166/129	7278.4	6805.4	93.5
Tetrachloroethene	166/131	22259.8	20766.6	93.3
	93.2			
			1	
	Transport Ef	ficiency for 15 August File: LVS117	2006 19:46	
	Transport Eff	ficiency for 15 August File: LVS117 701	2006 19:46	
	Transport Eff Start Sequence: End Sequence:	ficiency for 15 August File: LVS117 701 794	2006 19:46 1003 1098	
Compound	Transport Eff Start Sequence: End Sequence: PM/DM	ficiency for 15 August File: LVS117 701 794 Proximal Intensity (icps)	2006 19:46 1003 1098 Distal Intensity (icps)	Transport Efficiency (%)
Compound Trichloroethene	Transport Eff Start Sequence: End Sequence: PM/DM 130/95	ficiency for 15 August File: LVS117 701 794 Proximal Intensity (icps) 14605.6	2006 19:46 1003 1098 Distal Intensity (icps) 13569.2	Transport Efficiency (%) 92.9
Compound Trichloroethene Trichloroethene	Transport Eff Start Sequence: End Sequence: PM/DM 130/95 132/95	ficiency for 15 August File: LVS117 701 794 Proximal Intensity (icps) 14605.6 5082.3	2006 19:46 1003 1098 Distal Intensity (icps) 13569.2 4702.8	Transport Efficiency (%) 92.9 92.5
Compound Trichloroethene Trichloroethene Trichloroethene	Transport Eff Start Sequence: End Sequence: PM/DM 130/95 132/95 132/97	ficiency for 15 August File: LVS117 701 794 Proximal Intensity (icps) 14605.6 5082.3 10046.8	2006 19:46 1003 1098 Distal Intensity (icps) 13569.2 4702.8 9415.4	Transport Efficiency (%) 92.9 92.5 93.7
Compound Trichloroethene Trichloroethene Trichloroethene	Transport Eff Start Sequence: End Sequence: PM/DM 130/95 132/95 132/97	ficiency for 15 August File: LVS117 701 794 Proximal Intensity (icps) 14605.6 5082.3 10046.8 Average Trichloroether	2006 19:46 1003 1098 Distal Intensity (icps) 13569.2 4702.8 9415.4 the Transport Efficiency:	Transport Efficiency (%) 92.9 92.5 93.7 93.1
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene	Transport Eff Start Sequence: End Sequence: PM/DM 130/95 132/95 132/97	ficiency for 15 August File: LVS117 701 794 Proximal Intensity (icps) 14605.6 5082.3 10046.8 Average Trichloroether 14450.9	2006 19:46 1003 1098 Distal Intensity (icps) 13569.2 4702.8 9415.4 the Transport Efficiency: 13504.9	Transport Efficiency (%) 92.9 92.5 93.7 93.1 93.5
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene Tetrachloroethene	Transport Eff         Start Sequence:         End Sequence:         PM/DM         130/95         132/95         132/97         164/129         166/129	ficiency for 15 August File: LVS117 701 794 Proximal Intensity (icps) 14605.6 5082.3 10046.8 Average Trichloroether 14450.9 4687.2	2006 19:46 1003 1098 Distal Intensity (icps) 13569.2 4702.8 9415.4 ne Transport Efficiency: 13504.9 4446.7	Transport Efficiency (%) 92.9 92.5 93.7 93.1 93.5 94.9
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene Tetrachloroethene Tetrachloroethene	Transport Eff         Start Sequence:         End Sequence:         PM/DM         130/95         132/95         132/97         164/129         166/131	ficiency for 15 August File: LVS117 701 794 Proximal Intensity (icps) 14605.6 5082.3 10046.8 Average Trichloroether 14450.9 4687.2 15841.0	2006 19:46 1003 1098 Distal Intensity (icps) 13569.2 4702.8 9415.4 ne Transport Efficiency: 13504.9 4446.7 14880.1	Transport Efficiency (%) 92.9 92.5 93.7 93.1 93.5 94.9 93.9

PM/DM = Parent mass/Daughter mass icps = ion counts per second % = percent

# TABLE 1 (continued) Summary of Transport Efficiencies Measured on 15, 16, 17 and 18 August 2006 Little Valley VI Extent Study Little Valley, New York October 2006

October 2000					
Transport Efficiency for 16 August 2006 08:16 File: LVS119					
	Start Sequence:	390	711		
	End Sequence:	486	806		
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)	
Trichloroethene	130/95	18132.3	17257.5	95.2	
Trichloroethene	132/95	6380.6	6065.0	95.1	
Trichloroethene	132/97	12614.0	12170.0	96.5	
	Averag	e Trichloroethene Tr	ransport Efficiency:	95.6	
Tetrachloroethene	164/129	19026.5	18154.1	95.4	
Tetrachloroethene	166/129	6167.5	5900.4	95.7	
Tetrachloroethene	166/131	19927.1	19096.4	95.8	
	Average	Tetrachloroethene Tr	ransport Efficiency:	95.6	
	Transport Effic	ciency for 16 August File: LVS132	t 2006 18:22		
	Start Sequence:	424	738		
	End Sequence:	521	833		
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)	
Trichloroethene	130/95	16557.9	16380.8	98.9	
Trichloroethene	132/95	5684.8	5623.0	98.9	
Trichloroethene	132/97	11363.1	11253.2	99.0	
	Averag	ge Trichloroethene T	'ransport Efficiency:	99.0	
Tetrachloroethene	164/129	14805.9	14694.4	99.3	
Tetrachloroethene	166/129	4660.2	4717.1	101.2	
		1 = 2 + 2 =	151050	00.0	
Tetrachloroethene	166/131	1/343./	17105.8	98.6	

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

% = percent

# TABLE 1 (continued) Summary of Transport Efficiencies Measured on 15, 16, 17 and 18 August 2006 Little Valley VI Extent Study Little Valley, New York October 2006

October 2006					
Transport Efficiency for 17 August 2006 12:08 File: LVS134					
	Start Sequence:	404	776		
	End Sequence:	499	886		
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)	
Trichloroethene	130/95	25487.9	24387.2	95.7	
Trichloroethene	132/95	8639.1	8340.9	96.5	
Trichloroethene	132/97	17154.2	16502.2	96.2	
	Averag	e Trichloroethene Ti	ansport Efficiency:	96.1	
Tetrachloroethene	164/129	21409.3	21485.9	100.4	
Tetrachloroethene	166/129	6790.1	6864.1	101.1	
Tetrachloroethene	166/131	24716.1	24389.8	98.7	
	Average	Tetrachloroethene Tr	ansport Efficiency:	100.1	
Transport Efficiency for 17 August 2006 16:57 File: LVS141					
	Transport Effic	iency for 17 August File: LVS141	2006 16:57		
	Transport Effic Start Sequence:	iency for 17 August File: LVS141 154	2006 16:57 423		
	Transport Effic Start Sequence: End Sequence:	iency for 17 August File: LVS141 154 249	2006 16:57 423 516		
Compound	Transport Effic Start Sequence: End Sequence: PM/DM	iency for 17 August File: LVS141 154 249 Proximal Intensity (icps)	2006 16:57 423 516 Distal Intensity (icps)	Transport Efficiency (%)	
Compound Trichloroethene	Transport Effic Start Sequence: End Sequence: PM/DM 130/95	iency for 17 August File: LVS141 154 249 Proximal Intensity (icps) 21918.1	2006 16:57 423 516 Distal Intensity (icps) 20354.9	Transport Efficiency (%) 92.9	
Compound Trichloroethene Trichloroethene	Transport Effic Start Sequence: End Sequence: PM/DM 130/95 132/95	iency for 17 August File: LVS141 154 249 Proximal Intensity (icps) 21918.1 7414.2	2006 16:57 423 516 Distal Intensity (icps) 20354.9 6931.3	Transport Efficiency (%) 92.9 93.5	
Compound Trichloroethene Trichloroethene Trichloroethene	Transport Effic Start Sequence: End Sequence: PM/DM 130/95 132/95 132/97	iency for 17 August File: LVS141 154 249 Proximal Intensity (icps) 21918.1 7414.2 14698.6	2006 16:57 423 516 Distal Intensity (icps) 20354.9 6931.3 13728.0	Transport Efficiency (%) 92.9 93.5 93.4	
Compound Trichloroethene Trichloroethene Trichloroethene	Transport Effic Start Sequence: End Sequence: PM/DM 130/95 132/95 132/97 Averag	iency for 17 August File: LVS141 154 249 Proximal Intensity (icps) 21918.1 7414.2 14698.6 e Trichloroethene Tri	2006 16:57 423 516 Distal Intensity (icps) 20354.9 6931.3 13728.0 ransport Efficiency:	Transport Efficiency (%) 92.9 93.5 93.4 93.3	
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene	Transport Effic Start Sequence: End Sequence: PM/DM 130/95 132/95 132/97 Averag 164/129	iency for 17 August File: LVS141 154 249 Proximal Intensity (icps) 21918.1 7414.2 14698.6 te Trichloroethene Tri 18478.1	2006 16:57 423 516 Distal Intensity (icps) 20354.9 6931.3 13728.0 ransport Efficiency: 17613.9	Transport Efficiency (%) 92.9 93.5 93.4 93.3 95.3	
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene Tetrachloroethene	Transport Effic         Start Sequence:         End Sequence:         PM/DM         130/95         132/95         132/97         Averag         164/129         166/129	iency for 17 August File: LVS141 154 249 Proximal Intensity (icps) 21918.1 7414.2 14698.6 re Trichloroethene Tri 18478.1 5823.5	2006 16:57 423 516 Distal Intensity (icps) 20354.9 6931.3 13728.0 ransport Efficiency: 17613.9 5623.4	Transport Efficiency (%) 92.9 93.5 93.4 93.3 95.3 96.6	
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene Tetrachloroethene Tetrachloroethene	Transport Effic Start Sequence: End Sequence: PM/DM 130/95 132/95 132/97 Averag 164/129 166/129 166/131	iency for 17 August File: LVS141 154 249 Proximal Intensity (icps) 21918.1 7414.2 14698.6 re Trichloroethene Tri 18478.1 5823.5 21915.6	2006 16:57 423 516 Distal Intensity (icps) 20354.9 6931.3 13728.0 ransport Efficiency: 17613.9 5623.4 20777.0	Transport Efficiency (%) 92.9 93.5 93.4 93.3 95.3 95.3 96.6 94.8	

PM/DM = Parent mass/Daughter mass

icps = ion counts per second % = percent

# TABLE 1 (continued) Summary of Transport Efficiencies Measured on 15, 16, 17 and 18 August 2006 Little Valley VI Extent Study Little Valley, New York October 2006

Transport Efficiency for 18 August 2006 07:34 File: LVS143						
S	tart Sequence:	341	633			
]	End Sequence:	436	728			
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)		
Trichloroethene	130/95	21707.8	20721.8	95.5		
Trichloroethene	132/95	7337.3	7015.6	95.6		
Trichloroethene	132/97	14576.7	13976.6	95.9		
	Avera	ge Trichloroethene T	Transport Efficiency:	95.7		
Tetrachloroethene	164/129	18641.1	18374.8	98.6		
Tetrachloroethene	166/129	6011.9	5964.5	99.2		
Tetrachloroethene	166/131	21068.9	20533.4	97.5		
	Average	Tetrachloroethene T	Transport Efficiency:	98.4		
	Transport Ef	ficiency for 18 Augu File: LVS158	st 2006 18:38			
S	tart Sequence:	322	776			
]	End Sequence:	418	872			
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)		
Trichloroethene	130/95	19265.5	18063.3	93.8		
Trichloroethene	132/95	6303.7	6002.7	95.2		
Trichloroethene	132/97	12570.6	11927.1	94.9		
	Aver	age Trichloroethene	Transport Efficiency:	94.6		
Tetrachloroethene	164/129	14515.6	14628.8	100.8		
Tetrachloroethene	166/129	4611.5	4616.9	100.1		
Tetrachloroethene	166/131	18250.8	17843.1	97.8		
	Average Tetrachloroethene Transport Efficiency: 99.6					

PM/DM = Parent mass/Daughter mass

icps = ion counts per second % = percent
## TABLE 2 Summary of Meteorological Conditions During Monitoring on 15, 16, 17 and 18 August 2006 Little Valley VI Extent Study Little Valley, New York October 2006

File	Location	Data	Start Time	Wind	Wind Direction	Doinfall
гпе	Location	Date	Start Time	Speed	(deg)	(inches)
				(mnh)	(ueg)	(inches)
LVS104	Unit 111	8/15/06	08:38:06	8	250	-
LVS105	Unit 003	8/15/06	09:23:17	8	250	_
LVS106	Unit 112	8/15/06	10.12.39	9	310	_
LVS107	Unit 007	8/15/06	10:58:35	9	310	-
LVS109	Unit 113	8/15/06	13:47:55	12	290	-
LVS110	Unit 009	8/15/06	14:35:11	15	280	-
LVS111	Unit 010	8/15/06	15:39:14	14	280	-
LVS112	Unit 114	8/15/06	16:43:36	8	300	-
LVS112	Unit 114	8/15/06	17:12:36	8	300	-
LVS114	Unit 115	8/15/06	18:05:46	8	300	-
LVS115	Unit 017	8/15/06	18:49:30	8	280	-
LVS120	Unit 116	8/16/06	08:44:36	7	360	-
LVS121	Unit 117	8/16/06	09:31:32	5	360	-
LVS122	Unit 118	8/16/06	10:10:28	5	360	-
LVS123	Unit 119	8/16/06	10:59:15	9	340	-
LVS125	Unit 083	8/16/06	13:14:30	6	320	-
LVS126	Unit 120	8/16/06	14:00:07	9	320	-
LVS127	Unit 121	8/16/06	15:08:09	5	310	-
LVS128	Unit 122	8/16/06	15:54:35	5	310	-
LVS129	Unit 123	8/16/06	16:37:55	5	330	-
LVS130	Unit 109	8/16/06	17:18:43	5	330	-
LVS135	Unit 124	8/17/06	12:30:42	6	190	-
LVS136	Unit 071	8/17/06	13:10:44	6	190	-
LVS137	Unit 125	8/17/06	14:24:38	0	-	-
LVS138	Unit 088	8/17/06	15:12:11	0	-	-
LVS139	Unit 126	8/17/06	16:02:01	0	-	-
LVS144	Unit 128	8/18/06	08:02:27	6	190	-
LVS145	Unit 129	8/18/06	08:44:39	7	200	-
LVS146	Unit 130	8/18/06	09:35:02	12	200	-
LVS147	Unit 055	8/18/06	11:10:10	9	180	-
LVS149	Unit 041	8/18/06	12:13:06	8	220	-
LVS150	Unit 041	8/18/06	12:54:22	8	220	-
LVS151	Unit 134	8/18/06	13:59:40	10	230	-
LVS152	Unit 027	8/18/06	14:41:52	9	230	-
LVS153	Unit 131	8/18/06	15:39:03	7	210	-
LVS154	Unit 132	8/18/06	16:16:22	5	190	-
LVS155	Unit 133	8/18/06	17:07:32	5	190	-
LVS156	Unit 036	8/18/06	17:48:13	5	200	-

The wind direction is the direction from which the wind is blowing

Mph = miles per hour

Deg = degrees

- = no precipitation

#### TABLE 3 Summary of Response Factors and Error Bars for 15, 16, 17 and 18 August 2006 Little Valley VI Extent Study Little Valley, New York October 2006

	Calibration Used	n Files: LVS101 for Survey Files	and LVS108 on 15 : LVS104 through 1	August 2006 LVS107	
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
Trichloroethene	130/95	789.43	743.83	765.95	2.97
Trichloroethene	132/95	277.87	257.84	267.48	3.74
Trichloroethene	132/97	550.30	515.92	532.56	3.22
				Average:	3.3
Tetrachloroethene	164/129	975.57	824.84	893.90	8.37
Tetrachloroethene	166/129	320.29	273.06	294.80	7.96
Tetrachloroethene	166/131	971.74	869.07	917.54	5.58
				Average:	7.3

## Calibration Files: LVS108 and LVS116 on 15 August 2006 Used for Survey Files: LVS109 through LVS115

		2	e		
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
Trichloroethene	130/95	743.83	672.68	706.47	5.02
Trichloroethene	132/95	257.84	235.00	245.89	4.63
Trichloroethene	132/97	515.92	467.70	490.63	4.90
				Average:	4.9
Tetrachloroethene	164/129	824.84	692.21	752.73	8.74
Tetrachloroethene	166/129	273.06	226.96	247.88	9.22
Tetrachloroethene	166/131	869.07	758.12	809.81	6.82
				Average:	8.3

Response Factors are in units of icps/ppbv

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

= part per billion by volume ppbv %

= percent

#### TABLE 3 (continued) Summary of Response Factors and Error Bars for 15, 16, 17 and 18 August 2006 Little Valley VI Extent Study Little Valley, New York October 2006

	Calibration Used fe	Files: LVS118 and or Survey Files: L	d LVS124 on 16 Au VS120 through LVS	gust 2006 3123		
Compound	Compound PM/DM Initial Response Factor Facto					
Trichloroethene	130/95	800.31	732.57	764.94	4.42	
Trichloroethene	132/95	279.33	255.29	266.77	4.50	
Trichloroethene	132/97	558.49	507.26	531.64	4.81	
				Average:	4.6	
Tetrachloroethene	164/129	845.97	747.91	793.92	6.15	
Tetrachloroethene	166/129	277.43	241.06	257.97	7.01	
Tetrachloroethene	166/131	869.31	799.18	832.77 4.20		
Average: 5.8						
	Calibration Used for	Files: LVS124 and or Survey Files: L	d LVS131 on 16 Au VS125 through LVS	gust 2006 \130		
Compound	Calibration Used for PM/DM	Files: LVS124 and or Survey Files: L Initial Response Factor	d LVS131 on 16 Au VS125 through LVS Final Response Factor	gust 2006 5130 Intermediate Response Factor	Error Bar (%)	
Compound Trichloroethene	Calibration Used for PM/DM 130/95	Files: LVS124 and or Survey Files: L Initial Response Factor 732.57	d LVS131 on 16 Au VS125 through LVS Final Response Factor 611.46	gust 2006 5130 Intermediate Response Factor 666.56	Error Bar (%) 9.01	
Compound Trichloroethene Trichloroethene	Calibration Used f PM/DM 130/95 132/95	Files: LVS124 and or Survey Files: L Initial Response Factor 732.57 255.29	d LVS131 on 16 Au VS125 through LVS Final Response Factor 611.46 214.35	gust 2006 3130 Intermediate Response Factor 666.56 233.04	Error Bar (%) 9.01 8.72	
Compound Trichloroethene Trichloroethene Trichloroethene	Calibration Used f PM/DM 130/95 132/95 132/97	Files: LVS124 and or Survey Files: L Initial Response Factor 732.57 255.29 507.26	d LVS131 on 16 Au VS125 through LVS Final Response Factor 611.46 214.35 427.63	gust 2006 5130 Intermediate Response Factor 666.56 233.04 464.05	Error Bar (%) 9.01 8.72 8.52	
Compound Trichloroethene Trichloroethene Trichloroethene	Calibration Used for PM/DM 130/95 132/95 132/97	Files: LVS124 and or Survey Files: L Initial Response Factor 732.57 255.29 507.26	d LVS131 on 16 Au VS125 through LVS Final Response Factor 611.46 214.35 427.63	gust 2006 5130 Intermediate Response Factor 666.56 233.04 464.05 Average:	Error Bar (%) 9.01 8.72 8.52 8.7	
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene	Calibration Used f PM/DM 130/95 132/95 132/97 164/129	Files: LVS124 and or Survey Files: L Initial Response Factor 732.57 255.29 507.26 747.91	d LVS131 on 16 Au VS125 through LVS Final Response Factor 611.46 214.35 427.63 617.95	gust 2006 5130 Intermediate Response Factor 6666.56 233.04 464.05 Average: 676.75	Error Bar (%) 9.01 8.72 8.52 8.7 9.52	
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene Tetrachloroethene	Calibration Used f PM/DM 130/95 132/95 132/97 164/129 166/129	Files: LVS124 and or Survey Files: L Initial Response Factor 732.57 255.29 507.26 747.91 241.06	d LVS131 on 16 Au VS125 through LVS Final Response Factor 611.46 214.35 427.63 617.95 199.07	gust 2006 5130 Intermediate Response Factor 666.56 233.04 464.05 Average: 676.75 218.06	Error Bar (%) 9.01 8.72 8.52 8.7 9.52 9.54	
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene Tetrachloroethene Tetrachloroethene	Calibration Used f PM/DM 130/95 132/95 132/97 166/129 166/129 166/131	Files: LVS124 and or Survey Files: L Initial Response Factor 732.57 255.29 507.26 747.91 241.06 799.18	d LVS131 on 16 Au, VS125 through LVS Final Response Factor 611.46 214.35 427.63 617.95 199.07 685.37	gust 2006 5130 Intermediate Response Factor 6666.56 233.04 464.05 Average: 676.75 218.06 737.91	Error Bar (%) 9.01 8.72 8.52 8.7 9.52 9.54 7.67	

