ENERGYSOLUTIONS

February 12, 2013
Ref. No. 31129-104

Mr. Jaspal Walia
Project Manager
New York State Department of Environmental Conservation, Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999

Subject: Second Supplemental Sub-Slab Gas Sampling Investigation Results
Leica, Inc. Site; Erie County, Cheektowaga, New York
Inactive Hazardous Waste Disposal Site No. 915156

Dear Mr. Walia:

Enclosed you will find the results of the indoor air and sub-slab soil vapor sampling event conducted at the Leica, Inc. facility on September 17-19, 2012. The samples were collected from fifteen different locations inside the building within the main warehouse areas to the northwest, west and south of the main facility loading dock. See the attached Figure 1 in Appendix A for sample locations. Figure 1 depicts old and new sampling locations. Data for the 15 new sampling locations is shown boxed in red. Symbols used to show the new 2012 sampling locations are black triangles, black plus signs and boxes with crosshatching.

Thirty minute subslab samples (black triangles) were collected at six of the 15 locations, 032, 033, 034, 035, 036, and 037. Eight hour subslab samples only (black plus sign), were collected at three of the 15 locations including 8hr-037, 8hr-038 and 8hr-039. Eight hour subslab and eight hour indoor air samples (black boxes with crosshatching) were collected from the remaining six locations including 8hr-040 through 8hr-045.

Indoor air and sub-slab vapor combined samples (8hr-040 thru 045) were collected in order to provide additional data regarding the extent of the vapor concentrations throughout the building and in the subslab vapors. Based on the fact that a NYSDOH Indoor Air Quality Questionnaire and Building Inventory Form was completed during past sampling events, and the effects of ancillary stored chemicals are expected to be relatively insignificant compared to the effects from the existing contamination, we did not complete another survey for this sampling event.

Samples 8hr-037 through 8hr-039 were collected at the same location as former 30 minute samples 024, 028 and 008 (respectively) in order to provide correlation between 30 minute and 8

hour sample results. Data suggests that the correlation between the two sets of data is very good with the variation in TCE concentrations less than or equal to 24% in all cases.

Thirty minute samples 032 through 037 were collected in order to provide further delineation of vapor hot spots detected in the samples collected in September of 2011. Samples from locations 8hr-040 through 8hr-045 were collected in order to further assess volatile organic chemical concentrations in the indoor air and subslab vapor within the central portions of the building.

Samples were collected in accordance with the Second Supplemental Sub-Slab Gas Investigation Work Plan, Central Building Areas prepared by EnergySolutions in June 2012 and approved by the NYSDEC by letter dated July 31, 2012. A copy of the Work Plan is included as Appendix C.

All samples were collected in September prior to initiating operation of the new Sub-Slab Depressurization System (SSDS) that was installed in the loading dock area, therefore no influence or reduction of contaminant concentrations from the system were anticipated. Minor influences related to passive vapor extraction may have occurred; however, the majority of the sampling points are expected to be too far away from the SSDS draw points to receive significant influence.

Six liter SUMMA canisters were used for sample collection and sampling occurred over a three day period from September 17 through September 19, 2012. Canisters were equipped with regulators provided by the laboratory which were set to provide air intake for approximately 30 minutes or 8 hours as appropriate depending on the sample as noted above.

A tee was utilized to connect three pieces of Teflon tubing. The first length of tubing was connected to the SUMMA canister, the second connected to a photoionization detection (PID) with a low-flow vacuum air pump, and the third tube sealed in the hole in the floor using modeling clay. The valve on the line connected to the PID was opened and the vacuum pump was used to purge three volumes of the tubing and monitoring of the air. Following purging activities, the vacuum pump was turned off and the valve on the tubing connected to the Suma Canister was opened to allow airflow to the canister.

Subslab samples collected in accordance with NYSDOH protocols (SS 8hr-040 through SS 8hr-045) were collected using a helium shroud in order to confirm that the samples were collected from the subslab and not diluted by indoor air. All six samples collected in this manner were analyzed for the presence of helium by the laboratory. Five of the six samples contained helium concentrations which were less than ten percent, suggesting that seals were satisfactory; however, sample 8hr-043 contained helium concentrations at 30%, suggesting that seals in this case were unacceptable. Although this sample may have been diluted with indoor air, the data from this location still meets the data objective based on the fact that the final TCE indoor air concentration at this location of 21ug/m^3 is approximately two orders of magnitude below the OSHA PEL standard of 2,000 ug/m^3 indicating the subslab vapors are not generating significant risk within the building.

The SUMMA canisters were relinquished under chain-of-custody to Columbia Analytical Services for analysis on September 19, 2012. The samples were analyzed using United States Environmental Protection Agency (EPA) Method TO-15.

Indoor air sample results included in Table 1 were compared to published OSHA PEL workplace standards. OSHA has established eight hour time weighted average indoor air concentration action levels for several volatile organic compounds (VOCs) in the 1910.1000 guidance including the main COC TCE. Table 2 includes a summary of the subslab vapor concentrations. Copies of Tables 1 and 2 are included in Appendix B.

Trichloroethylene (TCE), the contaminant most frequently detected during the vapor intrusion survey, was detected in all samples collected from within the building and beneath the floor. The highest TCE concentration of 51,000 micrograms per cubic meter ($\mu g/m^3$), was detected at two locations including subslab sample SS-8hr-037 collected from the north-central portion of the building and subslab sample SS-8hr-038 collected from the southwestern corner of the building. The highest indoor air concentration of TCE reported ($1{,}400 ug/m^3$) was in sample AA-8hr-043 collected from the central portion of the building. This sample data appeared suspect based on indoor air concentrations detected to date in other locations; therefore, the AA-8hr-043 location was re-sampled on November 19, 2012. TCE was detected at a concentration of $11 ug/m^3$ in this retested sample. The results of this second test were viewed as more representative of the actual indoor air concentrations in the area. With the first test at location 8hr-043 discarded, the highest TCE concentration detected during the September/November sampling rounds was 21 ug/m^3 reported in sample AA-8hr-045 collected just north of the center of the building. The laboratory data is included as Appendix D.

All indoor air concentrations are below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs) in every case. Figure 1 includes indoor air and subslab data collected since 2010 including results from March, 2010, September 2011 and September 2012.

A Site Conceptual Model for vapor intrusion has been prepared based on available information including air data, groundwater data, aerial photographs of the facility and a review of the facility drawings showing former chemical storage and production areas. Maps showing the various chemical storage and production areas, as well as an older aerial photograph of the facility showing the former open central courtyard area are included in Appendix E. The conceptual model provides information regarding fate and transport explanations for areas of elevated subslab vapor concentrations as indicated in the following table.

Area of elevated subslab vapor Concentrations	Suspected source	Location or activity suspected to cause the original release	Representative locations
Loading dock area	Groundwater	Releases from dry well to groundwater	SB-1 south west to 019
North central area	Interior spills	Plating Shop	8hr-037 south to 8hr-045 or 021
Central area	Exterior Spills	Spills and disposal in former building central courtyard	8hr-002 west to 8hr-003 and southwest to 8hr 043
Southern areas	Interior spills	Lens finishing and lens coating areas	8hr-039 east to 8hr-038

Groundwater data was also collected from the site as an integral part of this portion of the investigation. The original Second Supplemental Sub-Slab Gas Investigation Workplan proposed the collection of groundwater grab samples from four locations within the building including INT 10, INT 11, INT 12, and INT 13. Groundwater grab sample locations are shown on Figure 1. All four wells were installed, but were dry during the sampling effort in September. Boreholes were completed as temporary wells at the time, but no samples were collected. Subsequently on October 31, 2012 sufficient water was available in wells INT 12 and INT 13 and samples were collected from these two wells; wells INT 10 and INT 11 were still dry. Wells INT 10 and 11 are observed periodically and will be sampled when water is available, most likely in the spring of 2013.

Data collected from wells INT 12 and INT 13 appears to confirm the site conceptual model. Sample INT 12, collected from a well located in between the original dry well release and well INT 2, contained TCE at a concentration of 2,400ug/l. This concentration is consistent with the concentrations originally detected in MW-24, but significantly lower than the concentration of 82,000 ug/l detected in well INT 2 in 2011. The differential between these concentrations suggests that although well INT 2 may be impacted to some degree from the original dry well release, it appears that there are other sources of TCE contributing to this well. One would not expect TCE concentrations to rise from 2,400 to 82,000 as the plume moves further down gradient of the source unless there were additional contributions. The data therefore suggests that there may be a separate source of contamination in the former open air courtyard area which was located in the center of the building causing this increase in TCE concentrations from location INT-12 to location INT-2.

In addition, the low TCE concentration of 210 ug/l in the sample collected from well INT-13 indicates that the groundwater in this area beneath the former Plating Shop is not heavily contaminated. This groundwater data suggests that the high concentrations (51,000ug/m^3) in the subslab vapors at location 8hr-037 may be the result of surface spills from inside the building and not the result of evaporation from the groundwater migrating beneath the area. A summary of the groundwater data collected from INT-12 and INT-13 is included in Table 3 in Appendix B.

- DOH compliant indoor air samples will be collected in the far north and south portions of the building in order to assess indoor air concentrations in these areas.

- Additional DOH compliant indoor air and subslab samples will be collected in the main office areas on the far western side of the building.

- HVAC system used for the UPS Office at the north end of the building and the additional offices in the north east corner of the building will be assessed.

- Pressure differential readings between the main warehouse and the office areas will be recorded in order to assess the potential for warehouse air to enter office areas.

- Concrete samples will be collected from the building floors to determine whether contaminant in the concrete floors may be the source of positive indoor air readings.

- Samples will be collected from wells INT-10 and INT-11 when water is available.

Please let me know when you have had an opportunity to review this information. I would like to review our general mitigation approach with you before beginning final preparation of the plan. In the interim, if you have any questions regarding this report, please feel free to call me at 801-303-1092.

Sincerely,

Robert E. McPeak, Jr., P.E., LEP
Department Manager, Environmental Services

Enclosure
cc: C. Grabinski
J. Egan
M. Forcucci, NYSDOH

Enclosures

Appendix A: Figures

Figure 1	Sub-Slab, Indoor Air Data Including September 2012 Sample Data

Appendix B: Tables

Table 1	Summary of 8hr Indoor Air Data
Table 2	Summary of Sub-Slab Data
Table 3	Groundwater Grab Sample Data

Table 3 Groundwater Grab Sample Data

Appendix C: Second Supplemental Sub-Slab Gas Investigation Work Plan

Appendix D: Laboratory Data

Appendix E: Chemical Storage and Production Area Maps and Aerial Photo of Former Open Central Courtyard

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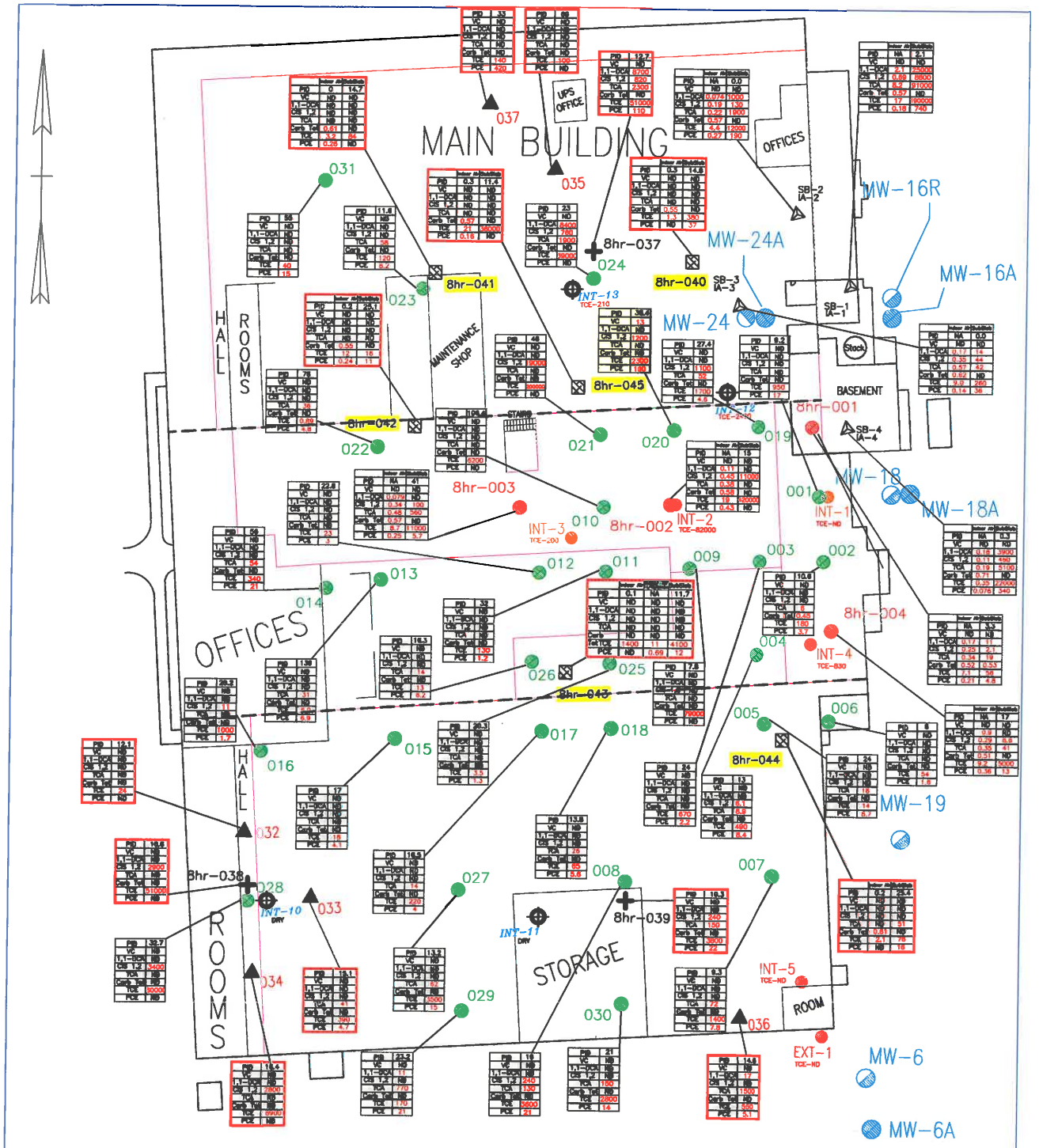
APPENDIX A

FIGURES



LEGEND

- 8hr-037 = 8 hour subslab correlation samples (9/2012)
- 033 = 30-minute Subslab samples (9/2012)
- INT-12 TCE-2400 = Groundwater grab samples with TCE data (9/2012)
- 8hr-042 = DOH compliant Indoor air & subslab samples (9/2012)
- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- 025 = 30 MINUTE SUBSLAB SAMPLES (9/2011)
- 8hr-002 = DOH COMPLIANT INDOOR AIR AND SUBSLAB SAMPLES (9/2011)
- INT-1 TCE-ND = GROUNDWATER GRAB SAMPLES WITH TCE DATA (6/2011)
- SB-4 IA-4 = INDOOR AIR AND SUBSLAB AIR SAMPLES (3/2010)
- Courtyard Foundation
- Possible Foundation
- Non-support Interior Walls
- 2012 Sample Data

NOTE:
All detections (above Lab MRL) are shown in red text

Indoor Air Retest (11-19-2012)

DOCUMENT CONTROL NO.	PROJECT	LEICA MICROSYSTEMS INC.	ENERGY SOLUTIONS 100 MILL PLAIN RD DANBURY, CT. 06811 (203)797-8301	PROJECT # 137015 FILENAME:
REVISION NO.	DRAWING	Sub-Slab, Indoor Air data, including September 2012 Sample Data		SCALE: See Scalebar DATE: 1/30/13 BY: MT CK: RM FIGURE # 1

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APPENDIX B

TABLES

Prepared by:REM
Date: 12/12/12
Checked by: MT
Date: 12/12/2012

Table 1 Summary of 8 hr Indoor Air Data, September 2012
Leica Microsystems, Eggert Road
Cheektowaga, NY

Sample location	OSHA PELs [2]	AA-8HR-040		AA-8HR-041		AA-8HR-042		AA-8HR-043 [1]		AA-8HR-043 [1]		AA-8HR-043A		AA-8HR-044		AA-8HR-045	
Lab ID:		R1206262-006		R1206262-008		R1206262-013		R1206262-020		R1206262-020		R1208018-001		R1206262-022		R1206262-012	
Sample Collection Date:	ug/m3	9/17/2012		9/17/2012		9/19/2012		9/20/2012		9/20/2012		11/19/2012		9/20/2012		9/19/2012	
Analytical Dilution Factor:										Dilution							
Volatile Organic Compounds (ug/m3)																	
CHLOROMETHANE	2000	0.86	U	0.97	U	**1.0**		11	U	16	U	0.95		**0.89**		**1.0**	
VINYL CHLORIDE	2600	0.11	U	0.13	U	0.11	U	1.4	U	2.1	U	0.087	U	0.11	U	0.11	U
BROMOMETHANE	80000	0.82	U	0.92	U	0.78	U	10	U	15	U	0.62	U	0.8	U	0.78	U
CHLOROETHANE	2600000	1.1	U	1.2	U	1.1	U	14	U	20	U	0.84	U	1.1	U	1.1	U
ACETONE	2400000	9.5	U	**19**		**26**		120	U	180	U	18		**14**		**16**	
TRICHLOROFLUOROMETHANE (CFC 11)	5600000	**1.4**		**2.5**		**2.7**		15	U	22	U	1.8		**1.9**		**1.7**	
1,1-DICHLOROETHENE (1,1-DCE)	NE	0.84	U	0.95	U	0.8	U	10	U	15	U	0.64	U	0.82	U	0.8	U
DICHLOROMETHANE (METHYLENE CHLORIDE)	2000	0.72	U	0.82	U	0.69	U	8.9	U	13	U	1.2		0.71	U	0.69	U
1,1,2-TRICHLOROTRIFLUOROETHANE (CFC 113)	7600000	**0.53**		**0.6**		**0.73**		4	U	6	U	0.67		**0.58**		**0.73**	
CARBON DISULFIDE	2000	0.65	U	0.73	U	0.62	U	**13**		**12**	D	0.49	U	0.63	U	0.62	U
TRANS-1,2-DICHLOROETHENE	790000	0.84	U	0.95	U	0.8	U	10	U	15	U	0.64	U	0.82	U	0.8	U
1,1-DICHLOROETHANE (1,1-DCA)	400000	0.86	U	0.97	U	0.82	U	11	U	16	U	0.65	U	0.84	U	0.82	U
METHYL TERT-BUTYL ETHER	NE	1.5	U	1.7	U	1.4	U	19	U	28	U	1.1	U	1.5	U	1.4	U
VINYL ACETATE	NE	9.5	U	11	U	9.1	U	120	U	180	U	7.3	U	9.3	U	9.1	U
2-BUTANONE (MEK)	590000	**2.2**		**3.1**		**5.1**		15	U	23	U	6.5		**3.1**		**3.7**	
CIS-1,2-DICHLOROETHENE	790000	0.84	U	0.95	U	0.8	U	10	U	15	U	0.64	U	0.82	U	0.8	U
CHLOROFORM	240000	1	U	1.2	U	0.98	U	13	U	19	U	0.78	U	1.0	U	0.98	U
1,2-DICHLOROETHANE	2000	0.86	U	0.97	U	0.82	U	11	U	16	U	0.65	U	0.84	U	0.82	U
1,1,1-TRICHLOROETHANE (TCA)	1900000	1.1	U	1.3	U	1.1	U	14	U	21	U	0.87	U	1.1	U	1.1	U
BENZENE	3190	**3.4**		**3.9**		**2.7**		8.2	U	12	U	3.4		**1.4**		**2.3**	
CARBON TETRACHLORIDE	2000	**0.55**		**0.61**		**0.55**		1.6	U	2.5	U	0.64		**0.61**		**0.57**	
1,2-DICHLOROPROPANE	350000	0.97	U	1.1	U	0.93	U	12	U	18	U	0.74	U	0.95	U	0.93	U
BROMODICHLOROMETHANE	NE	0.29	U	0.32	U	0.27	U	3.5	U	5.3	U	0.22	U	0.28	U	0.27	U
TRICHLOROETHENE (TCE)	2000	**1.3**		**3.2**		**12**		**1400**	E	**1400**	D	11		**2.1**		**21**	
CIS-1,3-DICHLOROPROPENE	NE	1.9	U	2.2	U	1.8	U	23	U	35	U	1.5	U	1.9	U	1.8	U
4-METHYL-2-PENTANONE	410000	1.7	U	1.9	U	1.6	U	21	U	32	U	1.3	U	1.7	U	1.6	U
TRANS-1,3-DICHLOROPROPENE	NE	0.95	U	1.1	U	0.91	U	12	U	18	U	0.73	U	0.93	U	0.91	U
1,1,2-TRICHLOROETHANE	45000	1.1	U	1.3	U	1.1	U	14	U	21	U	0.87	U	1.1	U	1.1	U
TOLUENE	2000	**36**		**30**		**16**		**75**		**72**	D	18		**7.7**		**13**	
2-HEXANONE	410000	0.86	U	0.97	U	0.82	U	11	U	16	U	0.65	U	**2.4**		0.82	U
DIBROMOCHLOROMETHANE	NE	0.36	U	0.41	U	0.35	U	4.5	U	6.7	U	0.28	U	0.35	U	0.35	U
1,2-DIBROMOETHANE	2000	0.32	U	0.37	U	0.31	U	4	U	6	U	0.25	U	0.32	U	0.31	U
TETRACHLOROETHENE (PCE)	2000	0.15	U	**0.26**		**0.24**		1.9	U	2.8	U	0.69		0.15	U	**0.16**	
CHLOROBENZENE	350000	0.97	U	1.1	U	0.93	U	12	U	18	U	0.74	U	0.95	U	0.93	U
ETHYLBENZENE	435000	**3.5**		**3.8**		**4.9**		22	U	33	U	4		**2.5**		**3.6**	
M,P-XYLENES	435000	**10**		**9.6**		**11**		45	U	67	U	11		**5.9**		**8.5**	
BROMOFORM	5000	2.2	U	2.5	U	2.1	U	27	U	40	U	1.7	U	2.1	U	2.1	U
STYRENE	2000	**2.8**		**3.9**		**7.3**		**22**	U	33	U	2.9		**3.4**		**4.7**	
O-XYLENE	435000	**3.5**		**3.5**		**4.4**		**22**	U	33	U	4.4		**2.4**		**3.3**	
1,1,2,2-TETRACHLOROETHANE	35000	0.29	U	0.32	U	0.27	U	3.5	U	5.3	U	0.22	U	0.28	U	0.27	U
1,3-DICHLOROBENZENE	NE	2.5	U	2.8	U	2.4	U	31	U	46	U	1.9	U	2.5	U	2.4	U
1,4-DICHLOROBENZENE	450000	2.5	U	2.8	U	2.4	U	31	U	46	U	1.9	U	2.5	U	2.4	U
1,2-DICHLOROBENZENE	300000	2.5	U	2.8	U	2.4	U	31	U	46	U	1.9	U	2.5	U	2.4	U
TOTAL VOCs		65.18		83.97		94.6		1488		1484		85.15		48.88		80.3	

NOTES:

1.) Analysis reperformed, with result of 11 ug/m^3 TCE (See sample AA-8hr-043A)
2.) No OSHA PEL Exceedances
Bold = Equals or exceeds Laboratory MRL
B = Analyte detected in method blank
D = Sample reanalyzed and quantified at higher dilution
E = Exceeds calibration range
J = Estimated concentration
U = Analyte was not detected above Lab MRL
NE = Not Established

Prepared by:REM
Date: 12/12/12
Checked by: MT
Date: 12/12/2012

Table 2 Summary of Sub-Slab Data, September 2012
Leica Microsystems, Eggert Road
Cheektowaga, NY

Sample location	SS-30min-032		SS-30min-033		SS-30min-034		SS-30min-034		SS-30min-035		SS-30min-036		SS-30min-036		SS-30min-037		SS-8HR-037	
Lab ID:	R1206262-002		R1206262-003		R1206262-004		R1206262-004		R1206262-015		R1206262-001		R1206262-001		R1206262-016		R1206262-010	
Sample Collection Date:	9/19/2012		9/19/2012		9/19/2012		9/19/2012		9/19/2012		9/19/2012		9/19/2012		9/19/2012		9/19/2012	
Analytical Dilution Factor:							Dilution						Dilution					
Volatile Organic Compounds (mcg/m3)																		
CHLOROMETHANE	14	U	12	U	65	U	110	U	64	U	11	U	15	U	74	U	440	U
VINYL CHLORIDE	1.8	U	1.6	U	8.6	U	14	U	8.5	U	1.5	U	2.1	U	9.9	U	59	U
BROMOMETHANE	13	U	12	U	62	U	100	U	61	U	11	U	15	U	71	U	420	U
CHLOROETHANE	18	U	16	U	83	U	140	U	82	U	14	U	20	U	96	U	570	U
ACETONE	**430**		**560**		720	U	1200	U	**2200**		**290**		**280**	D	**2700**		4900	U
TRICHLOROFLUOROMETHANE (CFC 11)	19	U	17	U	89	U	150	U	88	U	15	U	21	U	100	U	610	U
1,1-DICHLOROETHENE (1,1-DCE)	13	U	12	U	63	U	100	U	62	U	11	U	15	U	72	U	**490**	
DICHLOROMETHANE (METHYLENE CHLORIDE)	11	U	10	U	55	U	90	U	54	U	9.3	U	13	U	63	U	370	U
1,1,2-TRICHLOROTRIFLUOROETHANE (CFC 113)	5.1	U	**10**		24	U	40	U	24	U	**46**		**46**	D	28	U	170	U
CARBON DISULFIDE	10	U	9.1	U	49	U	80	U	48	U	**19**		**19**	D	56	U	330	U
TRANS-1,2-DICHLOROETHENE	13	U	12	U	**300**		**490**	D	62	U	11	U	15	U	72	U	**1200**	
1,1-DICHLOROETHANE (1,1-DCA)	14	U	12	U	65	U	110	U	64	U	**17**		**17**	D	74	U	**8700**	
METHYL TERT-BUTYL ETHER	24	U	21	U	110	U	190	U	110	U	19	U	27	U	130	U	770	U
VINYL ACETATE	150	U	130	U	720	U	1200	U	710	U	120	U	170	U	820	U	4900	U
2-BUTANONE (MEK)	**22**		17	U	93	U	150	U	**360**		**25**		**23**	D	**150**		640	U
CIS-1,2-DICHLOROETHENE	13	U	12	U	**1700**		**2800**	D	62	U	11	U	15	U	72	U	**820**	
CHLOROFORM	16	U	14	U	77	U	130	U	77	U	13	U	18	U	89	U	530	U
1,2-DICHLOROETHANE	14	U	12	U	65	U	110	U	64	U	11	U	15	U	74	U	440	U
1,1,1-TRICHLOROETHANE (TCA)	18	U	**41**		86	U	140	U	85	U	**1400**	E	**1500**	D	99	U	**2300**	
BENZENE	**140**		**67**		**63**		83	U	**220**		**140**		**140**	D	**220**	U	340	U
CARBON TETRACHLORIDE	2.1	U	1.9	U	10	U	17	U	9.9	U	1.7	U	2.4	U	12	U	69	U
1,2-DICHLOROPROPANE	15	U	14	U	73	U	120	U	72	U	12	U	17	U	84	U	500	U
BROMODICHLOROMETHANE	4.5	U	4.0	U	22	U	36	U	21	U	3.7	U	5	U	25	U	150	U
TRICHLOROETHENE (TCE)	**24**		**390**		**8400**	E	**8900**	D	**100**		**520**		**550**	D	**140**		**51000**	
CIS-1,3-DICHLOROPROPENE	30	U	27	U	140	U	240	U	140	U	24	U	34	U	160	U	980	U
4-METHYL-2-PENTANONE	27	U	24	U	130	U	210	U	130	U	22	U	31	U	150	U	880	U
TRANS-1,3-DICHLOROPROPENE	15	U	13	U	72	U	120	U	71	U	12	U	17	U	82	U	490	U
1,1,2-TRICHLOROETHANE	18	U	16	U	86	U	140	U	85	U	15	U	21	U	99	U	590	U
TOLUENE	**320**		**240**		**270**		**290**	D	**590**		**370**		**380**	D	**770**		400	U
2-HEXANONE	14	U	12	U	65	U	110	U	64	U	11	U	15	U	74	U	440	U
DIBROMOCHLOROMETHANE	5.7	U	5.1	U	27	U	45	U	27	U	4.6	U	6.5	U	31	U	190	U
1,2-DIBROMOETHANE	5.1	U	4.6	U	24	U	40	U	24	U	4.2	U	5.8	U	28	U	170	U
TETRACHLOROETHENE (PCE)	2.4	U	**4.7**		11	U	19	U	11	U	**5.3**		**5.1**	D	**420**		**110**	
CHLOROBENZENE	15	U	14	U	73	U	120	U	72	U	12	U	17	U	84	U	500	U
ETHYLBENZENE	**42**		**35**		140	U	220	U	130	U	**45**		**46**	D	160	U	930	U
M,P-XYLENES	**200**		**170**		270	U	450	U	**470**		**260**		**270**	D	**440**		1900	U
BROMOFORM	34	U	31	U	160	U	270	U	160	U	28	U	39	U	190	U	1100	U
STYRENE	28	U	25	U	130	U	220	U	130	U	23	U	32	U	150	U	920	U
O-XYLENE	**69**		**37**		140	U	220	U	**260**		**87**		**89**	D	160	U	930	U
1,1,2,2-TETRACHLOROETHANE	4.5	U	4	U	22	U	36	U	21	U	3.7	U	5.1	U	25	U	150	U
1,3-DICHLOROBENZENE	40	U	35	U	190	U	310	U	190	U	32	U	45	U	220	U	1300	U
1,4-DICHLOROBENZENE	40	U	35	U	190	U	310	U	190	U	32	U	45	U	220	U	1300	U
1,2-DICHLOROBENZENE	40	U	35	U	190	U	310	U	190	U	32	U	45	U	220	U	1300	U
TOTAL VOCs	1247		1554.7		10733		12480		4200		3224.3		3365.1		4620		64620	

NOTES:

* = 30 minute data provides a general comparison with NYSDOH standards, but should not be compared

Bold = Exceeds Laboratory MRL

B = Analyte detected in method blank

D = Sample reanalyzed and quantified at higher dilution

E = Exceeds calibration range

J = Estimated concentration

U = Analyte was not detected above Lab MRL

Prepared by:REM
Date: 12/12/12
Checked by: MT
Date: 12/12/2012

Table 2 Summary of Sub-Slab Data, September 2012
Leica Microsystems, Eggert Road
Cheektowaga, NY