Response Factors are in units of icps/ppbv

PM/DM = Parent mass/Daughter mass icps = ion counts per second

ppbv = part per billion by volume

% = percent

#### TABLE 3 (continued) Summary of Response Factors and Error Bars for 15, 16, 17 and 18 August 2006 Little Valley VI Extent Study Little Valley, New York October 2006

Calibration Files: LVS133 and LVS140 on 17 August 2006 Used for Survey Files: LVS135 through LVS139						
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Ba (%)	ar
Trichloroethene	130/95	855.63	837.13	846.28	1.09	
Trichloroethene	132/95	301.59	293.04	297.25	1.44	
Trichloroethene	132/97	595.20	578.21	586.58	1.45	
				Average:	1.3	
Tetrachloroethene	164/129	939.41	817.68	874.33	6.93	
Tetrachloroethene	166/129	305.69	261.97	282.15	7.70	
Tetrachloroethene	166/131	973.85	939.71	956.48	1.78	
Average:					5.5	
(	Calibration 1	Files: LVS142 and	d LVS148 on 18 A	August 2006		
	Used for	or Survey Files: L	VS144 through L	VS147		
Compound	Used fo	or Survey Files: L Initial Response Factor	VS144 through L Final Response Factor	VS147 Intermediate Response Factor	Error (%	Bar
Compound Trichloroethene	Used fo PM/DM 130/95	or Survey Files: L Initial Response Factor 856.47	VS144 through L Final Response Factor 930.80	VS147 Intermediate Response Factor 892.09	Error (% 4.1	Bar ) 6
Compound Trichloroethene Trichloroethene	Used fo PM/DM 130/95 132/95	or Survey Files: L Initial Response Factor 856.47 295.50	VS144 through L Final Response Factor 930.80 315.86	VS147 Intermediate Response Factor 892.09 305.34	Error (% 4.1 3.3	Bar 5) 6
Compound Trichloroethene Trichloroethene Trichloroethene	Used fo PM/DM 130/95 132/95 132/97	or Survey Files: L Initial Response Factor 856.47 295.50 589.06	VS144 through L Final Response Factor 930.80 315.86 627.40	VS147 Intermediate Response Factor 892.09 305.34 607.63	Error (% 4.1 3.3 3.1	Bar ) 6 3 5
Compound Trichloroethene Trichloroethene Trichloroethene	Used fo PM/DM 130/95 132/95 132/97	or Survey Files: L Initial Response Factor 856.47 295.50 589.06	VS144 through L Final Response Factor 930.80 315.86 627.40	VS147 Intermediate Response Factor 892.09 305.34 607.63 Aver	Error (% 4.1 3.3 3.1 rage: 3.5	Bar 5 5
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene	Used fo PM/DM 130/95 132/95 132/97 164/129	or Survey Files: L Initial Response Factor 856.47 295.50 589.06	VS144 through L Final Response Factor 930.80 315.86 627.40 859.96	VS147 Intermediate Response Factor 892.09 305.34 607.63 Aven 846.34	Error (% 4.1 3.3 3.1 rage: 3.5 1.5	Bar )) 6 33 5 5 5 8
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene Tetrachloroethene	Used fo PM/DM 130/95 132/95 132/97 164/129 166/129	Survey Files: L           Initial           Response           Factor           856.47           295.50           589.06           833.14           20           273.22	VS144 through L Final Response Factor 930.80 315.86 627.40 859.96 278.18	VS147 Intermediate Response Factor 892.09 305.34 607.63 Aven 846.34 275.67	Error (% 4.1 3.3 3.1 rage: 3.4 1.5 0.89	Bar )) 6 33 5 5 5 8 8 99
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene Tetrachloroethene Tetrachloroethene	Used fo PM/DM 130/95 132/95 132/97 166/129 166/131	Survey Files: L           Initial           Response           Factor           856.47           295.50           589.06           833.14           2           889.08	VS144 through L Final Response Factor 930.80 315.86 627.40 859.96 278.18 962.73	VS147 Intermediate Response Factor 892.09 305.34 607.63 Aven 846.34 275.67 924.44	Error (% 4.1 3.3 3.1 •age: 3.4 1.5 0.89 3.9	Bar )) 6 33 5 5 5 5 8 8 999 28

Response Factors are in units of icps/ppbv

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = percent

## TABLE 3 (continued) Summary of Response Factors and Error Bars for 15, 16, 17 and 18 August 2006 Little Valley VI Extent Study Little Valley, New York October 2006

Calibration Files: LVS148 and LVS157 on 18 August 2006 Used for Survey Files: LVS149 through LVS156					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
Trichloroethene	130/95	930.80	766.05	840.43	9.71
Trichloroethene	132/95	315.86	261.62	286.20	9.39
Trichloroethene	132/97	627.40	511.99	563.85	10.1
				Average:	9.7
Tetrachloroethene	164/129	859.96	695.92	769.29	10.5
Tetrachloroethene	166/129	278.18	221.02	246.32	11.4
Tetrachloroethene	166/131	962.73	816.77	883.77	8.20
				Average:	10.

Response Factors are in units of icps/ppbv

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = percent

#### TABLE 4 Summary of Detection and Quantitation Limit Data for 15, 16, 17 and 18 August 2006 Little Valley VI Extent Study Little Valley, New York October 2006

(	Calibration F Used fo	iles: LVS101 and L r Survey Files: LVS	VS108 on 15 A S104 through LV	ugust 2006 7S107	
Compound	PM/DM	Intermediate Response Factor (icps/ppbv)	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
Trichloroethene	130/95	765.95	13.134	0.0514	0.171
Trichloroethene	132/95	267.48	7.0888	0.0795	0.265
Trichloroethene	132/97	532.56	9.5851	0.0540	0.180
			Average:	0.062	0.21
Tetrachloroethene	164/129	893.90	17.863	0.0599	0.200
Tetrachloroethene	166/129	294.80	10.436	0.106	0.354
Tetrachloroethene	166/131	917.54	18.445	0.0603	0.201
			Average:	0.075	0.25
(	Calibration F	iles: LVS108 and L	VS116 on 15 A	ugust 2006	

Calibration Files: LVS108 and LVS116 on 15 August 2006 Used for Survey Files: LVS109 through LVS115

Compound	PM/DM	Intermediate Response Factor (icps/ppbv)	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
Trichloroethene	130/95	706.47	7.1547	0.0304	0.101
Trichloroethene	132/95	245.89	3.0253	0.0369	0.123
Trichloroethene	132/97	490.63	6.1075	0.0373	0.124
			Average:	0.035	0.12
Tetrachloroethene	164/129	752.73	15.098	0.0602	0.201
Tetrachloroethene	166/129	247.88	9.9856	0.121	0.403
Tetrachloroethene	166/131	809.81	16.721	0.0619	0.206
			Average:	0.081	0.27

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

part per billion by volume ppbv =

#### TABLE 4 (continued) Summary of Detection and Quantitation Limit Data for 15, 16, 17 and 18 August 2006 Little Valley VI Extent Study Little Valley, New York October 2006

(	Calibration F Used fo	Files: LVS118 and L r Survey Files: LVS	VS124 on 16 A S120 through LV	ugust 2006 /S123		
Compound	PM/DM	Intermediate Response Factor (icps/ppbv)	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)	
Trichloroethene	130/95	764.94	15.484	0.0607	0.202	
Trichloroethene	132/95	266.77	7.9365	0.0893	0.298	
Trichloroethene	132/97	531.64	11.247	0.0635	0.212	
			Average:	0.071	0.24	
Tetrachloroethene	164/129	793.92	17.263	0.0652	0.217	
Tetrachloroethene	166/129	257.97	8.2253	0.0956	0.319	
Tetrachloroethene	166/131	832.77	17.141	0.0617	0.206	
			Average:	0.074	0.25	
(	Calibration Files: LVS124 and LVS131 on 16 August 2006					

	Used for	r Survey Files: LVS	125 through LV	/S130	
Compound	PM/DM	Intermediate Response Factor (icps/ppbv)	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)

		(icps/ppuv)			
Trichloroethene	130/95	666.56	8.9052	0.0401	0.134
Trichloroethene	132/95	233.04	4.7195	0.0608	0.203
Trichloroethene	132/97	464.05	9.4057	0.0608	0.203
			Average:	0.054	0.18
Tetrachloroethene	164/129	676.75	7.3566	0.0326	0.109
Tetrachloroethene	166/129	218.06	6.1907	0.0852	0.284
Tetrachloroethene	166/131	737.91	14.354	0.0584	0.195
			Average:	0.059	0.20

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

#### TABLE 4 (continued) Summary of Detection and Quantitation Limit Data for 15, 16, 17 and 18 August 2006 Little Valley VI Extent Study Little Valley, New York October 2006

Calibration Files: LVS133 and LVS140 on 17 August 2006 Used for Survey Files: LVS135 through LVS139							
Compound	PM/DM	Intermediate Response Factor (icps/ppbv)	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)		
Trichloroethene	130/95	846.28	15.883	0.0563	0.188		
Trichloroethene	132/95	297.25	7.4200	0.0749	0.250		
Trichloroethene	132/97	586.58	12.113	0.0620	0.207		
			Average:	0.064	0.21		
Tetrachloroethene	164/129	874.33	17.626	0.0605	0.202		
Tetrachloroethene	166/129	282.15	10.751	0.114	0.381		
Tetrachloroethene	166/131	956.48	18.135	0.0569	0.190		
	Average: 0.077 0.26						
(	Calibration F	Files: LVS142 and L	VS148 on 18 A	ugust 2006			
	Used fo	r Survey Files: LVS	5144 through LV	/S147			
Compound	Used fo	r Survey Files: LVS Intermediate Response Factor (icps/ppbv)	Standard Deviation (icps)	/S147 Detection Limit (ppbv)	Quantitation Limit (ppbv)		
Compound Trichloroethene	Used fo PM/DM 130/95	r Survey Files: LVS Intermediate Response Factor (icps/ppbv) 892.09	Standard Deviation (icps) 14.998	VS147 Detection Limit (ppbv) 0.0504	Quantitation Limit (ppbv) 0.168		
Compound Trichloroethene Trichloroethene	Used fo PM/DM 130/95 132/95	r Survey Files: LVS Intermediate Response Factor (icps/ppbv) 892.09 305.34	Standard Deviation (icps) 14.998 7.6489	ZS147 Detection Limit (ppbv) 0.0504 0.0752	Quantitation Limit (ppbv) 0.168 0.251		
Compound Trichloroethene Trichloroethene Trichloroethene	Used fo PM/DM 130/95 132/95 132/97	r Survey Files: LVS Intermediate Response Factor (icps/ppbv) 892.09 305.34 607.63	Standard Deviation (icps) 14.998 7.6489 11.366	VS147 Detection Limit (ppbv) 0.0504 0.0752 0.0561	Quantitation Limit (ppbv) 0.168 0.251 0.187		
Compound Trichloroethene Trichloroethene Trichloroethene	Used fo PM/DM 130/95 132/95 132/97	r Survey Files: LVS Intermediate Response Factor (icps/ppbv) 892.09 305.34 607.63	Standard Deviation (icps) 14.998 7.6489 11.366 Average:	ZS147 Detection Limit (ppbv) 0.0504 0.0752 0.0561 0.061	Quantitation Limit (ppbv) 0.168 0.251 0.187 0.20		
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene	Used fo PM/DM 130/95 132/95 132/97 164/129	r Survey Files: LVS Intermediate Response Factor (icps/ppbv) 892.09 305.34 607.63 846.34	Standard           Deviation           (icps)           14.998           7.6489           11.366           Average:           14.786	VS147 Detection Limit (ppbv) 0.0504 0.0552 0.0561 0.061 0.0524	Quantitation Limit (ppbv) 0.168 0.251 0.187 0.20 0.175		
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene Tetrachloroethene	Used fo PM/DM 130/95 132/95 132/97 164/129 166/129	r Survey Files: LVS Intermediate Response Factor (icps/ppbv) 892.09 305.34 607.63 846.34 275.67	Standard           Deviation           (icps)           14.998           7.6489           11.366           Average:           14.786           8.8008	ZS147 Detection Limit (ppbv) 0.0504 0.0752 0.0561 0.061 0.0524 0.0958	Quantitation Limit (ppbv) 0.168 0.251 0.187 0.20 0.175 0.319		
Compound Trichloroethene Trichloroethene Trichloroethene Tetrachloroethene Tetrachloroethene Tetrachloroethene	Used fo PM/DM 130/95 132/95 132/97 164/129 166/129 166/131	r Survey Files: LVS Intermediate Response Factor (icps/ppbv) 892.09 305.34 607.63 846.34 275.67 924.44	Standard           Deviation           (icps)           14.998           7.6489           11.366           Average:           14.786           8.8008           13.639	VS147 Detection Limit (ppbv) 0.0504 0.0504 0.0552 0.0561 0.061 0.0524 0.0958 0.0443	Quantitation Limit (ppbv) 0.168 0.251 0.187 0.20 0.175 0.319 0.148		

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

## **TABLE 4 (continued)** Summary of Detection and Quantitation Limit Data for 15, 16, 17 and 18 August 2006 Little Valley VI Extent Study Little Valley, New York

October 2006 Calibration Files: LVS148 and LVS157 on 18 August 2006 Used for Survey Files: LVS149 through LVS156 Intermediate Standard Detection Quantitation Response Compound PM/DM Deviation Limit Limit Factor (ppbv) (icps) (ppbv) (icps/ppbv) Trichloroethene 130/95 840.43 11.218 0.0400 0.133 Trichloroethene 132/95 286.20 8.9249 0.0936 0.312 Trichloroethene 132/97 563.85 6.8675 0.0365 0.122 0.057 0.19 Average: 0.0470 Tetrachloroethene 164/129 769.29 12.047 0.157 Tetrachloroethene 166/129 246.32 7.0794 0.0862 0.287 Tetrachloroethene 166/131 883.77 14.299 0.0485 0.162 0.061 0.20 Average:

Parent mass/Daughter mass PM/DM =

ion counts per second icps =

part per billion by volume ppbv =

# TABLE 5Unit Survey Detection and Quantitation LimitsLittle Valley VI Extent StudyLittle Valley, New YorkOctober 2006

Unit Number (Date)	Unit 111 (15	August 2006)	Unit 003 (15	5 August 2006)	Unit 112 (15	Unit 112 (15 August 2006)	
Canoration Files	Detection	Ouantitation	Detection	Quantitation	Detection	Quantitation	
Compound	Limit	Limit	Limit	Limit	Limit	Limit	
Trichloroethene	0.062	0.21	0.062	0.21	0.062	0.21	
Tetrachloroethene	0.075	0.25	0.075	0.25	0.075	0.25	
Unit Number (Date) Calibration Files	Unit 007 (15 LV	August 2006) S107	Unit 113 (15 LV	5 August 2006) S109	Unit 009 (15 LV	Unit 009 (15 August 2006) LVS110	
Compound	Detection Limit	Quantitation Limit	Detection Limit	Quantitation Limit	Detection Limit	Quantitation Limit	
Trichloroethene	0.062	0.21	0.035	0.12	0.035	0.12	
Tetrachloroethene	0.075	0.25	0.081	0.27	0.081	0.27	
Unit Number (Date) Calibration Files	Unit 010 (15 LV	5 August 2006) S111	Unit 114 (15 LVS112 a	5 August 2006) and LVS113	Unit 115 (15 LV	5 August 2006) /S114	
Compound	Detection	Quantitation	Detection	Quantitation	Detection	Quantitation	
	Limit	Limit	Limit	Limit	Limit	Limit	
Trichloroethene	0.035	0.12	0.035	0.12	0.035	0.12	
Tetrachloroethene	0.081	0.27	0.081	0.27	0.081	0.27	
Unit Number (Date) Calibration Files	Unit 017 (15 LV	5 August 2006) S115	Unit 116 (16 LV	5 August 2006) (S120	Unit 117 (16 LV	5 August 2006) /S121	
Compound	Detection Limit	Quantitation Limit	Detection Limit	Quantitation Limit	Detection Limit	Quantitation Limit	
Trichloroethene	0.035	0.12	0.071	0.24	0.071	0.24	
Tetrachloroethene	0.081	0.27	0.074	0.25	0.074	0.25	
Unit Number (Date) Calibration Files	Unit 118 (16 LV	5 August 2006) S122	Unit 119 (16 LV	5 August 2006) /S123	Unit 083 (16 LV	5 August 2006) /S125	
Compound	Detection Limit	Quantitation Limit	Detection Limit	Quantitation Limit	Detection Limit	Quantitation Limit	
Trichloroethene	0.071	0.24	0.071	0.24	0.054	0.18	
Tetrachloroethene	0.074	0.25	0.074	0.25	0.059	0.20	
Unit Number (Date) Calibration Files	Unit 120 (16 LV	5 August 2006) S126	Unit 121 (16 LV	5 August 2006) S127	Unit 122 (16 LV	5 August 2006) /S128	
Compound	Detection Limit	Quantitation Limit	Detection Limit	Quantitation Limit	Detection Limit	Quantitation Limit	
Trichloroethene	0.054	0.18	0.054	0.18	0.054	0.18	
Tetrachloroethene	0.059	0.20	0.059	0.20	0.059	0.20	

## TABLE 5 (continued) Unit Survey Detection and Quantitation Limits Little Valley VI Extent Study Little Valley, New York October 2006