Sample location	SS-8HR-038		SS-8HR-039		SS-8HR-040		SS-8HR-041		SS-8HR-041 DUP		SS-8HR-042		SS-8HR-043		SS-8HR-044		SS-8HR-045	
Lab ID:	R1206262-017		R1206262-018		R1206262-005		R1206262-007		R1206262-009		R1206262-014		R1206262-019		R1206262-021		R1206262-011	
Sample Collection Date:	9/20/2012		9/20/2012		9/17/2012		9/17/2012		9/17/2012		9/19/2012		9/20/2012		9/20/2012		9/19/2012	
Analytical Dilution Factor:																		
Volatile Organic Compounds (mcg/m3)																		
CHLOROMETHANE	490	U	35	U	12	U	46	U	41	U	53	U	37	U	24	U	**1.0**	
VINYL CHLORIDE	65	U	4.7	U	1.6	U	6.1	U	5.5	U	7	U	4.9	U	3.2	U	0.11	U
BROMOMETHANE	470	U	33	U	12	U	44	U	39	U	50	U	35	U	23	U	0.78	U
CHLOROETHANE	630	U	45	U	16	U	59	U	53		68	U	47	U	31	U	1.1	U
ACETONE	5400	U	390	U	**160**		**1500**		**1500**		590	U	410	U	**430**		**16**	
TRICHLOROFLUOROMETHANE (CFC 11)	670	U	48	U	17	U	63	U	56	U	73	U	51	U	33	U	**1.7**	
1,1-DICHLOROETHENE (1,1-DCE)	480	U	34	U	12	U	45	U	40	U	52	U	36	U	24	U	0.8	U
DICHLOROMETHANE (METHYLENE CHLORIDE)	410	U	29	U	10	U	39	U	35	U	45	U	31	U	20	U	0.69	U
1,1,2-TRICHLOROTRIFLUOROETHANE (CFC 113)	180	U	13	U	4.6	U	17	U	15	U	20	U	**52**		9.2	U	**0.73**	
CARBON DISULFIDE	370	U	26	U	9.2	U	35	U	31	U	40	U	**600**		**19**		0.62	U
TRANS-1,2-DICHLOROETHENE	**4600**		**140**		**42**		45	U	40	U	52	U	36	U	24	U	0.8	U
1,1-DICHLOROETHANE (1,1-DCA)	490	U	35	U	12	U	46	U	41	U	53	U	37	U	24	U	0.82	U
METHYL TERT-BUTYL ETHER	860	U	61	U	21	U	80	U	72	U	93	U	64	U	43	U	1.4	U
VINYL ACETATE	5400	U	390	U	140	U	510	U	460	U	590	U	410	U	270	U	9.1	U
2-BUTANONE (MEK)	710	U	50	U	**27**		66	U	59	U	76	U	53	U	**49**		**3.7**	
CIS-1,2-DICHLOROETHENE	**2900**		**240**		12	U	45	U	40	U	52	U	36	U	24	U	0.8	U
CHLOROFORM	590		42	U	15	U	55	U	49	U	63	U	44	U	29	U	0.98	U
1,2-DICHLOROETHANE	490	U	35	U	12	U	46	U	41	U	53	U	37	U	24	U	0.82	U
1,1,1-TRICHLOROETHANE (TCA)	650	U	**150**		16	U	61	U	55	U	70	U	49	U	**51**		1.1	U
BENZENE	380	U	27	U	**49**		**74**		**71**		**76**		29	U	**93**		**2.3**	
CARBON TETRACHLORIDE	76	U	5.4	U	1.9	U	7.1	U	6.4	U	8.2	U	5.7	U	3.8	U	**0.57**	
1,2-DICHLOROPROPANE	550	U	40	U	14	U	52	U	46	U	60	U	42	U	27	U	0.93	U
BROMODICHLOROMETHANE	160	U	12	U	4.1	U	15	U	14	U	18	U	12	U	8.1	U	0.27	U
TRICHLOROETHENE (TCE)	**51000**		**3800**		**380**		**84**		**75**		**16**		**4100**		**76**		**21**	
CIS-1,3-DICHLOROPROPENE	1100	U	78	U	27	U	100	U	91	U	120	U	82	U	54	U	1.8	U
4-METHYL-2-PENTANONE	980	U	70	U	24	U	92	U	82	U	110	U	73	U	49	U	1.6	U
TRANS-1,3-DICHLOROPROPENE	540	U	39	U	14	U	51	U	46	U	59	U	41	U	27	U	0.91	U
1,1,2-TRICHLOROETHANE	650	U	47	U	16	U	61	U	55	U	70	U	49	U	32	U	1.1	U
TOLUENE	440	U	**330**		**760**		**570**		**550**		**2700**		**1300**		**1700**		**13**	
2-HEXANONE	490	U	35	U	12	U	46	U	41	U	53	U	37	U	24	U	0.82	U
DIBROMOCHLOROMETHANE	210	U	15	U	5.1	U	19	U	17	U	22	U	15	U	10	U	0.35	U
1,2-DIBROMOETHANE	180	U	13	U	4.6	U	17	U	15	U	20	U	14	U	9.2	U	0.31	U
TETRACHLOROETHENE (PCE)	87	U	**22**		**37**		8.1	U	7.3	U	**11**		**12**		**16**		**0.16**	
CHLOROBENZENE	550	U	40	U	14	U	52	U	46	U	60	U	42	U	27	U	0.93	U
ETHYLBENZENE	1000	U	74	U	26	U	97	U	86	U	110	U	77	U	51	U	**3.6**	
M,P-XYLENES	2100	U	150	U	**100**		190	U	170	U	**280**		160	U	**200**		**8.5**	
BROMOFORM	1200	U	88	U	31	U	120	U	100	U	130	U	993	U	61	U	2.1	U
STYRENE	1000	U	73	U	25	U	96	U	86	U	110	U	77	U	51	U	**4.7**	
O-XYLENE	1000	U	74	U	**47**		97	U	86	U	110	U	77	U	**78**		**3.3**	
1,1,2,2-TETRACHLOROETHANE	160	U	12	U	4.1	U	15	U	14	U	18	U	12	U	8.1	U	0.27	U
1,3-DICHLOROBENZENE	1400	U	100	U	36	U	130	U	120	U	150	U	110	U	71	U	2.4	U
1,4-DICHLOROBENZENE	1400	U	100	U	36	U	130	U	120	U	150	U	110	U	71	U	2.4	U
1,2-DICHLOROBENZENE	1400	U	100	U	36	U	130	U	120	U	150	U	110	U	71	U	2.4	U
TOTAL VOCs	59090		4682		1602		2228		2249		3083		6064		2712		80.3	

NOTES:

* = 30 minute data provides a general comparison with NYSDOH standards, but should not be compared

Bold = Exceeds Laboratory MRL

B = Analyte detected in method blank

D = Sample reanalyzed and quantified at higher dilution

E = Exceeds calibration range

J = Estimated concentration

U = Analyte was not detected above Lab MRL

Prepared by: REM
Date: 1/22/13
Checked by: MT
1/22/13

Table 3
Groundwater Grab Sample Data
INT 12 13 (10/31/12)

ANALYTE	CAS	Method Detection Limit	RAOs GW	INT 12		INT 12		INT 13		INT 13	
Sample Collection Date:				10/31/2012		10/31/2012		10/31/2012		10/31/2012	
Dilution:				10.00		20.00		1.00		2.00	
Volatile Organic Compounds (ug/l)											
acetone	67641	20	-	ND		ND		ND		ND	
benzene	71432	5.0	-	ND		ND		ND		ND	
bromodichloromethane	75274	5.0	-	ND		ND		ND		ND	
bromoform	75252	5.0	-	ND		ND		ND		ND	
bromomethane	74839	5.0	-	ND		ND		ND		ND	
2-butanone (MEK)	78933	10	-	ND		ND		ND		ND	
carbon disulfide	75150	10	-	ND		ND		ND		ND	
carbon tetrachloride	56235	5.0	-	ND		ND		ND		ND	
chlorobenzene	108907	5.0	-	ND		ND		ND		ND	
chloroethane	75003	5.0	-	ND		ND		ND		ND	
chloroform	67663	5.0	-	ND		ND		ND		ND	
chloromethane	74873	5.0	-	ND		ND		ND		ND	
dibromochloromethane	124481	5.0	-	ND		ND		ND		ND	
1,1-dichloroethane	75343	5.0	-	190		200	D	69		66	D
1,2-dichloroethane	107062	5.0	-	ND		ND		ND		ND	
1,1-dichloroethene	75354	5.0	-	ND		ND		11		10	D
cis-1,2-dichloroethene	156592	5.0	**5**	**820**		**810**	D	**49**		**44**	D
trans-1,2-dichloroethene	156605	5.0	**5**	ND		ND		ND		ND	
1,2-dichloropropane	78875	5.0	-	ND		ND		ND		ND	
cis-1,3-dichloropropene	542756	5.0	-	ND		ND		ND		ND	
trans-1,3-dichloropropene	542756	5.0	-	ND		ND		ND		ND	
ethylbenzene	100414	5.0	**5**	ND		ND		ND		ND	
2-hexanone	591786	10	-	ND		ND		ND		ND	
methylene chloride	75092	5.0	-	ND		ND		ND		ND	
4-methyl-2-pentanone (MIBK)	108101	10	-	ND		ND		ND		ND	
styrene	100425	5.0	-	ND		ND		ND		ND	
1,1,2,2-tetrachloroethane	79345	5.0	-	ND		ND		ND		ND	
tetrachloroethene	127184	5.0	-	ND		ND		ND		ND	
toluene	108883	5.0	**5**	ND		ND		ND		ND	
1,1,1-trichloroethane	71556	5.0	**5**	ND		ND		**25**		**23**	D
1,1,2-trichloroethane	79005	5.0	-	ND		ND		ND		ND	
trichloroethene	79016	5.0	**5**	**2400**	E	**2400**	D	**220**	E	**210**	D
vinyl chloride	75014	5.0	**5**	ND		ND		ND		ND	
o-xylene	95476	5.0	**5**	ND		ND		ND		ND	
m+p xylene	108383/106423	5.0	**5**	ND		ND		ND		ND	

NOTES:
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
ND = Not Detected
NA = Not Analyzed
E = Exceeds Calibration Range
D = Sample reanalyzed and quantified at higher dilution
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

APPENDIX C

SECOND SUPPLEMENTAL SUB-SLAB GAS INVESTIGATION WORK PLAN

ENERGYSOLUTIONS

June 28, 2012
Ref. No. 31129-103

Mr. Jaspal Walia
Project Manager
New York State Department of Environmental Conservation, Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999

Subject: **Second Supplemental Sub-Slab Gas Investigation Work Plan**
Central Building Areas
Leica Facility
Cheektowaga, New York

Dear Mr. Walia:

Enclosed for your review and approval is a copy of the Second Supplemental Sub-Slab Gas Investigation Work Plan for the Central Building Areas at the Leica Facility.

If you have any questions regarding this plan, please feel free to call me at 801-303-1092.

Sincerely,

Robert E. McPeak, Jr., P.E., LEP
Department Manager, Environmental Services

REM/pm
Enclosure
cc: M. Forcucci, NYSDOH
C. Grabinski
J. Egan (Electronic Copy Only)

100 Mill Plain Road, Second Floor, Mailbox No. 106 • Danbury, Connecticut 06811
203.797.8301 • Fax 203.797.8994 • www.energysolutions.com

SECOND SUPPLEMENTAL SUB-SLAB GAS INVESTIGATION WORK PLAN CENTRAL BUILDING AREAS

Leica, Inc. Site
Eggert and Sugar Roads
Town of Cheektowaga, Erie County, New York
Site ID Number 915156

Prepared for

Leica, Inc., c/o Videojet Tech
1500 Mittell Boulevard
Wood Dale, Illinois 60191

And

New York State Department of Environmental Conservation, Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

May 2012

ENERGYSOLUTIONS

CS-OP-PN-072

Second Supplemental Sub-Slab Gas Investigation Work Plan
Central Building Areas
Leica, Inc. Site
Eggert and Sugar Roads
Cheektowaga, New York
NYSDEC Site ID 915156

Project No. 137015 **Revision 0**

Prepared for:

Leica, Inc., c/o Videojet Tech
1500 Mittell Boulevard
Wood Dale, IL 60191

and

NYSDEC, Region 9
270 Michigan Avenue
Buffalo, NY 14203-299

Prepared by:
Energy*Solutions*, LLC
100 Mill Plain Road, Second Floor, Mailbox No. 106
Danbury, CT 06811

Authored By: _____ 6/28/2012
Daniel R. Slywka — Date
Environmental Scientist

Reviewed By: _____ 6/28/2012
Mark Cambra, P.E., LEP — Date
Senior Environmental Engineer

Approved By: _____ 6/28/2012
Robert E. McPeak, Jr., P.E., LEP — Date
Manager, Environmental Services

[X] New Plan
[ ] Title Change
[ ] Plan Revision
[ ] Plan Rewrite

Effective Date 6/28/2012

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FIGURES

Figure 1 Site Location Map
Figure 2 Site Plan
Figure 3 Proposed Sub-Slab, Indoor Air, and Groundwater Grab Sampling Locations

ACRONYMS AND ABBREVIATIONS

COC	Chain-of-Custody
CRA	Conestoga-Rovers & Associates
CSM	Conceptual Site Model
DCE	cis-1,2-Dichloroethene
Energy*Solutions*	Energy*Solutions*, LLC
EPA	United States Environmental Protection Agency
HRC	Hydrogen Release Compound®
Leica	Leica, Inc.
NELAP	National Environmental Laboratory Accreditation Program
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PID	Photo-Ionization Detector
QC	Quality Control
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
Site	Leica, Inc. Site: NYSDEC Site ID Number 915156
SOP	Standard Operating Procedure
TCA	1,1,1-Trichloroethane
TCE	Tricholoroethene
VC	Vinyl Chloride
VOC	Volatile Organic Compound

1.0 INTRODUCTION

On behalf of Leica, Inc., c/o Videojet Tech of Wood Dale, Illinois (Leica), Energy*Solutions*, LLC (Energy*Solutions*) has prepared this Second Supplemental Sub-Slab Gas Investigation Work Plan for the former Leica facility located on the Leica, Inc. site (Site) at Eggert and Sugar Roads, Cheektowaga, New York (NYSDEC Site ID Number 915156). A Site Location Map is included as Figure 1. A Site Plan showing the building, site features, and monitoring well locations is included as Figure 2. Proposed sample locations and building layout are included in Figure 3.

This work plan is prepared in response to and based on the results from the implementation of the "Supplemental Sub-Slab Gas Investigation Work Plan," Document No. CS-OP-PN-060, Rev.0 (Ref. No. 1.2.1). This "Second supplemental Sub-Slab Gas Investigation Work Plan" is an addition to the mitigation effort proposed in the "Vapor Mitigation Work Plan" prepared by Energy*Solutions* in November 2010 (Ref. No. 1.2.2). In order to further assess the concentrations of Volatile Organic Compounds (VOCs) in the groundwater and soil vapors in the areas to be mitigated, one of the tasks in the "Vapor Mitigation Work Plan" included the collection of additional groundwater grab samples INT-1 through INT-5 be collected from within the site facility as well as one exterior sample EXT-1 located just outside the southeast corner of the facility. These groundwater grab samples were collected from beneath, or adjacent to, the building slab on June 8, 2011. When elevated concentrations of TCE and 1,2 DCE were discovered in these groundwater grab samples additional Sub-Slab and Ambient/Indoor air samples were planned and approved by NYDEC in July 2011 and subsequently collected from September 19 through September 22, 2011.

1.1 Purpose

The purpose of this work plan is to fill-in data gaps that were generated during the original "Supplemental Sub-Slab Gas Investigation Work Plan". During the implementation of the original Supplemental Sub-Slab Investigation Work Plan, 35 soil gas and ambient air samples were collected in addition to the 6 groundwater grab samples. Based on the results of those sample efforts this work plan has been generated.

The scope of this work plan is to obtain 4 additional groundwater grab samples and 16 additional Sub-Slab and Ambient/Indoor air samples at locations throughout the SamSon building to further delineate the extent of groundwater and soil vapor contamination under the building floor.

1.2 References

1.2.1 Energy*Solutions*, "Supplemental Sub-Slab Gas Investigation Work Plan" Document No. CS-OP-PN-060, Rev. 0.

1.2.2 Energy*Solutions*, "Vapor Mitigation Work Plan," Leica, Inc. (Site #915156), Cheektowaga, Erie County, New York, November 2010.

1.2.3 31129-095, "Sub-Slab Groundwater Sampling Results, Leica, Inc. Site; Erie County, Cheektowaga, New York, Inactive Hazardous Waste Disposal Site 915156," July 12, 2011.

1.2.4 Conestoga-Rovers & Associates, "Remedial Investigation Report, Leica, Inc., Cheektowaga, New York, Site Code 915156," October 1994.

1.2.5 Conestoga-Rovers & Associates, "Remedial Pre-Design Work Plan, Leica, Inc., Cheektowaga, New York, Site Code 915156," March 1996.

1.2.6 NES, Inc., "Feasibility Study Addendum Submittal, Leica Optical Site, Cheektowaga, New York," February 3, 1997.

1.2.7 New York State Department of Environmental Conservation, Division of Environmental Remediation, "Record of Decision, Leica, Incorporated Site, Town of Cheektowaga, Erie County, Registry Number 915156," March 1997.

1.2.8 Beacon Environmental Services, Inc., "Passive Soil-Gas Survey, Leica Site, Cheektowaga, New York," prepared for SCIENTECH, Inc., July 19, 2005, Beacon Report No. EM1789.

1.2.9 Energy*Solutions*, "Supplemental Area B Soil Remediation Using Hydrogen Release Compound (HRC), Remedial Action Work Plan for the Leica, Inc. Site, Cheektowaga, New York," May 2007.

1.2.10 New York State Department of Environmental Conservation, Approval of "HRC Injection Plan for Area B, Leica, Inc. (Site #915156), Cheektowaga, New York," November 14, 2007

1.2.11 New York State Department of Environmental Conservation Soil Vapor/Indoor Air Matrices 1 and 2, as published in the New York State Department of Health "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," October 2006.

1.2.12 Energy*Solutions*, "Supplemental Area B Indoor Air and Sub-Slab Soil Gas Sampling Plan" Leica, Inc. Site, Cheektowaga, New York, September 2006.

1.3 Background

The building is owned and operated as a warehouse and distribution center by SamSon Distributing. Currently, there are no activities conducted within the building that use products containing VOCs, however, such products have been used in the past.

Leica, with NYSDEC approval, initiated a Remedial Investigation/Feasibility Study (RI/FS) in November 1993 to address the contamination at the Site. The RI was completed in October 1994 by Conestoga-Rovers & Associates (CRA) (Ref. No. 1.2.4). An FS was submitted by CRA in May 1995 with subsequent revisions in July 1995 and March 1996 (Ref. No. 1.2.5). The final FS addendum was submitted by NES, Inc. (now

Energy*Solutions*) in February 1997 (Ref. No. 1.2.6). Upon issuance of a Record of Decision (ROD) in 1997 (Ref. No. 1.2.7), NYSDEC authorized Leica to begin activities necessary to design and implement the chosen remedial alternative at the Site. NES, Inc. (now Energy*Solutions*) was contracted in 1997 by Leica to design, install and operate a remediation system at the Site which was completed in 1999. A Site Plan showing the location of the remediation areas is included as Figure 2.

In order to determine the potential source of the elevated VOC concentrations in groundwater samples collected from Area B monitoring wells MW-16R and MW-16A, SCIENTECH (now Energy*Solutions*) completed a soil gas survey of the area surrounding these wells in June 2005. Area B is a former dry well located immediately to the east of the main loading dock. The results of the study were provided to NYSDEC on July 19, 2005 (Ref. No. 1.2.8). Several contaminants of concern were detected in the soil gas survey including TCE, 1,1,1 trichloroethane (TCA), DCE and vinyl chloride. Sufficient samples were collected to the west, beneath the building, to locate what was believed to be the western edge of the hot spot which was within approximately 50 feet of the building's eastern side.

In consultation with NYSDEC, a work plan to inject Hydrogen Release Compound® (HRC) at select locations within the site was submitted by Energy*Solutions* on September 27, 2007 (Ref. No. 1.2.9), and subsequently approved by NYSDEC on November 14, 2007 (Ref. No. 1.2.10). HRC injection was used to reduce chlorinated VOC contaminant concentrations in groundwater in addition to a reduction of the VOC concentrations in the soils beneath the main building. In May 2008, Energy*Solutions* completed the implementation of the HRC injection plan, including injections within Area B.

Subsequent quarterly groundwater sampling indicated that VOC concentrations in groundwater had been reduced in Area B (MW-16, MW-16A, MW-24 and MW-24A). However, the source of the continuing concentrations of TCE observed in the shallow unconsolidated aquifer at the southeast corner of the building in MW-6 was still unclear.

Energy*Solutions* proposed additional groundwater investigation within the portion of the building west and south of MW-24 and MW-24A to determine the extent of the elevated concentrations of VOCs in groundwater generated by the former drywell located outside the main facility loading dock (Ref. No. 1.2.1). All samples collected during the investigation (INT-1 through INT-5 and EXT-1) were collected as grab samples from temporary wells; permanent wells were not installed.

The proposed sampling locations were chosen based on the direction of groundwater flow as observed during times when groundwater was not influenced by pumping well MW-16A. Flow direction in the area is generally to the southwest beneath the building. Two groundwater samples were collected at distances of 50 feet and 150 feet down gradient (i.e., southwest) from the MW-24 well pair. An additional four locations were proposed to the southeast of the MW-24 well pair to determine the source of the low concentrations of TCE observed in the shallow unconsolidated aquifer at MW-6. Two groundwater samples were collected in this southeasterly direction, the first approximately 50 feet and the second approximately 150 feet southeast from the MW-24 well pair, and along the eastern edge of the building. The third groundwater sample collected to the southeast

was collected near the southeast corner of the building and the fourth was collected outside the southeast corner of the building between the building and the MW-6 well pair.

The groundwater grab samples were collected on June 8, 2011. The six supplemental samples were collected from temporary wells cased with 1" PVC piping and screened at an approximate depth of five to fifteen feet below the building floor, or the ground surface in the case of sample EXT-1. The wells INT-1 through INT-5 were installed on June 7th and EXT-1 was installed on June 8th 2011. The wells were allowed to equilibrate overnight and then one sample was collected from each of the six temporary wells on June 8th 2011.

Data collected from these supplemental groundwater grab samples indicated that elevated contaminant concentrations were present in the groundwater to the west and south of monitoring well pair MW-24 the most down gradient well pair located within the building footprint as of the date the samples were collected.

TCE concentrations ranged from a low of non-detectable in INT-1 to a high of 82,000 ug/l in INT-2. Cis 1,2 DCE concentrations ranged from a low of non-detectable in INT-1 to a high of 9,100 ug/l in INT-2. Vinyl Chloride concentrations ranged from a low of non-detectable in INT-1, INT-2 and EXT-1 to a high of 140 ug/l in EXT-1.

Based on these results, it appears that the groundwater plume from the former drywell has migrated to the west as far as location INT-2 and to the south as far as location INT-4. Lower concentrations at location INT-3 suggest that location INT-2 represents the limits to the west of the major elevated VOC concentrations in the groundwater. Based on the locations of these two samples (INT-2 and INT-3) the data collected in June of 2011 suggests that the releases from the former drywell have impacted the groundwater to the west approximately 300 feet.

Concentrations of TCE in samples INT-1 and INT-4 collected more directly to the south of the former drywell confirm that the majority of the groundwater flow travels to the west and south. The TCE concentration in INT-1 was non-detect, and the TCE concentration in INT-4 was 830 ug/l. Concentrations in the southern most sampling points INT-5 and EXT-1 were very low and non-quantifiable at 0.36 ug/l (J) and 0.35 ug/l (J) respectively suggesting that the limits of the southern impact of the drywell release is located somewhere between samples INT-4 and INT-5.

The high VOC concentrations detected in some of the groundwater grab samples collected during the June 8, 2011 sampling event, presented the potential for elevated sub-slab vapor concentrations to be present beneath the building floor slab. The "Supplemental Sub-Slab Gas Investigation Work Plan" Document No. CS-OP-PN-060, Rev. 0, (Ref. No. 1.2.1), was implemented in order to confirm whether the sub-slab vapors contained elevated VOC concentrations, and if so, to delineate the extent of these elevated concentrations and thus reveal a more thorough picture of areas with the potential for elevated VOC concentrations in the groundwater.

Samples were collected using Suma Canisters in accordance with the Supplemental Sub-Slab Gas Investigation Work Plan. Two types of sub-slab samples were collected. Twenty nine (29) 30-minute screening samples were collected in order to provide data

that might be used to assess the potential locations of groundwater contamination beneath the floor slab. To compliment these screening samples, four additional locations were selected for the collection of 8-hour indoor air and sub-slab samples which would provide data that could be compared to the NYSDOH Soil Vapor/Indoor Air Matrices 1 or 2 as appropriate.

The majority of the samples were collected from the central portion of the building with some additional locations added near the northern, western and southern perimeters of the building.

Results of the supplemental sub-slab vapor investigation indicated that there are additional areas within the building with elevated concentrations of chlorinated VOCs and aromatic VOCs in the sub-slab vapors. The locations of the highest sub-slab concentrations detected coincided well with the locations of the highest groundwater grab sample concentrations, suggesting that in some locations VOCs in the groundwater are evaporating and migrating through the vadose zone and becoming trapped beneath the floor slab. Sub-Slab sample 8hr-002, the sub-slab vapor sample with the highest TCE concentrations (TCE at 420,000 ug/m^3) was collected directly above groundwater sample INT-2, the groundwater grab sample with the highest concentrations (TCE at 82,000 ug/l). Correlation between groundwater sample results and sub-slab sample results was also good in the areas immediately to the west of groundwater sample INT-3. This sample was thought to represent the western boundary of the groundwater contamination, and sub-slab samples to the west of INT-3 seem to confirm this conclusion. Sub-slab vapor concentrations of TCE in samples 011, 012, 013, 025, 026, 018, 017 and 015 all to the south and west to INT-3 were less than 250 ug/m^3 in all cases. These results are significantly less than the concentrations of sub-slab samples 8hr-002 (TCE at 420,000 ug/m^3), 8hr-003 (TCE at 11,000 ug/m^3), 010 (TCE at 6,200 ug/m^3), 009 (TCE at 79,000 ug/m^3), 020 (TCE at 2,300 ug/m^3) and 021 (TCE at 200,000 ug/m^3), all located to the north and or east of INT-3.

Although the results revealed this zone of lower concentrations in the central building area just south and west of sample INT-3, higher sub-slab VOC concentrations were detected once again further to the south and west represented by samples 007 (TCE at 1,400 ug/m^3), 008 (TCE at 3600 ug/m^3), 027 TCE at 3,500 ug/m^3) and 028 (TCE at 60,000 ug/m^3). The data therefore suggests that the extent of the impacts from the drywell release may end in the vicinity of sample INT-3, and these elevated concentrations further to the south and west may have resulted from separate small surface releases unrelated to the former dry well.

2.0 SCOPE OF WORK

2.1 Additional Groundwater Grab Samples

Four groundwater grab samples will be collected at locations throughout the facility to provide a snapshot of the contaminants in the groundwater under the slab within the building. This data will also indicate whether the elevated soil vapors in the selected areas are the result of surface spills or groundwater contamination. See Figure 3 for a scaled map with sample locations.

2.1.1 The first groundwater sample (INT-10) will be collected in the immediate vicinity of the previously collected "30min-028" sub-slab air sample location in the southwest portion of the building. This sample will be located in or near the hallway where the ss-30min-028 sample was collected. The ss-30min-028 sample was analyzed and contained elevated concentrations of TCE and CIS 1,2-DCE at 60,000 and 3,400 ug/m3, respectively. This first groundwater grab sample is located in this area to determine the relationship between the groundwater and the observed elevated soil vapors in the "ss-30min-028" sample collected in September 2011. If the groundwater VOC concentrations in this area are not elevated, a surface release would likely be the source of the aforementioned elevated sub-slab vapors.

2.1.2 The second groundwater sample (INT-11) will be collected in the southern portion of the building, located centrally between the "ss-30min-027" and "ss-30min-008" sample locations. Analysis of the "ss-30min-027" and "ss-30min-008" samples revealed elevated concentrations of TCE at 3,500 and 3,600 ug/m3 respectively. The sample is located in this area to determine if elevated VOC concentrations in the sub-slab vapors in the area are the result of groundwater contamination or more likely the result of surface spills that have not reached groundwater and exist just below the slab.

2.1.3 The third groundwater grab sample (INT-12) will be collected in the northeasterly portion of the building in the approximate down-gradient location from the MW-24/24A and MW-16A/16R well pairs. This location was chosen to confirm whether the contamination coming from the known dry well source at Area "B", has migrated past the MW24/24A well pair and is continuous to the INT-2 sampling location. The soil vapor data suggests that in the middle portion of the building there is a large area where concentrations decrease from northeast to southwest. The sample is located in this area to determine if elevated VOC concentrations in the sub-slab vapors in the area are the result of groundwater contamination or more likely the result of surface spills that have not reached groundwater and exist just below the slab.

2.1.4 The fourth groundwater grab sample (INT-13) will be collected in the northern portion of the building between samples "ss-30min-024" and "ss-30min-021". This sample serves as an up-gradient groundwater sample that will serve two purposes. The first is to establish if the groundwater plume is extending in the northerly direction or not, the second is to correlate to the original "ss-30min-024" sample and to the proposed 8hr correlation sample.

Depth to groundwater is approximately 7 feet to 9 feet below the floor surface inside the building, or ground surface outside the building. Groundwater samples will be collected from a fine sand unit typically located just above the bedrock surface. Depth to bedrock in the proposed drilling area ranges from approximately 13 feet to 20 feet below ground surface.

A direct-push drilling rig and coring drill will be utilized to advance the proposed boreholes in overburden materials, typically very find sands, silts and clay. Total depth of any one boring is not expected to exceed 20 feet below ground surface.

Soil sampling will be performed using a continuous sampling method such as Geoprobe's Macro Core system. The soil will be screened with a photo-ionization detector (PID) and logged for its characteristics. Based on field observations samples may be retained for laboratory analysis.

Groundwater samples will be collected using a one inch temporary PVC casing and screen that will be inserted such that the groundwater interface is within the screened interval and allowed to equilibrate. Groundwater sampling will be conducted the following day using the Low Flow/Low Stress method described in Energy*Solutions* "Low Flow/Low Stress Groundwater Purging" Standard Operating Procedure (SOP). Groundwater samples will be collected from the fine sand zone located immediately above the top of the bedrock surface. Groundwater samples will be collected into laboratory supplied and cleaned glassware and will be submitted to Columbia Analytical Services under chain-of-custody and analyzed for VOCs via EPA Method 8260.

After groundwater samples are collected, interior boreholes will be backfilled with a cement-bentonite grout to the base of the concrete slab and finished with concrete, flush with the interior floor grade.

Drill cuttings and fluids generated during the installation of monitoring wells and water generated during well development will be collected and containerized. Handling of investigation-derived wastes (IDW) will be performed in accordance with all federal, state, and local regulations. All IDW will be stored at a designated location at the Leica, Inc. Site for subsequent characterization and disposal.

Quality Assurance and Quality Control groundwater samples will be collected in accordance with Energy*Solutions* "Quality Assurance and Quality Control" SOP. Specifically, this sampling event will utilize the following three different types QA/QC samples.

1. Field or equipment blanks will be collected at a rate of one for every 20 samples and at least one per sampling event. The equipment blank is intended to assess the success of the decontamination process and is collected after sampling equipment has been cleaned. The field blank matrix will be de-ionized water or distilled water if available. The sample is drawn through the sampling equipment in the same manner as the non-QA/QC samples and submitted for the same analysis.
2. Trip blanks will be utilized at a rate of one trip blank per cooler containing VOC samples. Trip blanks are used to assess the handling process from the project site to the laboratory. These blanks are typically pre-filled by the laboratory and included in a one trip blank per cooler rate.

3. The third type of QA/QC sample that will be collected is a duplicate, at a rate of one for every 20 samples collected and at least one per sampling event. Duplicate samples are collected using the same methodology and source as the sample they are duplicating. This sample is collected to assess the ability to replicate results from two samples taken under the same conditions.

It is anticipated that the aforementioned groundwater sample collection will be completed in one day following drilling activities, one trip blank, one equipment blank, and one duplicate will be collected.

2.2 Sub-slab and Indoor/Ambient Air samples and Correlation samples

Energy*Solutions* intends to collect sub-slab and/or indoor ambient air samples at 13 different locations throughout the facility during this sampling effort to further delineate the VOC concentrations in the sub-slab and indoor air to determine the need for additional mitigation at the SamSon facility. See Figure 3 for a scaled map and sample locations.

Three types of sub-slab gas samples will be collected at these 13 locations. The first sample type will be 30-minute screening samples that will be collected in order to provide data that may be used to assess the potential extent of soil vapor contamination beneath the slab. The data collected in this manner will be used only for screening, and will not be compared to the New York State Department of Health (NYSDOH) matrices (Ref. No. 1.2.11). The 30-minute screening samples (031-035) will be collected from five locations shown on Figure 3.

The second sample type will be collected at five locations that have been selected for the collection of 8-hour indoor air and 8-hour sub-slab samples. These samples will allow the comparison of results to the NYSDOH Soil Vapor/Indoor Air Matrices 1 or 2, as appropriate. These NYSDOH compliant 8-hour samples are intended to confirm compliance with the NYSDOH Soil Vapor/Indoor Air Matrices in the northern portion of the building and in the central portions of the building. The 8-hour screening samples (8hr-039– 8hr-043) will be collected from five locations shown on Figure 3.

The third type of sample will be used to provide correlations between the 30-minute samples and the 8-hour sub-slab and ambient air samples. This correlation is intended to provide some insight on the concentrations based upon sample drawing time (30min vs. 8hr) at similar locations. These 8-hour sub-slab and ambient air samples will be collected at three locations (8hr-036 – 8hr-038) where 30-minute samples were collected during the last round of sub-slab sampling. Figure 3 shows where each type of sample will be collected, as well as the sample locations that the correlation samples are being compared to.