	Unit 123 (16 August 2006)         Unit 109 (16 August 2006)           LVS129         LVS130		Unit 124 (17 LVS	August 2006) 5135		
Comment	Detection	Quantitation	Detection	Quantitation	Detection	Quantitation
Compound	Limit	Limit	Limit	Limit	Limit	Limit
Trichloroethene	0.054	0.18	0.054	0.18	0.064	0.21
Tetrachloroethene	0.059	0.20	0.059	0.20	0.077	0.26
	Unit 071 (17	' August 2006)	Unit 125 (17	August 2006)	Unit 088 (17	August 2006)
	LV	S136	LVS	S137	LVS	\$138
Compound	Detection	Quantitation	Detection	Quantitation	Detection	Quantitation
Compound	Limit	Limit	Limit	Limit	Limit	Limit
Trichloroethene	0.064	0.21	0.064	0.21	0.064	0.21
Tetrachloroethene	0.077	0.26	0.077	0.26	0.077	0.26
	Unit 126 (17	' August 2006)	Unit 128 (18	August 2006)	Unit 129 (18	August 2006)
	LV	S139	LVS	S144	LVS	5145
Comment	Detection	Quantitation	Detection	Quantitation	Detection	Quantitation
Compound	Limit	Limit	Limit	Limit	Limit	Limit
Trichloroethene	0.064	0.21	0.061	0.20	0.061	0.20
Tetrachloroethene	0.077	0.26	0.064	0.21	0.064	0.21
	Unit 130 (18	3 August 2006)	Unit 055 (18	August 2006)	Unit 041 (18	August 2006)
	LV	S146	LVS	S147	LVS149 at	nd LVS150
Compound	Detection	Quantitation	Detection	Quantitation	Detection	Quantitation
Compound	Limit	Limit	Limit	Limit	Limit	Limit
Trichloroethene	0.061	0.20	0.061	0.20	0.057	0.19
Tetrachloroethene	0.064	0.21	0.064	0.21	0.061	0.20
Unit Number (Date)	Unit 134 (18	3 August 2006)	Unit 027 (18	August 2006)	Unit 131 (18	August 2006)
Calibration Files	LV	S151	LVS	S152	LVS	5153
Compound	Detection	Quantitation	Detection	Compound	Detection	Quantitation
Compound	Limit	Limit	Limit	Compound	Limit	Limit
Trichloroethene	0.057	0.19	0.057	0.19	0.057	0.19
Tetrachloroethene	0.061	0.20	0.061	0.20	0.061	0.20
	Unit 132 (18	8 August 2006)	Unit 133 (18	August 2006)	Unit 036 (18	August 2006)
	LV	S154	LVS	S155	LVS	5156
Compound	Detection	Quantitation	Detection	Quantitation	Detection	Quantitation
Compound	Limit	Limit	Limit	Limit	Limit	Limit
Trichloroethene	0.057	0.19	0.057	0.19	0.057	0.19
Tetrachloroethene	0.061	0.20	0.061	0.20	0.061	0.20

FIGURES



Figure 1aUnit 111 Survey Floor Plan, LVS104

TAGA File Event Summary File: LVS104 Acquired on 15 August 2006 at 08:38:06 Title: Unit 111 Survey				
Flag	Offset Time	Offset Sequence	Description	
А	0.9	86	Start of the pre-entry ambient	
В	1.9	180	End of the pre-entry ambient	
С	3.1	297	Entering unit	
D	3.4	328	Start of the kitchen	
Е	4.5	425	End of the kitchen	
F	4.9	466	Start of the bathroom	
G	5.9	561	End of the bathroom	
Н	6.4	605	Start of the living room	
Ι	7.4	699	End of the living room	
J	7.6	724	Start of the bedroom	
K	8.6	819	End of the bedroom	
L	9.7	922	Start of the center of the basement crawlspace	
М	10.8	1023	End of the center of the basement crawlspace	
Ν	11.9	1126	Exiting unit	
0	12.5	1192	Start of the post-exit ambient	
Р	13.6	1289	End of the post-exit ambient	
Q	15.0	1428	Begin 30 mL/min spike	
R	16.8	1598	End 30 mL/min spike	

### Figure 1b



Figure 1c Unit 111 Survey for Trichloroethene and Tetrachloroethene

Figure 1d					
	TAGA Target Compound Survey Summary for Unit 111 File: LVS104 Acquired on 15 August 2006 at 08:38:06				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.062	0.075		
	Quantitation Limits - QL:	0.21	0.25		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.062	DL=0.075		
D - E	Kitchen	DL=0.062	DL=0.075		
F - G	Bathroom	DL=0.062	DL=0.075		
H - I	Living Room	DL=0.062	DL=0.075		
J - K	Bedroom	DL=0.062	DL=0.075		
L - M	Center of the basement crawlspace	DL=0.062	DL=0.075		
O - P	Post-exit ambient	DL=0.062	DL=0.075		
Q - R	30 mL/min spike	6.4	6.9		

Concentrations are in part per billion by volume (ppbv)



Figure 2aUnit 003 Survey Floor Plan, LVS105

Figure 2b						
	TAGA File Event Summary					
	Title: Unit 003 Survey					
Flag	Offset Time	Offset Sequence	Description			
А	1.4	131	Start of the pre-entry ambient			
В	2.4	224	End of the pre-entry ambient			
С	3.8	360	Entering unit			
D	4.1	387	Start of the kitchen			
Е	5.1	485	End of the kitchen			
F	5.4	514	Start of the dining area			
G	6.4	607	End of the dining area			
Н	6.7	635	Start of the bathroom			
Ι	7.7	729	End of the bathroom			
J	7.9	754	Start of the bedroom			
К	8.9	847	End of the bedroom			
L	9.2	876	Start of the living room			
М	10.2	969	End of the living room			
Ν	10.8	1023	Exiting unit			
0	11.5	1094	Entering the basement			
Р	11.9	1126	Start of the laundry room			
Q	12.9	1222	End of the laundry room			
R	13.1	1248	Start of the furnace room			
S	14.1	1341	End of the furnace room			
Т	14.4	1372	Start of the abandoned water tank			
U	15.5	1471	End of the abandoned water tank			
V	16.3	1545	Start of the sump			
W	17.3	1640	End of the sump			
Х	17.6	1675	Start of the sub-slab probe			
Y	18.6	1770	End of the sub-slab probe			
Z	19.1	1811	Start of the well-water service			
A2	20.1	1906	End of the well-water service			
B2	21.0	1997	Start of the hole in basement floor			
C2	21.5	2037	End of the hole in basement floor			
D2	22.7	2160	Exiting basement			
E2	23.8	2262	Start of the post-exit ambient			
F2	24.8	2358	End of the post-exit ambient			
G2	24.9	2368	Begin 30 mL/min spike			
H2	26.3	2498	End 30 mL/min spike			



Figure 2c Unit 003 Survey for Trichloroethene and Tetrachloroethene

	Figure 2d				
	TAGA Target Compound Survey Summary for Unit 003 File: LVS105 Acquired on 15 August 2006 at 09:23:17				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.062	0.075		
	Quantitation Limits - QL:	0.21	0.25		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.062	DL=0.075		
D - E	Kitchen	DL=0.062	DL=0.075		
F - G	Dining area	DL=0.062	DL=0.075		
H - I	Bathroom	DL=0.062	DL=0.075		
J - K	Bedroom	DL=0.062	DL=0.075		
L - M	Living room	DL=0.062	DL=0.075		
P - Q	Laundry room	DL=0.062	DL=0.075		
R - S	Furnace room	DL=0.062	DL=0.075		
T - U	Abandoned water tank	0.083J	DL=0.075		
V - W	Sump	DL=0.062	DL=0.075		
X - Y	Sub-slab probe	DL=0.062	DL=0.075		
Z - A2	Well-water service	DL=0.062	DL=0.075		
B2 - C2	Hole in basement floor	0.29	DL=0.075		
E2 - F2	Post-exit ambient	DL=0.062	DL=0.075		
G2 - H2	30 mL/min spike	5.4	5.7		

Concentrations are in part per billion by volume (ppbv) J = Below quantitation limit



Figure 3aUnit 112 Survey Floor Plan, LVS106

	Figure 3b				
	TAGA File Event Summary File: LVS106 Acquired on 15 August 2006 at 10:12:39				
	1 110. 1	Title: Unit 11	2 Survey		
Flag	Offset Time	Offset Sequence	Description		
А	1.3	123	Start of the pre-entry ambient		
В	2.3	216	End of the pre-entry ambient		
С	2.8	265	Entering unit		
D	3.1	292	Start of the dining room		
Е	4.1	389	End of the dining room		
F	5.2	493	Start of the kitchen		
G	6.2	586	End of the kitchen		
Н	6.7	637	Start of the laundry room		
Ι	7.7	733	End of the laundry room		
J	9.0	852	Start of the living room		
K	10.2	969	End of the living room		
L	10.5	999	Start of the sitting room		
М	11.5	1097	End of the sitting room		
Ν	12.0	1140	Start of the sewing room		
0	13.0	1233	End of the sewing room		
Р	13.3	1267	Start of the bathroom		
Q	14.3	1360	End of the bathroom		
R	15.3	1455	Start of the basement		
S	16.3	1550	End of the basement		
Т	18.1	1722	Exiting unit		
U	18.6	1771	Start of the post-exit ambient		
V	20.0	1901	End of the post-exit ambient		
W	21.5	2042	Begin 30 mL/min spike		
X	23.9	2269	End 30 mL/min spike		



Figure 3c Unit 112 Survey for Trichloroethene and Tetrachloroethene

	Figure 3d				
	TAGA Target Compound Survey Summary for Unit 112 File: LVS106 Acquired on 15 August 2006 at 10:12:39				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.062	0.075		
	Quantitation Limits - QL:	0.21	0.25		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.062	DL=0.075		
D - E	Dining room	DL=0.062	DL=0.075		
F - G	Kitchen	DL=0.062	DL=0.075		
H - I	Laundry room	DL=0.062	DL=0.075		
J - K	Living room	DL=0.062	DL=0.075		
L - M	Sitting room	DL=0.062	DL=0.075		
N - O	Sewing room	DL=0.062	DL=0.075		
P - Q	Bathroom	DL=0.062	DL=0.075		
R - S	Basement	DL=0.062	DL=0.075		
U - V	Post-exit ambient	DL=0.062	DL=0.075		
W - X	30 mL/min spike	5.1	5.2		

Concentrations are part per billion by volume (ppbv)



Figure 4a Unit 007 Survey Floor Plan, LVS107

Figure 4b					
	TAGA File Event Summary File: LVS107 Acquired on 15 August 2006 at 10:58:25				
	Title: Unit 007 Survey				
Flag	Offset Time	Offset Sequence	Description		
А	1.3	126	Start of the pre-entry ambient		
В	2.3	222	End of the pre-entry ambient		
С	3.3	317	Entering the unit		
D	3.6	343	Start of the kitchen		
Е	4.6	436	End of the kitchen		
F	5.0	471	Start of the dining area		
G	6.0	567	End of the dining area		
Н	6.3	596	Start of the bathroom		
Ι	7.2	689	End of the bathroom		
J	7.6	721	Start of the den		
K	8.6	816	End of the den		
L	8.9	841	Start of bedroom 1		
М	9.9	939	End of bedroom 1		
Ν	10.1	963	Start of bedroom 2		
0	11.1	1058	End of bedroom 2		
Р	11.4	1085	Start of the living room		
Q	12.4	1181	End of the living room		
R	13.2	1257	Start of the basement		
S	14.2	1350	End of the basement		
Т	14.5	1380	Start of sub-slab probe 1		
U	15.5	1475	End of sub-slab probe 1		
V	15.8	1505	Start of sub-slab probe 2		
W	16.8	1599	End of sub-slab probe 2		
Х	17.4	1648	Exiting the unit		
Y	18.1	1719	Start of the post-exit ambient		
Z	18.9	1798	End of the post-exit ambient		
A2	19.2	1823	Begin 30 mL/min spike		
B2	21.6	2047	End 30 mL/min spike		



 Figure 4c
 Unit 007 Survey for Trichloroethene and Tetrachloroethene

	Figure 4d				
	TAGA Target Compound Survey Summary for Unit 007 File: LVS107 Acquired on 15 August 2006 at 10:58:35				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.062	0.075		
	Quantitation Limits - QL:	0.21	0.25		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.062	DL=0.075		
D - E	Kitchen	DL=0.062	DL=0.075		
F - G	Dining area	DL=0.062	DL=0.075		
H - I	Bathroom	DL=0.062	DL=0.075		
J - K	Den	DL=0.062	DL=0.075		
L - M	Bedroom 1	DL=0.062	DL=0.075		
N - O	Bedroom 2	DL=0.062	DL=0.075		
P - Q	Living room	DL=0.062	DL=0.075		
R - S	Basement	DL=0.062	DL=0.075		
T - U	Sub-slab probe 1	DL=0.062	DL=0.075		
V - W	Sub-slab probe 2	DL=0.062	DL=0.075		
Y - Z	Post-exit ambient	DL=0.062	DL=0.075		
A2 - B2	30 mL/min spike	5.8	5.8		

Concentrations are part per billion by volume (ppbv)



Figure 5aUnit 113 Survey Floor Plan, LVS109

	Figure 5b					
	TAGA File Event Summary					
	File: LVS109 Acquired on 15 August 2006 at 13:47:55 Title: Unit 113 Survey					
Flag	Flag Offset Time Offset Sequence Description					
A	1.3	123	Start of the pre-entry ambient			
В	2.3	219	End of the pre-entry ambient			
С	3.1	292	Entering the unit			
D	3.5	333	Start of the living room			
Е	4.5	427	End of the living room			
F	4.8	457	Start of the kitchen			
G	5.8	550	End of the kitchen			
Н	6.0	572	Start of the bathroom			
Ι	7.1	672	End of the bathroom			
J	7.4	705	Start of the laundry room			
K	8.4	800	End of the laundry room			
L	8.9	846	Exiting the unit			
М	9.4	896	Entering the basement			
N	9.9	936	Start of the basement			
0	10.9	1031	End of the basement			
Р	11.1	1055	Start of the crawlspace			
Q	12.1	1151	End of the crawlspace			
R	13.2	1251	Start of the abandoned well service			
S	14.2	1346	End of the abandoned well service			
Т	14.6	1387	Exiting the basement			
U	15.1	1434	Start of the post-exit ambient			
V	16.1	1533	End of the post-exit ambient			
W	16.7	1583	Begin 30 mL/min spike			
Х	17.6	1668	End 30 mL/min spike			



 Figure 5c
 Unit 113 Survey for Trichloroethene and Tetrachloroethene

	Figure 5d					
	TAGA Target Compound Survey Summary for Unit 113 File: LVS109 Acquired on 15 August 2006 at 13:47:55					
		Trichloroethene	Tetrachloroethene			
	Detection Limits - DL:	0.035	0.081			
	Quantitation Limits - QL:	0.12	0.27			
Flags	Description	Trichloroethene	Tetrachloroethene			
A - B	Pre-entry ambient	DL=0.035	DL=0.081			
D - E	Living room	DL=0.035	DL=0.081			
F - G	Kitchen	DL=0.035	DL=0.081			
H - I	Bathroom	DL=0.035	DL=0.081			
J - K	Laundry room	DL=0.035	DL=0.081			
N - O	Basement	DL=0.035	DL=0.081			
P - Q	Crawlspace	DL=0.035	DL=0.081			
R - S	Abandoned well service	DL=0.035	DL=0.081			
U - V	Post-exit ambient	DL=0.035	DL=0.081			
W - X	30 mL/min spike	6.5	5.9			

Concentrations are in part per billion by volume (ppbv)



Figure 6a Unit 009 Survey Floor Plan, LVS110

Figure 6b					
TAGA File Event Summary File: I VS110 Acquired on 15 August 2006 at 14:35:11					
Title: Unit 009 Survey					
Flag	Offset Time	Offset Sequence	Description		
А	1.2	116	Start of the pre-entry ambient		
В	2.2	210	End of the pre-entry ambient		
С	2.8	268	Entering the unit		
D	3.3	313	Start of the living room		
Е	4.3	406	End of the living room		
G	6.8	648	Start of the dining room		
Н	7.8	745	End of the dining room		
Ι	8.1	771	Start of the kitchen		
J	9.1	866	End of the kitchen		
K	9.7	918	Start of the den		
L	10.7	1013	End of the den		
М	10.9	1031	Start of bathroom 1		
Ν	11.9	1126	End of bathroom 1		
0	12.1	1151	Start of bedroom 1		
Р	13.1	1244	End of bedroom 1		
Q	13.3	1268	Start of bedroom 2		
R	14.4	1363	End of bedroom 2		
S	14.6	1384	Start of bathroom 2		
Т	15.6	1478	End of bathroom 2		
U	16.5	1567	Start of basement room 1		
V	17.5	1660	End of basement room 1		
W	17.9	1700	Start of basement room 2		
Х	18.9	1793	End of basement room 2		
Y	19.3	1828	Start of basement room 3		
Z	20.3	1923	End of basement room 3		
A2	20.7	1963	Start of the sub-slab probe		
B2	21.7	2057	End of the sub-slab probe		
	Figure 6b (continued)				
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	TAGA File Event Summary File: LVS110 Acquired on 15 August 2006 at 14:35:11 Title: Unit 009 Survey				
Flag	Offset Time	Offset Sequence	Description		
C2	22.2	2111	Start of the floor drain		
D2	23.2	2205	End of the floor drain		
E2	24.2	2296	Start of hole 1 in the basement floor		
F2	25.2	2391	End of hole 1 in the basement floor		
G2	25.9	2459	Start of hole 2 in the basement floor		
H2	26.9	2554	End of hole 2 in the basement floor		
I2	27.4	2606	Start of abandoned pipes in the room 3 closet		
J2	28.4	2701	End of abandoned pipes in the room 3 closet		
K2	30.1	2859	Exiting the unit		
L2	30.8	2926	Start of the post-exit ambient		
M2	31.7	3008	End of the post-exit ambient		
N2	32.9	3119	Begin 30 mL/min spike		
O2	34.0	3229	End 30 mL/min spike		



TAGA Target Compound Survey Summary for Unit 009 File: LVS110 Acquired on 15 August 2006 at 14:35:11						
	Trichloroethene Tetrachloroethene					
	Detection Limits - DL:	0.035	0.081			
	Quantitation Limits - QL:	0.12	0.27			
Flags	Description	Trichloroethene	Tetrachloroethene			
A - B	Pre-enter ambient	DL=0.035	DL=0.081			
D - E	Living room	0.067J	DL=0.081			
G - H	Dining room	0.066J	DL=0.081			
I - J	Kitchen	0.063J	DL=0.081			
K - L	Den	0.066J	DL=0.081			
M - N	Bathroom 1	0.063J	DL=0.081			
O - P	Bedroom 1	0.066J	DL=0.081			
Q - R	Bedroom 2	0.061J	DL=0.081			
S - T	Bathroom 2	0.060J	DL=0.081			
U - V	Basement room 1	0.13	DL=0.081			
W - X	Basement room 2	0.14	DL=0.081			
Y - Z	Basement room 3	0.14	DL=0.081			
A2 - B2	Sub-slab probe	0.15	DL=0.081			
C2 - D2	Floor drain	0.12	DL=0.081			
E2 - F2	Hole 1 in the basement floor	0.68	0.13J			
G2 - H2	Hole 2 in the basement floor	0.14	DL=0.081			
I2 - J2	Abandoned pipes in room 3 closet	0.14	DL=0.081			
L2 - M2	Post-exit ambient	DL=0.035	DL=0.081			
N2 - O2	30 mL/min spike	6.6	5.8			