2.3 Sample Location Selection

The five 30-minute sub-slab screening sample locations (032-036) were chosen to further delineate the extent of sub-slab vapor contamination beneath the site building.

1. Three of the samples (032-034) will surround the previously sampled "ss-30min-028" to the north, east, and south. These sample locations will help delineate the extent as well as the direction of the plume associated with the original sample.
2. The other two 30-minute screening sample locations (035 & 036) are to the north and to the south of the previous sub-slab vapor sample locations in the far northern and southern portions of the building. These additional samples will confirm that sub-slab VOC concentrations are not present north and south of the original locations.

The five 8-hour indoor air and sub-slab sample locations (8hr-040– 8hr-044) are intended to determine compliance with the NYSDOH Soil Vapor/Indoor Air Matrices in the northern portion of the building and in the central portions of the building.

1. The first pair (sub-slab and indoor air) of NYSDOH compliant samples (8hr-040) will be collected to the northwest of the MW-24/24A well pair. This sample is expected to provide data indicating that further mitigation in the area to the north of MW-24/24A well pair is not needed.
2. The second pair of NYSDOH compliant samples (8hr-041) will be collected in the immediate vicinity of the previously sampled "ss-30min-023" sample This sample location is expected to provide data indicating that mitigation to the north and west of this sample location is not needed.
3. The third pair of NYSDOH compliant samples (8hr-042) will be collected to the south of the second NYSDOH compliant sample and to the east of the previously sampled "ss-30min-022" sample. This sample is expected to provide data confirming that mitigation is not needed in this area.
4. The fourth pair of NYSDOH compliant samples (8hr-043) will be collected in the middle portion of the building, in the middle of the four previously collected samples "ss-30min-026", "ss-30min-025", "ss-30min-017", and "ss-30min-018". This sample location is expected to provide data confirming that mitigation is not needed in the middle portion of the building.
5. The fifth NYSDOH compliant samples (8hr-044) will be located in the area immediately south of the previously sampled "ss-30min-005" and "ss-30min-006". This sample location is expected to provide data that once again will confirm that mitigation is not needed in this area.

The three 8-hour samples (8hr-037 – 8hr-039) that are intended to serve as correlation samples will be collected to provide data to correlate the sample data from the 30-minute sample interval to the 8-hour sample interval. The sample locations are spread out so that the correlation is not location specific. These samples will also confirm the sample concentrations that were identified in the previous sampling round.

1. The first sample location (8hr-037) is in the original location of the previously sampled "ss-30min-024" and will serve to correlate the 8-hour sample interval to the 30-minute sample interval in this area.
2. The second sample location (8hr-038) is in the original location of the previously sampled "ss-30min-028" and will serve to correlate the 8-hour sample interval to the 30-minute sample interval in this area.

3. The third sample location (8hr-039) is in the original location of the previously sampled "ss-30min-008" and will serve to correlate the 8-hour sample interval to the 30-minute sample interval in this area.

All sampling locations described above are shown in Figure 3.

2.4 Sample Methodology

2.4.1 30-minute Screening Samples

The 30-minute samples will be collected using the same method as described in the "Supplemental Sub-Slab Gas Investigation Work Plan" Document No. CS-OP-PN-060, Rev. 0 (Ref. No. 1.2.1). These samples will be used for screening purposes only and the data will not be compared to the NYSDOH matrices.

Sub-slab vapor samples will be collected from the top two-inches of soil or aggregate located immediately below the slab. Sub-slab vapor samples will not be collected in close proximity to cracks or voids in the slab in order to minimize potential ambient air infiltration. Temporary sub-slab vapor probe installations will be constructed by:

- Drilling a one-inch diameter borehole through the concrete slab using an electric rotary hammer drill,
- Inserting Teflon™ tubing into the borehole to a maximum of two inches into the sub-slab soil or aggregate,
- Backfilling the annular space with clean, coarse sand to within approximately one-inch of the top of the floor slab
- Sealing the borehole with non-VOC emitting modeling clay to ensure that the sub-slab vapor sample is not diluted with air from within the building.

For the 30-minute screening samples, a length of Teflon ™ tubing will be connected from the draw point in the floor to a photo-ionization detector (PID). The PID will be used to purge three volumes of the tubing and to monitor the sub-slab vapor. Following purging activities, the PID will be turned off and the tubing will be connected to the SUMMA canister. Then the regulator will be opened to allow airflow from the draw point towards the SUMMA canister to collect the vapor sample. The pre-calibrated regulator on the SUMMA canister will restrict flow to allow sample collection over a 30-minute period for these screening samples. The vacuum in the SUMMA canisters should not fall to zero. If a canister exhibits a vacuum reading of zero, please contact the Project Manager to discuss its usability.

Six liter, laboratory supplied and certified clean SUMMA canisters will be used for the five screening samples with sample collection occurring over a period of approximately 30 minutes using the appropriate 30-minute calibrated regulators provided by the laboratory.

Each air sample collected in the SUMMA canisters will have its serial number and the corresponding regulators serial number recorded in the field book or the provided sample log sheet from the laboratory in order to track which regulators were used

with which canisters. Start and ending times as well as start and ending vacuum readings will also be recorded on these sheets and provided to the lab and to the Project Manager.

2.4.2 8-Hour NYSDOH Compliant Samples

The 8hr Sub-slab vapor and ambient air samples will be collected in compliance with NYSDOH guidance (Ref. No. 1.2.11) and in accordance with this work plan. Sampling time periods will be as specified herein, and the tracer will be used on the sub-slab 8-hour samples only.

Sub-slab vapor samples will be collected from the top two-inches of soil or aggregate located immediately below the slab. Sub-slab vapor samples will not be collected in close proximity to cracks or voids in the slab in order to minimize potential ambient air infiltration. Temporary sub-slab vapor probe installations will be constructed by:

1. Drilling a one-inch diameter borehole through the concrete slab using an electric rotary hammer drill,
2. Inserting Teflon™ tubing into the borehole to a maximum of two inches into the sub-slab soil or aggregate,
3. Backfilling the annular space with clean, coarse sand to within approximately one-inch of the top of the floor slab,
4. Sealing the borehole with non-VOC emitting modeling clay to ensure that the sub-slab vapor sample is not diluted with air from within the building.

Similar six liter, laboratory supplied and certified clean SUMMA canisters with 8-hour calibrated regulators will be used for the collection of the eight sub-slab and the corresponding eight indoor air samples to be compared to the NYSDOH Soil Vapor/Indoor Air Matrices 1 or 2, as appropriate.

Each air sample collected in the SUMMA canisters will have its serial number and the corresponding regulator's serial number recorded in the field book or the provided sample log sheet from the laboratory in order to track which regulators were used with which canisters. Start and ending times as well as start and ending vacuum readings will also be recorded on these sheets and provided to the lab and to the Project Manager.

For the 8-hour period sub-slab samples, a length of Teflon ™ tubing will be connected from the draw point in the floor to a three way "tee" and one port will go to a valve that passes through the shroud and will be used to purge and ultimately connect to the photo-ionization detector (PID), the second port will connect with another piece of tubing to the 8 hour regulator that is pre mounted to the SUMMA canister under the shroud. The PID will be used to purge three volumes of the tubing and to monitor the sub-slab vapor. Following purging activities, helium will be added into the shroud and monitored with a helium detector so that a 30% concentration within the shroud is achieved and maintained. The helium will be monitored from a port in the shroud that is near the floor so that the majority of the shroud is contained at a minimum of 30% helium. The helium detector is also used to purge the sample

train to detect any leaks in the sample train. If leaks are detected, the system will be re-evaluated and leaks fixed. Once the leaks have been fixed and the shroud filled and sample train checked for leaks again, the regulator will be opened to allow airflow from the draw point towards the SUMMA canister to collect the vapor sample. The pre-calibrated regulator on the SUMMA canister will restrict flow to allow sample collection over an 8 hour period for these samples that will be ultimately compared to the NYDOH matrices. The vacuum in the SUMMA canisters should not fall to zero. If a canister exhibits a vacuum reading of zero, please contact the Project Manager to discuss its usability.

For the 8-hour ambient air samples, the SUMMA canisters will be placed in close proximity to the corresponding sub-slab canister at a "working height" which is usually 3 to 4 feet above the slab where the sub-slab sample is being collected.

2.4.3 8-Hour Correlation Samples

The 8-hour correlation samples will be collected using the hole previously drilled to obtain the corresponding 30-minute sample. This will ensure that the vapors collected during this sampling event are from the same location as the samples they are being compared to.

The vacuum in the SUMMA canisters should not fall to zero. If a canister exhibits a vacuum reading of zero, please contact the Project Manager to discuss its usability.

2.4.4 Quality Assurance and Quality Control Samples

Quality Assurance and Quality Control samples will be collected in accordance with Energy*Solutions* "Quality Assurance and Quality Control" Standard Operating Procedure (SOP). Specifically, this Sub-Slab and Indoor/Ambient Air samples and Correlation sampling event will utilize two different types QA/QC samples.

The first sample type is a field or equipment blank that will be collected at a ratio of one for every 20 samples collected and at least one per sampling event. The equipment blank will be collected using a typical setup of canister and regulator located in an area where VOC contamination is not known to exist (typically outside). This is methodology is used to assess the canister and regulators function as well as its cleanliness.

The second QA/QC sample type that will be collected is a duplicate, at a rate of one for every 20 samples collected and at least one per sampling event. The field duplicate will be collected at the same time and location as the actual sample it is duplicating, for example; if an 8hr helium shrouded sample were to be duplicated for QA/QC purposes, the duplicated sample would need to be taken from the same sample point and under the same helium shroud.

3.0 DATA MANAGEMENT

3.1 Sample Control and Analysis

The grab groundwater samples collected will be relinquished under Chain-of-Custody (COC) to Columbia Analytical Services of Rochester, New York, a National Laboratory Accreditation Program (NELAP) Laboratory. All groundwater grab samples will be analyzed for VOCs using United States Environmental Protections Agency (EPA) method SW-846/8260b.

The sub-slab vapor and indoor air samples collected in the SUMMA canisters will be relinquished under COC to Columbia Analytical Services of Rochester, New York, a NELAP laboratory. All air samples will be analyzed for VOCs using EPA Method TO-15.

3.2 Field Data

The field data collected will be managed using forms and/or bound field notebooks. All sample measurements taken during this project will be identified by matrix, type, and location to avoid ambiguity. Field records will include the following minimum information:

- A chronological listing of significant site events and sampling activities;
- Site name, field team members, signature, and date on each page;
- Site conditions, notes or sketches of sampling locations and sample descriptions;
- Sample times; and
- Record of all measurements.

3.3 Laboratory Data

The laboratory will be responsible for maintaining analytical logbooks and laboratory data as well as a sample inventory for submittal to Energy*Solutions*, if requested. Laboratory data will be transcribed onto a computer-based management system. This data will be summarized in a manner that provides efficiency in data reduction, tabulation, and evaluation. Un-consumed sample volume will be maintained by the laboratory for a period of at least 30 days after issuance of the final report to Energy*Solutions* under the conditions prescribed by the appropriate analytical methods for additional analysis, if necessary. Raw data files will be maintained by the laboratory and at a minimum will consist of the following files:

- Project-related plans;
- Project login data;
- Sample identification documents;
- Chain-of-Custody records;
- Project-related correspondence;

- Raw data sheets QC data;
- Copies of all final reports pertaining to the project; and
- Sample preparation records.

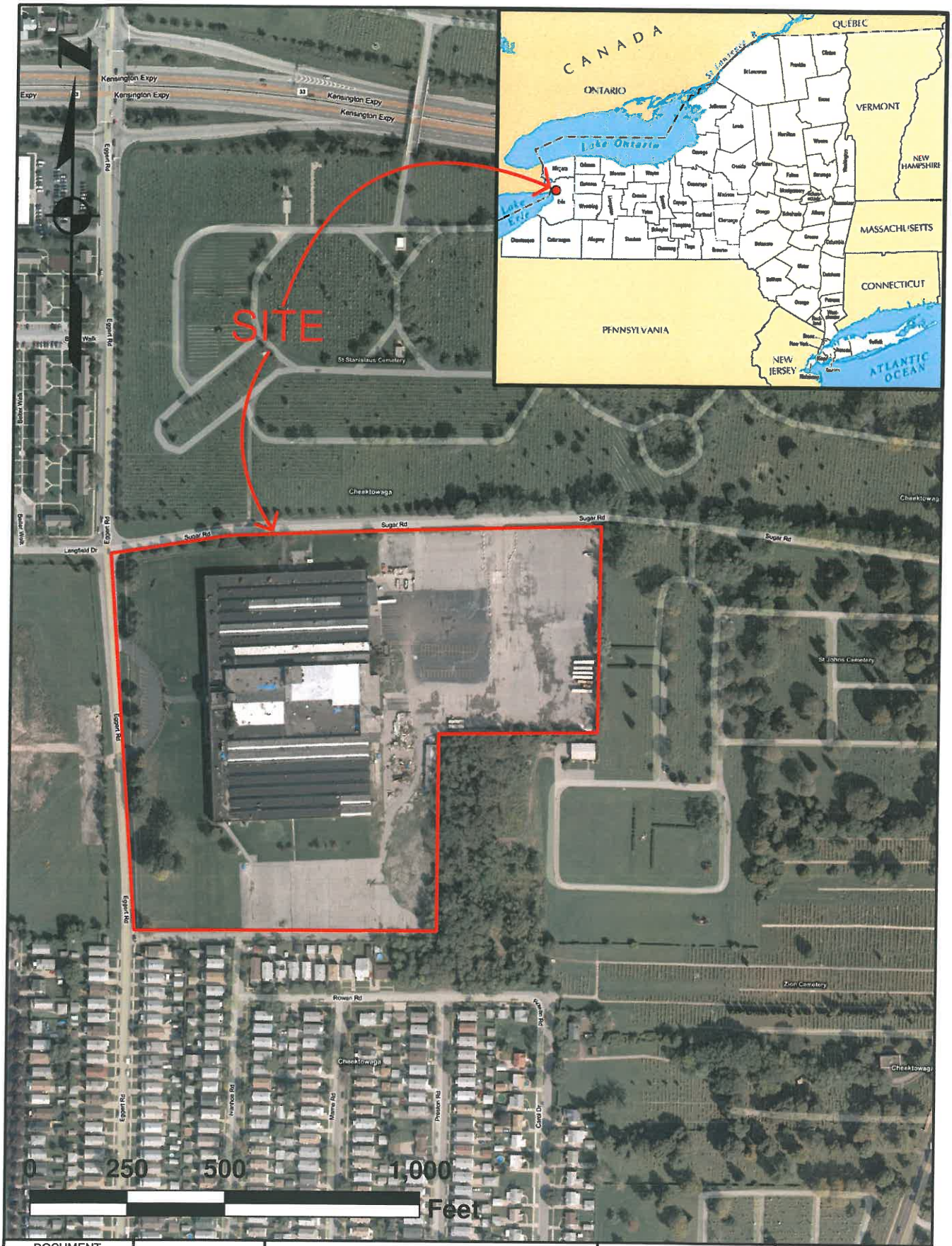
Raw laboratory data files will be retained by the laboratory for a minimum of 5 years.

3.4 Data Review and Reporting

Sub-slab vapor data and Groundwater grab data collected during this investigation will be reviewed and plotted on site mapping to help delineate VOCs in the underlying groundwater and sub-slab vapor and indoor air. The data from the eight, 8-hour sampling locations will also be compared to the Soil Vapor/Indoor Air Matrices 1 and 2 of the NYSDOH guidance (Ref. No. 1.2.11) to assess the need for additional mitigation efforts within the main warehouse. The 30-minute sub-slab gas data will be used to determine the extent of the contamination as well as the need for additional permanent groundwater monitoring wells within the building. The data may also be used to determine appropriate locations, if needed, for additional HRC injections to remediate identified groundwater contamination. The 8-hour data collected adjacent to previous 30-minute sample locations for the purpose of correlating the data between the two different sample durations will also be analyzed and conclusions drawn on their relevance to the data set. The data will be summarized and submitted in an annual project status report to NYSDEC.

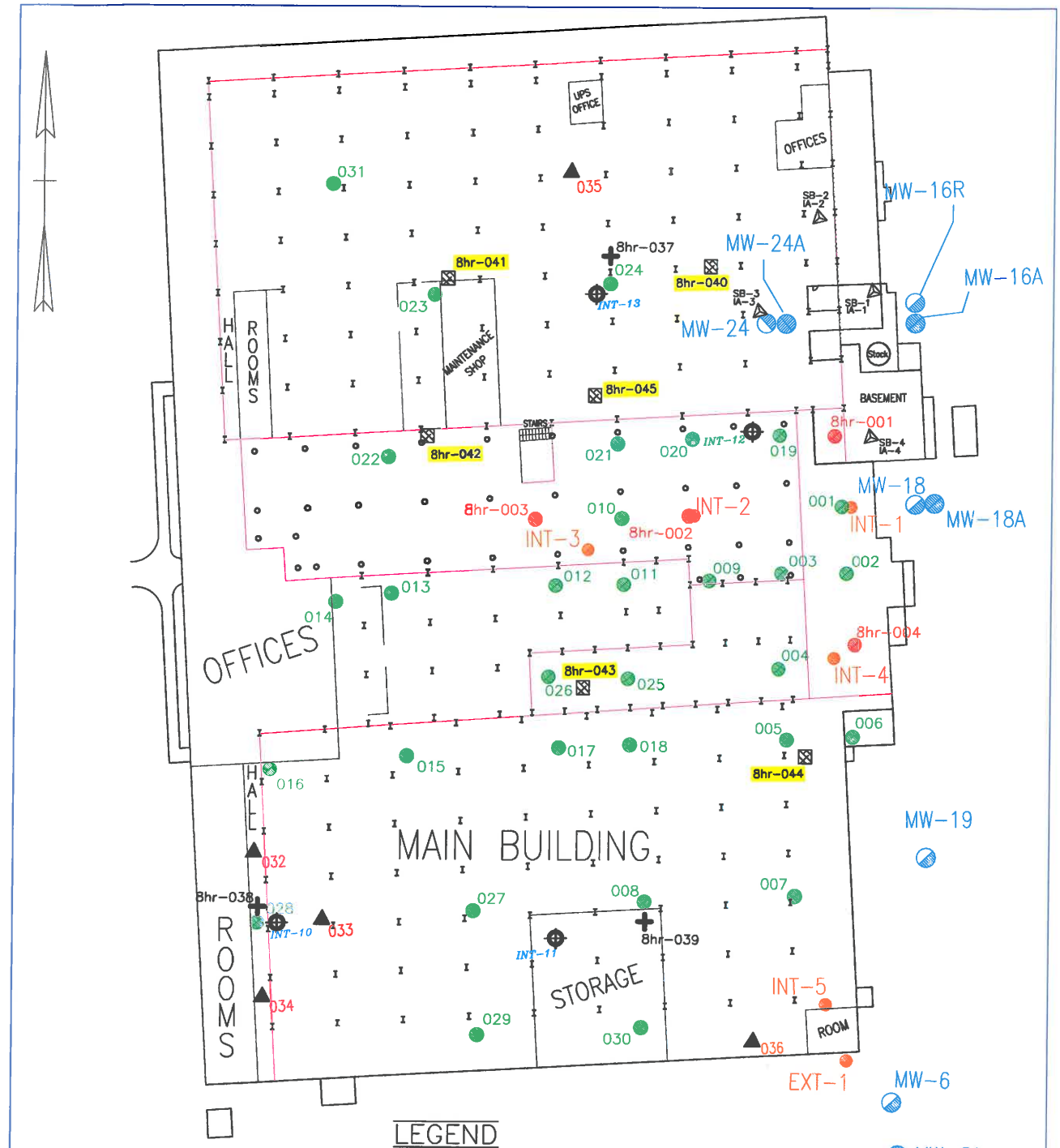
FIGURES

Figure 1 Site Location Map
Figure 2 Site Plan
Figure 3 Proposed Sub-Slab, Indoor Air, and Groundwater Grab Sampling Locations



DOCUMENT CONTROL NO.	PROJECT	LEICA MICROSYSTEMS INC. 203 EGGERT ROAD CHEEKTOWAGA, NY	ENERGYSOLUTIONS 100 Mill Plain Road Danbury, CT 06811 203-797-8301	PROJECT # 137015
				FILENAME:
REVISION NO.	DRAWING	SITE LOCATION MAP		SCALE: SEE SCALEBAR / DATE: 12/9/09
				BY: MT / CK:
				FIGURE # 1

DOCUMENT CONTROL NO.	PROJECT	LEICA MICROSYSTEMS INC. 203 EGGERT ROAD CHEEKTOWAGA, NY	ENERGYSOLUTIONS 100 Mill Plain Road Danbury, CT 06811 203-797-8301	PROJECT # 137015 FILENAME:
REVISION NO.	DRAWING	Site Plan		SCALE: SEE SCALEBAR DATE: 8/17/10 BY: MT CK: PM FIGURE # 2



LEGEND

- Possible Foundation
- Non-support Interior Walls
- 8hr-037 = Proposed 30 minute/8 hour correlation samples
- 033 = Proposed Subslab samples
- INT-12 = Proposed Groundwater grab samples
- 8hr-042 = Proposed DOH compliant Indoor air and subslab samples
- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- 025 = EXISTING 30 MINUTE SOIL GAS SCREENING SAMPLING LOCATIONS
- 8hr-002 = EXISTING PROPOSED DOH COMPLIANT INDOOR AIR AND SUBSLAB SAMPLES
- INT-1 = EXISTING DIRECT PUSH GROUNDWATER SAMPLE LOCATIONS
- SB-4 IA-4 = MARCH 23, 2010 EXISTING INDOOR AIR AND SUBSLAB AIR SAMPLES

DOCUMENT CONTROL NO.	PROJECT	LEICA MICROSYSTEMS INC.	ENERGY SOLUTIONS 100 MILL PLAIN RD DANBURY, CT. 06811 (203)797-8301	PROJECT # 137015 FILENAME:
REVISION NO.	DRAWING	Proposed Sub-Slab, Indoor Air, and Groundwater Grab Sampling Locations		SCALE: See Scalebar DATE: 6/22/12 BY: MT CK: RM FIGURE # 3

ENERGYSOLUTIONS

APPENDIX D

LABORATORY DATA

October 08, 2012

Service Request No: R1206262

Mr. Robert McPeak
Energy Solutions, Inc.
100 Mill Plain Rd
2nd Floor Mailbox 106
Danbury, CT 06811

Laboratory Results for: Leica Airs 9/17,19/12

Dear Mr. McPeak:

Enclosed are the results of the sample(s) submitted to our laboratory between September 19, 2012 and September 21, 2012. For your reference, these analyses have been assigned our service request number **R1206262.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7471. You may also contact me via email at Karen.Bunker@alsglobal.com.

Respectfully submitted,

Columbia Analytical Services, Inc. dba ALS Environmental

Karen Bunker
Project Manager

Columbia Analytical Services
ADDRESS 1565 Jefferson Rd, Building 300, Suite 360, Rochester, NY 14623
PHONE 585-288-5380 : FAX 585-288-8475
Columbia Analytical Services, Inc.
Part of the ALS Group A Campbell Brothers Limited Company
www.caslab.com ▪ www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Energy Solutions	**Service Request No.:**	R1206262
Project:	Leica Airs 9/19,20/2012	**Date Received:**	9/19,21/12
Sample Matrix:	Water		

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses.

Sample Receipt

Twenty-two (22) samples were collected by the client over the period from 9/19-20/12 and received for analysis at Columbia Analytical Services on 9/19/12 and 9/21/12 via CAS Courier. The sample canisters were received in good condition.

Volatile Organics

Twenty-two (22) air samples were analyzed for Volatile Organic compounds by GC/MS method TO-15.

The Initial and Continuing Calibration criteria were met.

Batch QC is included in the report. All Laboratory Control Sample (LCS) and LCS Duplicate (LCSD) recoveries for target compounds were within QC limits. All Relative Percent Difference (RPD) calculations were acceptable.

All Surrogate recoveries are within acceptance limits.

Hits between the Minimum Detection Limit and (MDL) and Minimum Reporting Limit (MRL) have been flagged as "J", estimated.

Hits above the Calibration range of the standards are flagged as "E", estimated. The sample is then repeated at the appropriate dilution for the hit. Both sets of data are included in the report. The subsequent hits on the dilution are flagged as "D".

The Laboratory Method Blanks were free from contamination.

No other problems were encountered during the analysis of these samples.

Subcontracted Analyses

Seven (7) sample canisters were subcontracted to the ALS/CAS Simi Valley laboratory after the TO-15 analysis done in Rochester to analyze for Helium. Their report is included in its entirety immediately following the Rochester report.

Approved by Karen J Burdick **Date** 10/8/12

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1206262

Lab ID	Client ID
R1206262-001	SS-30MIN-036
R1206262-002	SS-30MIN-032
R1206262-003	SS-30MIN-033
R1206262-004	SS-30MIN-034
R1206262-005	SS-8HR-040
R1206262-006	AA-8HR-040
R1206262-007	SS-8HR-041
R1206262-008	AA-8HR-041
R1206262-009	SS-8HR-41 DUP
R1206262-010	SS-8HR-037
R1206262-011	SS-8HR-045
R1206262-012	AA-8HR-045
R1206262-013	AA-8HR-042
R1206262-014	SS-8HR-042
R1206262-015	SS-3OMIN-035
R1206262-016	SS-30MIN-037
R1206262-017	SS-8HR-038
R1206262-018	SS-8HR-039
R1206262-019	SS-8HR-043
R1206262-020	AA-8HR-043
R1206262-021	SS-8HR-044
R1206262-022	AA-8HR-044

Samples have been subcontracted to the following laboratory(ies). The subcontractor's analytical report is attached:

Columbia Analytical Services, Inc. - SIMIVALLEY
Simi Valley, CA

Columbia Analytical Services™

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REPORT QUALIFIERS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.

ACCREDITED IN ACCORDANCE WITH nelac

CAS/Rochester Lab ID # for State Certifications[1]

NELAP Accredited
Connecticut ID # PH0556
Delaware Accredited
DoD ELAP #65817
Florida ID # E87674
Illinois ID #200047
Maine ID #NY0032
Nebraska Accredited
Nevada ID # NY-00032
New Jersey ID # NY004
New York ID # 10145
New Hampshire ID # 294100 A/B
North Carolina #676
Pennsylvania ID# 68-786
Rhode Island ID # 158
Virginia #460167

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at www.caslab.com.

COLUMBIA ANALYTICAL SERVICES, INC.
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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 0900
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-30MIN-036		
Lab Code:	R1206262-001		

Analytical Method: TO-15

Date Analyzed: 9/21/12 1557
Canister Dilution Factor: 1.71

Initial Pressure (psig): -3.98 Final Pressure (psig): 3.62

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	70	11	11	5.3	5.3	U
75-01-4	Vinyl Chloride	70	1.5	1.5	0.57	0.57	U
74-83-9	Bromomethane	70	11	11	2.7	2.7	U
75-00-3	Chloroethane	70	14	14	5.4	5.4	U
67-64-1	**Acetone**	70	**290**	120	**120**	51	
75-69-4	Trichlorofluoromethane (CFC 11)	70	15	15	2.7	2.7	U
75-35-4	1,1-Dichloroethene	70	11	11	2.7	2.7	U
75-09-2	Methylene Chloride	70	9.3	9.3	2.7	2.7	U
76-13-1	**1,1,2-Trichloro-1,2,2-trifluoroethane**	70	**46**	4.2	**6.0**	0.54	
75-15-0	**Carbon Disulfide**	70	**19**	8.3	**6.2**	2.7	
156-60-5	trans-1,2-Dichloroethene	70	11	11	2.7	2.7	U
75-34-3	**1,1-Dichloroethane (1,1-DCA)**	70	**17**	11	**4.3**	2.7	
1634-04-4	Methyl tert-Butyl Ether	70	19	19	5.4	5.4	U
108-05-4	Vinyl Acetate	70	120	120	35	35	U
78-93-3	**2-Butanone (MEK)**	70	**25**	16	**8.4**	5.4	
156-59-2	cis-1,2-Dichloroethene	70	11	11	2.7	2.7	U
67-66-3	Chloroform	70	13	13	2.7	2.7	U
107-06-2	1,2-Dichloroethane	70	11	11	2.7	2.7	U
71-55-6	**1,1,1-Trichloroethane (TCA)**	70	**1400**	15	**260**	2.7	E
71-43-2	**Benzene**	70	**140**	8.6	**44**	2.7	
56-23-5	Carbon Tetrachloride	70	1.7	1.7	0.27	0.27	U
78-87-5	1,2-Dichloropropane	70	12	12	2.7	2.7	U
75-27-4	Bromodichloromethane	70	3.7	3.7	0.55	0.55	U
79-01-6	**Trichloroethene (TCE)**	70	**520**	1.5	**98**	0.27	
10061-01-5	cis-1,3-Dichloropropene	70	24	24	5.4	5.4	U
108-10-1	4-Methyl-2-pentanone	70	22	22	5.4	5.4	U
10061-02-6	trans-1,3-Dichloropropene	70	12	12	2.7	2.7	U
79-00-5	1,1,2-Trichloroethane	70	15	15	2.7	2.7	U
108-88-3	**Toluene**	70	**370**	10	**97**	2.7	
591-78-6	2-Hexanone	70	11	11	2.7	2.7	U
124-48-1	Dibromochloromethane	70	4.6	4.6	0.55	0.55	U
106-93-4	1,2-Dibromoethane	70	4.2	4.2	0.54	0.54	U
127-18-4	**Tetrachloroethene (PCE)**	70	**5.3**	2.0	**0.78**	0.29	
108-90-7	Chlorobenzene	70	12	12	2.7	2.7	U
100-41-4	**Ethylbenzene**	70	**45**	23	**10**	5.3	
179601-23-1	**m,p-Xylenes**	70	**260**	47	**61**	11	

Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 0900
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-30MIN-036		
Lab Code:	R1206262-001		

Analytical Method: TO-15

Date Analyzed: 9/21/12 1557
Canister Dilution Factor: 1.71

Initial Pressure (psig): -3.98 Final Pressure (psig): 3.62

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	70	28	28	2.7	2.7	U
100-42-5	Styrene	70	23	23	5.4	5.4	U
95-47-6	**o-Xylene**	70	**87**	23	**20**	5.3	
79-34-5	1,1,2,2-Tetrachloroethane	70	3.7	3.7	0.53	0.53	U
541-73-1	1,3-Dichlorobenzene	70	32	32	5.4	5.4	U
106-46-7	1,4-Dichlorobenzene	70	32	32	5.4	5.4	U
95-50-1	1,2-Dichlorobenzene	70	32	32	5.4	5.4	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	109	70-130	9/21/12 1557	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 0900
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-30MIN-036		
Lab Code:	R1206262-001		
Run Type:	Dilution		
Analytical Method:	TO-15	**Date Analyzed:**	9/21/12 1639
		Canister Dilution Factor:	1.71