# Figure 6d

Concentrations are part per billion by volume (ppbv) J = Below quantitation limit



Figure 7aUnit 010 Survey Floor Plan, LVS111

	Figure 7b				
	TAGA File Event Summary File: LVS111 Acquired on 15 August 2006 at 15:39:14				
	Title: Unit 010 Survey				
Flag	Offset Time	Offset Sequence	Description		
А	1.1	109	Start of the pre-entry ambient		
В	2.1	204	End of the pre-entry ambient		
С	3.5	333	Entering the unit		
D	4.6	433	Start of the laundry room		
Е	5.5	526	End of the laundry room		
F	5.8	556	Start of bathroom 1		
G	6.8	651	End of bathroom 1		
Н	7.3	694	Start of the Rec room		
Ι	8.3	787	End of the Rec room		
J	8.7	831	Start of the storage room		
K	9.7	926	End of the storage room		
L	10.0	949	Start of the sub-slab probe		
М	11.0	1042	End of the sub-slab probe		
Ν	11.5	1094	Start of the family room		
0	12.5	1187	End of the family room		
Р	13.2	1257	Start of the kitchen		
Q	14.2	1350	End of the kitchen		
R	14.6	1388	Start of the sewing room		
S	15.6	1483	End of the sewing room		
Т	16.8	1600	Start of the living room		
U	17.8	1695	End of the living room		
V	18.8	1782	Start of the foyer		
W	19.8	1877	End of the foyer		
Х	20.5	1951	Start of bathroom 2		
Y	21.8	2069	End of bathroom 2		
Z	22.1	2099	Start of bedroom 1		
A2	23.1	2192	End of bedroom 1		

TAGA File Event Summary File: LVS111 Acquired on 15 August 2006 at 15:39:14 Title: Unit 010 Survey				
Flag	Offset Time	Offset Sequence	Description	
B2	23.3	2216	Start of bedroom 2	
C2	24.3	2311	End of bedroom 2	
D2	24.6	2334	Start of bedroom 3	
E2	25.6	2429	End of bedroom 3	
F2	26.3	2496	Exiting the unit	
G2	26.9	2556	Start of the post-exit ambient	
H2	27.8	2638	End of the post-exit ambient	
I2	28.4	2698	Begin 30 mL/min spike	
J2	29.5	2798	End 30 mL/min spike	

# Figure 7b (continued)



Figure 7cUnit 010 Survey for Trichloroethene and Tetrachloroethene

	TAGA Target Compound Survey Summary for Unit 010 File: LVS111 Acquired on 15 August 2006 at 15:39:14				
Trichloroethene Tetrachloro					
	Detection Limits - DL:	0.035	0.081		
	Quantitation Limits - QL:	0.12	0.27		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.035	DL=0.081		
D - E	Laundry room	DL=0.035	DL=0.081		
F - G	Bathroom 1	DL=0.035	DL=0.081		
H - I	Rec room	DL=0.035	DL=0.081		
J - K	Storage room	DL=0.035	DL=0.081		
L - M	Sub-slab probe	DL=0.035	DL=0.081		
N - O	Family room	DL=0.035	DL=0.081		
P - Q	Kitchen	DL=0.035	DL=0.081		
R - S	Sewing room	DL=0.035	DL=0.081		
T - U	Living room	DL=0.035	DL=0.081		
V - W	Foyer	DL=0.035	DL=0.081		
X - Y	Bathroom 2	DL=0.035	DL=0.081		
Z - A2	Bedroom 1	DL=0.035	DL=0.081		
B2 - C2	Bedroom 2	DL=0.035	DL=0.081		
D2 - E2	Bedroom 3	DL=0.035	DL=0.081		
G2 - H2	Post-exit ambient	DL=0.035	DL=0.081		
I2 - J2	30 mL/min spike	6.2	5.5		

# Figure 7d

Concentrations are in part per billion by volume (ppbv)



Figure 8aUnit 114 Survey Floor Plan, LVS112

	Figure 8b				
	TAGA File Event Summary				
	Title: Unit 114 Survey				
Flag	Offset Time	Offset Sequence	Description		
А	1.6	153	Start of the pre-entry ambient		
В	2.6	249	End of the pre-entry ambient		
С	3.7	349	Entering the unit		
D	4.1	393	Start of the living room		
Е	5.1	488	End of the living room		
F	5.6	532	Start of the front room		
G	6.6	626	End of the front room		
Н	6.9	657	Start of the dining room		
Ι	7.9	752	End of the dining room		
J	8.1	771	Start of the kitchen		
К	9.1	866	End of the kitchen		
L	9.4	895	Start of the bathroom		
М	10.4	991	End of the bathroom		
Ν	11.0	1047	Start of the back room		
0	12.0	1140	End of the back room		
Р	13.0	1238	Start center of the basement		
Q	14.0	1331	End center of the basement		
R	14.4	1366	Start of crawlspace 1		
S	15.4	1459	End of crawlspace 1		
Т	15.8	1499	Start of crawlspace 2		
U	16.8	1595	End of crawlspace 2		
V	17.6	1671	Exiting the unit		
W	21.5	2037	Start of the post-exit ambient		
Х	22.5	2133	End of the post-exit ambient		
Y	23.1	2198	Begin 30 mL/min spike		
Z	24.4	2313	End 30 mL/min spike		



Figure 8c Unit 114 Survey for Trichloroethene and Tetrachloroethene

	TAGA Target Compound Survey Summary for Unit 114 File: LVS112 Acquired on 15 August 2006 at 16:43:36					
	Trichloroethene         Tetrachloroethene					
	Detection Limits - DL:	0.035	0.081			
Quantitation Limits - QL: 0.12 0.27						
Flags	Description	Trichloroethene	Tetrachloroethene			
A - B	Pre-entry ambient	DL=0.035	DL=0.081			
D - E	Living room	DL=0.035	DL=0.081			
F - G	Front room	DL=0.035	DL=0.081			
H - I	Dining room	DL=0.035	DL=0.081			
J - K	Kitchen	DL=0.035	DL=0.081			
L - M	Bathroom	DL=0.035	DL=0.081			
N - O	Back room	DL=0.035	DL=0.081			
P - Q	Basement	DL=0.035	DL=0.081			
R - S	Crawlspace 1	DL=0.035	DL=0.081			
T - U	Crawlspace 2	0.054J	DL=0.081			
W - X	Post-exit ambient	DL=0.035	DL=0.081			
Y - Z	30 mL/min spike	6.5	5.4			

## Figure 8d

Concentrations are part per billion by volume (ppbv) J = Below quantitation limit



Figure 9aUnit 114 Investigation Floor Plan, LVS113

	Figure 9b			
	TAGA File Event Summary			
	File: LVS113 Acquired on 15 August 2006 at 17:12:36 Title: Unit 114 Investigation			
Flag	Offset Time	Offset Sequence	Description	
А	1.2	118	Start of the pre-entry ambient	
В	2.2	213	End of the pre-entry ambient	
С	2.7	254	Entering the unit	
D	9.0	854	Descending into the basement	
Е	9.5	901	Starting counter clockwise sweep	
F	9.9	944	Passing crawlspace 1	
G	10.9	1031	Middle of the wall facing street	
Н	11.5	1091	Passing electrical panel	
Ι	12.1	1148	Passing water service	
J	13.1	1241	Starting wall facing back of the house	
K	13.6	1292	Passing crawlspace 2	
L	15.3	1453	Exiting basement	
М	21.1	2004	Exiting the unit	
N	22.1	2103	Start of the post-exit ambient	
0	23.1	2198	End of the post-exit ambient	
Р	24.4	2317	Begin 30 mL/min spike	
Q	26.3	2500	End 30 mL/min spike	



 Figure 9c
 Unit 114 Investigation for Trichloroethene and Tetrachloroethene



Figure 10aUnit 115 Survey Floor Plan, LVS114

Figure 10b					
	TAGA File Event Summary				
	Title: Unit 115 Survey				
Flag	Offset Time	Offset Sequence	Description		
А	1.2	116	Start of the pre-entry ambient		
В	2.2	211	End of the pre-entry ambient		
С	3.0	287	Entering unit		
D	3.5	335	Start of bathroom 1		
Е	4.5	431	End of bathroom 1		
F	4.8	457	Start of the family room		
G	5.8	551	End of the family room		
Н	6.1	582	Start of the kitchen		
Ι	7.1	675	End of the kitchen		
J	7.5	710	Start of the dining/breakfast room		
К	8.5	803	End of the dining/breakfast room		
L	8.8	833	Start of the living room		
М	9.8	930	End of the living room		
N	10.2	969	Start of the bedroom		
0	11.2	1062	End of the bedroom		
Р	11.4	1083	Start of bathroom 2		
Q	12.4	1180	End of bathroom 2		
R	13.7	1300	Start of the basement water service side		
S	14.7	1393	End of the basement water service side		
Т	15.3	1450	Start of the basement hot water heater side		
U	16.2	1543	End of the basement hot water heater side		
V	16.6	1573	Start of the crawl space		
W	17.6	1670	End of the crawl space		
Х	18.5	1760	Exiting unit		
Y	19.4	1846	Start of the post-exit ambient		
Z	20.4	1939	End of the post-exit ambient		
A2	21.0	1998	Begin 30 mL/min spike		
B2	22.2	2108	End 30 mL/min spike		



Figure 10cUnit 115 Survey for Trichloroethene and Tetrachloroethene

TAGA Target Compound Survey Summary for Unit 115 File: LVS114 Acquired on 15 August 2006 at 18:05:46						
	Trichloroethene Tetrachloroethene					
	Detection Limits - DL:	0.035	0.081			
	Quantitation Limits - QL:	0.12	0.27			
Flags	Description	Trichloroethene	Tetrachloroethene			
A - B	Pre-entry ambient	DL=0.035	DL=0.081			
D - E	Bathroom 1	DL=0.035	DL=0.081			
F - G	Family room	DL=0.035	DL=0.081			
H - I	Kitchen	DL=0.035	DL=0.081			
J - K	Dining/breakfast room	DL=0.035	DL=0.081			
L - M	Living room	DL=0.035	DL=0.081			
N - O	Bedroom	DL=0.035	DL=0.081			
P - Q	Bathroom 2	DL=0.035	DL=0.081			
R - S	Basement water service side	DL=0.035	DL=0.081			
T - U	Basement hot water heater side	DL=0.035	DL=0.081			
V - W	Crawl space	DL=0.035	DL=0.081			
Y - Z	Post-exit ambient	DL=0.035	DL=0.081			
A2 - B2	30 mL/min spike	6.2	5.2			

## Figure 10d

Concentrations are part per billion by volume (ppbv)



Figure 11a Unit 017 Survey Floor Plan, LVS115

Figure 11b					
	TAGA File Event Summary				
	Title: Unit 017 Survey				
Flag	Offset Time	Offset Sequence	Description		
А	1.1	110	Start of the pre-entry ambient		
В	2.1	204	End of the pre-entry ambient		
С	3.6	340	Entering unit		
D	4.1	389	Start of the living room		
Е	5.1	485	End of the living room		
F	5.4	517	Start of the kitchen		
G	6.4	610	End of the kitchen		
Н	7.1	676	Start of the dining room		
Ι	8.2	776	End of the dining room		
J	8.5	803	Start of bedroom 1		
K	9.5	898	End of bedroom 1		
L	9.7	926	Start of bedroom 2		
М	10.8	1029	End of bedroom 2		
N	11.1	1050	Start of bedroom 3		
0	12.1	1145	End of bedroom 3		
Р	12.3	1172	Start of bathroom 1		
Q	13.3	1268	End of bathroom 1		
R	14.6	1382	Start of basement room 1		
S	15.5	1475	End of basement room 1		
Т	15.8	1497	Start of bathroom 2		
U	16.8	1592	End of bathroom 2		
V	17.0	1616	Start of basement room 2		
W	18.0	1709	End of basement room 2		
Х	18.3	1740	Start the of sub-slab probe		
Y	19.3	1833	End of the sub-slab probe		
Z	19.7	1871	Start of the sump		
A2	20.7	1966	End of the sump		
B2	21.5	2046	Exiting unit		
C2	22.5	2140	Start of the post-exit ambient		
D2	23.5	2233	End of the post-exit ambient		
E2	24.1	2291	Begin 30 mL/min spike		
F2	25.3	2398	End 30 mL/min spike		



Figure 11c Unit 017 Survey for Trichloroethene and Tetrachloroethene

TAGA Target Compound Survey Summary for Unit 017 File: LVS115 Acquired on 15 August 2006 at 18:49:30						
	Trichloroethene         Tetrachloroethene					
	Detection Limits - DL:	0.035	0.081			
	Quantitation Limits - QL:	0.12	0.27			
Flags	Description	Trichloroethene	Tetrachloroethene			
A - B	Pre-entry ambient	DL=0.035	DL=0.081			
D - E	Living room	0.092J	DL=0.081			
F - G	Kitchen	0.099J	DL=0.081			
H - I	Dining room	0.093J	DL=0.081			
J - K	Bedroom 1	0.099J	DL=0.081			
L - M	Bedroom 2	0.12	DL=0.081			
N - O	Bedroom 3	0.11J	DL=0.081			
P - Q	Bathroom 1	0.089J	DL=0.081			
R - S	Basement room 1	0.11J	DL=0.081			
T - U	Bathroom 2	0.11J	DL=0.081			
V - W	Basement room 2	0.11J	DL=0.081			
X - Y	Sub-slab probe	0.11J	DL=0.081			
Z - A2	Sump	0.079J	DL=0.081			
C2 - D2	Post-exit ambient	DL=0.035	DL=0.081			
E2 - F2	30 mL/min spike	6.1	5.3			

# Figure 11d

Concentrations are part per billion by volume (ppbv) J = Below quantitation limit



Figure 12aUnit 116 Survey Floor Plan, LVS120

TAGA File Event Summary File: LVS120 Acquired on 16 August 2006 at 08:44:36 Title: Unit 116 Survey					
Flag	Offset Time	Offset Sequence	Description		
А	2.1	201	Start of the pre-entry ambient		
В	3.1	296	End of the pre-entry ambient		
С	3.5	337	Entering the unit		
D	4.2	395	Start of the front office		
Е	5.2	490	End of the front office		
F	5.9	561	Start of the middle office		
G	6.9	656	End of the middle office		
Н	7.2	683	Start of the bathroom		
Ι	8.2	776	End of the bathroom		
J	8.4	800	Start of the kitchen		
К	9.4	895	End of the kitchen		
L	10.2	973	Start of the center of the basement		
М	11.3	1071	End of the center of the basement		
Ν	12.1	1150	Exiting the unit		
0	12.5	1191	Start of the post-exit ambient		
Р	13.5	1286	End of the post-exit ambient		
Q	14.3	1362	Begin 30 mL/min spike		
R	15.4	1462	End 30 mL/min spike		

Figure	12h
I IZUIU	140



Figure 12cUnit 116 Survey for Trichloroethene and Tetrachloroethene

Figure 12d					
TAGA Target Compound Survey Summary for Unit 116 File: LVS120 Acquired on 16 August 2006 at 08:44:36					
	Trichloroethene         Tetrachloroethene				
Detection Limits - DL:		0.071	0.074		
Quantitation Limits - QL:		0.24	0.25		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.071	DL=0.074		
D - E	Front office	DL=0.071	DL=0.074		
F - G	Middle office	DL=0.071	DL=0.074		
H - I	Bathroom	DL=0.071	DL=0.074		
J - K	Kitchen	DL=0.071	DL=0.074		
L - M	Center of the basement	DL=0.071	DL=0.074		
O - P	Post-exit ambient	DL=0.071	DL=0.074		
Q - R	30 mL/min spike	6.9	6.8		

Concentrations are in part per billion by volume (ppbv)



Figure 13aUnit 117 Survey Floor Plan, LVS121

Figure 13b				
	TAGA File Event Summary			
Title: Unit 117 Survey				
Flag	Offset Time	Offset Sequence	Description	
Α	1.1	101	Start of the pre-entry ambient	
В	2.1	196	End of the pre-entry ambient	
С	2.7	258	Entering the unit	
D	3.1	292	Start of the coat room	
E	4.1	386	End of the coat room	
F	4.2	403	Start of the kitchen	
G	5.2	496	End of the kitchen	
Н	5.5	519	Start of the dining area	
Ι	6.5	614	End of the dining area	
J	6.7	636	Start of the living room	
K	7.7	729	End of the living room	
L	8.0	758	Start of the bathroom	
М	9.0	852	End of the bathroom	
N	9.2	875	Start of the bedroom	
0	10.2	969	End of the bedroom	
Р	10.7	1020	Exiting the unit	
Q	11.3	1074	Entering the basement	
R	13.7	1303	Start of the center of the basement	
S	14.9	1412	End of the center of the basement	
Т	15.1	1438	Start of the sump	
U	16.1	1533	End of the sump	
V	16.6	1577	Exiting the basement	
W	17.3	1643	Start of the post-exit ambient	
X	18.3	1738	End of the post-exit ambient	
Y	18.9	1792	Begin 30 mL/min spike	
Z	20.2	1922	End 30 mL/min spike	



 Figure 13c
 Unit 117 Survey for Trichloroethene and Tetrachloroethene

Figure 13d					
TAGA Target Compound Survey Summary for Unit 117 File: LVS121 Acquired on 16 August 2006 at 09:31:32					
	Trichloroethene Tetrachloroethene				
	Detection Limits - DL:	0.071	0.074		
Quantitation Limits - QL:		0.24	0.25		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.071	0.081J		
D - E	Coat room	DL=0.071	0.24J		
F - G	Kitchen	DL=0.071	0.24J		
H - I	Dining area	DL=0.071	0.21J		
J - K	Living room	DL=0.071	0.26		
L - M	Bathroom	DL=0.071	0.29		
N - O	Bedroom	DL=0.071	0.22J		
R - S	Center of the basement	DL=0.071	0.21J		
T - U	Sump	DL=0.071	0.16J		
W - X	Post-exit ambient	DL=0.071	DL=0.074		
Y - Z	30 mL/min spike	6.4	6.5		

Concentrations are in part per billion by volume (ppbv) J = Below quantitation limit



Figure 14aUnit 118 Survey Floor Plan, LVS122

Figure 14b				
	TAGA File Event Summary			
	Title: Unit 118 Survey			
Flag	Offset Time	Offset Sequence	Description	
А	1.1	101	Start of the pre-entry ambient	
В	2.2	205	End of the pre-entry ambient	
С	3.7	351	Entering the unit	
D	3.9	375	Start of the living room	
Е	5.0	471	End of the living room	
F	5.2	495	Start of the dining room	
G	6.2	591	End of the dining room	
Н	6.5	617	Start of the kitchen	
Ι	7.5	713	End of the kitchen	
J	7.8	740	Start of bedroom 1	
K	8.8	835	End of bedroom 1	
L	9.1	860	Start of bedroom 2	
М	10.1	955	End of bedroom 2	
Ν	10.3	974	Start of the bathroom	
О	11.3	1074	End of the bathroom	
Р	11.8	1118	Start of bedroom 3	
Q	12.7	1211	End of bedroom 3	
R	13.7	1300	Start of the center of the basement	
S	14.7	1395	End of the center of the basement	
Т	15.6	1477	Start of the crawl space	
U	16.6	1572	End of the crawl space	
V	17.4	1653	Start of the sump	
W	18.4	1748	End of the sump	
Х	19.8	1879	Exiting the unit	
Y	20.6	1955	Start of the post-exit ambient	
Ζ	21.6	2050	End of the post-exit ambient	
A2	22.0	2092	Begin 30 mL/min spike	
B2	23.2	2202	End 30 mL/min spike	