Initial Pressure (psig): -3.98 Final Pressure (psig): 3.62

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	50	15	15	7.5	7.5	U
75-01-4	Vinyl Chloride	50	2.1	2.1	0.80	0.80	U
74-83-9	Bromomethane	50	15	15	3.8	3.8	U
75-00-3	Chloroethane	50	20	20	7.5	7.5	U
67-64-1	**Acetone**	50	**280**	170	**120**	72	D
75-69-4	Trichlorofluoromethane (CFC 11)	50	21	21	3.8	3.8	U
75-35-4	1,1-Dichloroethene	50	15	15	3.8	3.8	U
75-09-2	Methylene Chloride	50	13	13	3.7	3.7	U
76-13-1	**1,1,2-Trichloro-1,2,2-trifluoroethane**	50	**46**	5.8	**6.0**	0.76	D
75-15-0	**Carbon Disulfide**	50	**19**	12	**6.1**	3.7	D
156-60-5	trans-1,2-Dichloroethene	50	15	15	3.8	3.8	U
75-34-3	**1,1-Dichloroethane (1,1-DCA)**	50	**17**	15	**4.2**	3.8	D
1634-04-4	Methyl tert-Butyl Ether	50	27	27	7.5	7.5	U
108-05-4	Vinyl Acetate	50	170	170	49	49	U
78-93-3	**2-Butanone (MEK)**	50	**23**	22	**8.0**	7.5	D
156-59-2	cis-1,2-Dichloroethene	50	15	15	3.8	3.8	U
67-66-3	Chloroform	50	18	18	3.8	3.8	U
107-06-2	1,2-Dichloroethane	50	15	15	3.8	3.8	U
71-55-6	**1,1,1-Trichloroethane (TCA)**	50	**1500**	21	**270**	3.8	D
71-43-2	**Benzene**	50	**140**	12	**45**	3.7	D
56-23-5	Carbon Tetrachloride	50	2.4	2.4	0.38	0.38	U
78-87-5	1,2-Dichloropropane	50	17	17	3.8	3.8	U
75-27-4	Bromodichloromethane	50	5.1	5.1	0.77	0.77	U
79-01-6	**Trichloroethene (TCE)**	50	**550**	2.1	**100**	0.38	D
10061-01-5	cis-1,3-Dichloropropene	50	34	34	7.5	7.5	U
108-10-1	4-Methyl-2-pentanone	50	31	31	7.5	7.5	U
10061-02-6	trans-1,3-Dichloropropene	50	17	17	3.8	3.8	U
79-00-5	1,1,2-Trichloroethane	50	21	21	3.8	3.8	U
108-88-3	**Toluene**	50	**380**	14	**100**	3.7	D
591-78-6	2-Hexanone	50	15	15	3.8	3.8	U
124-48-1	Dibromochloromethane	50	6.5	6.5	0.76	0.76	U
106-93-4	1,2-Dibromoethane	50	5.8	5.8	0.76	0.76	U
127-18-4	**Tetrachloroethene (PCE)**	50	**5.1**	2.7	**0.76**	0.40	D
108-90-7	Chlorobenzene	50	17	17	3.8	3.8	U
100-41-4	**Ethylbenzene**	50	**46**	32	**11**	7.5	D
179601-23-1	**m,p-Xylenes**	50	**270**	65	**62**	15	D

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 0900
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-30MIN-036		
Lab Code:	R1206262-001		
Run Type:	Dilution		
Analytical Method:	TO-15	**Date Analyzed:**	9/21/12 1639
		Canister Dilution Factor:	1.71

Initial Pressure (psig): -3.98 Final Pressure (psig): 3.62

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	50	39	39	3.8	3.8	U
100-42-5	Styrene	50	32	32	7.6	7.6	U
95-47-6	**o-Xylene**	50	**89**	32	**20**	7.5	D
79-34-5	1,1,2,2-Tetrachloroethane	50	5.1	5.1	0.75	0.75	U
541-73-1	1,3-Dichlorobenzene	50	45	45	7.5	7.5	U
106-46-7	1,4-Dichlorobenzene	50	45	45	7.5	7.5	U
95-50-1	1,2-Dichlorobenzene	50	45	45	7.5	7.5	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	109	70-130	9/21/12 1639	

COLUMBIA ANALYTICAL SERVICES, INC.
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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 0945
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-30MIN-032		
Lab Code:	R1206262-002		

Analytical Method: TO-15 **Date Analyzed:** 9/21/12 1805
Canister Dilution Factor: 1.51

Initial Pressure (psig): -2.65 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	50	14	14	6.6	6.6	U
75-01-4	Vinyl Chloride	50	1.8	1.8	0.71	0.71	U
74-83-9	Bromomethane	50	13	13	3.3	3.3	U
75-00-3	Chloroethane	50	18	18	6.6	6.6	U
67-64-1	**Acetone**	50	**430**	150	**180**	64	
75-69-4	Trichlorofluoromethane (CFC 11)	50	19	19	3.3	3.3	U
75-35-4	1,1-Dichloroethene	50	13	13	3.4	3.4	U
75-09-2	Methylene Chloride	50	11	11	3.3	3.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	50	5.1	5.1	0.67	0.67	U
75-15-0	Carbon Disulfide	50	10	10	3.3	3.3	U
156-60-5	trans-1,2-Dichloroethene	50	13	13	3.4	3.4	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	50	14	14	3.4	3.4	U
1634-04-4	Methyl tert-Butyl Ether	50	24	24	6.6	6.6	U
108-05-4	Vinyl Acetate	50	150	150	43	43	U
78-93-3	**2-Butanone (MEK)**	50	**22**	20	**7.4**	6.7	
156-59-2	cis-1,2-Dichloroethene	50	13	13	3.4	3.4	U
67-66-3	Chloroform	50	16	16	3.3	3.3	U
107-06-2	1,2-Dichloroethane	50	14	14	3.4	3.4	U
71-55-6	1,1,1-Trichloroethane (TCA)	50	18	18	3.3	3.3	U
71-43-2	**Benzene**	50	**140**	11	**42**	3.3	
56-23-5	Carbon Tetrachloride	50	2.1	2.1	0.34	0.34	U
78-87-5	1,2-Dichloropropane	50	15	15	3.3	3.3	U
75-27-4	Bromodichloromethane	50	4.5	4.5	0.68	0.68	U
79-01-6	**Trichloroethene (TCE)**	50	**24**	1.8	**4.5**	0.34	
10061-01-5	cis-1,3-Dichloropropene	50	30	30	6.7	6.7	U
108-10-1	4-Methyl-2-pentanone	50	27	27	6.6	6.6	U
10061-02-6	trans-1,3-Dichloropropene	50	15	15	3.3	3.3	U
79-00-5	1,1,2-Trichloroethane	50	18	18	3.3	3.3	U
108-88-3	**Toluene**	50	**320**	12	**85**	3.3	
591-78-6	2-Hexanone	50	14	14	3.3	3.3	U
124-48-1	Dibromochloromethane	50	5.7	5.7	0.67	0.67	U
106-93-4	1,2-Dibromoethane	50	5.1	5.1	0.67	0.67	U
127-18-4	Tetrachloroethene (PCE)	50	2.4	2.4	0.36	0.36	U
108-90-7	Chlorobenzene	50	15	15	3.3	3.3	U
100-41-4	**Ethylbenzene**	50	**42**	29	**9.6**	6.6	
179601-23-1	**m,p-Xylenes**	50	**200**	58	**46**	13	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 0945
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-30MIN-032		
Lab Code:	R1206262-002		

Analytical Method: TO-15

Date Analyzed: 9/21/12 1805
Canister Dilution Factor: 1.51

Initial Pressure (psig): -2.65 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	50	34	34	3.3	3.3	U
100-42-5	Styrene	50	28	28	6.7	6.7	U
95-47-6	o-Xylene	50	69	29	16	6.6	
79-34-5	1,1,2,2-Tetrachloroethane	50	4.5	4.5	0.66	0.66	U
541-73-1	1,3-Dichlorobenzene	50	40	40	6.6	6.6	U
106-46-7	1,4-Dichlorobenzene	50	40	40	6.6	6.6	U
95-50-1	1,2-Dichlorobenzene	50	40	40	6.6	6.6	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	110	70-130	9/21/12 1805	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 0910
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-30MIN-033		
Lab Code:	R1206262-003		

Analytical Method: TO-15

Date Analyzed: 9/21/12 1847
Canister Dilution Factor: 1.34

Initial Pressure (psig): -1.13 Final Pressure (psig): 3.54

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	50	12	12	5.8	5.8	U
75-01-4	Vinyl Chloride	50	1.6	1.6	0.63	0.63	U
74-83-9	Bromomethane	50	12	12	3.0	3.0	U
75-00-3	Chloroethane	50	16	16	5.9	5.9	U
67-64-1	**Acetone**	50	**560**	130	**230**	56	
75-69-4	Trichlorofluoromethane (CFC 11)	50	17	17	3.0	3.0	U
75-35-4	1,1-Dichloroethene	50	12	12	3.0	3.0	U
75-09-2	Methylene Chloride	50	10	10	2.9	2.9	U
76-13-1	**1,1,2-Trichloro-1,2,2-trifluoroethane**	50	**10**	4.6	**1.4**	0.59	
75-15-0	Carbon Disulfide	50	9.1	9.1	2.9	2.9	U
156-60-5	trans-1,2-Dichloroethene	50	12	12	3.0	3.0	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	50	12	12	3.0	3.0	U
1634-04-4	Methyl tert-Butyl Ether	50	21	21	5.9	5.9	U
108-05-4	Vinyl Acetate	50	130	130	38	38	U
78-93-3	2-Butanone (MEK)	50	17	17	5.9	5.9	U
156-59-2	cis-1,2-Dichloroethene	50	12	12	3.0	3.0	U
67-66-3	Chloroform	50	14	14	3.0	3.0	U
107-06-2	1,2-Dichloroethane	50	12	12	3.0	3.0	U
71-55-6	**1,1,1-Trichloroethane (TCA)**	50	**41**	16	**7.5**	2.9	
71-43-2	**Benzene**	50	**67**	9.4	**21**	2.9	
56-23-5	Carbon Tetrachloride	50	1.9	1.9	0.30	0.30	U
78-87-5	1,2-Dichloropropane	50	14	14	3.0	3.0	U
75-27-4	Bromodichloromethane	50	4.0	4.0	0.60	0.60	U
79-01-6	**Trichloroethene (TCE)**	50	**390**	1.6	**73**	0.30	
10061-01-5	cis-1,3-Dichloropropene	50	27	27	5.9	5.9	U
108-10-1	4-Methyl-2-pentanone	50	24	24	5.9	5.9	U
10061-02-6	trans-1,3-Dichloropropene	50	13	13	3.0	3.0	U
79-00-5	1,1,2-Trichloroethane	50	16	16	2.9	2.9	U
108-88-3	**Toluene**	50	**240**	11	**65**	2.9	
591-78-6	2-Hexanone	50	12	12	2.9	2.9	U
124-48-1	Dibromochloromethane	50	5.1	5.1	0.60	0.60	U
106-93-4	1,2-Dibromoethane	50	4.6	4.6	0.59	0.59	U
127-18-4	**Tetrachloroethene (PCE)**	50	**4.7**	2.1	**0.69**	0.32	
108-90-7	Chlorobenzene	50	14	14	3.0	3.0	U
100-41-4	**Ethylbenzene**	50	**35**	25	**8.1**	5.9	
179601-23-1	**m,p-Xylenes**	50	**170**	51	**38**	12	

Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 0910
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-30MIN-033		
Lab Code:	R1206262-003		

Analytical Method: TO-15 **Date Analyzed:** 9/21/12 1847
Canister Dilution Factor: 1.34

Initial Pressure (psig): -1.13 Final Pressure (psig): 3.54

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	50	31	31	3.0	3.0	U
100-42-5	Styrene	50	25	25	5.9	5.9	U
95-47-6	o-Xylene	50	37	25	8.6	5.9	
79-34-5	1,1,2,2-Tetrachloroethane	50	4.0	4.0	0.59	0.59	U
541-73-1	1,3-Dichlorobenzene	50	35	35	5.9	5.9	U
106-46-7	1,4-Dichlorobenzene	50	35	35	5.9	5.9	U
95-50-1	1,2-Dichlorobenzene	50	35	35	5.9	5.9	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	109	70-130	9/21/12 1847	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 0915
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-30MIN-034		
Lab Code:	R1206262-004		

Analytical Method: TO-15 **Date Analyzed:** 9/21/12 1514
Canister Dilution Factor: 1.42

Initial Pressure (psig): -1.87 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	9.9	65	65	31	31	U
75-01-4	Vinyl Chloride	9.9	8.6	8.6	3.4	3.4	U
74-83-9	Bromomethane	9.9	62	62	16	16	U
75-00-3	Chloroethane	9.9	83	83	32	32	U
67-64-1	Acetone	9.9	720	720	300	300	U
75-69-4	Trichlorofluoromethane (CFC 11)	9.9	89	89	16	16	U
75-35-4	1,1-Dichloroethene	9.9	63	63	16	16	U
75-09-2	Methylene Chloride	9.9	55	55	16	16	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	9.9	24	24	3.2	3.2	U
75-15-0	Carbon Disulfide	9.9	49	49	16	16	U
156-60-5	**trans-1,2-Dichloroethene**	9.9	**300**	63	**75**	16	
75-34-3	1,1-Dichloroethane (1,1-DCA)	9.9	65	65	16	16	U
1634-04-4	Methyl tert-Butyl Ether	9.9	110	110	31	31	U
108-05-4	Vinyl Acetate	9.9	720	720	200	200	U
78-93-3	2-Butanone (MEK)	9.9	93	93	32	32	U
156-59-2	**cis-1,2-Dichloroethene**	9.9	**1700**	63	**420**	16	
67-66-3	Chloroform	9.9	77	77	16	16	U
107-06-2	1,2-Dichloroethane	9.9	65	65	16	16	U
71-55-6	1,1,1-Trichloroethane (TCA)	9.9	86	86	16	16	U
71-43-2	**Benzene**	9.9	**63**	50	**20**	16	
56-23-5	Carbon Tetrachloride	9.9	10	10	1.6	1.6	U
78-87-5	1,2-Dichloropropane	9.9	73	73	16	16	U
75-27-4	Bromodichloromethane	9.9	22	22	3.2	3.2	U
79-01-6	**Trichloroethene (TCE)**	9.9	**8400**	8.6	**1600**	1.6	E
10061-01-5	cis-1,3-Dichloropropene	9.9	140	140	32	32	U
108-10-1	4-Methyl-2-pentanone	9.9	130	130	32	32	U
10061-02-6	trans-1,3-Dichloropropene	9.9	72	72	16	16	U
79-00-5	1,1,2-Trichloroethane	9.9	86	86	16	16	U
108-88-3	**Toluene**	9.9	**270**	59	**70**	16	
591-78-6	2-Hexanone	9.9	65	65	16	16	U
124-48-1	Dibromochloromethane	9.9	27	27	3.2	3.2	U
106-93-4	1,2-Dibromoethane	9.9	24	24	3.2	3.2	U
127-18-4	Tetrachloroethene (PCE)	9.9	11	11	1.7	1.7	U
108-90-7	Chlorobenzene	9.9	73	73	16	16	U
100-41-4	Ethylbenzene	9.9	140	140	31	31	U
179601-23-1	m,p-Xylenes	9.9	270	270	63	63	U

Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 0915
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-30MIN-034		
Lab Code:	R1206262-004		

Analytical Method: TO-15

Date Analyzed: 9/21/12 1208
Canister Dilution Factor: 1.42

Initial Pressure (psig): -1.87 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	9.9	160	160	16	16	U
100-42-5	Styrene	9.9	130	130	32	32	U
95-47-6	o-Xylene	9.9	140	140	31	31	U
79-34-5	1,1,2,2-Tetrachloroethane	9.9	22	22	3.1	3.1	U
541-73-1	1,3-Dichlorobenzene	9.9	190	190	32	32	U
106-46-7	1,4-Dichlorobenzene	9.9	190	190	32	32	U
95-50-1	1,2-Dichlorobenzene	9.9	190	190	32	32	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	101	70-130	9/21/12 1208	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 0915
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-30MIN-034		
Lab Code:	R1206262-004		
Run Type:	Dilution		
Analytical Method:	TO-15	**Date Analyzed:**	9/21/12 1514
		Canister Dilution Factor:	1.42

Initial Pressure (psig): -1.87 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	6.0	110	110	52	52	U
75-01-4	Vinyl Chloride	6.0	14	14	5.6	5.6	U
74-83-9	Bromomethane	6.0	100	100	26	26	U
75-00-3	Chloroethane	6.0	140	140	52	52	U
67-64-1	Acetone	6.0	1200	1200	500	500	U
75-69-4	Trichlorofluoromethane (CFC 11)	6.0	150	150	26	26	U
75-35-4	1,1-Dichloroethene	6.0	100	100	26	26	U
75-09-2	Methylene Chloride	6.0	90	90	26	26	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.0	40	40	5.3	5.3	U
75-15-0	Carbon Disulfide	6.0	80	80	26	26	U
156-60-5	**trans-1,2-Dichloroethene**	6.0	**490**	100	**120**	26	D
75-34-3	1,1-Dichloroethane (1,1-DCA)	6.0	110	110	26	26	U
1634-04-4	Methyl tert-Butyl Ether	6.0	190	190	52	52	U
108-05-4	Vinyl Acetate	6.0	1200	1200	340	340	U
78-93-3	2-Butanone (MEK)	6.0	150	150	52	52	U
156-59-2	**cis-1,2-Dichloroethene**	6.0	**2800**	100	**700**	26	D
67-66-3	Chloroform	6.0	130	130	26	26	U
107-06-2	1,2-Dichloroethane	6.0	110	110	26	26	U
71-55-6	1,1,1-Trichloroethane (TCA)	6.0	140	140	26	26	U
71-43-2	Benzene	6.0	83	83	26	26	U
56-23-5	Carbon Tetrachloride	6.0	17	17	2.6	2.6	U
78-87-5	1,2-Dichloropropane	6.0	120	120	26	26	U
75-27-4	Bromodichloromethane	6.0	36	36	5.3	5.3	U
79-01-6	**Trichloroethene (TCE)**	6.0	**8900**	14	**1700**	2.6	D
10061-01-5	cis-1,3-Dichloropropene	6.0	240	240	52	52	U
108-10-1	4-Methyl-2-pentanone	6.0	210	210	52	52	U
10061-02-6	trans-1,3-Dichloropropene	6.0	120	120	26	26	U
79-00-5	1,1,2-Trichloroethane	6.0	140	140	26	26	U
108-88-3	**Toluene**	6.0	**290**	97	**76**	26	D
591-78-6	2-Hexanone	6.0	110	110	26	26	U
124-48-1	Dibromochloromethane	6.0	45	45	5.3	5.3	U
106-93-4	1,2-Dibromoethane	6.0	40	40	5.2	5.2	U
127-18-4	Tetrachloroethene (PCE)	6.0	19	19	2.8	2.8	U
108-90-7	Chlorobenzene	6.0	120	120	26	26	U
100-41-4	Ethylbenzene	6.0	220	220	52	52	U
179601-23-1	m,p-Xylenes	6.0	450	450	100	100	U

Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 0915
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-30MIN-034		
Lab Code:	R1206262-004		
Run Type:	Dilution		
Analytical Method:	TO-15	**Date Analyzed:**	9/21/12 1514
		Canister Dilution Factor:	1.42

Initial Pressure (psig): -1.87 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	6.0	270	270	26	26	U
100-42-5	Styrene	6.0	220	220	52	52	U
95-47-6	o-Xylene	6.0	220	220	52	52	U
79-34-5	1,1,2,2-Tetrachloroethane	6.0	36	36	5.2	5.2	U
541-73-1	1,3-Dichlorobenzene	6.0	310	310	52	52	U
106-46-7	1,4-Dichlorobenzene	6.0	310	310	52	52	U
95-50-1	1,2-Dichlorobenzene	6.0	310	310	52	52	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	101	70-130	9/21/12 1514	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/17/12 1030
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-8HR-040		
Lab Code:	R1206262-005		

Analytical Method: TO-15 **Date Analyzed:** 9/21/12 1930
Canister Dilution Factor: 1.57

Initial Pressure (psig): -3.09 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	58	12	12	5.9	5.9	U
75-01-4	Vinyl Chloride	58	1.6	1.6	0.64	0.64	U
74-83-9	Bromomethane	58	12	12	3.0	3.0	U
75-00-3	Chloroethane	58	16	16	6.0	6.0	U
67-64-1	**Acetone**	58	**160**	140	**68**	57	
75-69-4	Trichlorofluoromethane (CFC 11)	58	17	17	3.0	3.0	U
75-35-4	1,1-Dichloroethene	58	12	12	3.0	3.0	U
75-09-2	Methylene Chloride	58	10	10	3.0	3.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	58	4.6	4.6	0.60	0.60	U
75-15-0	Carbon Disulfide	58	9.2	9.2	3.0	3.0	U
156-60-5	**trans-1,2-Dichloroethene**	58	**42**	12	**11**	3.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	58	12	12	3.0	3.0	U
1634-04-4	Methyl tert-Butyl Ether	58	21	21	5.9	5.9	U
108-05-4	Vinyl Acetate	58	140	140	38	38	U
78-93-3	**2-Butanone (MEK)**	58	**27**	18	**9.0**	6.0	
156-59-2	cis-1,2-Dichloroethene	58	12	12	3.0	3.0	U
67-66-3	Chloroform	58	15	15	3.0	3.0	U
107-06-2	1,2-Dichloroethane	58	12	12	3.0	3.0	U
71-55-6	1,1,1-Trichloroethane (TCA)	58	16	16	3.0	3.0	U
71-43-2	**Benzene**	58	**49**	9.5	**15**	3.0	
56-23-5	Carbon Tetrachloride	58	1.9	1.9	0.30	0.30	U
78-87-5	1,2-Dichloropropane	58	14	14	3.0	3.0	U
75-27-4	Bromodichloromethane	58	4.1	4.1	0.61	0.61	U
79-01-6	**Trichloroethene (TCE)**	58	**380**	1.6	**71**	0.30	
10061-01-5	cis-1,3-Dichloropropene	58	27	27	6.0	6.0	U
108-10-1	4-Methyl-2-pentanone	58	24	24	5.9	5.9	U
10061-02-6	trans-1,3-Dichloropropene	58	14	14	3.0	3.0	U
79-00-5	1,1,2-Trichloroethane	58	16	16	3.0	3.0	U
108-88-3	**Toluene**	58	**760**	11	**200**	2.9	
591-78-6	2-Hexanone	58	12	12	3.0	3.0	U
124-48-1	Dibromochloromethane	58	5.1	5.1	0.60	0.60	U
106-93-4	1,2-Dibromoethane	58	4.6	4.6	0.60	0.60	U
127-18-4	**Tetrachloroethene (PCE)**	58	**37**	2.2	**5.5**	0.32	
108-90-7	Chlorobenzene	58	14	14	3.0	3.0	U
100-41-4	Ethylbenzene	58	26	26	5.9	5.9	U
179601-23-1	**m,p-Xylenes**	58	**100**	52	**24**	12	

Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/17/12 1030
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-8HR-040		
Lab Code:	R1206262-005		

Analytical Method: TO-15

Date Analyzed: 9/21/12 1930
Canister Dilution Factor: 1.57

Initial Pressure (psig): -3.09 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	58	31	31	3.0	3.0	U
100-42-5	Styrene	58	25	25	6.0	6.0	U
95-47-6	**o-Xylene**	58	47	26	11	5.9	
79-34-5	1,1,2,2-Tetrachloroethane	58	4.1	4.1	0.59	0.59	U
541-73-1	1,3-Dichlorobenzene	58	36	36	5.9	5.9	U
106-46-7	1,4-Dichlorobenzene	58	36	36	5.9	5.9	U
95-50-1	1,2-Dichlorobenzene	58	36	36	5.9	5.9	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	109	70-130	9/21/12 1930	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/17/12 1028
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	AA-8HR-040		
Lab Code:	R1206262-006		

Analytical Method: TO-15

Date Analyzed: 9/21/12 2020
Canister Dilution Factor: 1.52

Initial Pressure (psig): -2.75 Final Pressure (psig): 3.51

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	800	0.86	0.86	0.41	0.41	U
75-01-4	Vinyl Chloride	800	0.11	0.11	0.045	0.045	U
74-83-9	Bromomethane	800	0.82	0.82	0.21	0.21	U
75-00-3	Chloroethane	800	1.1	1.1	0.42	0.42	U
67-64-1	Acetone	800	9.5	9.5	4.0	4.0	U
75-69-4	**Trichlorofluoromethane (CFC 11)**	800	**1.4**	1.2	**0.24**	0.21	
75-35-4	1,1-Dichloroethene	800	0.84	0.84	0.21	0.21	U
75-09-2	Methylene Chloride	800	0.72	0.72	0.21	0.21	U
76-13-1	**1,1,2-Trichloro-1,2,2-trifluoroethane**	800	**0.53**	0.32	**0.069**	0.042	
75-15-0	Carbon Disulfide	800	0.65	0.65	0.21	0.21	U
156-60-5	trans-1,2-Dichloroethene	800	0.84	0.84	0.21	0.21	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	800	0.86	0.86	0.21	0.21	U
1634-04-4	Methyl tert-Butyl Ether	800	1.5	1.5	0.42	0.42	U
108-05-4	Vinyl Acetate	800	9.5	9.5	2.7	2.7	U
78-93-3	**2-Butanone (MEK)**	800	**2.2**	1.2	**0.74**	0.42	
156-59-2	cis-1,2-Dichloroethene	800	0.84	0.84	0.21	0.21	U
67-66-3	Chloroform	800	1.0	1.0	0.21	0.21	U
107-06-2	1,2-Dichloroethane	800	0.86	0.86	0.21	0.21	U
71-55-6	1,1,1-Trichloroethane (TCA)	800	1.1	1.1	0.21	0.21	U
71-43-2	**Benzene**	800	**3.4**	0.67	**1.1**	0.21	
56-23-5	**Carbon Tetrachloride**	800	**0.55**	0.13	**0.088**	0.021	
78-87-5	1,2-Dichloropropane	800	0.97	0.97	0.21	0.21	U
75-27-4	Bromodichloromethane	800	0.29	0.29	0.043	0.043	U
79-01-6	**Trichloroethene (TCE)**	800	**1.3**	0.11	**0.25**	0.021	
10061-01-5	cis-1,3-Dichloropropene	800	1.9	1.9	0.42	0.42	U
108-10-1	4-Methyl-2-pentanone	800	1.7	1.7	0.42	0.42	U
10061-02-6	trans-1,3-Dichloropropene	800	0.95	0.95	0.21	0.21	U
79-00-5	1,1,2-Trichloroethane	800	1.1	1.1	0.21	0.21	U
108-88-3	**Toluene**	800	**36**	0.78	**9.5**	0.21	
591-78-6	2-Hexanone	800	0.86	0.86	0.21	0.21	U
124-48-1	Dibromochloromethane	800	0.36	0.36	0.042	0.042	U
106-93-4	1,2-Dibromoethane	800	0.32	0.32	0.042	0.042	U
127-18-4	Tetrachloroethene (PCE)	800	0.15	0.15	0.022	0.022	U
108-90-7	Chlorobenzene	800	0.97	0.97	0.21	0.21	U
100-41-4	**Ethylbenzene**	800	**3.5**	1.8	**0.81**	0.42	
179601-23-1	**m,p-Xylenes**	800	**10**	3.6	**2.3**	0.84	

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: 9/17/12 1028
Date Received: 9/19/12

Sample Name: AA-8HR-040
Lab Code: R1206262-006

Analytical Method: TO-15

Date Analyzed: 9/21/12 2020
Canister Dilution Factor: 1.52

Initial Pressure (psig): -2.75 Final Pressure (psig): 3.51

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	800	2.2	2.2	0.21	0.21	U
100-42-5	Styrene	800	2.8	1.8	0.65	0.42	
95-47-6	o-Xylene	800	3.5	1.8	0.81	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	800	0.29	0.29	0.042	0.042	U
541-73-1	1,3-Dichlorobenzene	800	2.5	2.5	0.42	0.42	U
106-46-7	1,4-Dichlorobenzene	800	2.5	2.5	0.42	0.42	U
95-50-1	1,2-Dichlorobenzene	800	2.5	2.5	0.42	0.42	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	106	70-130	9/21/12 2020	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/17/12 1038
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-8HR-041		
Lab Code:	R1206262-007		

Analytical Method: TO-15 **Date Analyzed:** 9/21/12 1255
Canister Dilution Factor: 1.73

Initial Pressure (psig): -4.17 Final Pressure (psig): 3.47

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	17	46	46	22	22	U
75-01-4	Vinyl Chloride	17	6.1	6.1	2.4	2.4	U
74-83-9	Bromomethane	17	44	44	11	11	U
75-00-3	Chloroethane	17	59	59	22	22	U
67-64-1	**Acetone**	17	**1500**	510	**650**	210	
75-69-4	Trichlorofluoromethane (CFC 11)	17	63	63	11	11	U
75-35-4	1,1-Dichloroethene	17	45	45	11	11	U
75-09-2	Methylene Chloride	17	39	39	11	11	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	17	17	17	2.3	2.3	U
75-15-0	Carbon Disulfide	17	35	35	11	11	U
156-60-5	trans-1,2-Dichloroethene	17	45	45	11	11	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	17	46	46	11	11	U
1634-04-4	Methyl tert-Butyl Ether	17	80	80	22	22	U
108-05-4	Vinyl Acetate	17	510	510	140	140	U
78-93-3	2-Butanone (MEK)	17	66	66	22	22	U
156-59-2	cis-1,2-Dichloroethene	17	45	45	11	11	U
67-66-3	Chloroform	17	55	55	11	11	U
107-06-2	1,2-Dichloroethane	17	46	46	11	11	U
71-55-6	1,1,1-Trichloroethane (TCA)	17	61	61	11	11	U
71-43-2	**Benzene**	17	**74**	36	**23**	11	
56-23-5	Carbon Tetrachloride	17	7.1	7.1	1.1	1.1	U
78-87-5	1,2-Dichloropropane	17	52	52	11	11	U
75-27-4	Bromodichloromethane	17	15	15	2.3	2.3	U
79-01-6	**Trichloroethene (TCE)**	17	**84**	6.1	**16**	1.1	
10061-01-5	cis-1,3-Dichloropropene	17	100	100	22	22	U
108-10-1	4-Methyl-2-pentanone	17	92	92	22	22	U
10061-02-6	trans-1,3-Dichloropropene	17	51	51	11	11	U
79-00-5	1,1,2-Trichloroethane	17	61	61	11	11	U
108-88-3	**Toluene**	17	**570**	42	**150**	11	
591-78-6	2-Hexanone	17	46	46	11	11	U
124-48-1	Dibromochloromethane	17	19	19	2.3	2.3	U
106-93-4	1,2-Dibromoethane	17	17	17	2.3	2.3	U
127-18-4	Tetrachloroethene (PCE)	17	8.1	8.1	1.2	1.2	U
108-90-7	Chlorobenzene	17	52	52	11	11	U
100-41-4	Ethylbenzene	17	97	97	22	22	U
179601-23-1	m,p-Xylenes	17	190	190	45	45	U

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: 9/17/12 1038
Date Received: 9/19/12

Sample Name: SS-8HR-041
Lab Code: R1206262-007

Analytical Method: TO-15

Date Analyzed: 9/21/12 1255
Canister Dilution Factor: 1.73

Initial Pressure (psig): -4.17 Final Pressure (psig): 3.47

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	17	120	120	11	11	U
100-42-5	Styrene	17	96	96	22	22	U
95-47-6	o-Xylene	17	97	97	22	22	U
79-34-5	1,1,2,2-Tetrachloroethane	17	15	15	2.2	2.2	U
541-73-1	1,3-Dichlorobenzene	17	130	130	22	22	U
106-46-7	1,4-Dichlorobenzene	17	130	130	22	22	U
95-50-1	1,2-Dichlorobenzene	17	130	130	22	22	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	103	70-130	9/21/12 1255	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/17/12 1040
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	AA-8HR-041		
Lab Code:	R1206262-008		

Analytical Method: TO-15

Date Analyzed: 9/21/12 2109
Canister Dilution Factor: 1.72

Initial Pressure (psig): -4.13 Final Pressure (psig): 3.52

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	800	0.97	0.97	0.47	0.47	U
75-01-4	Vinyl Chloride	800	0.13	0.13	0.050	0.050	U
74-83-9	Bromomethane	800	0.92	0.92	0.24	0.24	U
75-00-3	Chloroethane	800	1.2	1.2	0.47	0.47	U
67-64-1	**Acetone**	800	**19**	11	**7.9**	4.5	
75-69-4	**Trichlorofluoromethane (CFC 11)**	800	**2.5**	1.3	**0.45**	0.24	
75-35-4	1,1-Dichloroethene	800	0.95	0.95	0.24	0.24	U
75-09-2	Methylene Chloride	800	0.82	0.82	0.24	0.24	U
76-13-1	**1,1,2-Trichloro-1,2,2-trifluoroethane**	800	**0.60**	0.37	**0.078**	0.048	
75-15-0	Carbon Disulfide	800	0.73	0.73	0.23	0.23	U
156-60-5	trans-1,2-Dichloroethene	800	0.95	0.95	0.24	0.24	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	800	0.97	0.97	0.24	0.24	U
1634-04-4	Methyl tert-Butyl Ether	800	1.7	1.7	0.47	0.47	U
108-05-4	Vinyl Acetate	800	11	11	3.1	3.1	U
78-93-3	**2-Butanone (MEK)**	800	**3.1**	1.4	**1.1**	0.47	
156-59-2	cis-1,2-Dichloroethene	800	0.95	0.95	0.24	0.24	U
67-66-3	Chloroform	800	1.2	1.2	0.24	0.24	U
107-06-2	1,2-Dichloroethane	800	0.97	0.97	0.24	0.24	U
71-55-6	1,1,1-Trichloroethane (TCA)	800	1.3	1.3	0.24	0.24	U
71-43-2	**Benzene**	800	**3.9**	0.75	**1.2**	0.24	
56-23-5	**Carbon Tetrachloride**	800	**0.61**	0.15	**0.096**	0.024	
78-87-5	1,2-Dichloropropane	800	1.1	1.1	0.24	0.24	U
75-27-4	Bromodichloromethane	800	0.32	0.32	0.048	0.048	U
79-01-6	**Trichloroethene (TCE)**	800	**3.2**	0.13	**0.59**	0.024	
10061-01-5	cis-1,3-Dichloropropene	800	2.2	2.2	0.47	0.47	U
108-10-1	4-Methyl-2-pentanone	800	1.9	1.9	0.47	0.47	U
10061-02-6	trans-1,3-Dichloropropene	800	1.1	1.1	0.24	0.24	U
79-00-5	1,1,2-Trichloroethane	800	1.3	1.3	0.24	0.24	U
108-88-3	**Toluene**	800	**30**	0.88	**8.1**	0.23	
591-78-6	2-Hexanone	800	0.97	0.97	0.24	0.24	U
124-48-1	Dibromochloromethane	800	0.41	0.41	0.048	0.048	U
106-93-4	1,2-Dibromoethane	800	0.37	0.37	0.048	0.048	U
127-18-4	**Tetrachloroethene (PCE)**	800	**0.26**	0.17	**0.039**	0.025	
108-90-7	Chlorobenzene	800	1.1	1.1	0.24	0.24	U
100-41-4	**Ethylbenzene**	800	**3.8**	2.0	**0.88**	0.47	
179601-23-1	**m,p-Xylenes**	800	**9.6**	4.1	**2.2**	0.95	

Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/17/12 1040
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	AA-8HR-041		
Lab Code:	R1206262-008		

Analytical Method: TO-15

Date Analyzed: 9/21/12 2109
Canister Dilution Factor: 1.72

Initial Pressure (psig): -4.13 Final Pressure (psig): 3.52

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	800	2.5	2.5	0.24	0.24	U
100-42-5	**Styrene**	800	**3.9**	2.0	**0.91**	0.47	
95-47-6	**o-Xylene**	800	**3.5**	2.0	**0.81**	0.47	
79-34-5	1,1,2,2-Tetrachloroethane	800	0.32	0.32	0.047	0.047	U
541-73-1	1,3-Dichlorobenzene	800	2.8	2.8	0.47	0.47	U
106-46-7	1,4-Dichlorobenzene	800	2.8	2.8	0.47	0.47	U
95-50-1	1,2-Dichlorobenzene	800	2.8	2.8	0.47	0.47	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	106	70-130	9/21/12 2109	

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Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: 9/17/12 1038
Date Received: 9/19/12

Sample Name: SS-8HR-41 DUP
Lab Code: R1206262-009

Analytical Method: TO-15

Date Analyzed: 9/21/12 1341
Canister Dilution Factor: 1.82

Initial Pressure (psig): -3.93 Final Pressure (psig): 4.93

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	20	41	41	20	20	U
75-01-4	Vinyl Chloride	20	5.5	5.5	2.1	2.1	U
74-83-9	Bromomethane	20	39	39	10	10	U
75-00-3	Chloroethane	20	53	53	20	20	U
67-64-1	**Acetone**	20	**1500**	460	**620**	190	
75-69-4	Trichlorofluoromethane (CFC 11)	20	56	56	10	10	U
75-35-4	1,1-Dichloroethene	20	40	40	10	10	U
75-09-2	Methylene Chloride	20	35	35	10	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	20	15	15	2.0	2.0	U
75-15-0	Carbon Disulfide	20	31	31	9.9	9.9	U
156-60-5	trans-1,2-Dichloroethene	20	40	40	10	10	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	20	41	41	10	10	U
1634-04-4	Methyl tert-Butyl Ether	20	72	72	20	20	U
108-05-4	Vinyl Acetate	20	460	460	130	130	U
78-93-3	2-Butanone (MEK)	20	59	59	20	20	U
156-59-2	cis-1,2-Dichloroethene	20	40	40	10	10	U
67-66-3	Chloroform	20	49	49	10	10	U
107-06-2	1,2-Dichloroethane	20	41	41	10	10	U
71-55-6	1,1,1-Trichloroethane (TCA)	20	55	55	10	10	U
71-43-2	**Benzene**	20	**71**	32	**22**	10	
56-23-5	Carbon Tetrachloride	20	6.4	6.4	1.0	1.0	U
78-87-5	1,2-Dichloropropane	20	46	46	10	10	U
75-27-4	Bromodichloromethane	20	14	14	2.0	2.0	U
79-01-6	**Trichloroethene (TCE)**	20	**75**	5.5	**14**	1.0	
10061-01-5	cis-1,3-Dichloropropene	20	91	91	20	20	U
108-10-1	4-Methyl-2-pentanone	20	82	82	20	20	U
10061-02-6	trans-1,3-Dichloropropene	20	46	46	10	10	U
79-00-5	1,1,2-Trichloroethane	20	55	55	10	10	U
108-88-3	**Toluene**	20	**550**	37	**150**	9.9	
591-78-6	2-Hexanone	20	41	41	10	10	U
124-48-1	Dibromochloromethane	20	17	17	2.0	2.0	U
106-93-4	1,2-Dibromoethane	20	15	15	2.0	2.0	U
127-18-4	Tetrachloroethene (PCE)	20	7.3	7.3	1.1	1.1	U
108-90-7	Chlorobenzene	20	46	46	10	10	U
100-41-4	Ethylbenzene	20	86	86	20	20	U
179601-23-1	m,p-Xylenes	20	170	170	40	40	U

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: 9/17/12 1038
Date Received: 9/19/12

Sample Name: SS-8HR-41 DUP
Lab Code: R1206262-009

Analytical Method: TO-15

Date Analyzed: 9/21/12 1341
Canister Dilution Factor: 1.82

Initial Pressure (psig): -3.93 Final Pressure (psig): 4.93

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	20	100	100	10	10	U
100-42-5	Styrene	20	86	86	20	20	U
95-47-6	o-Xylene	20	86	86	20	20	U
79-34-5	1,1,2,2-Tetrachloroethane	20	14	14	2.0	2.0	U
541-73-1	1,3-Dichlorobenzene	20	120	120	20	20	U
106-46-7	1,4-Dichlorobenzene	20	120	120	20	20	U
95-50-1	1,2-Dichlorobenzene	20	120	120	20	20	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	103	70-130	9/21/12 1341	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/17/12 1120
Sample Matrix:	Air	**Date Received:**	9/19/12
Sample Name:	SS-8HR-037		
Lab Code:	R1206262-010		

Analytical Method: TO-15

Date Analyzed: 9/21/12 1428
Canister Dilution Factor: 1.47

Initial Pressure (psig): -2.06 Final Pressure (psig): 3.83

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	1.5	440	440	210	210	U
75-01-4	Vinyl Chloride	1.5	59	59	23	23	U
74-83-9	Bromomethane	1.5	420	420	110	110	U
75-00-3	Chloroethane	1.5	570	570	220	220	U
67-64-1	Acetone	1.5	4900	4900	2100	2100	U
75-69-4	Trichlorofluoromethane (CFC 11)	1.5	610	610	110	110	U
75-35-4	**1,1-Dichloroethene**	1.5	**490**	430	**120**	110	
75-09-2	Methylene Chloride	1.5	370	370	110	110	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	170	170	22	22	U
75-15-0	Carbon Disulfide	1.5	330	330	110	110	U
156-60-5	**trans-1,2-Dichloroethene**	1.5	**1200**	430	**310**	110	
75-34-3	**1,1-Dichloroethane (1,1-DCA)**	1.5	**8700**	440	**2200**	110	
1634-04-4	Methyl tert-Butyl Ether	1.5	770	770	210	210	U
108-05-4	Vinyl Acetate	1.5	4900	4900	1400	1400	U
78-93-3	2-Butanone (MEK)	1.5	640	640	220	220	U
156-59-2	**cis-1,2-Dichloroethene**	1.5	**820**	430	**210**	110	
67-66-3	Chloroform	1.5	530	530	110	110	U
107-06-2	1,2-Dichloroethane	1.5	440	440	110	110	U
71-55-6	**1,1,1-Trichloroethane (TCA)**	1.5	**2300**	590	**430**	110	
71-43-2	Benzene	1.5	340	340	110	110	U
56-23-5	Carbon Tetrachloride	1.5	69	69	11	11	U
78-87-5	1,2-Dichloropropane	1.5	500	500	110	110	U
75-27-4	Bromodichloromethane	1.5	150	150	22	22	U
79-01-6	**Trichloroethene (TCE)**	1.5	**51000**	59	**9400**	11	
10061-01-5	cis-1,3-Dichloropropene	1.5	980	980	220	220	U
108-10-1	4-Methyl-2-pentanone	1.5	880	880	220	220	U
10061-02-6	trans-1,3-Dichloropropene	1.5	490	490	110	110	U
79-00-5	1,1,2-Trichloroethane	1.5	590	590	110	110	U
108-88-3	Toluene	1.5	400	400	110	110	U
591-78-6	2-Hexanone	1.5	440	440	110	110	U
124-48-1	Dibromochloromethane	1.5	190	190	22	22	U
106-93-4	1,2-Dibromoethane	1.5	170	170	22	22	U
127-18-4	**Tetrachloroethene (PCE)**	1.5	**110**	78	**16**	12	
108-90-7	Chlorobenzene	1.5	500	500	110	110	U
100-41-4	Ethylbenzene	1.5	930	930	210	210	U
179601-23-1	m,p-Xylenes	1.5	1900	1900	430	430	U

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: 9/17/12 1120
Date Received: 9/19/12

Sample Name: SS-8HR-037
Lab Code: R1206262-010

Analytical Method: TO-15

Date Analyzed: 9/21/12 1428
Canister Dilution Factor: 1.47

Initial Pressure (psig): -2.06 Final Pressure (psig): 3.83

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	1.5	1100	1100	110	110	U
100-42-5	Styrene	1.5	920	920	220	220	U
95-47-6	o-Xylene	1.5	930	930	210	210	U
79-34-5	1,1,2,2-Tetrachloroethane	1.5	150	150	21	21	U
541-73-1	1,3-Dichlorobenzene	1.5	1300	1300	220	220	U
106-46-7	1,4-Dichlorobenzene	1.5	1300	1300	220	220	U
95-50-1	1,2-Dichlorobenzene	1.5	1300	1300	220	220	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	103	70-130	9/21/12 1428	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 1025
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	SS-8HR-045		
Lab Code:	R1206262-011		

Analytical Method: TO-15

Date Analyzed: 9/24/12 1423
Canister Dilution Factor: 1.77

Initial Pressure (psig): -4.42 Final Pressure (psig): 3.51

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	2.3	350	350	170	170	U
75-01-4	Vinyl Chloride	2.3	46	46	18	18	U
74-83-9	Bromomethane	2.3	330	330	85	85	U
75-00-3	Chloroethane	2.3	450	450	170	170	U
67-64-1	Acetone	2.3	3800	3800	1600	1600	U
75-69-4	Trichlorofluoromethane (CFC 11)	2.3	480	480	85	85	U
75-35-4	1,1-Dichloroethene	2.3	340	340	85	85	U
75-09-2	Methylene Chloride	2.3	290	290	84	84	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.3	130	130	17	17	U
75-15-0	Carbon Disulfide	2.3	260	260	84	84	U
156-60-5	trans-1,2-Dichloroethene	2.3	340	340	85	85	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.3	350	350	86	86	U
1634-04-4	Methyl tert-Butyl Ether	2.3	610	610	170	170	U
108-05-4	Vinyl Acetate	2.3	3800	3800	1100	1100	U
78-93-3	2-Butanone (MEK)	2.3	500	500	170	170	U
156-59-2	cis-1,2-Dichloroethene	2.3	340	340	85	85	U
67-66-3	Chloroform	2.3	420	420	85	85	U
107-06-2	1,2-Dichloroethane	2.3	350	350	86	86	U
71-55-6	1,1,1-Trichloroethane (TCA)	2.3	460	460	85	85	U
71-43-2	Benzene	2.3	270	270	84	84	U
56-23-5	Carbon Tetrachloride	2.3	54	54	8.6	8.6	U
78-87-5	1,2-Dichloropropane	2.3	390	390	85	85	U
75-27-4	Bromodichloromethane	2.3	120	120	17	17	U
79-01-6	**Trichloroethene (TCE)**	2.3	**36000**	46	**6600**	8.6	
10061-01-5	cis-1,3-Dichloropropene	2.3	770	770	170	170	U
108-10-1	4-Methyl-2-pentanone	2.3	690	690	170	170	U
10061-02-6	trans-1,3-Dichloropropene	2.3	380	380	85	85	U
79-00-5	1,1,2-Trichloroethane	2.3	460	460	85	85	U
108-88-3	**Toluene**	2.3	**850**	320	**230**	84	
591-78-6	2-Hexanone	2.3	350	350	85	85	U
124-48-1	Dibromochloromethane	2.3	150	150	17	17	U
106-93-4	1,2-Dibromoethane	2.3	130	130	17	17	U
127-18-4	Tetrachloroethene (PCE)	2.3	62	62	9.1	9.1	U
108-90-7	Chlorobenzene	2.3	390	390	85	85	U
100-41-4	Ethylbenzene	2.3	730	730	170	170	U
179601-23-1	m,p-Xylenes	2.3	1500	1500	340	340	U

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: 9/19/12 1025
Date Received: 9/21/12

Sample Name: SS-8HR-045
Lab Code: R1206262-011

Analytical Method: TO-15

Date Analyzed: 9/24/12 1423
Canister Dilution Factor: 1.77

Initial Pressure (psig): -4.42 Final Pressure (psig): 3.51

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	2.3	880	880	85	85	U
100-42-5	Styrene	2.3	720	720	170	170	U
95-47-6	o-Xylene	2.3	730	730	170	170	U
79-34-5	1,1,2,2-Tetrachloroethane	2.3	120	120	17	17	U
541-73-1	1,3-Dichlorobenzene	2.3	1000	1000	170	170	U
106-46-7	1,4-Dichlorobenzene	2.3	1000	1000	170	170	U
95-50-1	1,2-Dichlorobenzene	2.3	1000	1000	170	170	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	113	70-130	9/24/12 1423	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 1030
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	AA-8HR-045		
Lab Code:	R1206262-012		

Analytical Method: TO-15

Date Analyzed: 9/25/12 1552
Canister Dilution Factor: 1.82

Initial Pressure (psig): -4.72 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	**Chloromethane**	1000	**1.0**	0.82	**0.49**	0.40	
75-01-4	Vinyl Chloride	1000	0.11	0.11	0.043	0.043	U
74-83-9	Bromomethane	1000	0.78	0.78	0.20	0.20	U
75-00-3	Chloroethane	1000	1.1	1.1	0.40	0.40	U
67-64-1	**Acetone**	1000	**16**	9.1	**6.5**	3.8	
75-69-4	**Trichlorofluoromethane (CFC 11)**	1000	**1.7**	1.1	**0.30**	0.20	
75-35-4	1,1-Dichloroethene	1000	0.80	0.80	0.20	0.20	U
75-09-2	Methylene Chloride	1000	0.69	0.69	0.20	0.20	U
76-13-1	**1,1,2-Trichloro-1,2,2-trifluoroethane**	1000	**0.73**	0.31	**0.096**	0.040	
75-15-0	Carbon Disulfide	1000	0.62	0.62	0.20	0.20	U
156-60-5	trans-1,2-Dichloroethene	1000	0.80	0.80	0.20	0.20	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.82	0.82	0.20	0.20	U
1634-04-4	Methyl tert-Butyl Ether	1000	1.4	1.4	0.40	0.40	U
108-05-4	Vinyl Acetate	1000	9.1	9.1	2.6	2.6	U
78-93-3	**2-Butanone (MEK)**	1000	**3.7**	1.2	**1.3**	0.40	
156-59-2	cis-1,2-Dichloroethene	1000	0.80	0.80	0.20	0.20	U
67-66-3	Chloroform	1000	0.98	0.98	0.20	0.20	U
107-06-2	1,2-Dichloroethane	1000	0.82	0.82	0.20	0.20	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	1.1	1.1	0.20	0.20	U
71-43-2	**Benzene**	1000	**2.3**	0.64	**0.74**	0.20	
56-23-5	**Carbon Tetrachloride**	1000	**0.57**	0.13	**0.091**	0.020	
78-87-5	1,2-Dichloropropane	1000	0.93	0.93	0.20	0.20	U
75-27-4	Bromodichloromethane	1000	0.27	0.27	0.041	0.041	U
79-01-6	**Trichloroethene (TCE)**	1000	**21**	0.11	**3.9**	0.020	
10061-01-5	cis-1,3-Dichloropropene	1000	1.8	1.8	0.40	0.40	U
108-10-1	4-Methyl-2-pentanone	1000	1.6	1.6	0.40	0.40	U
10061-02-6	trans-1,3-Dichloropropene	1000	0.91	0.91	0.20	0.20	U
79-00-5	1,1,2-Trichloroethane	1000	1.1	1.1	0.20	0.20	U
108-88-3	**Toluene**	1000	**13**	0.75	**3.5**	0.20	
591-78-6	2-Hexanone	1000	0.82	0.82	0.20	0.20	U
124-48-1	Dibromochloromethane	1000	0.35	0.35	0.041	0.041	U
106-93-4	1,2-Dibromoethane	1000	0.31	0.31	0.040	0.040	U
127-18-4	**Tetrachloroethene (PCE)**	1000	**0.16**	0.15	**0.024**	0.021	
108-90-7	Chlorobenzene	1000	0.93	0.93	0.20	0.20	U
100-41-4	**Ethylbenzene**	1000	**3.6**	1.7	**0.83**	0.40	
179601-23-1	**m,p-Xylenes**	1000	**8.5**	3.5	**2.0**	0.80	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 1030
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	AA-8HR-045		
Lab Code:	R1206262-012		

Analytical Method: TO-15

Date Analyzed: 9/25/12 1552
Canister Dilution Factor: 1.82

Initial Pressure (psig): -4.72 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	1000	2.1	2.1	0.20	0.20	U
100-42-5	Styrene	1000	4.7	1.7	1.1	0.40	
95-47-6	o-Xylene	1000	3.3	1.7	0.76	0.40	
79-34-5	1,1,2,2-Tetrachloroethane	1000	0.27	0.27	0.040	0.040	U
541-73-1	1,3-Dichlorobenzene	1000	2.4	2.4	0.40	0.40	U
106-46-7	1,4-Dichlorobenzene	1000	2.4	2.4	0.40	0.40	U
95-50-1	1,2-Dichlorobenzene	1000	2.4	2.4	0.40	0.40	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	107	70-130	9/25/12 1552	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 1100
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	AA-8HR-042		
Lab Code:	R1206262-013		

Analytical Method: TO-15 **Date Analyzed:** 9/25/12 1644
Canister Dilution Factor: 1.82

Initial Pressure (psig): -4.67 Final Pressure (psig): 3.52

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	**Chloromethane**	1000	**1.0**	0.82	**0.49**	0.40	
75-01-4	Vinyl Chloride	1000	0.11	0.11	0.043	0.043	U
74-83-9	Bromomethane	1000	0.78	0.78	0.20	0.20	U
75-00-3	Chloroethane	1000	1.1	1.1	0.40	0.40	U
67-64-1	**Acetone**	1000	**26**	9.1	**11**	3.8	
75-69-4	**Trichlorofluoromethane (CFC 11)**	1000	**2.7**	1.1	**0.48**	0.20	
75-35-4	1,1-Dichloroethene	1000	0.80	0.80	0.20	0.20	U
75-09-2	Methylene Chloride	1000	0.69	0.69	0.20	0.20	U
76-13-1	**1,1,2-Trichloro-1,2,2-trifluoroethane**	1000	**0.73**	0.31	**0.096**	0.040	
75-15-0	Carbon Disulfide	1000	0.62	0.62	0.20	0.20	U
156-60-5	trans-1,2-Dichloroethene	1000	0.80	0.80	0.20	0.20	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.82	0.82	0.20	0.20	U
1634-04-4	Methyl tert-Butyl Ether	1000	1.4	1.4	0.40	0.40	U
108-05-4	Vinyl Acetate	1000	9.1	9.1	2.6	2.6	U
78-93-3	**2-Butanone (MEK)**	1000	**5.1**	1.2	**1.7**	0.40	
156-59-2	cis-1,2-Dichloroethene	1000	0.80	0.80	0.20	0.20	U
67-66-3	Chloroform	1000	0.98	0.98	0.20	0.20	U
107-06-2	1,2-Dichloroethane	1000	0.82	0.82	0.20	0.20	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	1.1	1.1	0.20	0.20	U
71-43-2	**Benzene**	1000	**2.7**	0.64	**0.83**	0.20	
56-23-5	**Carbon Tetrachloride**	1000	**0.55**	0.13	**0.088**	0.020	
78-87-5	1,2-Dichloropropane	1000	0.93	0.93	0.20	0.20	U
75-27-4	Bromodichloromethane	1000	0.27	0.27	0.041	0.041	U
79-01-6	**Trichloroethene (TCE)**	1000	**12**	0.11	**2.3**	0.020	
10061-01-5	cis-1,3-Dichloropropene	1000	1.8	1.8	0.40	0.40	U
108-10-1	4-Methyl-2-pentanone	1000	1.6	1.6	0.40	0.40	U
10061-02-6	trans-1,3-Dichloropropene	1000	0.91	0.91	0.20	0.20	U
79-00-5	1,1,2-Trichloroethane	1000	1.1	1.1	0.20	0.20	U
108-88-3	**Toluene**	1000	**16**	0.75	**4.4**	0.20	
591-78-6	2-Hexanone	1000	0.82	0.82	0.20	0.20	U
124-48-1	Dibromochloromethane	1000	0.35	0.35	0.041	0.041	U
106-93-4	1,2-Dibromoethane	1000	0.31	0.31	0.040	0.040	U
127-18-4	**Tetrachloroethene (PCE)**	1000	**0.24**	0.15	**0.035**	0.021	
108-90-7	Chlorobenzene	1000	0.93	0.93	0.20	0.20	U
100-41-4	**Ethylbenzene**	1000	**4.9**	1.7	**1.1**	0.40	
179601-23-1	**m,p-Xylenes**	1000	**11**	3.5	**2.6**	0.80	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 1100
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	AA-8HR-042		
Lab Code:	R1206262-013		

Analytical Method: TO-15

Date Analyzed: 9/25/12 1644
Canister Dilution Factor: 1.82

Initial Pressure (psig): -4.67 Final Pressure (psig): 3.52

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	1000	2.1	2.1	0.20	0.20	U
100-42-5	**Styrene**	1000	**7.3**	1.7	**1.7**	0.40	
95-47-6	**o-Xylene**	1000	**4.4**	1.7	**1.0**	0.40	
79-34-5	1,1,2,2-Tetrachloroethane	1000	0.27	0.27	0.040	0.040	U
541-73-1	1,3-Dichlorobenzene	1000	2.4	2.4	0.40	0.40	U
106-46-7	1,4-Dichlorobenzene	1000	2.4	2.4	0.40	0.40	U
95-50-1	1,2-Dichlorobenzene	1000	2.4	2.4	0.40	0.40	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	110	70-130	9/25/12 1644	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 1115
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	SS-8HR-042		
Lab Code:	R1206262-014		

Analytical Method: TO-15

Date Analyzed: 9/24/12 1510
Canister Dilution Factor: 1.76

Initial Pressure (psig): -4.37 Final Pressure (psig): 3.49

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	15	53	53	26	26	U
75-01-4	Vinyl Chloride	15	7.0	7.0	2.8	2.8	U
74-83-9	Bromomethane	15	50	50	13	13	U
75-00-3	Chloroethane	15	68	68	26	26	U
67-64-1	Acetone	15	590	590	250	250	U
75-69-4	Trichlorofluoromethane (CFC 11)	15	73	73	13	13	U
75-35-4	1,1-Dichloroethene	15	52	52	13	13	U
75-09-2	Methylene Chloride	15	45	45	13	13	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	15	20	20	2.6	2.6	U
75-15-0	Carbon Disulfide	15	40	40	13	13	U
156-60-5	trans-1,2-Dichloroethene	15	52	52	13	13	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	15	53	53	13	13	U
1634-04-4	Methyl tert-Butyl Ether	15	93	93	26	26	U
108-05-4	Vinyl Acetate	15	590	590	170	170	U
78-93-3	2-Butanone (MEK)	15	76	76	26	26	U
156-59-2	cis-1,2-Dichloroethene	15	52	52	13	13	U
67-66-3	Chloroform	15	63	63	13	13	U
107-06-2	1,2-Dichloroethane	15	53	53	13	13	U
71-55-6	1,1,1-Trichloroethane (TCA)	15	70	70	13	13	U
71-43-2	**Benzene**	15	**76**	41	**24**	13	
56-23-5	Carbon Tetrachloride	15	8.2	8.2	1.3	1.3	U
78-87-5	1,2-Dichloropropane	15	60	60	13	13	U
75-27-4	Bromodichloromethane	15	18	18	2.6	2.6	U
79-01-6	**Trichloroethene (TCE)**	15	**16**	7.0	**3.1**	1.3	
10061-01-5	cis-1,3-Dichloropropene	15	120	120	26	26	U
108-10-1	4-Methyl-2-pentanone	15	110	110	26	26	U
10061-02-6	trans-1,3-Dichloropropene	15	59	59	13	13	U
79-00-5	1,1,2-Trichloroethane	15	70	70	13	13	U
108-88-3	**Toluene**	15	**2700**	48	**710**	13	
591-78-6	2-Hexanone	15	53	53	13	13	U
124-48-1	Dibromochloromethane	15	22	22	2.6	2.6	U
106-93-4	1,2-Dibromoethane	15	20	20	2.6	2.6	U
127-18-4	**Tetrachloroethene (PCE)**	15	**11**	9.4	**1.6**	1.4	
108-90-7	Chlorobenzene	15	60	60	13	13	U
100-41-4	Ethylbenzene	15	110	110	26	26	U
179601-23-1	**m,p-Xylenes**	15	**280**	220	**65**	52	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 1115
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	SS-8HR-042		
Lab Code:	R1206262-014		

Analytical Method: TO-15

Date Analyzed: 9/24/12 1510
Canister Dilution Factor: 1.76

Initial Pressure (psig): -4.37 Final Pressure (psig): 3.49

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	15	130	130	13	13	U
100-42-5	Styrene	15	110	110	26	26	U
95-47-6	o-Xylene	15	110	110	26	26	U
79-34-5	1,1,2,2-Tetrachloroethane	15	18	18	2.6	2.6	U
541-73-1	1,3-Dichlorobenzene	15	150	150	26	26	U
106-46-7	1,4-Dichlorobenzene	15	150	150	26	26	U
95-50-1	1,2-Dichlorobenzene	15	150	150	26	26	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	111	70-130	9/24/12 1510	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 1600
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	SS-3OMIN-035		
Lab Code:	R1206262-015		

Analytical Method: TO-15

Date Analyzed: 9/24/12 1556
Canister Dilution Factor: 2.04

Initial Pressure (psig): -5.75 Final Pressure (psig): 3.54

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	14.4	64	64	31	31	U
75-01-4	Vinyl Chloride	14.4	8.5	8.5	3.3	3.3	U
74-83-9	Bromomethane	14.4	61	61	16	16	U
75-00-3	Chloroethane	14.4	82	82	31	31	U
67-64-1	**Acetone**	14.4	**2200**	710	**920**	300	
75-69-4	Trichlorofluoromethane (CFC 11)	14.4	**88**	88	16	16	U
75-35-4	1,1-Dichloroethene	14.4	62	62	16	16	U
75-09-2	Methylene Chloride	14.4	54	54	16	16	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	14.4	24	24	3.1	3.1	U
75-15-0	Carbon Disulfide	14.4	48	48	15	15	U
156-60-5	trans-1,2-Dichloroethene	14.4	62	62	16	16	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	14.4	64	64	16	16	U
1634-04-4	Methyl tert-Butyl Ether	14.4	110	110	31	31	U
108-05-4	Vinyl Acetate	14.4	710	710	200	200	U
78-93-3	**2-Butanone (MEK)**	14.4	**360**	92	**120**	31	
156-59-2	cis-1,2-Dichloroethene	14.4	62	62	16	16	U
67-66-3	Chloroform	14.4	77	77	16	16	U
107-06-2	1,2-Dichloroethane	14.4	64	64	16	16	U
71-55-6	1,1,1-Trichloroethane (TCA)	14.4	85	85	16	16	U
71-43-2	**Benzene**	14.4	**220**	50	**69**	16	
56-23-5	Carbon Tetrachloride	14.4	9.9	9.9	1.6	1.6	U
78-87-5	1,2-Dichloropropane	14.4	72	72	16	16	U
75-27-4	Bromodichloromethane	14.4	21	21	3.2	3.2	U
79-01-6	**Trichloroethene (TCE)**	14.4	**100**	8.5	**19**	1.6	
10061-01-5	cis-1,3-Dichloropropene	14.4	140	140	31	31	U
108-10-1	4-Methyl-2-pentanone	14.4	130	130	31	31	U
10061-02-6	trans-1,3-Dichloropropene	14.4	71	71	16	16	U
79-00-5	1,1,2-Trichloroethane	14.4	85	85	16	16	U
108-88-3	**Toluene**	14.4	**590**	58	**160**	15	
591-78-6	2-Hexanone	14.4	64	64	16	16	U
124-48-1	Dibromochloromethane	14.4	27	27	3.2	3.2	U
106-93-4	1,2-Dibromoethane	14.4	24	24	3.1	3.1	U
127-18-4	Tetrachloroethene (PCE)	14.4	11	11	1.7	1.7	U
108-90-7	Chlorobenzene	14.4	72	72	16	16	U
100-41-4	Ethylbenzene	14.4	130	130	31	31	U
179601-23-1	**m,p-Xylenes**	14.4	**470**	270	**110**	62	

COLUMBIA ANALYTICAL SERVICES, INC.
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Analytical Report

Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 1600
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	SS-3OMIN-035		
Lab Code:	R1206262-015		

Analytical Method: TO-15

Date Analyzed: 9/24/12 1556
Canister Dilution Factor: 2.04

Initial Pressure (psig): -5.75 Final Pressure (psig): 3.54

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	14.4	160	160	16	16	U
100-42-5	Styrene	14.4	130	130	31	31	U
95-47-6	**o-Xylene**	14.4	**260**	130	**61**	31	
79-34-5	1,1,2,2-Tetrachloroethane	14.4	21	21	3.1	3.1	U
541-73-1	1,3-Dichlorobenzene	14.4	190	190	31	31	U
106-46-7	1,4-Dichlorobenzene	14.4	190	190	31	31	U
95-50-1	1,2-Dichlorobenzene	14.4	190	190	31	31	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	9/24/12 1556	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 1725
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	SS-30MIN-037		
Lab Code:	R1206262-016		

Analytical Method: TO-15 **Date Analyzed:** 9/24/12 1643
Canister Dilution Factor: 1.40