Figure 14cUnit 118 Survey for Trichloroethene and Tetrachloroethene

Figure 14d					
TAGA Target Compound Survey Summary for Unit 118 File: LVS122 Acquired on 16 August 2006 at 10:10:28					
	Trichloroethene         Tetrachloroethene				
	Detection Limits - DL:	0.071	0.074		
Quantitation Limits - QL:		0.24	0.25		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.071	DL=0.074		
D - E	Living room	DL=0.071	DL=0.074		
F - G	Dining room	DL=0.071	DL=0.074		
H - I	Kitchen	DL=0.071	DL=0.074		
J - K	Bedroom 1	DL=0.071	DL=0.074		
L - M	Bedroom 2	DL=0.071	DL=0.074		
N - O	Bathroom	DL=0.071	DL=0.074		
P - Q	Bedroom 3	DL=0.071	DL=0.074		
R - S	Center of the basement	DL=0.071	DL=0.074		
T - U	Crawl space	DL=0.071	DL=0.074		
V - W	Sump	DL=0.071	DL=0.074		
Y - Z	Post-exit ambient	DL=0.071	DL=0.074		
A2 - B2	30 mL/min spike	5.4	5.0		

Concentrations are in part per billion by volume (ppbv)



Figure 15aUnit 119 Survey Floor Plan, LVS123
Figure 15b				
	TAGA File Event Summary File: LVS123 Acquired on 16 August 2006 at 10:59:15			
		Title:	Unit 119 Survey	
Flag	Offset Time	Offset Sequence	Description	
A	1.1	101	Start of the pre-entry ambient	
В	2.1	198	End of the pre-entry ambient	
С	2.9	280	Entering the unit	
D	3.8	357	Start of the living room	
Е	4.8	454	End of the living room	
F	5.1	484	Start of the kitchen	
G	6.1	579	End of the kitchen	
Н	6.4	606	Start of the bathroom	
Ι	7.4	701	End of the bathroom	
J	7.7	731	Start of the bedroom	
K	8.7	825	End of the bedroom	
L	9.7	924	Start of the basement	
М	10.7	1019	End of the basement	
N	11.7	1112	Exiting the unit	
0	12.5	1188	Start of the post-exit ambient	
Р	13.5	1283	End of the post-exit ambient	
Q	14.3	1360	Begin 30 mL/min spike	
R	16.1	1528	End 30 mL/min spike	



 Figure 15c
 Unit 119 Survey for Trichloroethene and Tetrachloroethene

Figure 15d					
	TAGA Target Compound Survey Summary for Unit 119 File: LVS123 Acquired on 16 August 2006 at 10:59:15				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.071	0.074		
	Quantitation Limits - QL:	0.24	0.25		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.071	DL=0.074		
D - E	Living room	DL=0.071	0.10J		
F - G	Kitchen	DL=0.071	0.11J		
H - I	Bathroom	DL=0.071	0.11J		
J - K	Bedroom	DL=0.071	0.12J		
L - M	Basement	DL=0.071	DL=0.074		
O - P	Post-exit ambient	DL=0.071	DL=0.074		
Q - R	30 mL/min spike	6.5	6.2		

Concentrations are in part per billion by volume (ppbv) J = Below quantitation limit



Figure 16aUnit 083 Survey Floor Plan, LVS125

Figure 16b					
	TAGA File Event Summary				
	Title: Unit 083 Survey				
Flag	Offset Time	Offset Sequence	Description		
А	1.1	101	Start of the pre-entry ambient		
В	2.1	196	End of the pre-entry ambient		
С	2.6	246	Entering the unit		
D	2.8	262	Start of the living room		
Е	3.8	357	End of the living room		
F	4.2	395	Start of bedroom 1		
G	5.1	489	End of bedroom 1		
Н	5.5	519	Start of bedroom 2		
Ι	6.5	614	End of bedroom 2		
J	6.7	637	Start of bathroom 1		
K	7.7	732	End of bathroom 1		
L	8.0	764	Start of bathroom 2		
М	9.1	860	End of bathroom 2		
Ν	9.4	890	Start of bedroom 3		
0	10.4	985	End of bedroom 3		
Р	10.8	1026	Start of the kitchen		
Q	11.8	1123	End of the kitchen		
R	12.1	1150	Start of the computer room		
S	13.1	1245	End of the computer room		
Т	14.0	1332	Start of the center of the basement		
U	15.1	1436	End of the center of the basement		
V	15.4	1466	Start of the sub-slab probe		
W	16.4	1561	End of the sub-slab probe		
X	16.8	1599	Start of the sump		
Y	17.8	1692	End of the sump		
Z	18.4	1752	Start of the furnace area		
A2	19.4	1846	End of the furnace area		
B2	20.4	1936	Exiting the unit		
C2	21.2	2017	Start of the post-exit ambient		
D2	22.2	2110	End of the post-exit ambient		
E2	23.1	2192	Begin 30 mL/min spike		
F2	24.5	2322	End 30 mL/min spike		



 Figure 16c
 Unit 083 Survey for Trichloroethene and Tetrachloroethene

Figure 16d					
	TAGA Target Compound Survey Summary for Unit 083 File: LVS125 Acquired on 16 August 2006 at 13:14:30				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.054	0.059		
	Quantitation Limits - QL:	0.18	0.20		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.054	DL=0.059		
D - E	Living room	DL=0.054	DL=0.059		
F - G	Bedroom 1	DL=0.054	DL=0.059		
H - I	Bedroom 2	DL=0.054	DL=0.059		
J - K	Bathroom 1	DL=0.054	DL=0.059		
L - M	Bathroom 2	DL=0.054	DL=0.059		
N - O	Bedroom 3	DL=0.054	DL=0.059		
P - Q	Kitchen	DL=0.054	DL=0.059		
R - S	Computer room	DL=0.054	DL=0.059		
T - U	Center of the basement	0.083J	DL=0.059		
V - W	Sub-slab probe	0.083J	DL=0.059		
X - Y	Sump	0.075J	DL=0.059		
Z - A2	Furnace area	0.089J	DL=0.059		
C2 - D2	Post-exit ambient	DL=0.054	DL=0.059		
E2 - F2	30 mL/min spike	7.6	7.0		

Concentrations are in part per billion by volume (ppbv) J = Below quantitation limit



Figure 17aUnit 120 Survey Floor Plan, LVS126

TAGA File Event Summary File: LVS126 Acquired on 16 August 2006 at 14:00:07					
	Title: Unit 120 Survey				
Flag	Offset Time	Offset Sequence	Description		
А	1.1	107	Start of the pre-entry ambient		
В	2.1	202	End of the pre-entry ambient		
С	3.9	367	Entering the unit		
D	4.1	389	Start of the kitchen		
E	5.1	482	End of the kitchen		
F	5.4	515	Start of the sitting area		
G	6.4	610	End of the sitting area		
Н	6.9	659	Start of living room 1		
Ι	7.9	754	End of living room 1		
J	J 8.2 776 Start of the bedroom		Start of the bedroom		
K	9.2	871	End of the bedroom		
L	10.2	971	Start of living room 2		
М	11.2	1064	End of living room 2		
N	11.6	1102	Start of the bathroom		
0	12.6	1199	End of the bathroom		
Р	13.8	1310	Start of the center of the basement		
Q	14.8	1404	End of the center of the basement		
R	15.2	1446	Start of the sump		
S	16.2	1541	End of the sump		
Т	16.5	1566	Start of the crawl space		
U	17.5	1659	End of the crawl space		
V	18.4	1743	Exiting the unit		
W	19.0	1805	Start of the post-exit ambient		
X	20.0	1900	End of the post-exit ambient		
Y	20.7	1962	Begin 30 mL/min spike		
Z	22.5	2139	End 30 mL/min spike		



Figure 17c Unit 120 Survey for Trichloroethene and Tetrachloroethene

Figure 17d					
	TAGA Target Compound Survey Summary for Unit 120 File: LVS126 Acquired on 16 August 2006 at 14:00:07				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.054	0.059		
	Quantitation Limits - QL:	0.18	0.20		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.054	DL=0.059		
D - E	Kitchen	DL=0.054	DL=0.059		
F - G	Sitting area	DL=0.054	DL=0.059		
H - I	Living room 1	DL=0.054	DL=0.059		
J - K	Bedroom	DL=0.054	DL=0.059		
L - M	Living room 2	DL=0.054	DL=0.059		
N - O	Bathroom	DL=0.054	DL=0.059		
P - Q	Center of the basement	DL=0.054	DL=0.059		
R - S	Sump	DL=0.054	DL=0.059		
T - U	Crawl space	DL=0.054	DL=0.059		
W - X	Post-exit ambient	DL=0.054	DL=0.059		
Y - Z	30 mL/min spike	7.9	6.8		



Figure 18a Unit 121 Survey Floor Plan, LVS127

Figure 18b					
	File	TAGA File	le Event Summary		
	Title: Unit 121 Survey				
Flag	Offset Time	Offset Sequence	Description		
А	0.7	66	Start of the pre-entry ambient		
В	1.7	161	End of the pre-entry ambient		
C	2.9	273	Entering unit B		
D	3.2	302	Start of the living room		
E	4.2	397	End of the living room		
F	4.4	421	Start of the kitchen		
G	5.4	515	End of the kitchen		
Н	5.6	531	Start of the bathroom		
Ι	6.6	625	End of the bathroom		
J	7.0	663	Exiting unit B		
K	7.2	688	Entering unit A		
L	7.4	708	Start of the living room		
М	8.5	803	End of the living room		
N	8.7	824	Start of the kitchen		
0	9.7	919	End of the kitchen		
Р	9.9	939	Start of the bathroom		
Q	11.0	1042	End of the bathroom		
R	11.3	1069	Exiting unit A		
S	12.1	1150	Entering the Unit B basement		
Т	12.9	1226	Start of the hot water heater at the side of basement		
U	13.9	1321	End of the hot water heater at the side of basement		
V	14.3	1354	Start of the unit B crawl space		
W	15.3	1449	End of the unit B crawl space		
X	16.1	1528	Start the center of the unit A basement		
Y	17.1	1621	End the center of the unit A basement		
Z	17.6	1672	Start of the well		
A2	18.6	1767	End of the well		
B2	19.3	1833	Exiting the Unit A basement		
C2	20.5	1945	Start of the post-exit ambient		
D2	21.5	2045	End of the post-exit ambient		
E2	22.1	2102	Begin 30 mL/min spike		
F2	24.1	2287	End 30 mL/min spike		



Figure 18c Unit 121 Survey for Trichloroethene and Tetrachloroethene

	Figure 18d				
	TAGA Target Compound Survey Summary for Unit 121 File: LVS127 Acquired on 16 August 2006 at 15:08:09				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.054	0.059		
	Quantitation Limits - QL:	0.18	0.20		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.054	DL=0.059		
D - E	Living room (unit B)	DL=0.054	DL=0.059		
F - G	Kitchen (unit B)	DL=0.054	DL=0.059		
H - I	Bathroom (unit B)	DL=0.054	DL=0.059		
L - M	Living room (unit A)	DL=0.054	DL=0.059		
N - O	Kitchen (unit A)	DL=0.054	DL=0.059		
P - Q	Bathroom (unit A)	DL=0.054	DL=0.059		
T - U	Hot water heater at side of basement (Unit B)	DL=0.054	DL=0.059		
V - W	Crawl space (unit B)	DL=0.054	DL=0.059		
X - Y	Center of the basement (unit A)	DL=0.054	DL=0.059		
Z - A2	Well	DL=0.054	DL=0.059		
C2 - D2	Post-exit ambient	DL=0.054	DL=0.059		
E2 - F2	30 mL/min spike	8.9	6.8		



Figure 19aUnit 122 Survey Floor Plan, LVS128

Figure 19b					
	TAGA File Event Summary File: LVS128 Acquired on 16 August 2006 at 15:54:35				
	-	Title: Ur	nit 122 Survey		
Flag	Flag         Offset Time         Offset Sequence         Description				
Α	0.8	74	Start of the pre-entry ambient		
В	1.8	169	End of the pre-entry ambient		
С	2.6	248	Entering the unit		
D	2.8	262	Start of the living room		
Е	3.8	357	End of the living room		
F	4.0	381	Start of bedroom 1		
G	5.0	476	End of bedroom 1		
Н	5.3	500	Start of the bathroom		
Ι	6.3	595	End of the bathroom		
J	6.5	614	Start of bedroom 2		
K	7.4	707	End of bedroom 2		
L	7.7	729	Start of the kitchen		
М	8.7	822	End of the kitchen		
N	9.6	909	Start of the center of the basement		
0	10.6	1004	End of the center of the basement		
Р	11.4	1079	Start of hole in the basement floor		
Q	12.4	1178	End of hole in the basement floor		
R	12.9	1226	Start of the sewer service		
S	13.9	1321	End of the sewer service		
Т	14.5	1379	Exiting the unit		
U	15.6	1479	Start of the post-exit ambient		
V	16.6	1574	End of the post-exit ambient		
W	17.1	1622	Begin 30 mL/min spike		
Х	19.2	1822	End 30 mL/min spike		



 Figure 19c
 Unit 122 Survey for Trichloroethene and Tetrachloroethene

rigure 190						
	TAGA Target Compound Survey Summary for Unit 122 File: LVS128 Acquired on 16 August 2006 at 15:54:35					
	Trichloroethene         Tetrachloroethene					
	Detection Limits - DL:	0.054	0.059			
	Quantitation Limits - QL:	0.18	0.20			
Flags	Description	Trichloroethene	Tetrachloroethene			
A - B	Pre-entry ambient	DL=0.054	DL=0.059			
D - E	Living room	DL=0.054	DL=0.059			
F - G	Bedroom 1	DL=0.054	DL=0.059			
H - I	Bathroom	DL=0.054	DL=0.059			
J - K	Bedroom 2	DL=0.054	DL=0.059			
L - M	Kitchen	DL=0.054	DL=0.059			
N - O	Center of the basement	DL=0.054	DL=0.059			
P - Q	Hole in the basement floor	DL=0.054	DL=0.059			
R - S	Sewer service	DL=0.054	DL=0.059			
U - V	Post-exit ambient	DL=0.054	DL=0.059			
W - X	30 mL/min spike	8.0	6.0			

## Figure 19d



Figure 20aUnit 123 Survey Floor Plan, LVS129

Figure 20b				
1	TAGA File Event Summary			
		Title:	Unit 123 Survey	
Flag	Offset Time	Offset Sequence	Description	
Α	0.8	77	Start of the pre-entry ambient	
В	1.8	174	End of the pre-entry ambient	
С	2.9	278	Entering the unit	
D	3.2	300	Start of the dining room	
Е	4.2	395	End of the dining room	
F	4.5	424	Start of the living room	
G	5.5	519	End of the living room	
Н	5.6	534	Start of the bedroom	
Ι	I 6.6 629 End of the bedroom		End of the bedroom	
J	6.9	658	Start of the kitchen	
K	7.9	751	End of the kitchen	
L	8.1	767	Start of the bathroom	
М	9.1	862	End of the bathroom	
N	9.9	941	Start of the center of the basement	
0	10.9	1038	End of the center of the basement	
Р	11.2	1066	Start of the sump	
Q	12.2	1159	End of the sump	
R	12.6	1199	Start of the drain pipe	
S	13.6	1294	End of the drain pipe	
Т	13.9	1318	Start of the well pipe	
U	14.9	1411	End of the well pipe	
V	16.0	1522	Exiting the unit	
W	16.8	1596	Start of the post-exit ambient	
X	17.8	1691	End of the post-exit ambient	
Y	18.5	1757	Begin 30 mL/min spike	
Z	20.4	1939	End 30 mL/min spike	



 Figure 20c
 Unit 123 Survey for Trichloroethene and Tetrachloroethene

Figure 20d					
	TAGA Target Compound Survey Summary for Unit 123 File: LVS129 Acquired on 16 August 2006 at 16:37:55				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.054	0.059		
	Quantitation Limits - QL:	0.18	0.20		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.054	DL=0.059		
D - E	Dining room	0.32	DL=0.059		
F - G	Living room	0.32	DL=0.059		
H - I	Bedroom	0.34	DL=0.059		
J - K	Kitchen	0.33	DL=0.059		
L - M	Bathroom	0.37	DL=0.059		
N - O	Basement	DL=0.054	DL=0.059		
P - Q	Sump	DL=0.054	DL=0.059		
R - S	Drain pipe	DL=0.054	DL=0.059		
T - U	Well pipe	DL=0.054	DL=0.059		
W - X	Post-exit ambient	DL=0.054	DL=0.059		
Y - Z	30 mL/min spike	7.2	6.0		



Figure 21aUnit 109 Survey Floor Plan, LVS130

Figure 21b				
TAGA File Event Summary File: LVS130 Acquired on 16 August 2006 at 17:18:43				
Title: Unit 109 Survey				
Flag	Offset Time	Offset Sequence	Description	
А	0.7	71	Start of the pre-entry ambient	
В	1.7	166	End of the pre-entry ambient	
С	3.3	313	Entering the unit	
D	3.6	346	Start of the living room	
Е	4.6	441	End of the living room	_
F	5.1	484	Start of bedroom 1	
G	6.1	577	End of bedroom 1	
Н	6.3	599	Start of bedroom 2	
Ι	7.3	693	End of bedroom 2	
J	7.6	718	Start of the bathroom	
K	8.5	811	End of the bathroom	
L	8.8	833	Start of bedroom 3	
М	9.8	928	End of bedroom 3	
N	10.0	949	Start of the kitchen	
0	11.0	1044	End of the kitchen	
Р	11.2	1061	Start of the dining room	
Q	12.2	1158	End of the dining room	
R	13.4	1275	Start of basement room 1	
S	14.4	1368	End of basement room 1	
Т	14.7	1398	Start of the sub-slab probe	
U	15.7	1495	End of the sub-slab probe	
V	16.2	1537	Start of floor drain 1	
W	17.2	1632	End of floor drain 1	
X	18.4	1743	Start of the shop area	
Y	19.4	1838	End of the shop area	
Ζ	20.0	1895	Start of basement room 2	
A2	20.9	1988	End of basement room 2	

Figure 21b (continued)				
	TAGA File Event Summary File: LVS130 Acquired on 16 August 2006 at 17:18:43 Title: Unit 109 Survey			
Flag         Offset Time         Offset Sequence         Description		Description		
B2	21.3	2021	Start of the laundry room	
C2	22.3	2116	End of the laundry room	
D2	22.6	2142	Start of floor drain 2	
E2	23.5	2235	End of floor drain 2	
F2	25.0	2378	Exiting the unit	
G2	25.6	2431	Start of the post-exit ambient	
H2	26.7	2537	End of the post-exit ambient	
I2	27.7	2627	Begin 30 mL/min spike	
J2	28.9	2742	End 30 mL/min spike	