Initial Pressure (psig): -1.72 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	8.5	74	74	36	36	U
75-01-4	Vinyl Chloride	8.5	9.9	9.9	3.9	3.9	U
74-83-9	Bromomethane	8.5	71	71	18	18	U
75-00-3	Chloroethane	8.5	96	96	36	36	U
67-64-1	**Acetone**	8.5	**2700**	820	**1100**	350	
75-69-4	Trichlorofluoromethane (CFC 11)	8.5	100	100	18	18	U
75-35-4	1,1-Dichloroethene	8.5	72	72	18	18	U
75-09-2	Methylene Chloride	8.5	63	63	18	18	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	8.5	28	28	3.7	3.7	U
75-15-0	Carbon Disulfide	8.5	56	56	18	18	U
156-60-5	trans-1,2-Dichloroethene	8.5	72	72	18	18	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	8.5	74	74	18	18	U
1634-04-4	Methyl tert-Butyl Ether	8.5	130	130	36	36	U
108-05-4	Vinyl Acetate	8.5	820	820	230	230	U
78-93-3	**2-Butanone (MEK)**	8.5	**150**	110	**52**	36	
156-59-2	cis-1,2-Dichloroethene	8.5	72	72	18	18	U
67-66-3	Chloroform	8.5	89	89	18	18	U
107-06-2	1,2-Dichloroethane	8.5	74	74	18	18	U
71-55-6	1,1,1-Trichloroethane (TCA)	8.5	99	99	18	18	U
71-43-2	**Benzene**	8.5	**220**	58	**69**	18	
56-23-5	Carbon Tetrachloride	8.5	12	12	1.8	1.8	U
78-87-5	1,2-Dichloropropane	8.5	84	84	18	18	U
75-27-4	Bromodichloromethane	8.5	25	25	3.7	3.7	U
79-01-6	**Trichloroethene (TCE)**	8.5	**140**	9.9	**26**	1.8	
10061-01-5	cis-1,3-Dichloropropene	8.5	160	160	36	36	U
108-10-1	4-Methyl-2-pentanone	8.5	150	150	36	36	U
10061-02-6	trans-1,3-Dichloropropene	8.5	82	82	18	18	U
79-00-5	1,1,2-Trichloroethane	8.5	99	99	18	18	U
108-88-3	**Toluene**	8.5	**770**	68	**200**	18	
591-78-6	2-Hexanone	8.5	74	74	18	18	U
124-48-1	Dibromochloromethane	8.5	31	31	3.7	3.7	U
106-93-4	1,2-Dibromoethane	8.5	28	28	3.6	3.6	U
127-18-4	**Tetrachloroethene (PCE)**	8.5	**420**	13	**62**	1.9	
108-90-7	Chlorobenzene	8.5	84	84	18	18	U
100-41-4	Ethylbenzene	8.5	160	160	36	36	U
179601-23-1	**m,p-Xylenes**	8.5	**440**	310	**100**	72	

COLUMBIA ANALYTICAL SERVICES, INC.
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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/19/12 1725
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	SS-30MIN-037		
Lab Code:	R1206262-016		

Analytical Method: TO-15

Date Analyzed: 9/24/12 1643
Canister Dilution Factor: 1.40

Initial Pressure (psig): -1.72 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	8.5	190	190	18	18	U
100-42-5	Styrene	8.5	150	150	36	36	U
95-47-6	**o-Xylene**	8.5	**160**	160	**37**	36	
79-34-5	1,1,2,2-Tetrachloroethane	8.5	25	25	3.6	3.6	U
541-73-1	1,3-Dichlorobenzene	8.5	220	220	36	36	U
106-46-7	1,4-Dichlorobenzene	8.5	220	220	36	36	U
95-50-1	1,2-Dichlorobenzene	8.5	220	220	36	36	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	114	70-130	9/24/12 1643	

COLUMBIA ANALYTICAL SERVICES, INC.
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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/20/12 0915
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	SS-8HR-038		
Lab Code:	R1206262-017		

Analytical Method: TO-15

Date Analyzed: 9/25/12 0811
Canister Dilution Factor: 1.41

Initial Pressure (psig): -1.82 Final Pressure (psig): 3.51

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	1.3	490	490	240	240	U
75-01-4	Vinyl Chloride	1.3	65	65	25	25	U
74-83-9	Bromomethane	1.3	470	470	120	120	U
75-00-3	Chloroethane	1.3	630	630	240	240	U
67-64-1	Acetone	1.3	5400	5400	2300	2300	U
75-69-4	Trichlorofluoromethane (CFC 11)	1.3	670	670	120	120	U
75-35-4	1,1-Dichloroethene	1.3	480	480	120	120	U
75-09-2	Methylene Chloride	1.3	410	410	120	120	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.3	180	180	24	24	U
75-15-0	Carbon Disulfide	1.3	370	370	120	120	U
156-60-5	**trans-1,2-Dichloroethene**	1.3	**4600**	480	**1200**	120	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.3	490	490	120	120	U
1634-04-4	Methyl tert-Butyl Ether	1.3	860	860	240	240	U
108-05-4	Vinyl Acetate	1.3	5400	5400	1500	1500	U
78-93-3	2-Butanone (MEK)	1.3	710	710	240	240	U
156-59-2	**cis-1,2-Dichloroethene**	1.3	**2900**	480	**730**	120	
67-66-3	Chloroform	1.3	590	590	120	120	U
107-06-2	1,2-Dichloroethane	1.3	490	490	120	120	U
71-55-6	1,1,1-Trichloroethane (TCA)	1.3	650	650	120	120	U
71-43-2	Benzene	1.3	380	380	120	120	U
56-23-5	Carbon Tetrachloride	1.3	76	76	12	12	U
78-87-5	1,2-Dichloropropane	1.3	550	550	120	120	U
75-27-4	Bromodichloromethane	1.3	160	160	24	24	U
79-01-6	**Trichloroethene (TCE)**	1.3	**51000**	65	**9600**	12	
10061-01-5	cis-1,3-Dichloropropene	1.3	1100	1100	240	240	U
108-10-1	4-Methyl-2-pentanone	1.3	980	980	240	240	U
10061-02-6	trans-1,3-Dichloropropene	1.3	540	540	120	120	U
79-00-5	1,1,2-Trichloroethane	1.3	650	650	120	120	U
108-88-3	Toluene	1.3	440	440	120	120	U
591-78-6	2-Hexanone	1.3	490	490	120	120	U
124-48-1	Dibromochloromethane	1.3	210	210	24	24	U
106-93-4	1,2-Dibromoethane	1.3	180	180	24	24	U
127-18-4	Tetrachloroethene (PCE)	1.3	87	87	13	13	U
108-90-7	Chlorobenzene	1.3	550	550	120	120	U
100-41-4	Ethylbenzene	1.3	1000	1000	240	240	U
179601-23-1	m,p-Xylenes	1.3	2100	2100	480	480	U

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: 9/20/12 0915
Date Received: 9/21/12

Sample Name: SS-8HR-038
Lab Code: R1206262-017

Analytical Method: TO-15

Date Analyzed: 9/25/12 0811
Canister Dilution Factor: 1.41

Initial Pressure (psig): -1.82 Final Pressure (psig): 3.51

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	1.3	1200	1200	120	120	U
100-42-5	Styrene	1.3	1000	1000	240	240	U
95-47-6	o-Xylene	1.3	1000	1000	240	240	U
79-34-5	1,1,2,2-Tetrachloroethane	1.3	160	160	24	24	U
541-73-1	1,3-Dichlorobenzene	1.3	1400	1400	240	240	U
106-46-7	1,4-Dichlorobenzene	1.3	1400	1400	240	240	U
95-50-1	1,2-Dichlorobenzene	1.3	1400	1400	240	240	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	111	70-130	9/25/12 0811	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/20/12 0935
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	SS-8HR-039		
Lab Code:	R1206262-018		

Analytical Method: TO-15

Date Analyzed: 9/25/12 0857
Canister Dilution Factor: 1.55

Initial Pressure (psig): -2.95 Final Pressure (psig): 3.51

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	20	35	35	17	17	U
75-01-4	Vinyl Chloride	20	4.7	4.7	1.8	1.8	U
74-83-9	Bromomethane	20	33	33	8.6	8.6	U
75-00-3	Chloroethane	20	45	45	17	17	U
67-64-1	Acetone	20	390	390	160	160	U
75-69-4	Trichlorofluoromethane (CFC 11)	20	48	48	8.6	8.6	U
75-35-4	1,1-Dichloroethene	20	34	34	8.6	8.6	U
75-09-2	Methylene Chloride	20	29	29	8.5	8.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	20	13	13	1.7	1.7	U
75-15-0	Carbon Disulfide	20	26	26	8.5	8.5	U
156-60-5	**trans-1,2-Dichloroethene**	20	**140**	34	**35**	8.6	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20	35	35	8.6	8.6	U
1634-04-4	Methyl tert-Butyl Ether	20	61	61	17	17	U
108-05-4	Vinyl Acetate	20	390	390	110	110	U
78-93-3	2-Butanone (MEK)	20	50	50	17	17	U
156-59-2	**cis-1,2-Dichloroethene**	20	**240**	34	**61**	8.6	
67-66-3	Chloroform	20	42	42	8.6	8.6	U
107-06-2	1,2-Dichloroethane	20	35	35	8.6	8.6	U
71-55-6	**1,1,1-Trichloroethane (TCA)**	20	**150**	47	**28**	8.5	
71-43-2	Benzene	20	27	27	8.5	8.5	U
56-23-5	Carbon Tetrachloride	20	5.4	5.4	0.86	0.86	U
78-87-5	1,2-Dichloropropane	20	40	40	8.6	8.6	U
75-27-4	Bromodichloromethane	20	12	12	1.7	1.7	U
79-01-6	**Trichloroethene (TCE)**	20	**3800**	4.7	**710**	0.87	
10061-01-5	cis-1,3-Dichloropropene	20	78	78	17	17	U
108-10-1	4-Methyl-2-pentanone	20	70	70	17	17	U
10061-02-6	trans-1,3-Dichloropropene	20	39	39	8.5	8.5	U
79-00-5	1,1,2-Trichloroethane	20	47	47	8.5	8.5	U
108-88-3	**Toluene**	20	**330**	32	**87**	8.4	
591-78-6	2-Hexanone	20	35	35	8.5	8.5	U
124-48-1	Dibromochloromethane	20	15	15	1.7	1.7	U
106-93-4	1,2-Dibromoethane	20	13	13	1.7	1.7	U
127-18-4	**Tetrachloroethene (PCE)**	20	**22**	6.2	**3.3**	0.91	
108-90-7	Chlorobenzene	20	40	40	8.6	8.6	U
100-41-4	Ethylbenzene	20	74	74	17	17	U
179601-23-1	m,p-Xylenes	20	150	150	34	34	U

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: 9/20/12 0935
Date Received: 9/21/12

Sample Name: SS-8HR-039
Lab Code: R1206262-018

Analytical Method: TO-15

Date Analyzed: 9/25/12 0857
Canister Dilution Factor: 1.55

Initial Pressure (psig): -2.95 Final Pressure (psig): 3.51

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	20	88	88	8.5	8.5	U
100-42-5	Styrene	20	73	73	17	17	U
95-47-6	o-Xylene	20	74	74	17	17	U
79-34-5	1,1,2,2-Tetrachloroethane	20	12	12	1.7	1.7	U
541-73-1	1,3-Dichlorobenzene	20	100	100	17	17	U
106-46-7	1,4-Dichlorobenzene	20	100	100	17	17	U
95-50-1	1,2-Dichlorobenzene	20	100	100	17	17	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	112	70-130	9/25/12 0857	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/20/12 0745
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	SS-8HR-043		
Lab Code:	R1206262-019		

Analytical Method: TO-15 **Date Analyzed:** 9/24/12 1811
Canister Dilution Factor: 1.63

Initial Pressure (psig): -3.54 Final Pressure (psig): 3.52

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	20	37	37	18	18	U
75-01-4	Vinyl Chloride	20	4.9	4.9	1.9	1.9	U
74-83-9	Bromomethane	20	35	35	9.0	9.0	U
75-00-3	Chloroethane	20	47	47	18	18	U
67-64-1	Acetone	20	410	410	170	170	U
75-69-4	Trichlorofluoromethane (CFC 11)	20	51	51	9.0	9.0	U
75-35-4	1,1-Dichloroethene	20	36	36	9.0	9.0	U
75-09-2	Methylene Chloride	20	31	31	8.9	8.9	U
76-13-1	**1,1,2-Trichloro-1,2,2-trifluoroethane**	20	**52**	14	**6.8**	1.8	
75-15-0	**Carbon Disulfide**	20	**600**	28	**190**	8.9	
156-60-5	trans-1,2-Dichloroethene	20	36	36	9.0	9.0	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	20	37	37	9.1	9.1	U
1634-04-4	Methyl tert-Butyl Ether	20	64	64	18	18	U
108-05-4	Vinyl Acetate	20	410	410	120	120	U
78-93-3	2-Butanone (MEK)	20	53	53	18	18	U
156-59-2	cis-1,2-Dichloroethene	20	36	36	9.0	9.0	U
67-66-3	Chloroform	20	44	44	9.0	9.0	U
107-06-2	1,2-Dichloroethane	20	37	37	9.1	9.1	U
71-55-6	1,1,1-Trichloroethane (TCA)	20	49	49	9.0	9.0	U
71-43-2	Benzene	20	29	29	8.9	8.9	U
56-23-5	Carbon Tetrachloride	20	5.7	5.7	0.91	0.91	U
78-87-5	1,2-Dichloropropane	20	42	42	9.0	9.0	U
75-27-4	Bromodichloromethane	20	12	12	1.8	1.8	U
79-01-6	**Trichloroethene (TCE)**	20	**4100**	4.9	**770**	0.91	
10061-01-5	cis-1,3-Dichloropropene	20	82	82	18	18	U
108-10-1	4-Methyl-2-pentanone	20	73	73	18	18	U
10061-02-6	trans-1,3-Dichloropropene	20	41	41	9.0	9.0	U
79-00-5	1,1,2-Trichloroethane	20	49	49	9.0	9.0	U
108-88-3	**Toluene**	20	**1300**	33	**350**	8.9	
591-78-6	2-Hexanone	20	37	37	9.0	9.0	U
124-48-1	Dibromochloromethane	20	15	15	1.8	1.8	U
106-93-4	1,2-Dibromoethane	20	14	14	1.8	1.8	U
127-18-4	**Tetrachloroethene (PCE)**	20	12	6.5	**1.7**	0.96	
108-90-7	Chlorobenzene	20	42	42	9.0	9.0	U
100-41-4	Ethylbenzene	20	77	77	18	18	U
179601-23-1	m,p-Xylenes	20	160	160	36	36	U

Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/20/12 0745
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	SS-8HR-043		
Lab Code:	R1206262-019		

Analytical Method: TO-15

Date Analyzed: 9/24/12 1811
Canister Dilution Factor: 1.63

Initial Pressure (psig): -3.54 Final Pressure (psig): 3.52

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	20	93	93	9.0	9.0	U
100-42-5	Styrene	20	77	77	18	18	U
95-47-6	o-Xylene	20	77	77	18	18	U
79-34-5	1,1,2,2-Tetrachloroethane	20	12	12	1.8	1.8	U
541-73-1	1,3-Dichlorobenzene	20	110	110	18	18	U
106-46-7	1,4-Dichlorobenzene	20	110	110	18	18	U
95-50-1	1,2-Dichlorobenzene	20	110	110	18	18	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	117	70-130	9/24/12 1811	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/20/12 0750
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	AA-8HR-043		
Lab Code:	R1206262-020		

Analytical Method: TO-15

Date Analyzed: 9/24/12 2018
Canister Dilution Factor: 1.76

Initial Pressure (psig): -4.37 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	75	11	11	5.1	5.1	U
75-01-4	Vinyl Chloride	75	1.4	1.4	0.55	0.55	U
74-83-9	Bromomethane	75	10	10	2.6	2.6	U
75-00-3	Chloroethane	75	14	14	5.2	5.2	U
67-64-1	Acetone	75	120	120	49	49	U
75-69-4	Trichlorofluoromethane (CFC 11)	75	15	15	2.6	2.6	U
75-35-4	1,1-Dichloroethene	75	10	10	2.6	2.6	U
75-09-2	Methylene Chloride	75	8.9	8.9	2.6	2.6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	75	4.0	4.0	0.52	0.52	U
75-15-0	**Carbon Disulfide**	75	**13**	8.0	**4.2**	2.6	
156-60-5	trans-1,2-Dichloroethene	75	10	10	2.6	2.6	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	75	11	11	2.6	2.6	U
1634-04-4	Methyl tert-Butyl Ether	75	19	19	5.1	5.1	U
108-05-4	Vinyl Acetate	75	120	120	33	33	U
78-93-3	2-Butanone (MEK)	75	15	15	5.2	5.2	U
156-59-2	cis-1,2-Dichloroethene	75	10	10	2.6	2.6	U
67-66-3	Chloroform	75	13	13	2.6	2.6	U
107-06-2	1,2-Dichloroethane	75	11	11	2.6	2.6	U
71-55-6	1,1,1-Trichloroethane (TCA)	75	14	14	2.6	2.6	U
71-43-2	Benzene	75	8.2	8.2	2.6	2.6	U
56-23-5	Carbon Tetrachloride	75	1.6	1.6	0.26	0.26	U
78-87-5	1,2-Dichloropropane	75	12	12	2.6	2.6	U
75-27-4	Bromodichloromethane	75	3.5	3.5	0.53	0.53	U
79-01-6	**Trichloroethene (TCE)**	75	**1400**	1.4	**260**	0.26	E
10061-01-5	cis-1,3-Dichloropropene	75	23	23	5.2	5.2	U
108-10-1	4-Methyl-2-pentanone	75	21	21	5.2	5.2	U
10061-02-6	trans-1,3-Dichloropropene	75	12	12	2.6	2.6	U
79-00-5	1,1,2-Trichloroethane	75	14	14	2.6	2.6	U
108-88-3	**Toluene**	75	**75**	9.6	**20**	2.6	
591-78-6	2-Hexanone	75	11	11	2.6	2.6	U
124-48-1	Dibromochloromethane	75	4.5	4.5	0.52	0.52	U
106-93-4	1,2-Dibromoethane	75	4.0	4.0	0.52	0.52	U
127-18-4	Tetrachloroethene (PCE)	75	1.9	1.9	0.28	0.28	U
108-90-7	Chlorobenzene	75	12	12	2.6	2.6	U
100-41-4	Ethylbenzene	75	22	22	5.1	5.1	U
179601-23-1	m,p-Xylenes	75	45	45	10	10	U

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: 9/20/12 0750
Date Received: 9/21/12

Sample Name: AA-8HR-043
Lab Code: R1206262-020

Analytical Method: TO-15

Date Analyzed: 9/24/12 2018
Canister Dilution Factor: 1.76

Initial Pressure (psig): -4.37 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	75	27	27	2.6	2.6	U
100-42-5	Styrene	75	22	22	5.2	5.2	U
95-47-6	o-Xylene	75	22	22	5.1	5.1	U
79-34-5	1,1,2,2-Tetrachloroethane	75	3.5	3.5	0.51	0.51	U
541-73-1	1,3-Dichlorobenzene	75	31	31	5.2	5.2	U
106-46-7	1,4-Dichlorobenzene	75	31	31	5.2	5.2	U
95-50-1	1,2-Dichlorobenzene	75	31	31	5.2	5.2	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	115	70-130	9/24/12 2018	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/20/12 0750
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	AA-8HR-043		
Lab Code:	R1206262-020		
Run Type:	Dilution		
Analytical Method:	TO-15	**Date Analyzed:**	9/25/12 0940
		Canister Dilution Factor:	1.76

Initial Pressure (psig): -4.37 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	50	16	16	7.7	7.7	U
75-01-4	Vinyl Chloride	50	2.1	2.1	0.83	0.83	U
74-83-9	Bromomethane	50	15	15	3.9	3.9	U
75-00-3	Chloroethane	50	20	20	7.7	7.7	U
67-64-1	Acetone	50	180	180	74	74	U
75-69-4	Trichlorofluoromethane (CFC 11)	50	22	22	3.9	3.9	U
75-35-4	1,1-Dichloroethene	50	15	15	3.9	3.9	U
75-09-2	Methylene Chloride	50	13	13	3.9	3.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	50	6.0	6.0	0.78	0.78	U
75-15-0	**Carbon Disulfide**	50	**12**	12	**4.0**	3.8	D
156-60-5	trans-1,2-Dichloroethene	50	15	15	3.9	3.9	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	50	16	16	3.9	3.9	U
1634-04-4	Methyl tert-Butyl Ether	50	28	28	7.7	7.7	U
108-05-4	Vinyl Acetate	50	180	180	50	50	U
78-93-3	2-Butanone (MEK)	50	23	23	7.8	7.8	U
156-59-2	cis-1,2-Dichloroethene	50	15	15	3.9	3.9	U
67-66-3	Chloroform	50	19	19	3.9	3.9	U
107-06-2	1,2-Dichloroethane	50	16	16	3.9	3.9	U
71-55-6	1,1,1-Trichloroethane (TCA)	50	21	21	3.9	3.9	U
71-43-2	Benzene	50	12	12	3.9	3.9	U
56-23-5	Carbon Tetrachloride	50	2.5	2.5	0.39	0.39	U
78-87-5	1,2-Dichloropropane	50	18	18	3.9	3.9	U
75-27-4	Bromodichloromethane	50	5.3	5.3	0.79	0.79	U
79-01-6	**Trichloroethene (TCE)**	50	**1400**	2.1	**250**	0.39	D
10061-01-5	cis-1,3-Dichloropropene	50	35	35	7.8	7.8	U
108-10-1	4-Methyl-2-pentanone	50	32	32	7.7	7.7	U
10061-02-6	trans-1,3-Dichloropropene	50	18	18	3.9	3.9	U
79-00-5	1,1,2-Trichloroethane	50	21	21	3.9	3.9	U
108-88-3	**Toluene**	50	**72**	14	**19**	3.8	D
591-78-6	2-Hexanone	50	16	16	3.9	3.9	U
124-48-1	Dibromochloromethane	50	6.7	6.7	0.79	0.79	U
106-93-4	1,2-Dibromoethane	50	6.0	6.0	0.78	0.78	U
127-18-4	Tetrachloroethene (PCE)	50	2.8	2.8	0.42	0.42	U
108-90-7	Chlorobenzene	50	18	18	3.9	3.9	U
100-41-4	Ethylbenzene	50	33	33	7.7	7.7	U
179601-23-1	m,p-Xylenes	50	67	67	15	15	U

Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/20/12 0750
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	AA-8HR-043		
Lab Code:	R1206262-020		
Run Type:	Dilution		

Analytical Method: TO-15

Date Analyzed: 9/25/12 0940
Canister Dilution Factor: 1.76

Initial Pressure (psig): -4.37 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	50	40	40	3.9	3.9	U
100-42-5	Styrene	50	33	33	7.8	7.8	U
95-47-6	o-Xylene	50	33	33	7.7	7.7	U
79-34-5	1,1,2,2-Tetrachloroethane	50	5.3	5.3	0.77	0.77	U
541-73-1	1,3-Dichlorobenzene	50	46	46	7.7	7.7	U
106-46-7	1,4-Dichlorobenzene	50	46	46	7.7	7.7	U
95-50-1	1,2-Dichlorobenzene	50	46	46	7.7	7.7	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	113	70-130	9/25/12 0940	

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: 9/20/12 0820
Date Received: 9/21/12

Sample Name: SS-8HR-044
Lab Code: R1206262-021

Analytical Method: TO-15

Date Analyzed: 9/24/12 2226
Canister Dilution Factor: 1.94

Initial Pressure (psig): -5.30 Final Pressure (psig): 3.54

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	36	24	24	12	12	U
75-01-4	Vinyl Chloride	36	3.2	3.2	1.3	1.3	U
74-83-9	Bromomethane	36	23	23	6.0	6.0	U
75-00-3	Chloroethane	36	31	31	12	12	U
67-64-1	**Acetone**	36	**430**	270	**180**	110	
75-69-4	Trichlorofluoromethane (CFC 11)	36	33	33	5.9	5.9	U
75-35-4	1,1-Dichloroethene	36	24	24	6.0	6.0	U
75-09-2	Methylene Chloride	36	20	20	5.9	5.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	36	9.2	9.2	1.2	1.2	U
75-15-0	**Carbon Disulfide**	36	**19**	18	**6.2**	5.9	
156-60-5	trans-1,2-Dichloroethene	36	24	24	6.0	6.0	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	36	24	24	6.0	6.0	U
1634-04-4	Methyl tert-Butyl Ether	36	43	43	12	12	U
108-05-4	Vinyl Acetate	36	270	270	77	77	U
78-93-3	**2-Butanone (MEK)**	36	**49**	35	**17**	12	
156-59-2	cis-1,2-Dichloroethene	36	24	24	6.0	6.0	U
67-66-3	Chloroform	36	29	29	6.0	6.0	U
107-06-2	1,2-Dichloroethane	36	24	24	6.0	6.0	U
71-55-6	**1,1,1-Trichloroethane (TCA)**	36	**51**	32	**9.4**	5.9	
71-43-2	**Benzene**	36	**93**	19	**29**	5.9	
56-23-5	Carbon Tetrachloride	36	3.8	3.8	0.60	0.60	U
78-87-5	1,2-Dichloropropane	36	27	27	5.9	5.9	U
75-27-4	Bromodichloromethane	36	8.1	8.1	1.2	1.2	U
79-01-6	**Trichloroethene (TCE)**	36	**76**	3.2	**14**	0.60	
10061-01-5	cis-1,3-Dichloropropene	36	54	54	12	12	U
108-10-1	4-Methyl-2-pentanone	36	49	49	12	12	U
10061-02-6	trans-1,3-Dichloropropene	36	27	27	5.9	5.9	U
79-00-5	1,1,2-Trichloroethane	36	32	32	5.9	5.9	U
108-88-3	**Toluene**	36	**1700**	22	**460**	5.9	
591-78-6	2-Hexanone	36	24	24	5.9	5.9	U
124-48-1	Dibromochloromethane	36	10	10	1.2	1.2	U
106-93-4	1,2-Dibromoethane	36	9.2	9.2	1.2	1.2	U
127-18-4	**Tetrachloroethene (PCE)**	36	**16**	4.3	**2.3**	0.64	
108-90-7	Chlorobenzene	36	27	27	6.0	6.0	U
100-41-4	Ethylbenzene	36	51	51	12	12	U
179601-23-1	**m,p-Xylenes**	36	**200**	100	**47**	24	

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: 9/20/12 0820
Date Received: 9/21/12

Sample Name: SS-8HR-044
Lab Code: R1206262-021

Analytical Method: TO-15

Date Analyzed: 9/24/12 2226
Canister Dilution Factor: 1.94

Initial Pressure (psig): -5.30 Final Pressure (psig): 3.54

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	36	61	61	5.9	5.9	U
100-42-5	Styrene	36	51	51	12	12	U
95-47-6	**o-Xylene**	36	**78**	51	**18**	12	
79-34-5	1,1,2,2-Tetrachloroethane	36	8.1	8.1	1.2	1.2	U
541-73-1	1,3-Dichlorobenzene	36	71	71	12	12	U
106-46-7	1,4-Dichlorobenzene	36	71	71	12	12	U
95-50-1	1,2-Dichlorobenzene	36	71	71	12	12	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	115	70-130	9/24/12 2226	

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Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	9/20/12 0825
Sample Matrix:	Air	**Date Received:**	9/21/12
Sample Name:	AA-8HR-044		
Lab Code:	R1206262-022		

Analytical Method: TO-15

Date Analyzed: 9/25/12 1735
Canister Dilution Factor: 1.86

Initial Pressure (psig): -4.91 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	**Chloromethane**	1000	**0.89**	0.84	**0.43**	0.41	
75-01-4	Vinyl Chloride	1000	0.11	0.11	0.044	0.044	U
74-83-9	Bromomethane	1000	0.80	0.80	0.21	0.21	U
75-00-3	Chloroethane	1000	1.1	1.1	0.41	0.41	U
67-64-1	**Acetone**	1000	**14**	9.3	**5.9**	3.9	
75-69-4	**Trichlorofluoromethane (CFC 11)**	1000	**1.9**	1.2	**0.34**	0.21	
75-35-4	1,1-Dichloroethene	1000	0.82	0.82	0.21	0.21	U
75-09-2	Methylene Chloride	1000	0.71	0.71	0.20	0.20	U
76-13-1	**1,1,2-Trichloro-1,2,2-trifluoroethane**	1000	**0.58**	0.32	**0.076**	0.041	
75-15-0	Carbon Disulfide	1000	0.63	0.63	0.20	0.20	U
156-60-5	trans-1,2-Dichloroethene	1000	0.82	0.82	0.21	0.21	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.84	0.84	0.21	0.21	U
1634-04-4	Methyl tert-Butyl Ether	1000	1.5	1.5	0.41	0.41	U
108-05-4	Vinyl Acetate	1000	9.3	9.3	2.6	2.6	U
78-93-3	**2-Butanone (MEK)**	1000	**3.1**	1.2	**1.1**	0.41	
156-59-2	cis-1,2-Dichloroethene	1000	0.82	0.82	0.21	0.21	U
67-66-3	Chloroform	1000	1.0	1.0	0.21	0.21	U
107-06-2	1,2-Dichloroethane	1000	0.84	0.84	0.21	0.21	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	1.1	1.1	0.20	0.20	U
71-43-2	**Benzene**	1000	**1.4**	0.65	**0.45**	0.20	
56-23-5	**Carbon Tetrachloride**	1000	**0.61**	0.13	**0.097**	0.021	
78-87-5	1,2-Dichloropropane	1000	0.95	0.95	0.21	0.21	U
75-27-4	Bromodichloromethane	1000	0.28	0.28	0.042	0.042	U
79-01-6	**Trichloroethene (TCE)**	1000	**2.1**	0.11	**0.39**	0.021	
10061-01-5	cis-1,3-Dichloropropene	1000	1.9	1.9	0.41	0.41	U
108-10-1	4-Methyl-2-pentanone	1000	1.7	1.7	0.41	0.41	U
10061-02-6	trans-1,3-Dichloropropene	1000	0.93	0.93	0.20	0.20	U
79-00-5	1,1,2-Trichloroethane	1000	1.1	1.1	0.20	0.20	U
108-88-3	**Toluene**	1000	**7.7**	0.76	**2.0**	0.20	
591-78-6	**2-Hexanone**	1000	**2.4**	0.84	**0.59**	0.20	
124-48-1	Dibromochloromethane	1000	0.35	0.35	0.041	0.041	U
106-93-4	1,2-Dibromoethane	1000	0.32	0.32	0.041	0.041	U
127-18-4	Tetrachloroethene (PCE)	1000	0.15	0.15	0.022	0.022	U
108-90-7	Chlorobenzene	1000	0.95	0.95	0.21	0.21	U
100-41-4	**Ethylbenzene**	1000	**2.5**	1.8	**0.57**	0.41	
179601-23-1	**m,p-Xylenes**	1000	**5.9**	3.6	**1.4**	0.82	

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: 9/20/12 0825
Date Received: 9/21/12

Sample Name: AA-8HR-044
Lab Code: R1206262-022

Analytical Method: TO-15

Date Analyzed: 9/25/12 1735
Canister Dilution Factor: 1.86

Initial Pressure (psig): -4.91 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	1000	2.1	2.1	0.21	0.21	U
100-42-5	Styrene	1000	3.4	1.7	0.79	0.41	
95-47-6	o-Xylene	1000	2.4	1.8	0.56	0.41	
79-34-5	1,1,2,2-Tetrachloroethane	1000	0.28	0.28	0.041	0.041	U
541-73-1	1,3-Dichlorobenzene	1000	2.5	2.5	0.41	0.41	U
106-46-7	1,4-Dichlorobenzene	1000	2.5	2.5	0.41	0.41	U
95-50-1	1,2-Dichlorobenzene	1000	2.5	2.5	0.41	0.41	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	120	70-130	9/25/12 1735	

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Analytical Report

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1211334-01

Analytical Method: TO-15

Date Analyzed: 9/21/12 1122

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	1000	0.45	0.45	0.22	0.22	U
75-01-4	Vinyl Chloride	1000	0.060	0.060	0.023	0.023	U
74-83-9	Bromomethane	1000	0.43	0.43	0.11	0.11	U
75-00-3	Chloroethane	1000	0.58	0.58	0.22	0.22	U
67-64-1	Acetone	1000	5.0	5.0	2.1	2.1	U
75-69-4	Trichlorofluoromethane (CFC 11)	1000	0.62	0.62	0.11	0.11	U
75-35-4	1,1-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-09-2	Methylene Chloride	1000	0.38	0.38	0.11	0.11	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1000	0.17	0.17	0.022	0.022	U
75-15-0	Carbon Disulfide	1000	0.34	0.34	0.11	0.11	U
156-60-5	trans-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.45	0.45	0.11	0.11	U
1634-04-4	Methyl tert-Butyl Ether	1000	0.79	0.79	0.22	0.22	U
108-05-4	Vinyl Acetate	1000	5.0	5.0	1.4	1.4	U
78-93-3	2-Butanone (MEK)	1000	0.65	0.65	0.22	0.22	U
156-59-2	cis-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
67-66-3	Chloroform	1000	0.54	0.54	0.11	0.11	U
107-06-2	1,2-Dichloroethane	1000	0.45	0.45	0.11	0.11	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.60	0.60	0.11	0.11	U
71-43-2	Benzene	1000	0.35	0.35	0.11	0.11	U
56-23-5	Carbon Tetrachloride	1000	0.070	0.070	0.011	0.011	U
78-87-5	1,2-Dichloropropane	1000	0.51	0.51	0.11	0.11	U
75-27-4	Bromodichloromethane	1000	0.15	0.15	0.022	0.022	U
79-01-6	Trichloroethene (TCE)	1000	0.060	0.060	0.011	0.011	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.0	1.0	0.22	0.22	U
108-10-1	4-Methyl-2-pentanone	1000	0.90	0.90	0.22	0.22	U
10061-02-6	trans-1,3-Dichloropropene	1000	0.50	0.50	0.11	0.11	U
79-00-5	1,1,2-Trichloroethane	1000	0.60	0.60	0.11	0.11	U
108-88-3	Toluene	1000	0.41	0.41	0.11	0.11	U
591-78-6	2-Hexanone	1000	0.45	0.45	0.11	0.11	U
124-48-1	Dibromochloromethane	1000	0.19	0.19	0.022	0.022	U
106-93-4	1,2-Dibromoethane	1000	0.17	0.17	0.022	0.022	U
127-18-4	Tetrachloroethene (PCE)	1000	0.080	0.080	0.012	0.012	U
108-90-7	Chlorobenzene	1000	0.51	0.51	0.11	0.11	U
100-41-4	Ethylbenzene	1000	0.95	0.95	0.22	0.22	U
179601-23-1	m,p-Xylenes	1000	1.9	1.9	0.44	0.44	U

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1211334-01

Analytical Method: TO-15

Date Analyzed: 9/21/12 1122

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	1000	1.1	1.1	0.11	0.11	U
100-42-5	Styrene	1000	0.94	0.94	0.22	0.22	U
95-47-6	o-Xylene	1000	0.95	0.95	0.22	0.22	U
79-34-5	1,1,2,2-Tetrachloroethane	1000	0.15	0.15	0.022	0.022	U
541-73-1	1,3-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
106-46-7	1,4-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
95-50-1	1,2-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	102	70-130	9/21/12 1122	

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1211336-01

Analytical Method: TO-15

Date Analyzed: 9/24/12 1337

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	1000	0.45	0.45	0.22	0.22	U
75-01-4	Vinyl Chloride	1000	0.060	0.060	0.023	0.023	U
74-83-9	Bromomethane	1000	0.43	0.43	0.11	0.11	U
75-00-3	Chloroethane	1000	0.58	0.58	0.22	0.22	U
67-64-1	Acetone	1000	5.0	5.0	2.1	2.1	U
75-69-4	Trichlorofluoromethane (CFC 11)	1000	0.62	0.62	0.11	0.11	U
75-35-4	1,1-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-09-2	Methylene Chloride	1000	0.38	0.38	0.11	0.11	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1000	0.17	0.17	0.022	0.022	U
75-15-0	Carbon Disulfide	1000	0.34	0.34	0.11	0.11	U
156-60-5	trans-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.45	0.45	0.11	0.11	U
1634-04-4	Methyl tert-Butyl Ether	1000	0.79	0.79	0.22	0.22	U
108-05-4	Vinyl Acetate	1000	5.0	5.0	1.4	1.4	U
78-93-3	2-Butanone (MEK)	1000	0.65	0.65	0.22	0.22	U
156-59-2	cis-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
67-66-3	Chloroform	1000	0.54	0.54	0.11	0.11	U
107-06-2	1,2-Dichloroethane	1000	0.45	0.45	0.11	0.11	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.60	0.60	0.11	0.11	U
71-43-2	Benzene	1000	0.35	0.35	0.11	0.11	U
56-23-5	Carbon Tetrachloride	1000	0.070	0.070	0.011	0.011	U
78-87-5	1,2-Dichloropropane	1000	0.51	0.51	0.11	0.11	U
75-27-4	Bromodichloromethane	1000	0.15	0.15	0.022	0.022	U
79-01-6	Trichloroethene (TCE)	1000	0.060	0.060	0.011	0.011	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.0	1.0	0.22	0.22	U
108-10-1	4-Methyl-2-pentanone	1000	0.90	0.90	0.22	0.22	U
10061-02-6	trans-1,3-Dichloropropene	1000	0.50	0.50	0.11	0.11	U
79-00-5	1,1,2-Trichloroethane	1000	0.60	0.60	0.11	0.11	U
108-88-3	Toluene	1000	0.41	0.41	0.11	0.11	U
591-78-6	2-Hexanone	1000	0.45	0.45	0.11	0.11	U
124-48-1	Dibromochloromethane	1000	0.19	0.19	0.022	0.022	U
106-93-4	1,2-Dibromoethane	1000	0.17	0.17	0.022	0.022	U
127-18-4	Tetrachloroethene (PCE)	1000	0.080	0.080	0.012	0.012	U
108-90-7	Chlorobenzene	1000	0.51	0.51	0.11	0.11	U
100-41-4	Ethylbenzene	1000	0.95	0.95	0.22	0.22	U
179601-23-1	m,p-Xylenes	1000	1.9	1.9	0.44	0.44	U

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1211336-01

Analytical Method: TO-15

Date Analyzed: 9/24/12 1337

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	1000	1.1	1.1	0.11	0.11	U
100-42-5	Styrene	1000	0.94	0.94	0.22	0.22	U
95-47-6	o-Xylene	1000	0.95	0.95	0.22	0.22	U
79-34-5	1,1,2,2-Tetrachloroethane	1000	0.15	0.15	0.022	0.022	U
541-73-1	1,3-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
106-46-7	1,4-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
95-50-1	1,2-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	111	70-130	9/24/12 1337	

COLUMBIA ANALYTICAL SERVICES, INC.
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Analytical Report

Client:	Energy Solutions	**Service Request:**	R1206262
Project:	Leica Airs 9/17,19/12	**Date Collected:**	NA
Sample Matrix:	Air	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	RQ1211338-01		

Analytical Method: TO-15 **Date Analyzed:** 9/25/12 1501

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	1000	0.45	0.45	0.22	0.22	U
75-01-4	Vinyl Chloride	1000	0.060	0.060	0.023	0.023	U
74-83-9	Bromomethane	1000	0.43	0.43	0.11	0.11	U
75-00-3	Chloroethane	1000	0.58	0.58	0.22	0.22	U
67-64-1	Acetone	1000	5.0	5.0	2.1	2.1	U
75-69-4	Trichlorofluoromethane (CFC 11)	1000	0.62	0.62	0.11	0.11	U
75-35-4	1,1-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-09-2	Methylene Chloride	1000	0.38	0.38	0.11	0.11	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1000	0.17	0.17	0.022	0.022	U
75-15-0	Carbon Disulfide	1000	0.34	0.34	0.11	0.11	U
156-60-5	trans-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.45	0.45	0.11	0.11	U
1634-04-4	Methyl tert-Butyl Ether	1000	0.79	0.79	0.22	0.22	U
108-05-4	Vinyl Acetate	1000	5.0	5.0	1.4	1.4	U
78-93-3	2-Butanone (MEK)	1000	0.65	0.65	0.22	0.22	U
156-59-2	cis-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
67-66-3	Chloroform	1000	0.54	0.54	0.11	0.11	U
107-06-2	1,2-Dichloroethane	1000	0.45	0.45	0.11	0.11	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.60	0.60	0.11	0.11	U
71-43-2	Benzene	1000	0.35	0.35	0.11	0.11	U
56-23-5	Carbon Tetrachloride	1000	0.070	0.070	0.011	0.011	U
78-87-5	1,2-Dichloropropane	1000	0.51	0.51	0.11	0.11	U
75-27-4	Bromodichloromethane	1000	0.15	0.15	0.022	0.022	U
79-01-6	Trichloroethene (TCE)	1000	0.060	0.060	0.011	0.011	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.0	1.0	0.22	0.22	U
108-10-1	4-Methyl-2-pentanone	1000	0.90	0.90	0.22	0.22	U
10061-02-6	trans-1,3-Dichloropropene	1000	0.50	0.50	0.11	0.11	U
79-00-5	1,1,2-Trichloroethane	1000	0.60	0.60	0.11	0.11	U
108-88-3	Toluene	1000	0.41	0.41	0.11	0.11	U
591-78-6	2-Hexanone	1000	0.45	0.45	0.11	0.11	U
124-48-1	Dibromochloromethane	1000	0.19	0.19	0.022	0.022	U
106-93-4	1,2-Dibromoethane	1000	0.17	0.17	0.022	0.022	U
127-18-4	Tetrachloroethene (PCE)	1000	0.080	0.080	0.012	0.012	U
108-90-7	Chlorobenzene	1000	0.51	0.51	0.11	0.11	U
100-41-4	Ethylbenzene	1000	0.95	0.95	0.22	0.22	U
179601-23-1	m,p-Xylenes	1000	1.9	1.9	0.44	0.44	U

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1211338-01

Analytical Method: TO-15

Date Analyzed: 9/25/12 1501

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-25-2	Bromoform	1000	1.1	1.1	0.11	0.11	U
100-42-5	Styrene	1000	0.94	0.94	0.22	0.22	U
95-47-6	o-Xylene	1000	0.95	0.95	0.22	0.22	U
79-34-5	1,1,2,2-Tetrachloroethane	1000	0.15	0.15	0.022	0.022	U
541-73-1	1,3-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
106-46-7	1,4-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
95-50-1	1,2-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	106	70-130	9/25/12 1501	

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Analyzed: 9/21/12

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: µg/m³
Basis: NA

Analysis Lot: 311203

Lab Control Sample
RQ1211334-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Chloromethane	4.63	5.11	91	70 - 130
Vinyl Chloride	5.54	6.33	88	70 - 130
Bromomethane	7.99	9.60	83	70 - 130
Chloroethane	5.53	6.46	86	70 - 130
Acetone	5.62	6.29	89	70 - 130
Trichlorofluoromethane (CFC 11)	13.2	15.0	88	70 - 130
1,1-Dichloroethene	9.28	10.0	93	70 - 130
Methylene Chloride	8.05	8.86	91	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	17.6	19.2	92	70 - 130
Carbon Disulfide	8.11	7.94	102	70 - 130
trans-1,2-Dichloroethene	9.00	10.2	88	70 - 130
1,1-Dichloroethane (1,1-DCA)	9.27	10.2	91	70 - 130
Methyl tert-Butyl Ether	8.59	9.37	92	70 - 130
Vinyl Acetate	8.04	9.24	87	70 - 130
2-Butanone (MEK)	7.24	7.81	93	70 - 130
cis-1,2-Dichloroethene	9.25	10.2	91	70 - 130
Chloroform	11.5	12.8	90	70 - 130
1,2-Dichloroethane	10.6	10.4	102	70 - 130
1,1,1-Trichloroethane (TCA)	14.1	13.8	102	70 - 130
Benzene	7.91	8.14	97	70 - 130
Carbon Tetrachloride	17.0	16.2	105	70 - 130
1,2-Dichloropropane	11.6	11.9	98	70 - 130
Bromodichloromethane	17.6	17.2	102	70 - 130
Trichloroethene (TCE)	14.5	13.8	105	70 - 130
cis-1,3-Dichloropropene	12.0	11.9	101	70 - 130
4-Methyl-2-pentanone	10.2	11.0	93	70 - 130
trans-1,3-Dichloropropene	11.1	11.0	101	70 - 130
1,1,2-Trichloroethane	14.0	14.2	99	70 - 130
Toluene	9.53	9.80	97	70 - 130
2-Hexanone	10.5	11.7	90	70 - 130
Dibromochloromethane	23.2	23.6	98	70 - 130
1,2-Dibromoethane	19.7	19.8	99	70 - 130
Tetrachloroethene (PCE)	20.3	17.5	116	70 - 130
Chlorobenzene	12.6	12.1	104	70 - 130
Ethylbenzene	11.9	11.3	105	70 - 130
m,p-Xylenes	22.7	22.1	103	70 - 130
Bromoform	30.3	26.3	115	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Analyzed: 9/21/12

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: µg/m³
Basis: NA

Analysis Lot: 311203

Analyte Name	Lab Control Sample RQ1211334-02 Result	Spike Amount	% Rec	% Rec Limits
Styrene	11.4	11.2	102	70 - 130
o-Xylene	11.7	12.3	96	70 - 130
1,1,2,2-Tetrachloroethane	17.2	19.4	89	70 - 130
1,3-Dichlorobenzene	17.1	16.2	105	70 - 130
1,4-Dichlorobenzene	16.2	15.8	103	70 - 130
1,2-Dichlorobenzene	16.2	15.8	103	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Analyzed: 9/24/12

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: µg/m³
Basis: NA

Analysis Lot: 311205

Analyte Name	Lab Control Sample RQ1211336-02 Result	Spike Amount	% Rec	% Rec Limits
Chloromethane	4.24	5.11	83	70 - 130
Vinyl Chloride	5.29	6.33	84	70 - 130
Bromomethane	8.01	9.60	83	70 - 130
Chloroethane	5.27	6.46	82	70 - 130
Acetone	5.03	6.29	80	70 - 130
Trichlorofluoromethane (CFC 11)	13.3	15.0	88	70 - 130
1,1-Dichloroethene	8.88	10.0	89	70 - 130
Methylene Chloride	7.71	8.86	87	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	17.2	19.2	90	70 - 130
Carbon Disulfide	7.83	7.94	99	70 - 130
trans-1,2-Dichloroethene	8.58	10.2	84	70 - 130
1,1-Dichloroethane (1,1-DCA)	8.74	10.2	86	70 - 130
Methyl tert-Butyl Ether	7.98	9.37	85	70 - 130
Vinyl Acetate	6.97	9.24	75	70 - 130
2-Butanone (MEK)	6.47	7.81	83	70 - 130
cis-1,2-Dichloroethene	8.87	10.2	87	70 - 130
Chloroform	11.2	12.8	87	70 - 130
1,2-Dichloroethane	10.2	10.4	98	70 - 130
1,1,1-Trichloroethane (TCA)	13.7	13.8	100	70 - 130
Benzene	7.39	8.14	91	70 - 130
Carbon Tetrachloride	16.8	16.2	104	70 - 130
1,2-Dichloropropane	10.6	11.9	89	70 - 130
Bromodichloromethane	17.2	17.2	99	70 - 130
Trichloroethene (TCE)	14.1	13.8	102	70 - 130
cis-1,3-Dichloropropene	11.2	11.9	94	70 - 130
4-Methyl-2-pentanone	9.35	11.0	85	70 - 130
trans-1,3-Dichloropropene	10.3	11.0	94	70 - 130
1,1,2-Trichloroethane	13.2	14.2	93	70 - 130
Toluene	9.01	9.80	92	70 - 130
2-Hexanone	9.76	11.7	84	70 - 130
Dibromochloromethane	22.8	23.6	97	70 - 130
1,2-Dibromoethane	18.9	19.8	95	70 - 130
Tetrachloroethene (PCE)	20.3	17.5	116	70 - 130
Chlorobenzene	11.5	12.1	96	70 - 130
Ethylbenzene	10.3	11.3	91	70 - 130
m,p-Xylenes	19.9	22.1	90	70 - 130
Bromoform	29.5	26.3	112	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Analyzed: 9/24/12

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: µg/m³
Basis: NA

Analysis Lot: 311205

Analyte Name	Lab Control Sample RQ1211336-02 Result	Spike Amount	% Rec	% Rec Limits
Styrene	10.1	11.2	90	70 - 130
o-Xylene	10.3	12.3	84	70 - 130
1,1,2,2-Tetrachloroethane	15.1	19.4	78	70 - 130
1,3-Dichlorobenzene	15.4	16.2	95	70 - 130
1,4-Dichlorobenzene	14.6	15.8	93	70 - 130
1,2-Dichlorobenzene	14.8	15.8	94	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Analyzed: 9/25/12

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: µg/m³
Basis: NA

Analysis Lot: 311206

Analyte Name	Lab Control Sample RQ1211338-02 Result	Spike Amount	% Rec	% Rec Limits
Chloromethane	4.88	5.11	95	70 - 130
Vinyl Chloride	5.79	6.33	91	70 - 130
Bromomethane	8.36	9.60	87	70 - 130
Chloroethane	5.71	6.46	88	70 - 130
Acetone	6.04	6.29	96	70 - 130
Trichlorofluoromethane (CFC 11)	14.4	15.0	96	70 - 130
1,1-Dichloroethene	9.93	10.0	99	70 - 130
Methylene Chloride	8.33	8.86	94	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	18.3	19.2	95	70 - 130
Carbon Disulfide	8.47	7.94	107	70 - 130
trans-1,2-Dichloroethene	9.77	10.2	96	70 - 130
1,1-Dichloroethane (1,1-DCA)	9.76	10.2	96	70 - 130
Methyl tert-Butyl Ether	8.86	9.37	95	70 - 130
Vinyl Acetate	8.46	9.24	92	70 - 130
2-Butanone (MEK)	7.68	7.81	98	70 - 130
cis-1,2-Dichloroethene	9.57	10.2	94	70 - 130
Chloroform	12.5	12.8	97	70 - 130
1,2-Dichloroethane	11.2	10.4	108	70 - 130
1,1,1-Trichloroethane (TCA)	14.8	13.8	107	70 - 130
Benzene	7.96	8.14	98	70 - 130
Carbon Tetrachloride	17.8	16.2	110	70 - 130
1,2-Dichloropropane	11.9	11.9	100	70 - 130
Bromodichloromethane	18.6	17.2	108	70 - 130
Trichloroethene (TCE)	14.4	13.8	104	70 - 130
cis-1,3-Dichloropropene	12.2	11.9	102	70 - 130
4-Methyl-2-pentanone	11.1	11.0	101	70 - 130
trans-1,3-Dichloropropene	11.4	11.0	103	70 - 130
1,1,2-Trichloroethane	14.2	14.2	100	70 - 130
Toluene	9.66	9.80	99	70 - 130
2-Hexanone	11.5	11.7	98	70 - 130
Dibromochloromethane	23.9	23.6	101	70 - 130
1,2-Dibromoethane	19.8	19.8	100	70 - 130
Tetrachloroethene (PCE)	20.2	17.5	116	70 - 130
Chlorobenzene	12.0	12.1	99	70 - 130
Ethylbenzene	11.0	11.3	98	70 - 130
m,p-Xylenes	21.2	22.1	96	70 - 130
Bromoform	29.9	26.3	114	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Energy Solutions
Project: Leica Airs 9/17,19/12
Sample Matrix: Air

Service Request: R1206262
Date Analyzed: 9/25/12

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: µg/m³
Basis: NA

Analysis Lot: 311206

Analyte Name	Lab Control Sample RQ1211338-02 Result	Spike Amount	% Rec	% Rec Limits
Styrene	10.6	11.2	94	70 - 130
o-Xylene	11.1	12.3	90	70 - 130
1,1,2,2-Tetrachloroethane	16.7	19.4	86	70 - 130
1,3-Dichlorobenzene	16.1	16.2	99	70 - 130
1,4-Dichlorobenzene	15.3	15.8	97	70 - 130
1,2-Dichlorobenzene	15.3	15.8	97	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Columbia Analytical Services™

CHAIN OF CUSTODY - AIR

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623 | 585.288.5380 | 585.288.8475 (fax) | www.caslab.com

PAGE _____ OF _____

Requested Turnaround Time in Business Days from Receipt, please circle:
1 Day 2 Day 3 Day 4 Day 5 Day (10 Day-Standard)

CAS Project #:

Company Name: Energy Solutions
Project Name: Leica
CAS Contact:
Address: 100 Mill Plain Rd
Project Number: 137015
City, State, Zip: Danbury CT 06811
P.O. #/Billing Information:
Project Manager: Bob McPeak
Phone: 801 303 1092
Fax:
Email (for result reporting): RMcPeak@EnergySolutions.com
Sampler (Print & Sign): DAN SUPIKA

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID	Flow Controller ID	Flow Controller ON / off	Analysis Method and/or Analytes: TO-15				Comments / Specific Instructions
SS-30min-036	-001	9/19/12	0900	SLC00248	FC00729	29" / 7"	X				30 min sample
SS-30min-032	-002	9/19/12	0945	SLC00264	FC00747	21" / 6"	X				"
SS-30min-033	-003	9/19/12	0910	SLC00209	FC00713	28" / 2"	X				"
SS-30min-034	-004	9/19/12	0915	SLC00218	FC00739	29.5" / 45"	X				"

What State were samples collected in:

Report Tier Levels - please select:
Tier I (Results/Default, if not specified) ___ Tier III (CLP Forms Only) ___
Tier II (Results + QC) ___ Tier IV (Data Validation) ___

EDD required: (YES) NO
Type: _____ EDD Units: _____

Project Requirements (MRLs, QAPP, etc.)

R1206262 5
Energy Solutions, Inc.
Leica Airs 9/17,19/12

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	9/19/12	1635		9/19/12	1635
Relinquished by: (Signature)	9-19-12	1215	Received by: (Signature)	9/19/12	1215
Relinquished by: (Signature)	Date:	Time	Received by: (Signature)	Date:	Time:

COC AIR REV 7-11

Columbia Analytical Services™

CHAIN OF CUSTODY - AIR

PAGE _____ OF _____

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Requested Turnaround Time in Business Days from Receipt, please circle:
1 Day 2 Day 3 Day 4 Day 5 Day (10 Day-Standard)

CAS Project #:

Company Name: Energy Solutions
Project Name: Leica
CAS Contact: KAREN BUNKER
Address: 100 mill Plain Rd
Project Number: 137015
City, State, Zip: DANBURY CT 06811
P.O. #/Billing Information:
Project Manager: Bob McPeak
Phone: 801 383 1092
Fax:
Email (for result reporting): RMcPeak@energysolutions.com
Sampler (Print & Sign): DAN SCYWKA

Analysis Method and/or Analytes

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID	Flow Controller ID	on/off	TO-15	Helium			Comments Specific Instructions
SS-8hr-040	-005	9/17/12	1030	SLC00263	FC00759	29.5/5	X	X			
AA-8hr-040	-006	9/17/12	1028	SLC00242	FC00823	28/6	X	X			
SS-8hr-041	-007	9/17/12	1038	SLC00239	FC00830	28/8.5	X	X			all shut off @ 1845 9/17
AA-8hr-041	-008	9/17/12	1040	SLC00219	FC00749	29.5/8.5	X				
SS-8hr-041 dup	-009	9/17/12	1038	SLC00261	FC00825	26.5/6.5	X	X			
SS-8hr-037	-010	9/17/12	1120	SLC00178	FC00863	29.5/4.5	X				off @ 1900 9/17

What State were samples collected in:

Report Tier Levels - please select:
Tier I (Results/Default, if not specified) ___
Tier II (Results + QC) ___
Tier III (CLP Forms Only) ___
Tier IV (Data Validation) ___

EDD required: (YES) / NO
Type: _____ EDD Units: _____

Project Requirements (MRLs, QAPP, etc.)

R1206262 5
Energy Solutions, Inc.
Leica Airs 9/17,19/12

Relinquished by: (Signature)	Date:	Time	Received by: (Signature)	Date:	Time
	9/19/12	1035		9-19-12	1035
Relinquished by: (Signature)	Date:	Time	Received by: (Signature)	Date:	Time
	9-19-12	1215		9/19/12	1215
Relinquished by: (Signature)	Date:	Time	Received by: (Signature)	Date:	Time

COC AIR REV 7-11

ALS

Cooler Receipt and Preservation

R1206262 5
Energy Solutions, Inc.
Leica Airs 9/17,19/12

Project/Client Leica Folder Number

Cooler received on 9/19/12 by: [illegible] COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? ALS/ROC, CLIENT
7. Temperature of cooler(s) upon receipt: AIR ____ ____ ____ ____

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: AIR

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition &Client Approval to Run Samples:

All Samples held in storage location SMO by [illegible] on 9/19/12 at 1227
5035 samples placed in storage location ____ by ____ on ____ at ____

PC Secondary Review 9/19/12 KB

Cooler Breakdown: Date : ____ Time: ____ by: ____

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: ____

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3								
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)					
	$Na_2S_2O_3$	-	-						
	Zn Aceta	-	-						
	HCl	*	*						

*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: ____

Bottle lot numbers: ____

Other Comments:

PC Secondary Review: KB 10/8/12

*significant air bubbles: VOA > 5-6 mm . WC >1 in. diameter

H:\SMODOCS\Cooler Receipt 5.doc

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CHAIN OF CUSTODY - AIR

PAGE 1 OF 1

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Requested Turnaround Time in Business Days from Receipt, please circle:
1 Day 2 Day 3 Day 4 Day 5 Day (10 Day-Standard)

CAS Project #:

Company Name: Energy Solutions
Project Name: Leica
CAS Contact: KAREN BUNKER
Address: 100 Mill Plain Rd
Project Number: 137015
City, State, Zip: DANBURY CT 06811
P.O. #/Billing Information:
Project Manager: Bob McPeak
Phone: 8013031092
Fax:
Email (for result reporting): RMcPeak@energysolutions.com
Sampler (Print & Sign): Dan Szymka

Analysis Method and/or Analytes

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID	Flow Controller ID	"Hg in/out	TO-15	Helium			Comments / Specific Instructions
SS-8hr-045	-011	9/19/12	1025	~~SLC00260~~	~~FC00750~~	28/8	X	X			SLC00258 FC00829
AA-8hr-045	-012		1030	SLC00265	FC00750	29/10	X				
AA-8hr-042	-013		1100	SLC00257	FC00710	30/10	X				
SS-8hr-042	-014		1115	SLC00260	FC00719	29.5/9	X	X			
SS-30 min-035	-015		1600	~~SLC00173~~	~~FC00858~~	30/5	X				SLC00217 FC00718
SS-30 min-037	-016		1725	SLC00221	FC00843	28/3	X				
SS-8hr-038	-017	9/20/12	0915	SLC00173	FC00858	28.5/7	X				Batch cert
SS-8hr-039	-018		0935	SLC00189	FC00844	30/8	X				Batch cert
SS-8hr-043	-019		0745	SLC00262	FC00850	29/8	X	X			
~~AA~~-8hr-043	-020		0750	SLC00264	FC00853	29/10	X				
SS-8hr-044	-021		0820	SLC00256	FC00822	29/9	X	X			
AA-8hr-044	-022		0825	SLC00259	FC00758	28/10	X				

What State were samples collected in: NY

Report Tier Levels - please select:
Tier I (Results/Default, if not specified) ___ Tier III (CLP Forms Only) ___
Tier II (Results + QC) ___ Tier IV (Data Validation) ___

EDD required: YES / NO
Type: _____ EDD Units: _____

Project Requirements (MRLs, QAPP, etc.)

Relinquished by: (Signature)	Date:	Time	Received by: (Signature)	Date:	Time
	9/21/12	11:30		9-21-12	1130
Relinquished by: (Signature)	Date:	Time	Received by: (Signature)	Date:	Time:
	9-21-12	1245			
Relinquished by: (Signature)	Date:	Time	Received by: (Signature)	Date:	Time:
				9-21-12	12:45

R1206262 5
Energy Solutions, Inc.
Leica Airs 9/17,19/12

COC AIR REV 7-11

Cooler Receipt and Preservation

R1206262 5

Energy Solutions, Inc.
Leica Airs 9/17,19/12

Project/Client Energy Solutions Folder Numbe

Cooler received on 9-21-12 by: ME COURIER: (ALS) UPS FEDEX VELOCITY CLIENT

1.	Were custody seals on outside of cooler?	YES	(NO)
2.	Were custody papers properly filled out (ink, signed, etc.)?	(YES)	NO
3.	Did all bottles arrive in good condition (unbroken)?	(YES)	NO
4.	Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles?	YES	NO (N/A)
5.	Were Ice or Ice packs present?	YES	(NO)
6.	Where did the bottles originate?		(ALS/ROC), CLIENT
7.	Temperature of cooler(s) upon receipt:	Aircanisters	

Is the temperature within 0° - 6° C?:	Yes (NA)	Yes	Yes	Yes	Yes
If No, Explain Below	No	No	No	No	No

Date/Time Temperatures Taken: NA – Air Samples

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition &Client Approval to Run Samples:

All Samples held in storage location NA-Air by _____ on _____ at _____
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: KB 9/21/12

Cooler Breakdown: Date: 9/21/12 Time: 1449 by: AHH

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
2.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
3.	Were correct containers used for the tests indicated?	(YES)	NO
4.	Air Samples: Cassettes / Tubes Intact (Canisters Pressurized)	Tedlar® Bags Inflated	N/A

Explain any discrepancies: _____

pH	Reagent	YES	NO	Lot Received **	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3								
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)					
	$Na_2S_2O_3$	-	-						
	Zn Aceta	-	-						
	HCl	*	*						

*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

Bottle lot numbers: _____
Other Comments:

PC Secondary Review: KB 10/5/12

*significant air bubbles: VOA > 5-6 mm ; WC >1 in. diameter

H:\SMODOCS\Cooler Receipt 5.doc

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LABORATORY REPORT

October 4, 2012

Robert McPeak
Energy Solutions, Inc.
100 Mill Plain Rd 2nd Floor Mailbox 106
Danbury, CT 06811

RE: Leica Airs 9/17,19/12

Dear Robert:

Enclosed are the results of the samples submitted to our laboratory on September 19, 2012. For your reference, these analyses have been assigned our service request number R1206262.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA200007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L11-203; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-12-3; Minnesota Department of Health, NELAP Certificate No. 362188; Washington State Department of Ecology, ELAP Lab ID: C946, State of Utah Department of Health, NELAP Certificate No. CA01527Z012-Z; Los Angeles Department of Building and Safety, Approval No: TA00001. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Aguilera
Project Manager

Client: Energy Solutions, Inc. Service Request No: R1206262
Project: Leica Airs 9/17,19/12

CASE NARRATIVE

The samples were received intact under chain of custody on September 19, 2012 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Helium Analysis

The samples were analyzed for helium according to modified EPA Method 3C (single injection) using a gas chromatograph equipped with a thermal conductivity detector (TCD).