TAGA Target Compound Survey Summary for Unit 109 File: LVS130 Acquired on 16 August 2006 at 17:18:43			
		Trichloroethene	Tetrachloroethene
	Detection Limits - DL:	0.054	0.059
	Quantitation Limits - QL:	0.18	0.20
Flags	Description	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.054	DL=0.059
D - E	Living room	DL=0.054	DL=0.059
F - G	Bedroom 1	DL=0.054	DL=0.059
H - I	Bedroom 2	DL=0.054	DL=0.059
J - K	Bathroom	DL=0.054	DL=0.059
L - M	Bedroom 3	DL=0.054	DL=0.059
N - O	Kitchen	DL=0.054	DL=0.059
P - Q	Dining room	DL=0.054	DL=0.059
R - S	Basement room 1	0.17J	DL=0.059
T - U	Sub-slab probe	0.18J	DL=0.059
V - W	Floor drain 1	5.2	DL=0.059
X - Y	Shop area	0.17J	DL=0.059
Z - A2	Basement room 2	0.17J	DL=0.059
B2 - C2	Laundry room	0.17J	DL=0.059
D2 - E2	Floor drain 2	4.4	1.4
G2 - H2	Post-exit ambient	DL=0.054	DL=0.059
I2 - J2	30 mL/min spike	6.8	5.8

## Figure 21d

Concentrations are in part per billion by volume (ppbv) J = Below quantitation limit



Figure 22aUnit 124 Survey Floor Plan, LVS135

Figure22b				
TAGA File Event Summary				
	File: LVS135 Acquired on 17 August 2006 at 12:30:42 Title: Unit 124 Survey			
Flag	Offset Time	Offset Sequence	Description	
А	0.8	74	Start of the pre-entry ambient	
В	1.7	167	End of the pre-entry ambient	
С	3.2	303	Entering the unit	
D	3.5	332	Start of the living room	
Е	4.5	425	End of the living room	
F	5.8	553	Start of bedroom 1	
G	6.8	648	End of bedroom 1	
Н	7.1	672	Start of the laundry room	
Ι	8.1	767	End of the laundry room	
J	8.3	784	Start of the bathroom	
K	9.3	882	End of the bathroom	
L	9.9	941	Start of the kitchen	
М	10.9	1038	End of the kitchen	
Ν	11.5	1093	Start of bedroom 2	
0	12.5	1185	End of bedroom 2	
Р	13.3	1259	Exiting the unit	
Q	13.8	1314	Start of the crawl space	
R	14.8	1409	End of the crawl space	
S	15.4	1460	Start of the post-exit ambient	
Т	16.4	1555	End of the post-exit ambient	
U	17.2	1637	Begin 30 mL/min spike	
V	19.0	1805	End 30 mL/min spike	



 Figure 22c
 Unit 124 Survey for Trichloroethene and Tetrachloroethene

TAGA Target Compound Survey Summary for Unit 124 File: LVS135 Acquired on 17 August 2006 at 12:30:42			
		Trichloroethene	Tetrachloroethene
	Detection Limits - DL:	0.064	0.077
	Quantitation Limits - QL:	0.21	0.26
Flags	Description	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.064	DL=0.077
D - E	Living room	DL=0.064	DL=0.077
F - G	Bedroom 1	DL=0.064	DL=0.077
H - I	Laundry room	DL=0.064	DL=0.077
J - K	Bathroom	DL=0.064	DL=0.077
L - M	Kitchen	DL=0.064	DL=0.077
N - O	Bedroom 2	DL=0.064	DL=0.077
Q - R	Crawl space	DL=0.064	DL=0.077
S - T	Post-exit ambient	DL=0.064	DL=0.077
U - V	30 mL/min spike	7.3	6.6



Figure 23aUnit 071 Survey Floor Plan, LVS136

Figure 23b				
TAGA File Event Summary File: LVS136 Acquired on 17 August 2006 at 13:10:44				
	Title: Unit 071 Survey			
Flag	Offset Time	Offset Sequence	Description	
А	0.7	66	Start of the pre-entry ambient	
В	1.7	161	End of the pre-entry ambient	
С	2.7	259	Entering the unit	
D	2.9	280	Start of the kitchen	
E	3.9	375	End of the kitchen	
F	4.4	414	Start of the dining room	
G	5.4	509	End of the dining room	
Н	5.7	538	Start of the living room	
Ι	6.7	634	End of the living room	
J	8.1	772	Start of bedroom 1	
K	9.1	867	End of bedroom 1	
L	9.3	884	Start of bathroom 1	
М	10.3	981	End of bathroom 1	
Ν	10.6	1009	Start of bathroom 2	
0	11.6	1104	End of bathroom 2	
Р	12.1	1148	Start of the TV room	
Q	13.1	1242	End of the TV room	
R	13.6	1294	Start of bedroom 2	
S	14.6	1389	End of bedroom 2	
Т	14.8	1406	Start of bedroom 3	
U	15.8	1501	End of bedroom 3	
V	16.1	1525	Start of bathroom 3	
W	17.1	1620	End of bathroom 3	
X	18.1	1719	Start of the laundry area	
Y	19.1	1814	End of the laundry area	
Z	19.7	1870	Start of storage room 1	
A2	20.7	1964	End of storage room 1	

Figure 250 (continued)			
TAGA File Event Summary File: LVS136 Acquired on 17 August 2006 at 13:10:44 Title: Unit 071 Survey			
Flag	Offset Time	Offset Sequence	Description
B2	21.6	2048	Start of the storage room 2
C2	22.6	2142	End of the storage room 2
D2	22.8	2169	Start of the sub-slab probe
E2	23.8	2263	End of the sub-slab probe
F2	24.3	2311	Start of the furnace area
G2	25.3	2402	End of the furnace area
H2	25.9	2460	Start of the well pipe
I2	27.0	2559	End of the well pipe
J2	27.5	2608	Start of the shop area
K2	28.5	2702	End of the shop area
L2	29.4	2793	Exiting the unit
M2	30.0	2846	Start of the post-exit ambient
N2	30.8	2922	End of the post-exit ambient
02	31.8	3022	Begin 30 mL/min spike
P2	33.6	3186	End 30 mL/min spike

Figure 23b (continued)



Figure 25c Ont 071 Survey for Themoroculone and Tenaemoroculo
Figure 25u						
	TAGA Target Compound Survey Summary for Unit 071 File: LVS136 Acquired on 17 August 2006 at 13:10:44					
	Trichloroethene         Tetrachloroethene					
	Detection Limits - DL:	0.064	0.077			
	Quantitation Limits - QL:	0.21	0.26			
Flags	Description	Trichloroethene	Tetrachloroethene			
A - B	Pre-entry ambient	DL=0.064	DL=0.077			
D - E	Kitchen	0.073J	DL=0.077			
F - G	Dining room	0.089J	DL=0.077			
H - I	Living room	0.097J	DL=0.077			
J - K	Bedroom 1	0.067J	DL=0.077			
L - M	Bathroom 1	DL=0.064	DL=0.077			
N - O	Bathroom 2	DL=0.064	DL=0.077			
P - Q	TV room	0.076J	DL=0.077			
R - S	Bedroom 2	0.086J	DL=0.077			
T - U	Bedroom 3	0.084J	DL=0.077			
V - W	Bathroom 3	0.079J	DL=0.077			
X - Y	Laundry area	0.070J	DL=0.077			
Z - A2	Storage room 1	DL=0.064	DL=0.077			
B2 - C2	Storage room 2	0.076J	DL=0.077			
D2 - E2	Sub-slab probe	0.071J	DL=0.077			
F2 - G2	Furnace area	0.069J	DL=0.077			
H2 - I2	Well pipe	DL=0.064	DL=0.077			
J2 - K2	Shop area	DL=0.064	DL=0.077			
M2 - N2	Post-exit ambient	DL=0.064	DL=0.077			
O2 - P2 30 mL/min spike		6.4	6.0			

Figure 23d

Concentrations are in part per billion by volume (ppbv) J = Below quantitation limit



Figure 24a Unit 125 Survey Floor Plan, LVS137

Figure 24b					
	TAGA File Event Summary File: LVS137 Acquired on 17 August 2006 at 14:24:38				
	Title: Unit 125 Survey				
Flag	Offset Time	Offset Sequence	Description		
А	0.9	82	Start of the pre-entry ambient		
В	1.9	179	End of the pre-entry ambient		
С	2.2	210	Entering the unit		
D	2.5	240	Start of living room 1		
Е	3.5	334	End of living room 1		
F	4.0	376	Start of living room 2		
G	4.9	470	End of living room 2		
Н	5.3	503	Start of bedroom 1		
Ι	6.3	599	End of bedroom 1		
J	6.6	631	Start of bedroom 2		
K	7.6	724	End of bedroom 2		
L	7.8	746	Start of the bathroom		
М	8.9	843	End of the bathroom		
Ν	9.5	906	Start of the computer room		
0	10.5	1001	End of the computer room		
Р	10.7	1019	Start of the kitchen		
Q	11.7	1115	End of the kitchen		
R	12.2	1158	Exiting the unit		
S	13.5	1283	Entering the basement		
Т	13.9	1316	Start of the center of the basement		
U	15.0	1427	End of the center of the basement		
V	16.9	1601	Start of the crawl space		
W	17.8	1694	End of the crawl space		
X	18.3	1741	Exiting the unit		
Y	19.0	1805	Start of the post-exit ambient		
Z	20.0	1903	End of the post-exit ambient		
A2	20.7	1962	Begin 30 mL/min spike		
B2	21.9	2082	End 30 mL/min spike		



Figure 24cUnit 125 Survey for Trichloroethene and Tetrachloroethene

Elguit 27u						
	TAGA Target Compound Survey Summary for Unit 125 File: LVS137 Acquired on 17 August 2006 at 14:24:38					
	Trichloroethene         Tetrachloroethene					
	Detection Limits - DL:	0.064	0.077			
	Quantitation Limits - QL:	0.21	0.26			
Flags	Description	Trichloroethene	Tetrachloroethene			
A - B	Pre-entry ambient	DL=0.064	DL=0.077			
D - E	Living room 1	DL=0.064	DL=0.077			
F - G	Living room 2	DL=0.064	DL=0.077			
H - I	Bedroom 1	DL=0.064	DL=0.077			
J - K Bedroom 2		DL=0.064	DL=0.077			
L - M	Bathroom	DL=0.064	DL=0.077			
N - O	Computer room	DL=0.064	DL=0.077			
P - Q	Kitchen	DL=0.064	DL=0.077			
T - U	Basement	DL=0.064	DL=0.077			
V - W	Crawl space	DL=0.064	DL=0.077			
Y - Z	Post-exit ambient	DL=0.064	DL=0.077			
A2 - B2	30 mL/min spike	6.3	5.5			

## Figure 24d



Figure 25aUnit 088 Survey Floor Plan, LVS138

Figure 25b					
	TAGA File Event Summary				
	Title: Unit 088 Survey				
Flag	Offset Time	Offset Sequence	Description		
Α	0.8	80	Start of the pre-entry ambient		
В	1.9	180	End of the pre-entry ambient		
С	3.3	313	Entering the unit		
D	3.6	345	Start of the living room		
E	4.6	438	End of the living room		
F	4.9	462	Start of bedroom 1		
G	5.9	557	End of bedroom 1		
Н	6.2	593	Start of the kitchen		
Ι	7.2	686	End of the kitchen		
J	7.6	724	Start of the bathroom		
K	8.6	818	End of the bathroom		
L	8.8	832	Start of bedroom 2		
М	9.8	927	End of bedroom 2		
N	9.9	941	Start of bedroom 3		
0	10.9	1036	End of bedroom 3		
Р	11.8	1124	Start of the basement laundry room		
Q	12.9	1221	End of the basement laundry room		
R	14.0	1325	Start of basement room 1		
S	14.9	1419	End of basement room 1		
Т	15.9	1510	Start of basement room 2		
U	16.9	1605	End of basement room 2		
v	18.0	1710	Exiting the unit		
W	18.8	1787	Start of the post-exit ambient		
X	19.8	1884	End of the post-exit ambient		
Y	20.7	1962	Begin 30 mL/min spike		
Z	22.0	2092	End 30 mL/min spike		



Figure 25cUnit 088 Survey for Trichloroethene and Tetrachloroethene

rigut 25u					
	TAGA Target Compound Survey Summary for Unit 088 File: LVS138 Acquired on 17 August 2006 at 15:12:11				
	Trichloroethene         Tetrachloroethene				
	Detection Limits - DL:	0.064	0.077		
	Quantitation Limits - QL:	0.21	0.26		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.064	DL=0.077		
D - E	Living room	DL=0.064	DL=0.077		
F - G	Bedroom 1	DL=0.064	DL=0.077		
H - I	Kitchen	DL=0.064	DL=0.077		
J - K Bathroom		DL=0.064	DL=0.077		
L - M	Bedroom 2	DL=0.064	DL=0.077		
N - O	Bedroom 3	DL=0.064	DL=0.077		
P - Q	Basement laundry room	DL=0.064	DL=0.077		
R - S	Basement room 1	DL=0.064	DL=0.077		
T - U	Basement room 2	DL=0.064	DL=0.077		
W - X	Post-exit ambient	DL=0.064	DL=0.077		
Y - Z	30 mL/min spike	6.7	5.8		

Figure 25d



Figure 26aUnit 126 Survey Floor Plan, LVS139

Figure 26b					
	TAGA File Event Summary File: LVS139 Acquired on 17 August 2006 at 16:02:01				
	Title: Unit 126 Survey				
Flag	Offset Time	Offset Sequence	Description		
А	0.8	73	Start of the pre-entry ambient		
В	1.7	166	End of the pre-entry ambient		
С	2.7	261	Entering the unit		
D	3.2	307	Start of the family room		
Е	4.2	400	End of the family room		
F	4.5	430	Start of the office		
G	5.5	525	End of the office		
Н	6.0	566	Start of the dining room		
Ι	7.0	661	End of the dining room		
J	7.2	686	Start of the kitchen		
K	8.2	780	End of the kitchen		
L	8.4	797	Start of the bathroom		
М	9.4	890	End of the bathroom		
N	10.5	993	Start of the center of basement		
0	11.5	1090	End of the center of basement		
Р	11.8	1117	Start of the wood shop		
Q	12.8	1213	End of the wood shop		
R	13.1	1248	Start of the sump		
S	14.2	1344	End of the sump		
Т	15.4	1460	Exiting the unit		
U	16.1	1525	Start of the post-exit ambient		
V	17.0	1618	End of the post-exit ambient		
W	17.8	1687	Begin 30 mL/min spike		
Х	19.3	1832	End 30 mL/min spike		



Figure 26cUnit 126 Survey for Trichloroethene and Tetrachloroethene

	Figure 26d					
	TAGA Target Compound Survey Summary for Unit 126 File: LVS139 Acquired on 17 August 2006 at 16:02:01					
	Trichloroethene         Tetrachloroethene					
	Detection Limits - DL:	0.064	0.077			
	Quantitation Limits - QL:	0.21	0.26			
Flags	Description	Trichloroethene	Tetrachloroethene			
A - B	Pre-entry ambient	DL=0.064	DL=0.077			
D - E	Family room	DL=0.064	DL=0.077			
F - G	Office	DL=0.064	DL=0.077			
H - I Dining room		DL=0.064	DL=0.077			
J - K	Kitchen	DL=0.064	DL=0.077			
L - M	Bathroom	DL=0.064	DL=0.077			
N - O	Basement	DL=0.064	DL=0.077			
P - Q	Wood shop	DL=0.064	DL=0.077			
R - S	Sump	DL=0.064	DL=0.077			
U - V	Post-exit ambient	DL=0.064	DL=0.077			
W - X	30 mL/min spike	7.3	5.8			



Figure 27aUnit 128 Survey Floor Plan, LVS144

	TAGA File Event Summary File: LVS144 Acquired on 18 August 2006 at 08:02:27 Title: Unit 128 Survey			
Flag	Offset Time	Offset Sequence	Description	
А	0.7	69	Start of the pre-entry ambient	
В	1.7	164	End of the pre-entry ambient	
С	3.3	317	Entering the unit	
D	4.0	380	Start of the living room	
Е	5.0	474	End of the living room	
F	5.2	496	Start of the dining room	
G	6.4	607	End of the dining room	
Н	7.0	668	Start of the kitchen	
I	8.0	763	End of the kitchen	
J	8.4	798	Start of bedroom 1	
K	9.4	895	End of bedroom 1	
L	9.7	917	Start of bathroom 1	
М	10.6	1010	End of bathroom 1	
N	10.9	1035	Start of bedroom 2	
0	11.9	1130	End of bedroom 2	
Р	12.1	1151	Start of bathroom 2	
Q	13.1	1249	End of bathroom 2	
R	13.7	1300	Start of bedroom 3	
S	14.7	1396	End of bedroom 3	
Т	15.2	1445	Exiting the unit	
U	17.4	1652	Start of the crawl space	
V	18.4	1747	End of the crawl space	
W	19.5	1848	Start of the post-exit ambient	
X	20.5	1945	End of the post-exit ambient	
Y	21.1	2008	Begin 30 mL/min spike	
Z	23.1	2198	End 30 mL/min spike	



Figure 27cUnit 128 Survey for Trichloroethene and Tetrachloroethene

	TAGA Target Compound Survey Summary for Unit 128 File: LVS144 Acquired on 18 August 2006 at 08:02:27					
	Trichloroethene         Tetrachloroethene					
	Detection Limits - DL:	0.061	0.064			
	Quantitation Limits - QL:	0.20	0.21			
Flags	Description	Trichloroethene	Tetrachloroethene			
A - B	Pre-entry ambient	DL=0.061	DL=0.064			
D - E	Living room	DL=0.061	DL=0.064			
F - G	Dining room	DL=0.061	DL=0.064			
H - I Kitchen		DL=0.061	DL=0.064			
J - K Bedroom 1		DL=0.061	DL=0.064			
L - M	Bathroom 1	DL=0.061	DL=0.064			
N - O	Bedroom 2	DL=0.061	DL=0.064			
P - Q Bathroom 2		DL=0.061	DL=0.064			
R - S	Bedroom 3	DL=0.061	DL=0.064			
U - V	Crawl space	DL=0.061	DL=0.064			
W - X	Post-exit ambient	DL=0.061	DL=0.064			
Y - Z	30 mL/min spike	6.9	6.2			

Figure 27d



Figure 28aUnit 129 Survey Floor Plan, LVS145

TAGA File Event Summary File: LVS145 Acquired on 18 August 2006 at 08:44:39					
	Title: Unit 129 Survey				
Flag	Offset Time	Offset Sequence	Description		
А	0.8	75	Start of the pre-entry ambient		
В	1.8	172	End of the pre-entry ambient		
С	2.9	274	Entering the unit		
D	3.1	293	Start of the laundry room		
Е	4.1	388	End of the laundry room		
F	4.3	412	Start of the living room		
G	5.3	507	End of the living room		
Н	5.5	523	Start of the bathroom		
Ι	6.5	618	End of the bathroom		
J	6.9	654	Start of the kitchen		
K	7.9	750	End of the kitchen		
L	8.3	793	Start of bedroom 1		
М	9.3	888	End of bedroom 1		
Ν	9.6	915	Start of bedroom 2		
0	10.6	1010	End of bedroom 2		
Р	12.4	1176	Start of the crawl space		
Q	13.4	1271	End of the crawl space		
R	14.4	1366	Exiting the unit		
S	15.1	1432	Start of the post-exit ambient		
Т	16.2	1543	End of the post-exit ambient		
U	17.0	1613	Begin 30 mL/min spike		
V	19.4	1842	End 30 mL/min spike		



 Figure 28c
 Unit 129 Survey for Trichloroethene and Tetrachloroethene

Figure 28d					
	TAGA Target Compound Survey Summary for Unit 129 File: LVS145 Acquired on 18 August 2006 at 08:44:39				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.061	0.064		
	Quantitation Limits - QL:	0.20	0.21		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.061	DL=0.064		
D - E	Laundry room	DL=0.061	DL=0.064		
F - G	Living room	DL=0.061	DL=0.064		
H - I Bathroom		DL=0.061	DL=0.064		
J - K	Kitchen	DL=0.061	DL=0.064		
L - M	Bedroom 1	DL=0.061	DL=0.064		
N - O Bedroom 2		DL=0.061	DL=0.064		
P - Q	Crawl space	DL=0.061	DL=0.064		
S - T	Post-exit ambient	DL=0.061	DL=0.064		
U - V	30 mL/min spike	6.9	5.9		



Figure 29a Unit 130 Survey Floor Plan, LVS146

	Figure 29b				
	TAGA File Event Summary File: LVS146 Acquired on 18 August 2006 at 00:25:02				
	Title: Unit 130 Survey				
Flag	Offset Time	Offset Sequence	Description		
А	1.0	94	Start of the pre-entry ambient		
В	2.0	186	End of the pre-entry ambient		
С	2.2	214	Entering the unit		
D	2.4	227	Start of the kitchen		
Е	3.4	325	End of the kitchen		
F	3.9	372	Start of the bedroom		
G	4.9	466	End of the bedroom		
Н	5.2	491	Start of the great room		
Ι	6.2	588	End of the great room		
J	6.5	622	Start of the utility room		
K	7.5	717	End of the utility room		
L	8.2	776	Start of the laundry room		
М	9.2	871	End of the laundry room		
Ν	9.5	899	Start of the bathroom		
0	10.5	994	End of the bathroom		
Р	11.1	1057	Exiting the unit		
Q	13.2	1252	Start of the crawl space		
R	14.2	1347	End of the crawl space		
S	15.1	1432	Start of the post-exit ambient		
Т	16.2	1541	End of the post-exit ambient		
U	16.9	1603	Begin 30 mL/min spike		
V	18.4	1743	End 30 mL/min spike		



Figure 29c Unit 130 Survey for Trichloroethene and Tetrachloroethene

Figure 29d			
TAGA Target Compound Survey Summary for Unit 130 File: LVS146 Acquired on 18 August 2006 at 09:35:02			
		Trichloroethene	Tetrachloroethene
	Detection Limits - DL:	0.061	0.064
	Quantitation Limits - QL:	0.20	0.21
Flags	Description	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.061	DL=0.064
D - E	Kitchen	DL=0.061	DL=0.064
F - G	Bedroom	DL=0.061	DL=0.064
H - I Great room		DL=0.061	DL=0.064
J - K Utility room		DL=0.061	DL=0.064
L - M	Laundry room	DL=0.061	0.072J
N - O	Bathroom	DL=0.061	0.14J
Q - R	Crawl space	DL=0.061	DL=0.064
S - T	Post-exit ambient	DL=0.061	DL=0.064
U - V	30 mL/min spike	7.5	5.9

Concentrations are in part per billion by volume (ppbv) J = Below quantitation limit



Figure 30a Unit 055 Survey Floor Plan, LVS147

Figure 30b					
	TAGA File Event Summary				
	File: LVS147 Acquired on 18 August 2006 at 11:10:10				
<b>F</b> 1					
Flag	Offset Time	Offset Sequence	Description		
A	0.7	67	Start of the pre-entry ambient		
В	1.7	162	End of the pre-entry ambient		
C	2.2	214	Entering the unit		
D	2.6	252	Start of the kitchen		
E	3.6	347	End of the kitchen		
F	3.9	374	Start of the dining room		
G	4.9	469	End of the dining room		
Н	5.1	486	Start of the living room		
Ι	6.1	583	End of the living room		
J	6.4	608	Start of the bathroom		
Κ	7.4	703	End of the bathroom		
L	7.6	724	Start of bedroom 1		
М	8.6	819	End of bedroom 1		
Ν	8.8	836	Start of bedroom 2		
0	9.8	932	End of bedroom 2		
Р	10.0	953	Start of the laundry room		
Q	11.0	1048	End of the laundry room		
R	12.2	1162	Start of the basement		
S	13.2	1257	End of the basement		
Т	13.6	1290	Start of sub-slab probe 1		
U	14.6	1386	End of sub-slab probe 1		
V	14.8	1409	Start of sub-slab probe 2		
W	15.8	1504	End of sub-slab probe 2		
Х	16.0	1523	Start of the sump		
Y	17.0	1617	End of the sump		
Z	17.4	1651	Start of the floor drain		
A2	18.4	1752	End of the floor drain		
B2	19.2	1828	Start of the storage room		
C2	20.3	1923	End of the storage room		
D2	20.9	1983	Exiting the unit		
E2	21.7	2064	Start of the post-exit ambient		
F2	22.7	2157	End of the post-exit ambient		
G2	23.4	2223	Begin 30 mL/min spike		
H2	25.2	2393	End 30 mL/min spike		



Figure 30cUnit 055 Survey for Trichloroethene and Tetrachloroethene

Figure 30d					
TAGA Target Compound Survey Summary for unit 055 File: LVS147 Acquired on 18 August 2006 at 11:10:10					
	Trichloroethene Tetrachloroethene				
	Detection Limits - DL:	0.061	0.064		
	Quantitation Limits - QL:	0.20	0.21		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.061	DL=0.064		
D - E	Kitchen	DL=0.061	DL=0.064		
F - G	Dining room	DL=0.061	DL=0.064		
H - I	Living room	DL=0.061	DL=0.064		
J - K	Bathroom	DL=0.061	DL=0.064		
L - M	Bedroom 1	DL=0.061	DL=0.064		
N - O Bedroom 2		DL=0.061	DL=0.064		
P - Q	Laundry room	DL=0.061	DL=0.064		
R - S	Basement	DL=0.061	DL=0.064		
T - U	Sub-slab port 1	DL=0.061	DL=0.064		
V - W	Sub-slab port 2	DL=0.061	DL=0.064		
X - Y	Sump	DL=0.061	DL=0.064		
Z - A2	Floor drain	DL=0.061	DL=0.064		
B2 - C2	Storage room	DL=0.061	DL=0.064		
E2 - F2	Post-exit ambient	DL=0.061	DL=0.064		
G2 - H2	30 mL/min spike	7.8	6.5		



Figure 31a Unit 041 Survey Floor Plan, LVS149

Figure 31b			
TAGA File Event Summary File: LVS149 Acquired on 18 August 2006 at 12:13:06			
Title: Unit 041 Survey			
Flag	Offset Time	Offset Sequence	Description
А	0.8	74	Start of the pre-entry ambient
В	1.7	167	End of the pre-entry ambient
С	2.6	247	Entering the unit
D	2.9	276	Start of the living room
E	3.9	374	End of the living room
F	4.2	399	Start of bedroom 1
G	5.3	508	End of bedroom 1
Н	5.7	539	Start of bedroom 2
Ι	6.7	635	End of bedroom 2
J	7.1	671	Start of the bathroom
K	8.1	766	End of the bathroom
L	8.3	790	Start of bedroom 3
М	9.3	885	End of bedroom 3
N	9.7	917	Start of the kitchen
0	10.7	1012	End of the kitchen
Р	10.9	1031	Start of the laundry room
Q	11.9	1127	End of the laundry room
R	12.4	1176	Start of basement room 1
S	13.4	1271	End of basement room 1
Т	14.0	1326	Start of basement room 2
U	15.0	1421	End of basement room 2
V	15.2	1443	Start of sub-slab probe 1
W	16.2	1538	End of sub-slab probe 1
X	17.1	1627	Start of the abandoned pipe in the wall
Y	18.1	1722	End of the abandoned pipe in the wall
Z	18.8	1788	Start of the gas service
A2	19.8	1883	End of the gas service

TAGA File Event Summary File: LVS149 Acquired on 18 August 2006 at 12:13:06 Title: Unit 041 Survey			
Flag	Offset Time	Offset Sequence	Description
B2	20.3	1923	Start of basement room 3
C2	21.2	2016	End of basement room 3
D2	21.5	2041	Start of sub-slab probe 2
E2	22.5	2136	End of sub-slab probe 2
F2	22.7	2160	Start of the floor drain
G2	23.7	2255	End of the floor drain
H2	24.0	2283	Start of the abandoned drain pipe
I2	25.0	2377	End of the abandoned drain pipe
J2	26.1	2476	Start of the abandoned well pipe
K2	27.2	2584	End of the abandoned well pipe
L2	27.8	2644	Start of the abandoned drain pipe
M2	29.0	2756	End of the abandoned drain pipe
N2	29.9	2836	Exiting the unit
02	30.6	2907	Start of the post-exit ambient
P2	31.6	3002	End of the post-exit ambient
Q2	32.4	3073	Begin 30 mL/min spike
R2	34.4	3263	End 30 mL/min spike

## Figure 31b (continued)



Figure 51ú			
TAGA Target Compound Survey Summary for Unit 041 File: LVS149 Acquired on 18 August 2006 at 12:13:06			
		Trichloroethene	Tetrachloroethene
	Detection Limits - DL:	0.057	0.061
	Quantitation Limits - QL:	0.19	0.20
Flags	Description	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.057	DL=0.061
D - E	Living room	0.32	0.085J
F - G	Bedroom 1	0.37	0.12J
H - I	Bedroom 2	0.14J	0.062J
J - K	Bathroom	0.28	0.084J
L - M	Bedroom 3	0.23	0.11J
N - O	Kitchen	0.35	0.093J
P - Q	Laundry	0.38	0.099J
R - S	Basement room 1	0.094J	0.11J
T - U	Basement room 2	DL=0.057	0.087J
V - W	Sub-slab probe 1	DL=0.057	0.082J
X - Y	Abandoned pipe in wall	0.059J	0.083J
Z - A2	Gas service	DL=0.057	0.078J
B2 - C2	Basement room 3	0.059J	0.095J
D2 - E2	Sub-slab probe 2	0.091J	0.10J
F2 - G2	Floor drain	0.089J	0.10J
H2 - I2	Abandoned drain pipe	0.093J	1.1
J2 - K2	Abandoned well pipe	0.086J	0.11J
L2 - M2	Abandoned drain pipe	0.11J	2.8
O2 - P2	Post-exit ambient	DL=0.057	DL=0.061
Q2 - R2	30 mL/min spike	7.1	6.3

Concentrations are in part per billion by volume (ppbv) J = Below quantitation limit



Figure 32aUnit 041 Investigation Floor Plan, LVS150

TAGA File Event Summary			
File: LVS150 Acquired on 18 August 2006 at 12:54:22 Title: Unit 041 Investigation			
Flag	Offset Time	Offset Sequence	Description
А	0.7	69	Start of the pre-entry ambient
В	1.7	162	End of the pre-entry ambient
С	3.0	281	Entering the unit
D	3.9	374	Sweeping living room table
Е	5.3	507	Sweeping TV cabinet
F	5.9	564	Sweeping bookshelf
G	7.3	698	Sweeping desk
Н	8.9	850	Sweeping fireplace
Ι	14.6	1386	Sweeping in bedroom 1
J	15.0	1421	Sweeping hall closet
K	23.1	2191	Sweeping in bathroom
L	24.0	2276	Sweeping light switch
М	24.7	2342	Sweeping water service
Ν	26.2	2491	Sweeping towel closet
0	28.6	2711	Sweeping shower
Р	30.6	2908	Sweeping in the kitchen
Q	33.1	3141	Sweeping water service
R	35.9	3410	Sweeping wall outlets
S	41.0	3891	Sweeping light switches
Т	42.2	4008	Sweeping away from light switches
U	43.0	4079	Sweeping living room outlet
V	43.9	4163	Sweeping light switch
W	44.2	4194	Exiting the unit


 Figure 32c
 Unit 041 Investigation for Trichloroethene and Tetrachloroethene



Figure 33a Unit 134 Survey Floor Plan, LVS151

TAGA File Event Summary File: LVS151 Acquired on 18 August 2006 at 13:59:40				
Title: Unit 134 Survey				
Flag	Offset Time	Offset Sequence	Description	
А	0.7	67	Start of the pre-entry ambient	
В	1.7	165	End of the pre-entry ambient	
С	2.1	203	Entering the unit	
D	2.5	241	Start of the dining room	
Е	3.5	336	End of the dining room	
F	3.7	355	Start of the living room	
G	4.7	450	End of the living room	
Н	4.9	467	Start of the bedroom	
Ι	5.9	562	End of the bedroom	
J	6.2	594	Start of the kitchen	
K	7.3	689	End of the kitchen	
L	7.4	706	Start of the bathroom	
М	8.4	801	End of the bathroom	
Ν	8.7	823	Start of the laundry room	
0	9.7	920	End of the laundry room	
Р	10.0	953	Exiting the unit	
Q	10.4	991	Entering the basement	
R	10.5	1000	Start of basement room 1	
S	11.5	1095	End of basement room 1	
Т	11.9	1129	Start of basement room 2	
U	12.9	1223	End of basement room 2	
V	13.2	1255	Start of basement room 3	
W	14.2	1350	End of basement room 3	
X	14.8	1409	Exiting the basement/exiting the unit	
Y	15.9	1514	Start of the post-exit ambient	
Z	16.9	1609	End of the post-exit ambient	
A2	17.6	1673	Begin 30 mL/min spike	
B2	19.2	1823	End 30 mL/min spike	



 Figure 33c
 Unit 134 Survey for Trichloroethene and Tetrachloroethene

Figure 33d					
	TAGA Target Compound Survey Summary for Unit 134 File: LVS151 Acquired on 18 August 2006 at 13:59:40				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.057	0.061		
	Quantitation Limits - QL:	0.19	0.20		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.057	DL=0.061		
D - E	Dining room	DL=0.057	DL=0.061		
F - G	Living room	DL=0.057	DL=0.061		
H - I Bedroom		DL=0.057	DL=0.061		
J - K	Kitchen	DL=0.057	DL=0.061		
L - M	Bathroom	DL=0.057	DL=0.061		
N - O	Laundry room	DL=0.057	DL=0.061		
R - S	Basement room 1	DL=0.057	DL=0.061		
T - U	Basement room 2	DL=0.057	DL=0.061		
V - W	Basement room 3	DL=0.057	DL=0.061		
Y - Z	Post-exit ambient	DL=0.057	DL=0.061		
A2 - B2	30 mL/min spike	7.4	6.1		



Figure 34aUnit 027 Survey Floor Plan, LVS152

Figure 34b				
	TAGA File Event Summary File: LVS152 Acquired on 18 August 2006 at 14:41:52			
		Title: Unit	027 Survey	
Flag	Offset Time	Offset Sequence	Description	
Α	0.7	72	Start of the pre-entry ambient	
В	1.8	168	End of the pre-entry ambient	
С	2.4	232	Entering the unit	
D	3.0	289	Start of the living room	
Е	4.1	393	End of the living room	
F	4.6	437	Start of the TV room	
G	5.6	532	End of the TV room	
Н	5.8	550	Start of bedroom 1	
Ι	6.8	649	End of bedroom 1	
J	7.0	667	Start of bedroom 2	
K	8.0	760	End of bedroom 2	
L	8.2	779	Start of bathroom 1	
М	9.2	876	End of bathroom 1	
N	9.6	915	Start of bathroom 2	
0	10.6	1007	End of bathroom 2	
Р	11.0	1045	Start of the dining room	
Q	12.0	1143	End of the dining room	
R	12.2	1163	Start of the kitchen	
S	13.2	1258	End of the kitchen	
Т	13.9	1317	Start of basement room 1	
U	14.9	1412	End of basement room 1	
V	15.8	1496	Start of the utility room	
W	16.7	1590	End of the utility room	
X	17.2	1636	Start of the sub-slab probe	
Y	18.2	1733	End of the sub-slab probe	
Z	18.6	1765	Start of the floor drain	
A2	19.7	1870	End of the floor drain	

Figure 34b (continued)				
	TAGA File Event Summary File: LVS152 Acquired on 18 August 2006 at 14:41:52 Title: Unit 027 Survey			
Flag	Offset Time	Offset Sequence	Description	
B2	20.5	1950	Start of the well pipe	
C2	21.8	2068	End of the well pipe	
D2	22.5	2138	Start of basement room 2	
E2	23.5	2234	End of basement room 2	
F2	23.8	2264	Start of bathroom 3	
G2	24.8	2359	End of bathroom 3	
H2	25.2	2393	Start of the shower drain	
I2	26.2	2489	End of the shower drain	
J2	27.0	2562	Exiting the basement	
K2	27.2	2579	Exiting the unit	
L2	29.0	2758	Start of the post-exit ambient	
M2	30.0	2853	End of the post-exit ambient	
N2	30.8	2926	Begin 30 mL/min spike	
O2	32.5	3090	End 30 mL/min spike	

## Figure 34b (continued)



Figure 34cUnit 027 Survey for Trichloroethene and Tetrachloroethene

Figure 34d					
	TAGA Target Compound Survey Summary for Unit 027 File: LVS152 Acquired on 18 August 2006 at 14:41:52				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.057	0.061		
	Quantitation Limits - QL:	0.19	0.20		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.057	DL=0.061		
D - E	Living room	DL=0.057	DL=0.061		
F - G	TV Room	DL=0.057	DL=0.061		
H - I	Bedroom 1	DL=0.057	DL=0.061		
J - K	Bedroom 2	DL=0.057	DL=0.061		
L - M	Bathroom 1	DL=0.057	DL=0.061		
N - O	Bathroom 2	DL=0.057	DL=0.061		
P - Q	Dining room	DL=0.057	DL=0.061		
R - S	Kitchen	DL=0.057	DL=0.061		
T - U	Basement room 1	0.070J	DL=0.061		
V - W	Utility room	0.090J	DL=0.061		
X - Y	Sub-slab probe	0.12J	DL=0.061		
Z - A2	Floor drain	4.5	2.1		
B2 - C2	Well pipe	0.25	0.062J		
D2 - E2	Basement room 2	0.074J	DL=0.061		
F2 - G2	Bathroom 3	0.13J	0.067J		
H2 - I2	Shower drain	0.14J	0.069J		
L2 - M2	Post-exit ambient	DL=0.057	DL=0.061		
N2 - O2	30 mL/min spike	7.4	6.2		

Concentrations are in part per billion by volume (ppbv) J = Below quantitation limit



Figure 35aUnit 131 Survey Floor Plan, LVS153

TAGA File Event Summary File: LVS153 Acquired on 18 August 2006 at 15:39:03 Title: Unit 131 Survey			
Flag	Offset Time	Offset Sequence	Description
A	0.7	67	Start of the pre-entry ambient
В	1.7	162	End of the pre-entry ambient
С	2.4	224	Entering the unit
D	2.5	241	Start of the kitchen
Е	3.5	336	End of the kitchen
F	3.8	358	Start of the dining room
G	4.8	460	End of the dining room
Н	5.3	505	Start of the bathroom
Ι	6.3	599	End of the bathroom
J	6.5	622	Start of the bedroom
K	7.5	716	End of the bedroom
L	7.9	754	Start of the computer room
М	8.9	850	End of the computer room
N	9.4	893	Start of the living room
0	10.4	989	End of the living room
Р	11.1	1050	Start of the back porch
Q	12.0	1143	End of the back porch
R	12.6	1195	Start of the basement
S	13.6	1290	End of the basement
Т	13.9	1320	Start of the living room crawl space
U	14.9	1415	End of the living room crawl space
V	15.9	1513	Exiting the unit
W	16.6	1575	Start of the post-exit ambient
Х	17.6	1670	End of the post-exit ambient
Y	18.1	1723	Begin 30 mL/min spike
Z	19.6	1863	End 30 mL/min spike



Figure 35c Unit 131 Survey for Trichloroethene and Tetrachloroethene

Figure 35d					
	TAGA Target Compound Survey Summary for Unit 131 File: LVS153 Acquired on 18 August 2006 at 15:39:03				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.057	0.061		
	Quantitation Limits - QL:	0.19	0.20		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.057	DL=0.061		
D - E	Kitchen	DL=0.057	DL=0.061		
F - G Dining room		DL=0.057	DL=0.061		
H - I Bathroom		DL=0.057	DL=0.061		
J - K	Bedroom	DL=0.057	DL=0.061		
L - M Computer room		DL=0.057	DL=0.061		
N - O	Living room	DL=0.057	DL=0.061		
P - Q	Back porch	DL=0.057	DL=0.061		
R - S	Basement	DL=0.057	DL=0.061		
T - U	Living room crawl space	DL=0.057	DL=0.061		
W - X	Post-exit ambient	DL=0.057	DL=0.061		
Y - Z	30 mL/min spike	7.5	5.9		



Figure 36a Unit 132 Survey Floor Plan, LVS154

Figure 36b				
	TAGA File Event Summary			
	1	Title: Ur	nit 132 Survey	
Flag	Offset Time	Offset Sequence	Description	
А	1.0	94	Start of the pre-entry ambient	
В	2.0	189	End of the pre-entry ambient	
С	2.6	244	Entering the unit	
D	2.9	273	Start of the living room	
Е	3.9	368	End of the living room	
F	4.2	403	Start of the front porch	
G	5.3	501	End of the front porch	
Н	5.8	553	Start of the computer room	
Ι	6.8	649	End of the computer room	
J	7.1	675	Start of the storage room	
K	8.1	768	End of the storage room	
L	8.5	804	Start of the kitchen	
М	9.5	902	End of the kitchen	
Ν	10.1	964	Start of the bathroom	
0	11.1	1057	End of the bathroom	
Р	12.1	1149	Start the center of basement 1	
Q	13.1	1244	End the center of basement 1	
R	14.2	1347	Start of the front porch	
S	15.2	1442	End of the front porch	
Т	16.8	1594	Exiting the unit	
U	17.7	1681	Start of the post-exit ambient	
V	18.7	1776	End of the post-exit ambient	
W	19.9	1894	Start of basement 2	
Х	20.9	1988	End of basement 2	
Y	21.6	2048	Start of the post-exit ambient	
Z	22.6	2147	End of the post-exit ambient	
A2	23.2	2203	Begin 30 mL/min spike	
B2	24.7	2343	End 30 mL/min spike	



210-DFA-101306

Figure 36d					
	TAGA Target Compound Survey Summary for Unit 132 File: LVS154 Acquired on 18 August 2006 at 16:16:22				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.057	0.061		
	Quantitation Limits - QL:	0.19	0.20		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.057	DL=0.061		
D - E	Living room	0.061J	DL=0.061		
F - G	Front porch	0.21	DL=0.061		
H - I	Computer room	DL=0.057	DL=0.061		
J - K Storage room		DL=0.057	DL=0.061		
L - M Kitchen		DL=0.057	DL=0.061		
N - O	Bathroom	DL=0.057	DL=0.061		
P - Q	Basement 1	DL=0.057	DL=0.061		
R - S	Front porch	0.11J	DL=0.061		
U - V	Post-exit ambient	DL=0.057	DL=0.061		
W - X	Basement 2	DL=0.057	DL=0.061		
Y - Z	Post-exit ambient	DL=0.057	DL=0.061		
A2 - B2	30 mL/min spike	7.6	6.0		

Concentrations are in part per billion by volume (ppbv) J = Below quantitation limit



Figure 37aUnit 133 Survey Floor Plan, LVS155

	Figure 37b			
	TAGA File Event Summary File: LVS155 Acquired on 18 August 2006 at 17:07:32			
	1	Title: Un	it 133 Survey	
Flag	Offset Time	Offset Sequence	Description	
А	0.7	69	Start of the pre-entry ambient	
В	1.9	179	End of the pre-entry ambient	
С	2.9	279	Entering the unit	
D	3.2	308	Start of the kitchen	
Е	4.2	403	End of the kitchen	
F	4.5	431	Start of the living room	
G	5.5	526	End of the living room	
Н	5.8	554	Start of the bedroom	
Ι	6.8	649	End of the bedroom	
J	7.3	692	Start of the office	
K	8.3	788	End of the office	
L	8.7	828	Start of the bathroom	
М	9.7	921	End of the bathroom	
N	10.0	950	Start of the laundry room	
0	11.0	1045	End of the laundry room	
Р	11.5	1097	Exiting the unit	
Q	12.2	1162	Entering the basement	
R	12.4	1181	Start of the basement	
S	13.4	1276	End of the basement	
Т	13.7	1303	Exiting the basement	
U	14.7	1394	Start of the post-exit ambient	
V	15.7	1491	End of the post-exit ambient	
W	16.2	1543	Begin 30 mL/min spike	
X	18.0	1711	End 30 mL/min spike	



 Figure 37c
 Unit 133 Survey for Trichloroethene and Tetrachloroethene

	Figure 37d				
	TAGA Target Compound Survey Summary for Unit 133 File: LVS155 Acquired on 18 August 2006 at 17:07:32				
		Trichloroethene	Tetrachloroethene		
	Detection Limits - DL:	0.057	0.061		
	Quantitation Limits - QL:	0.19	0.20		
Flags	Description	Trichloroethene	Tetrachloroethene		
A - B	Pre-entry ambient	DL=0.057	DL=0.061		
D - E	Kitchen	DL=0.057	DL=0.061		
F - G	Living room	DL=0.057	DL=0.061		
H - I	Bedroom	DL=0.057	DL=0.061		
J - K	Office	DL=0.057	DL=0.061		
L - M	Bathroom	DL=0.057	DL=0.061		
N - O	Laundry room	DL=0.057	DL=0.061		
R - S	Basement	DL=0.057	DL=0.061		
U - V	Post-exit ambient	DL=0.057	DL=0.061		
W - X	30 mL/min spike	7.6	6.0		

210-DFA-101306



Figure 38a Unit 036 Survey Floor Plan, LVS156

Figure 38b				
	TAGA File Event Summary File: LVS156 Acquired on 18 August 2006 at 17:48:13			
		Title: Un	it 036 Survey	
Flag	Offset Time	Offset Sequence	Description	
Α	0.7	66	Start of the pre-entry ambient	
В	1.7	161	End of the pre-entry ambient	
С	2.8	271	Entering the unit	
D	3.0	285	Start of the living room	
Е	4.0	382	End of the living room	
F	4.4	418	Start of the den	
G	5.4	512	End of the den	
Н	5.7	539	Start of the bathroom	
Ι	6.7	637	End of the bathroom	
J	7.4	700	Start of the kitchen	
K	8.4	796	End of the kitchen	
L	8.6	820	Start of the back porch	
М	9.6	915	End of the back porch	
N	10.3	983	Start of the back storage room	
0	11.3	1078	End of the back storage room	
Р	12.1	1154	Start of the basement	
Q	13.1	1249	End of the basement	
R	13.4	1269	Start of the sub-slab probe	
S	14.4	1363	End of the sub-slab probe	
Т	15.3	1453	Start of the crawl space	
U	16.3	1548	End of the crawl space	
V	17.2	1629	Exiting the basement	
W	17.9	1698	Exiting the unit	
X	19.0	1806	Start of the post-exit ambient	
Y	20.0	1901	End of the post-exit ambient	
Z	20.8	1973	Begin 30 mL/min spike	
A2	22.4	2123	End 30 mL/min spike	



210-DFA-101306

Figure 38d								
	TAGA Target Compound Survey Summary for Unit 036 File: LVS156 Acquired on 18 August 2006 at 17:48:13							
	Trichloroethene Tetrachloroethene							
	Detection Limits - DL:	0.057	0.061					
	Quantitation Limits - QL:	0.19	0.20					
Flags	Description	Trichloroethene	Tetrachloroethene					
A - B	Pre-entry ambient	DL=0.057	DL=0.061					
D - E	Living room	DL=0.057	DL=0.061					
F - G	Den	DL=0.057	DL=0.061					
H - I	Bathroom	DL=0.057	DL=0.061					
J - K	Kitchen	DL=0.057	DL=0.061					
L - M	Back porch	DL=0.057	DL=0.061					
N - O	Back storage room	DL=0.057	DL=0.061					
P - Q	Basement	DL=0.057	DL=0.061					
R - S	Sub-slab probe	DL=0.057	DL=0.061					
T - U	Crawl space	DL=0.057	DL=0.061					
X - Y	Post-exit ambient	DL=0.057	DL=0.061					
Z - A2	30 mL/min spike	6.8	5.8					

### APPENDIX A

Standard Gas Cylinder Certification Little Valley VI Extent Study

**Final Analytical Report** 

October 2006



3434 Route 22 West, Branchburg, New Jersey 08876 USA ISO 9001:2000

SHIPPED FROM: 80 INDUSTRIAL DRIVE ALPHA, NJ. 08865

#### SHIPPED TO:

Lockheed Martin GSA Raritan Depot, Bldg 209, Bay F 2890 Woodbridge Ave Edison, NJ 08837

94 <sup>11</sup> 141		CERTIFICATE
3		OF
		ANALYSIS
SGI ORDER # :	0092682	
ITEM#:	2	CYLINDER # : CC-197191
CERTIFICATION DATE:	07/18/2006	CYLINDER PRES: 1000 psig
P.O.# :	CC-C SHIELDS	CYLINDER VALVE: CGA 350
BLEND TYPE:	CERTIFIED	PRODUCT EXPIRATION DATE: 07/18/2007

#### ANALYTICAL ACCURACY: +/- 5%

COMPONENT	REQUESTED GAS	ANALYSIS	
Vinyl Chloride	20.0 ppm	20.4 ppm	
1,1-Dichloroethene	20.0 ppm	20.2 ppm	
Trans-1,2-Dichloroethylene	20.0 ppm	20.8 ppm	
Methyl Tert Butyl Ether	20.0 ppm	20.4 ppm	
Cis-1,2-Dichloroethylene	20.0 ppm	20.7 ppm	
Benzene	20.0 ppm	20.5 ppm	
Trichloroethylene	20.0 ppm	20.8 ppm	
Toluene	20.0 ppm	20.5 ppm	
Tetrachloroethylene	20.0 ppm	21.0 ppm	
Ethylbenzene	20.0 ppm	20.5 ppm	
p-Xylene	10.0 ppm	10.2 ppm	
m-Xylene	10.0 ppm	10.2 ppm	
o-Xylene	20.0 ppm	20.2 ppm	

Nitrogen

Balance

Balance

ANALYST April Chamberlain

DATE: 07/20/2006

Tel: +1 908-252-9300 Fax: +1 908-252-0811 www.spectragases.com

#### **APPENDIX B**

Compiled Meteorological Data Little Valley VI Extent Study Final Analytical Report

October 2006

## QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA HOURLY OBSERVATIONS TABLE CHAUTAUQUA CO/JAMESTOWN AP (04720) JAMESTOWN, NY (08/2006)

Elevation: 1723 ft. above sea level Latitude: 42.153 Longitude: -79.251 Data Version: VER2

#### U.S. Department of Commerce

National Oceanic & Atmospheric Administration

		Sky	Dry	Dew	Rel	Wind	Wind	Station	Precip.
		Conditions	Bulb	Point	Humd	Speed	Dir	Pressure	Total
			Temp	Temp	%	(MPH)	(deg)	(in Hg)	(in)
Date	Time		(F)	(F)					
August 15, 2006	55	BKN009 BKN016 BKN070	66	64	93	5	250	28.02	-
August 15, 2006	155	SCT060	64	61	90	6	350	28.04	-
August 15, 2006	255	BKN042	63	59	87	0	0	28.06	-
August 15, 2006	355	VV000	59	55	87	0	0	28.07	-
August 15, 2006	452	SCT080	61	54	78	3	310	28.09	-
August 15, 2006	556	SCT060	59	55	87	5	260	28.11	-
August 15, 2006	627	SCT060	61	57	87	5	250	28.11	-
August 15, 2006	656	SCT100	61	57	87	0	0	28.12	-
August 15, 2006	750	SCT100	64	57	78	6	250	28.13	-
August 15, 2006	854	FEW020 SCT100	68	59	73	8	250	28.13	-
August 15, 2006	1049	SCT034 BKN047	72	55	55	9	310	28.15	-
August 15, 2006	1149	FEW036 BKN050	73	54	52	15	320	28.15	-
August 15, 2006	1250	SCT050	73	52	48	15	300	28.16	-
August 15, 2006	1357	SCT050	73	52	48	12	290	28.17	-
August 15, 2006	1457	SCT050	73	52	48	15	280	28.18	-
August 15, 2006	1548	SCT050	73	52	48	14	280	28.19	-
August 15, 2006	1749	FEW044 FEW050	70	52	53	8	300	28.21	-
August 15, 2006	1847	FEW060	68	52	57	8	280	28.23	-
August 15, 2006	2155	SCT050	64	55	73	6	300	28.27	-
August 15, 2006	2255	CLR	63	54	73	5	340	28.28	-
August 15, 2006	2355	CLR	63	54	73	0	0	28.29	-
August 16, 2006	55	CLR	61	54	78	0	0	28.29	-
August 16, 2006	155	CLR	57	52	83	3	230	28.29	-
August 16, 2006	255	CLR	57	52	83	0	0	28.3	-
August 16, 2006	355	CLR	55	52	90	0	0	28.31	-
August 16, 2006	450	CLR	55	52	90	0	0	28.33	-
August 16, 2006	558	SCT001	55	54	96	0	0	28.35	-
August 16, 2006	647	FEW001	57	54	90	0	0	28.36	-
August 16, 2006	748	FEW100	63	54	73	5	360	28.38	-
August 16, 2006	851	FEW010	64	55	73	7	360	28.39	-

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		Sky	Dry	Dew	Rel	Wind	Wind	Station	Precip.
		Conditions	Bulb	Point	Humd	Speed	Dir	Pressure	Total
			Temp	Temp	%	(MPH)	(deg)	(in Hg)	(in)
Date	Time		(F)	(F)					
August 16, 2006	948	SCT020	66	55	68	5	360	28.4	-
August 16, 2006	1051	SCT030 BKN038	70	54	57	9	340	28.41	-
August 16, 2006	1147	SCT042	72	52	50	10	330	28.41	-
August 16, 2006	1249	SCT040	72	52	50	6	320	28.4	-
August 16, 2006	1355	SCT040	72	48	43	9	320	28.4	-
August 16, 2006	1453	SCT030	73	52	48	5	310	28.4	-
August 16, 2006	1756	CLR	72	50	46	5	330	28.4	-
August 16, 2006	2001	CLR	64	55	73	7	350	28.41	-
August 16, 2006	2058	CLR	64	55	73	6	360	28.42	-
August 16, 2006	2155	CLR	63	54	73	3	10	28.42	-
August 16, 2006	2255	CLR	63	54	73	0	0	28.43	-
August 16, 2006	2355	CLR	63	54	73	5	70	28.42	-
August 17, 2006	55	CLR	61	54	78	5	80	28.41	-
August 17, 2006	155	CLR	61	54	78	0	0	28.41	-
August 17, 2006	255	CLR	61	54	78	0	0	28.43	-
August 17, 2006	355	CLR	57	54	90	0	0	28.43	-
August 17, 2006	459	CLR	57	52	83	0	0	28.45	-
August 17, 2006	554	FEW130	57	54	90	0	0	28.46	-
August 17, 2006	650	FEW130	61	54	78	0	0	28.45	-
August 17, 2006	750	SCT130	63	55	75	3	80	28.45	-
August 17, 2006	850	SCT130	66	55	68	6	150	28.45	-
August 17, 2006	958	SCT130	70	57	64	8	150	28.43	-
August 17, 2006	1055	FEW020 SCT130	72	57	59	9	200	28.43	-
August 17, 2006	1147	FEW037 SCT130	73	57	57	9	160	28.41	-
August 17, 2006	1258	BKN043	75	59	58	6	190	28.4	-
August 17, 2006	1358	SCT043	75	57	54	7	210	28.38	-
August 17, 2006	1448	FEW030 BKN130	77	57	50	0	0	28.37	-
August 17, 2006	1727	SCT080	75	57	54	7	190	28.36	-
August 17, 2006	1847	OVC130	73	57	57	0	0	28.35	-
August 17, 2006	2001	CLR	70	57	64	5	160	28.35	-

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		Conditions	Bulb	Point	Humd	Speed	Dir	Pressure	Total
			Temp	Temp	%	(MPH)	(deg)	(in Hg)	(in)
Date	Time		(F)	(F)					
August 17, 2006	2155	CLR	66	57	73	3	160	28.36	-
August 17, 2006	2255	CLR	66	57	73	3	160	28.35	-
August 17, 2006	2355	CLR	66	57	73	3	150	28.36	-
August 18, 2006	55	CLR	66	57	73	0	0	28.34	-
August 18, 2006	155	CLR	66	57	73	3	190	28.34	-
August 18, 2006	255	CLR	64	57	78	3	180	28.33	-
August 18, 2006	455	CLR	64	55	73	8	170	28.33	-
August 18, 2006	551	BKN130	64	55	73	8	200	28.34	-
August 18, 2006	647	BKN130	64	57	78	7	190	28.34	-
August 18, 2006	748	FEW049 BKN130	66	57	73	6	190	28.34	-
August 18, 2006	851	FEW050 BKN130	70	59	68	7	200	28.34	-
August 18, 2006	950	BKN130	72	61	68	12	200	28.34	-
August 18, 2006	1049	BKN100	73	61	66	7	190	28.33	-
August 18, 2006	1147	FEW041 BKN110	75	63	66	9	180	28.31	-
August 18, 2006	1251	BKN110	77	64	64	8	220	28.3	-
August 18, 2006	1358	FEW050 BKN100	79	63	58	10	230	28.3	-
August 18, 2006	1458	FEW085 BKN100	77	64	64	9	230	28.29	-
August 18, 2006	1556	BKN085	75	63	66	7	210	28.28	-
August 18, 2006	1654	OVC075	73	64	74	5	190	28.28	-
August 18, 2006	1751	BKN075	73	64	74	5	200	28.28	-
August 18, 2006	1859	BKN065	73	64	74	7	200	28.27	-
August 18, 2006	1956	OVC065	72	63	73	6	210	28.27	-
August 18, 2006	2059	BKN065	72	63	73	6	190	28.27	-
August 18, 2006	2155	FEW048 OVC060	72	63	73	0	0	28.27	-
August 18, 2006	2255	OVC065	70	63	79	0	0	28.25	-
August 18, 2006	2355	OVC075	70	61	73	3	190	28.25	-