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of Columbia Analytical Services, Inc. dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to AALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Intra-Network Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

ALS Contact: Karen Bunker

Project Name: Leica Airs 9/17,19/12
Project Number:
Project Manager: Robert McPeak
Company: Energy Solutions, Inc

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	Helium Can 3C Modified	Rochester Pi (Hg)	Rochester Pf (PSI)	Canister Pressure Shipped to Simi Valley (PSI)
R1206262-005	SS-8HR-040	1	Air	9/17/12	1030	9/19/12	SIMIVALLEY	II	-6.30	3.50	3.14
R1206262-007	SS-8HR-041	1	Air	9/17/12	1038	9/19/12	SIMIVALLEY	II	-8.50	3.47	3.17
R1206262-009	SS-8HR-41 DUP	1	Air	9/17/12	1038	9/19/12	SIMIVALLEY	II	-8.00	4.93	4.63
R1206262-011	SS-8HR-045	1	Air	9/19/12	1025	9/21/12	SIMIVALLEY	II	-9.00	3.51	3.31
R1206262-014	SS-8HR-042	1	Air	9/19/12	1115	9/21/12	SIMIVALLEY	II	-8.90	3.49	3.21
R1206262-019	SS-8HR-043	1	Air	9/20/12	0745	9/21/12	SIMIVALLEY	II	-7.20	3.52	3.11
R1206262-021	SS-8HR-044	1	Air	9/20/12	0820	9/21/12	SIMIVALLEY	II	-10.80	3.54	3.14

Folder Comments:
some cans require Helium analysis after TO-15 - must send them to Simi afterwards

Special Instructions/Comments

Helium analysis only!
ATTN: Kate Aguilera

-please return canisters to Rochester when finished

Turnaround Requirements

____ RUSH (Surcharges Apply)

PLEASE CIRCLE WORK DAYS
1 2 3 4 5

____ STANDARD

Requested FAX Date: _____

Requested Report Date: 10/05/12

Report Requirements

____ I. Results Only

____ II. Results + QC Summaries

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

PQL/MDL/J N
EDD N

Invoice Information

PO# R1206262

Bill to

Relinquished By: Rod Herring 9/26/12

Received By: [signature] 9/27/12 1010

Airbill Number: _____

Intra-Network Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

ALS Contact: Karen Bunker

Project Name: Leica Airs 9/17,19/12
Project Number:
Project Manager: Robert McPeak
Company: Energy Solutions, Inc

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To

Ship To: SIMIVALLEY

Columbia Analytical Services, Inc.
2655 Park Center Drive, Suite A
Simi Valley CA, 93065

Attn: Kate Aguilera

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
He only -	____RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 ____STANDARD Requested FAX Date: _____ Requested Report Date: 10/05/12	____ I. Results Only ____ II. Results + QC Summaries ____ III. Results + QC and Calibration Summaries ____ IV. Data Validation Report with Raw Data PQL/MDL/J N EDD N	PO# R1206262 Bill to

Relinquished By: Rod Herring 9/26/12 Received By: 1070 Airbill Number: _____

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Sample Acceptance Check Form

Client: Energy Solutions, Inc. Work order: R1206262
Project: Leica Airs 9/17,19/12
Sample(s) received on: 9/28/12 Date opened: 9/28/12 by: MZAMORA

Note: This form is used forall samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
9	Was a **trip blank** received?	☐	☒	☐
10	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
12	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
R1206262-005.02	6.0 L Source Can					
R1206262-007.02	6.0 L Source Can					
R1206262-009.02	6.0 L Source Can					
R1206262-011.02	6.0 L Source Can					
R1206262-014.02	6.0 L Source Can					
R1206262-019.02	6.0 L Source Can					
R1206262-021.02	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

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RESULTS OF ANALYSIS

Client: **Energy Solutions, Inc.**
Client Project ID: **Leica Airs 9/17,19/12**

CAS Project ID: R1206262

Helium

Test Code: EPA 3C Modified
Instrument ID: HP5890 II/GC8/TCD
Analyst: Wade Henton
Sampling Media: 6.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 9/17 - 9/20/12
Date Received: 9/19 - 9/21/12
Date Analyzed: 10/2/12

Client Sample ID	CAS Sample ID	Injection Volume ml(s)	Canister Dilution Factor	Result ppmV	MRL ppmV	Data Qualifier
SS-8HR-040	R1206262-005	0.10	1.57	**110,000**	390	
SS-8HR-041	R1206262-007	0.50	1.73	**39,000**	87	
SS-8HR-41 DUP	R1206262-009	0.50	1.82	**41,000**	91	
SS-8HR-045	R1206262-011	0.50	1.77	**18,000**	89	
SS-8HR-042	R1206262-014	0.50	1.76	**30,000**	88	
SS-8HR-043	R1206262-019	0.020	1.63	**490,000**	2,000	
SS-8HR-044	R1206262-021	0.50	1.94	**48,000**	97	
Method Blank	P121002-MB	1.00	1.00	ND	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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LABORATORY CONTROL SAMPLE SUMMARY

Client: **Energy Solutions, Inc.**
Client Sample ID: **Lab Control Sample**
Client Project ID: **Leica Airs 9/17,19/12**

CAS Project ID: R1206262
CAS Sample ID: P121002-LCS

Test Code: EPA 3C Modified
Instrument ID: HP5890 II/GC8/TCD
Analyst: Wade Henton
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 10/02/12
Volume(s) Analyzed: NA ml(s)

CAS #	Compound	Spike Amount ppmV	**Result ppmV**	**% Recovery**	CAS Acceptance Limits	Data Qualifier
7440-59-7	Helium	10,000	**10,700**	**107**	70-132	

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LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Energy Solutions, Inc.**
Client Sample ID: **SS-8HR-043**
Client Project ID: **Leica Airs 9/17,19/12**

CAS Project ID: R1206262
CAS Sample ID: R1206262-019DUP

Test Code: EPA 3C Modified
Instrument ID: HP5890 II/GC8/TCD
Analyst: Wade Henton
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SLC00264

Date Collected: 9/20/12
Date Received: 9/21/12
Date Analyzed: 10/2/12
Volume(s) Analyzed: 0.020 ml(s)

Initial Pressure (psig): -3.54 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.63

CAS #	Compound	Sample Result ppmV	Duplicate Sample Result ppmV	Average	% RPD	RPD Limit	Data Qualifier
7440-59-7	Helium	**492,000**	**474,000**	483000	**4**	23	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

November 16, 2012

Service Request No: R1207489

Mr. Robert McPeak
Energy Solutions, Inc.
100 Mill Plain Rd
2nd Floor Mailbox 106
Danbury, CT 06811

Laboratory Results for: Leica/Wells

Dear Mr. McPeak:

Enclosed are the results of the sample(s) submitted to our laboratory on November 1, 2012. For your reference, these analyses have been assigned our service request number **R1207489**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7471. You may also contact me via email at Karen.Bunker@alsglobal.com.

Respectfully submitted,

Columbia Analytical Services, Inc. dba ALS Environmental

Karen Bunker
Project Manager

Columbia Analytical Services

ADDRESS 1565 Jefferson Rd, Building 300, Suite 360, Rochester, NY 14623
PHONE 585-288-5380 | FAX 585-288-8475
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RIGHT SOLUTIONS RIGHT PARTNER

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Energy Solutions	**Service Request No.:**	R1207489
Project:	Leica	**Date Received:**	11/1/12
Sample Matrix:	Water		

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses.

Sample Receipt

Two (2) samples were collected by the client on 10/31/12 and received for analysis at ALS/Columbia Analytical Services on 11/1/12 via CAS Courier.

Volatile Organics

Two (2) water samples were analyzed for Volatile Organic compounds by GC/MS method 8260C.

The Initial and Continuing Calibration criteria were met except for the CCV %D for Bromomethane on the 11/7/12 run. Any hits for this compound associated with this CCV should be considered as estimated.

Batch QC is included in the report. All Laboratory Control Sample (LCS) and LCS Duplicate (LCSD) recoveries for target compounds were within QC limits. All Relative Percent Difference (RPD) calculations were acceptable.

All Surrogate recoveries are within acceptance limits.

Hits above the Calibration range of the standards are flagged as "E", estimated. The sample is then repeated at the appropriate dilution for the hit. Both sets of data are included in the report. The subsequent hits on the dilution are flagged as "D".

The Laboratory Method Blanks were free from contamination.

No other problems were encountered during the analysis of these samples.

Approved by Karen Burnhee **Date** 11/14/12

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1207489

Lab ID	Client ID
R1207489-001	INT-12
R1207489-002	INT-13

ALS Environmental

REPORT QUALIFIERS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.

ACCREDITED IN ACCORDANCE WITH nelac

Rochester Lab ID # for State Certifications[1]

NELAP Accredited	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Connecticut ID # PH0556	Nebraska Accredited	
Delaware Accredited	Nevada ID # NY-00032	North Carolina #676
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047		Virginia #460167

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to http://alsglobal.com/environmental/laboratories/rochester-environmental-lab.aspx

Client:	Energy Solutions	**Service Request:**	R1207489
Project:	Leica/Wells	**Date Collected:**	10/31/12 1100
Sample Matrix:	Water	**Date Received:**	11/ 1/12
		Date Analyzed:	11/7/12 14:21
Sample Name:	INT-12	**Units:**	µg/L
Lab Code:	R1207489-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	317377
Data File Name:	I:\ACQUDATA\MSVOA6\DATA\110712\Z4171.D\	**Instrument Name:**	R-MS-06
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	100	U	100	
71-43-2	Benzene	50	U	50	
75-27-4	Bromodichloromethane	50	U	50	
75-25-2	Bromoform	50	U	50	
74-83-9	Bromomethane	50	U	50	
78-93-3	2-Butanone (MEK)	100	U	100	
75-15-0	Carbon Disulfide	100	U	100	
56-23-5	Carbon Tetrachloride	50	U	50	
108-90-7	Chlorobenzene	50	U	50	
75-00-3	Chloroethane	50	U	50	
67-66-3	Chloroform	50	U	50	
74-87-3	Chloromethane	50	U	50	
124-48-1	Dibromochloromethane	50	U	50	
75-34-3	1,1-Dichloroethane	190		50	
107-06-2	1,2-Dichloroethane	50	U	50	
75-35-4	1,1-Dichloroethene	50	U	50	
156-59-2	cis-1,2-Dichloroethene	820		50	
156-60-5	trans-1,2-Dichloroethene	50	U	50	
78-87-5	1,2-Dichloropropane	50	U	50	
10061-01-5	cis-1,3-Dichloropropene	50	U	50	
10061-02-6	trans-1,3-Dichloropropene	50	U	50	
100-41-4	Ethylbenzene	50	U	50	
591-78-6	2-Hexanone	100	U	100	
75-09-2	Methylene Chloride	50	U	50	
108-10-1	4-Methyl-2-pentanone (MIBK)	100	U	100	
100-42-5	Styrene	50	U	50	
79-34-5	1,1,2,2-Tetrachloroethane	50	U	50	
127-18-4	Tetrachloroethene	50	U	50	
108-88-3	Toluene	50	U	50	
71-55-6	1,1,1-Trichloroethane	50	U	50	
79-00-5	1,1,2-Trichloroethane	50	U	50	
79-01-6	Trichloroethene	2400	E	50	
75-01-4	Vinyl Chloride	50	U	50	
95-47-6	o-Xylene	50	U	50	
179601-23-1	m,p-Xylenes	50	U	50	

Client:	Energy Solutions	**Service Request:**	R1207489
Project:	Leica/Wells	**Date Collected:**	10/31/12 1100
Sample Matrix:	Water	**Date Received:**	11/ 1/12
		Date Analyzed:	11/7/12 14:21
Sample Name:	INT-12	**Units:**	µg/L
Lab Code:	R1207489-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	317377
Data File Name:	I:\ACQUDATA\MSVOA6\DATA\110712\Z4171.D\	**Instrument Name:**	R-MS-06
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85-122	11/7/12 14:21	
Toluene-d8	97	87-121	11/7/12 14:21	
Dibromofluoromethane	107	89-119	11/7/12 14:21	

Client:	Energy Solutions	**Service Request:**	R1207489
Project:	Leica/Wells	**Date Collected:**	10/31/12 1100
Sample Matrix:	Water	**Date Received:**	11/ 1/12
		Date Analyzed:	11/7/12 14:59
Sample Name:	INT-12	**Units:**	µg/L
Lab Code:	R1207489-001	**Basis:**	NA
Run Type:	Dilution		

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	317377
Data File Name:	I:\ACQUDATA\MSVOA6\DATA\110712\Z4172.D\	**Instrument Name:**	R-MS-06
		Dilution Factor:	20

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	200	U	200	
71-43-2	Benzene	100	U	100	
75-27-4	Bromodichloromethane	100	U	100	
75-25-2	Bromoform	100	U	100	
74-83-9	Bromomethane	100	U	100	
78-93-3	2-Butanone (MEK)	200	U	200	
75-15-0	Carbon Disulfide	200	U	200	
56-23-5	Carbon Tetrachloride	100	U	100	
108-90-7	Chlorobenzene	100	U	100	
75-00-3	Chloroethane	100	U	100	
67-66-3	Chloroform	100	U	100	
74-87-3	Chloromethane	100	U	100	
124-48-1	Dibromochloromethane	100	U	100	
75-34-3	1,1-Dichloroethane	**200**	D	100	
107-06-2	1,2-Dichloroethane	100	U	100	
75-35-4	1,1-Dichloroethene	100	U	100	
156-59-2	cis-1,2-Dichloroethene	**810**	D	100	
156-60-5	trans-1,2-Dichloroethene	100	U	100	
78-87-5	1,2-Dichloropropane	100	U	100	
10061-01-5	cis-1,3-Dichloropropene	100	U	100	
10061-02-6	trans-1,3-Dichloropropene	100	U	100	
100-41-4	Ethylbenzene	100	U	100	
591-78-6	2-Hexanone	200	U	200	
75-09-2	Methylene Chloride	100	U	100	
108-10-1	4-Methyl-2-pentanone (MIBK)	200	U	200	
100-42-5	Styrene	100	U	100	
79-34-5	1,1,2,2-Tetrachloroethane	100	U	100	
127-18-4	Tetrachloroethene	100	U	100	
108-88-3	Toluene	100	U	100	
71-55-6	1,1,1-Trichloroethane	100	U	100	
79-00-5	1,1,2-Trichloroethane	100	U	100	
79-01-6	Trichloroethene	**2400**	D	100	
75-01-4	Vinyl Chloride	100	U	100	
95-47-6	o-Xylene	100	U	100	
179601-23-1	m,p-Xylenes	100	U	100	

Client:	Energy Solutions	**Service Request:**	R1207489
Project:	Leica/Wells	**Date Collected:**	10/31/12 1100
Sample Matrix:	Water	**Date Received:**	11/ 1/12
		Date Analyzed:	11/7/12 14:59
Sample Name:	INT-12	**Units:**	µg/L
Lab Code:	R1207489-001	**Basis:**	NA
Run Type:	Dilution		

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	317377
Data File Name:	I:\ACQUDATA\MSVOA6\DATA\110712\Z4172.D\	**Instrument Name:**	R-MS-06
		Dilution Factor:	20

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	11/7/12 14:59	
Toluene-d8	96	87-121	11/7/12 14:59	
Dibromofluoromethane	99	89-119	11/7/12 14:59	

Client: Energy Solutions
Project: Leica/Wells
Sample Matrix: Water

Service Request: R1207489
Date Collected: 10/31/12 1130
Date Received: 11/ 1/12
Date Analyzed: 11/7/12 13:15

Sample Name: INT-13
Lab Code: R1207489-002

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA6\DATA\110712\Z4169.D\

Analysis Lot: 317377
Instrument Name: R-MS-06
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	**69**		5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	**11**		5.0	
156-59-2	cis-1,2-Dichloroethene	**49**		5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	**25**		5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	**220**	E	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Client:	Energy Solutions	**Service Request:**	R1207489
Project:	Leica/Wells	**Date Collected:**	10/31/12 1130
Sample Matrix:	Water	**Date Received:**	11/ 1/12
		Date Analyzed:	11/7/12 13:15
Sample Name:	INT-13	**Units:**	µg/L
Lab Code:	R1207489-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	317377
Data File Name:	I:\ACQUDATA\MSVOA6\DATA\110712\Z4169.D\	**Instrument Name:**	R-MS-06
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	11/7/12 13:15	
Toluene-d8	99	87-121	11/7/12 13:15	
Dibromofluoromethane	103	89-119	11/7/12 13:15	

Client:	Energy Solutions	**Service Request:**	R1207489
Project:	Leica/Wells	**Date Collected:**	10/31/12 1130
Sample Matrix:	Water	**Date Received:**	11/ 1/12
		Date Analyzed:	11/7/12 13:46
Sample Name:	INT-13	**Units:**	µg/L
Lab Code:	R1207489-002	**Basis:**	NA
Run Type:	Dilution		

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	317377
Data File Name:	I:\ACQUDATA\MSVOA6\DATA\110712\Z4170.D\	**Instrument Name:**	R-MS-06
		Dilution Factor:	2

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	10	U	10	
75-27-4	Bromodichloromethane	10	U	10	
75-25-2	Bromoform	10	U	10	
74-83-9	Bromomethane	10	U	10	
78-93-3	2-Butanone (MEK)	20	U	20	
75-15-0	Carbon Disulfide	20	U	20	
56-23-5	Carbon Tetrachloride	10	U	10	
108-90-7	Chlorobenzene	10	U	10	
75-00-3	Chloroethane	10	U	10	
67-66-3	Chloroform	10	U	10	
74-87-3	Chloromethane	10	U	10	
124-48-1	Dibromochloromethane	10	U	10	
75-34-3	1,1-Dichloroethane	**66**	D	10	
107-06-2	1,2-Dichloroethane	10	U	10	
75-35-4	1,1-Dichloroethene	**10**	D	10	
156-59-2	cis-1,2-Dichloroethene	**44**	D	10	
156-60-5	trans-1,2-Dichloroethene	10	U	10	
78-87-5	1,2-Dichloropropane	10	U	10	
10061-01-5	cis-1,3-Dichloropropene	10	U	10	
10061-02-6	trans-1,3-Dichloropropene	10	U	10	
100-41-4	Ethylbenzene	10	U	10	
591-78-6	2-Hexanone	20	U	20	
75-09-2	Methylene Chloride	10	U	10	
108-10-1	4-Methyl-2-pentanone (MIBK)	20	U	20	
100-42-5	Styrene	10	U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10	U	10	
127-18-4	Tetrachloroethene	10	U	10	
108-88-3	Toluene	10	U	10	
71-55-6	1,1,1-Trichloroethane	**23**	D	10	
79-00-5	1,1,2-Trichloroethane	10	U	10	
79-01-6	Trichloroethene	**210**	D	10	
75-01-4	Vinyl Chloride	10	U	10	
95-47-6	o-Xylene	10	U	10	
179601-23-1	m,p-Xylenes	10	U	10	

Client:	Energy Solutions	**Service Request:**	R1207489
Project:	Leica/Wells	**Date Collected:**	10/31/12 1130
Sample Matrix:	Water	**Date Received:**	11/ 1/12
		Date Analyzed:	11/7/12 13:46
Sample Name:	INT-13	**Units:**	µg/L
Lab Code:	R1207489-002	**Basis:**	NA
Run Type:	Dilution		

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	317377
Data File Name:	I:\ACQUDATA\MSVOA6\DATA\110712\Z4170.D\	**Instrument Name:**	R-MS-06
		Dilution Factor:	2

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	85-122	11/7/12 13:46	
Toluene-d8	99	87-121	11/7/12 13:46	
Dibromofluoromethane	103	89-119	11/7/12 13:46	

Client:	Energy Solutions	**Service Request:**	R1207489
Project:	Leica/Wells	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	11/7/12 12:11
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1213517-03	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	317377
Data File Name:	I:\ACQUDATA\MSVOA6\DATA\110712\Z4167.D\	**Instrument Name:**	R-MS-06
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Client:	Energy Solutions	**Service Request:**	R1207489
Project:	Leica/Wells	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	11/7/12 12:11
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1213517-03	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	317377
Data File Name:	I:\ACQUDATA\MSVOA6\DATA\110712\Z4167.D\	**Instrument Name:**	R-MS-06
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	11/7/12 12:11	
Toluene-d8	99	87-121	11/7/12 12:11	
Dibromofluoromethane	105	89-119	11/7/12 12:11	

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Energy Solutions
Project: Leica/Wells
Sample Matrix: Water

Service Request: R1207489
Date Analyzed: 11/ 7/12

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 317377

Analyte Name	Lab Control Sample RQ1213517-04 Result	Spike Amount	% Rec	% Rec Limits
Acetone	19.7	20.0	98	64 - 133
Benzene	19.8	20.0	99	78 - 118
Bromodichloromethane	22.1	20.0	110	79 - 123
Bromoform	22.2	20.0	111	69 - 126
Bromomethane	13.6	20.0	68	49 - 124
2-Butanone (MEK)	15.4	20.0	77	60 - 133
Carbon Disulfide	19.0	20.0	95	67 - 138
Carbon Tetrachloride	22.4	20.0	112	64 - 129
Chlorobenzene	20.8	20.0	104	80 - 121
Chloroethane	17.9	20.0	90	72 - 130
Chloroform	21.0	20.0	105	75 - 123
Chloromethane	18.3	20.0	92	55 - 139
Dibromochloromethane	22.1	20.0	110	78 - 127
1,1-Dichloroethane	19.9	20.0	100	76 - 124
1,2-Dichloroethane	22.1	20.0	111	72 - 130
1,1-Dichloroethene	21.9	20.0	110	67 - 119
cis-1,2-Dichloroethene	19.9	20.0	99	77 - 123
trans-1,2-Dichloroethene	19.3	20.0	97	72 - 120
1,2-Dichloropropane	19.1	20.0	96	83 - 119
cis-1,3-Dichloropropene	19.4	20.0	97	77 - 125
trans-1,3-Dichloropropene	21.1	20.0	105	69 - 127
Ethylbenzene	20.4	20.0	102	75 - 123
2-Hexanone	18.6	20.0	93	61 - 131
Methylene Chloride	19.8	20.0	99	73 - 122
4-Methyl-2-pentanone (MIBK)	18.7	20.0	94	61 - 132
Styrene	20.9	20.0	104	80 - 121
1,1,2,2-Tetrachloroethane	21.3	20.0	107	72 - 124
Tetrachloroethene	21.6	20.0	108	71 - 127
Toluene	21.2	20.0	106	77 - 120
1,1,1-Trichloroethane	21.6	20.0	108	67 - 121
1,1,2-Trichloroethane	22.3	20.0	111	81 - 117
Trichloroethene	21.1	20.0	105	75 - 122

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Energy Solutions
Project: Leica/Wells
Sample Matrix: Water

Service Request: R1207489
Date Analyzed: 11/ 7/12

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 317377

Analyte Name	Lab Control Sample RQ1213517-04 Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	20.5	20.0	103	68 - 139
o-Xylene	20.5	20.0	102	77 - 131
m,p-Xylenes	42.0	40.0	105	77 - 124

Results flagged with an asterisk (*) indicate values outside control criteria.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 3520

ALS Environmental

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: Leica	Project Number:
Project Manager: Bob McPeak	Report CC:
Company/Address: EnergySolutions, 100 Mill Plain Rd, Danbury, CT. 06811	
Phone #: 801-303-1092	Email: RMcPeak@energysolutions.com
Sampler's Signature: Wayne DeGolier	Sampler's Printed Name: Wayne DeGolier

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ◦ 8260 ◦ 624 ◦ CLP	GC/MS SVOAs ◦ 8270 ◦ 625	GC VOAs ◦ 8021 ◦ 601/602	PESTICIDES ◦ 8081 ◦ 608	PCBs ◦ 8082 ◦ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
INT-12	-001	10/31/12	11:00	H_2O	1	✓							Some Sediment 1st Vial For each well was clear. Waited about 2hr For recovery To get all Three Vials For each Well
INT-13	-002	10/31/12	11:30	H_2O	1	✓							

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other ICE

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED NY

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day ____ 5 day
Regular
REQUESTED REPORT DATE

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with
Edata ____ Yes ____

INVOICE INFORMATION
PO #
BILL TO:

R1207489 5
Energy Solutions, Inc.
Leica

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	
Signature: Wayne DeGolier	Signature:	Signature:	Signature: Amy Hentschke	Signature	Signature
Printed Name: Wayne DeGolier	Printed Name: Pat Bennett	Printed Name: Pat Bennett	Printed Name: Amy Hentschke	Printed Name	Printed Name
Firm: EnviroSite	Firm: ALS	Firm: ALS	Firm: ALS	Firm	Firm
Date/Time: 11/1/12 12:00	Date/Time: 11-1-12 1200	Date/Time: 11-1-12 1525	Date/Time: 11/1/12 1525	Date/Time	Date/Time

Distribution: White - Lab Copy; Yellow - Return to Originator

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Cooler Receipt and Preservation Check Form

Project/Client Leica Folder Number R12-7489

Cooler received on 11/1/12 by: [illegible] COURIER: (ALS) UPS FEDEX VELOCITY CLIENT

1.	Were custody seals on outside of cooler?	YES	(NO)			
2.	Were custody papers properly filled out (ink, signed, etc.)?	(YES)	NO			
3.	Did all bottles arrive in good condition (unbroken)?	(YES)	NO			
4.	Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles?	(YES)*	NO	N/A		
5.	Were **Ice** or **Ice packs** present?	(YES)	NO			
6.	Where did the bottles originate?	(ALS/ROC)	CLIENT			
7.	Temperature of cooler(s) upon receipt:	0.2°				
	Is the temperature within 0° - 6° C?:	(Yes)	Yes	Yes	Yes	Yes
	If No, Explain Below	No	No	No	No	No

Date/Time Temperatures Taken: 11/1/12 1541

Thermometer ID (IR GUN#3) / IR GUN#4 Reading From: (Temp Blank) / Sample Bottle

If out of Temperature, note packing/ice condition &Client Approval to Run Samples:

All Samples held in storage location R-002 by [illegible] on 11/1/12 at 1547
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: [illegible]

Cooler Breakdown: Date: 11/1/12 Time: 2000 by: [illegible]

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
2.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
3.	Were correct containers used for the tests indicated?	(YES)	NO
4.	Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated		(N/A)

Explain any discrepancies: _____

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3								
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)					
	$Na_2S_2O_3$	-	-						
	Zn Aceta	-	-						
	HCl	*	*	411160	8/13				

*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

Bottle lot numbers: Z-143-001

Other Comments:

2 vials for TB w/ bubbles

PC Secondary Review: [illegible] 11/16/12

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

H:\SMODOCS\Cooler Receipt 5.doc

ENERGYSOLUTIONS

APPENDIX E

CHEMICAL STORAGE AND PRODUCTION AREA MAPS
AERIAL PHOTO OF FORMER OPEN CENTRAL COURTYARD

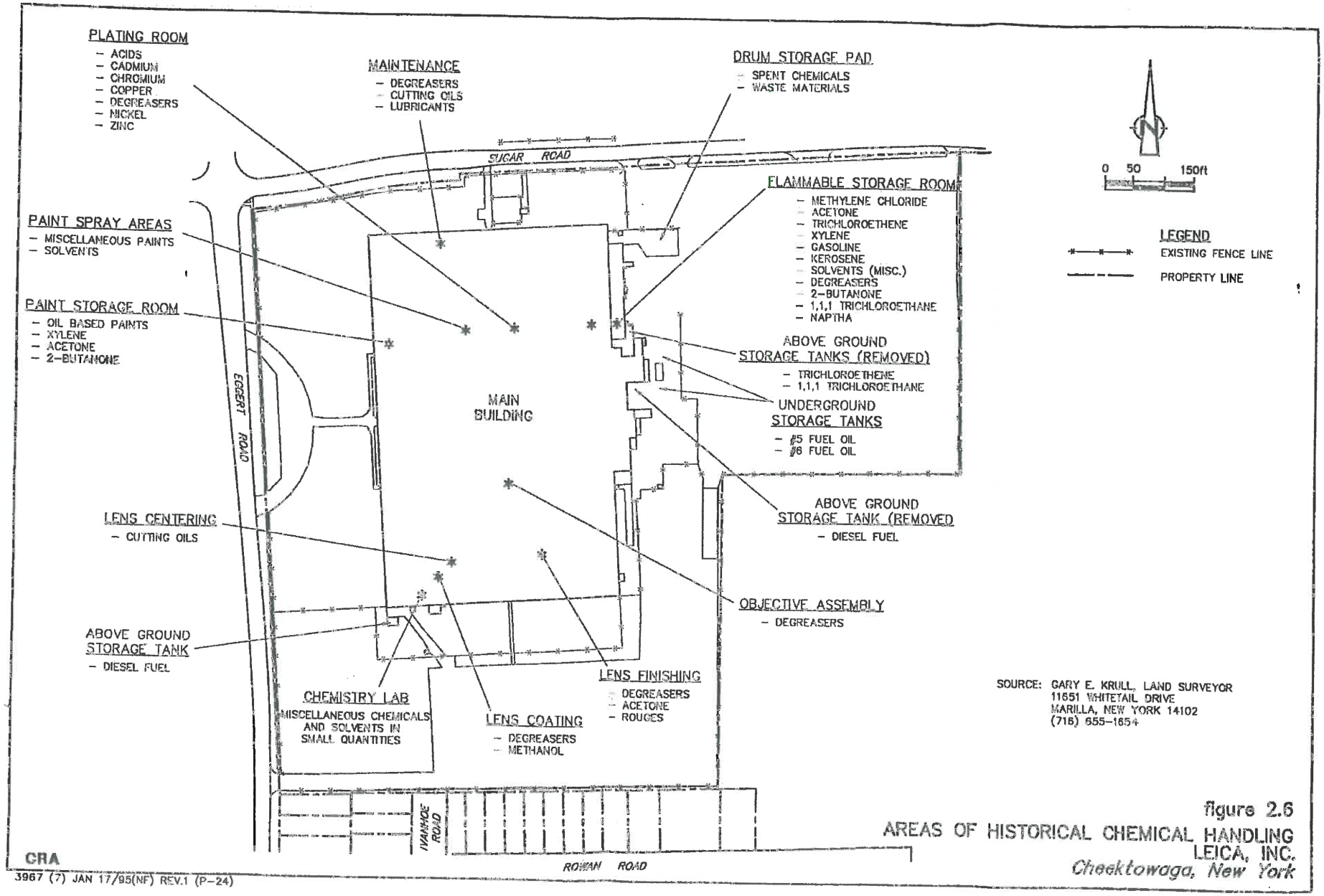
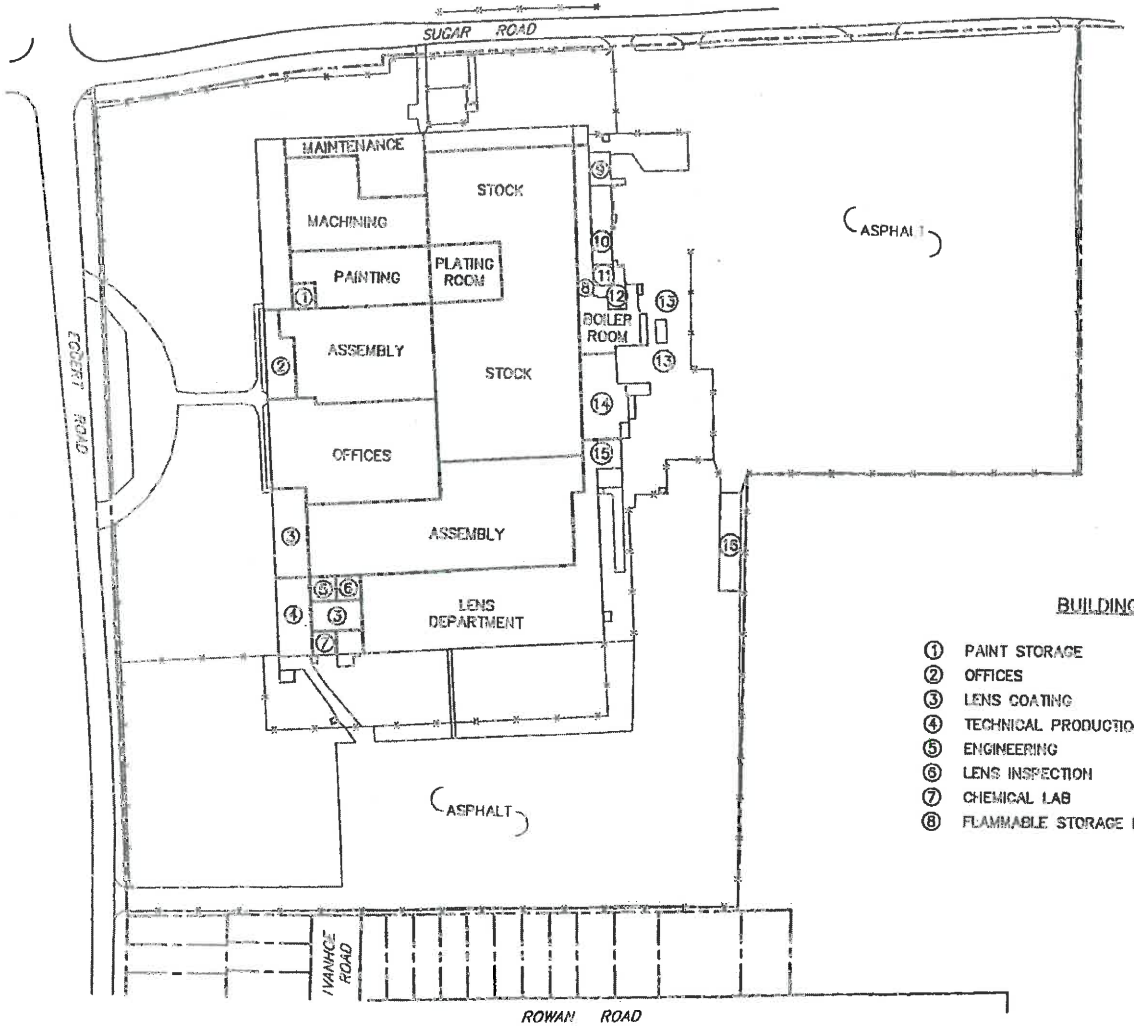


figure 2.6
AREAS OF HISTORICAL CHEMICAL HANDLING
LEICA, INC.
Cheektowaga, New York

CRA
3967 (7) JAN 17/95(NF) REV.1 (P–24)



SOURCE: GARY E. KRULL, LAND SURVEYOR
11651 WHITETAIL DRIVE
MARILLA, NEW YORK 14102
(716) 655-1654

CRA

3987 (7) SEP 17/94(NF) REV.0 (P-23)

figure 2.5
MAJOR PRODUCTION AREAS
LEICA, INC.
Cheektowaga, New York

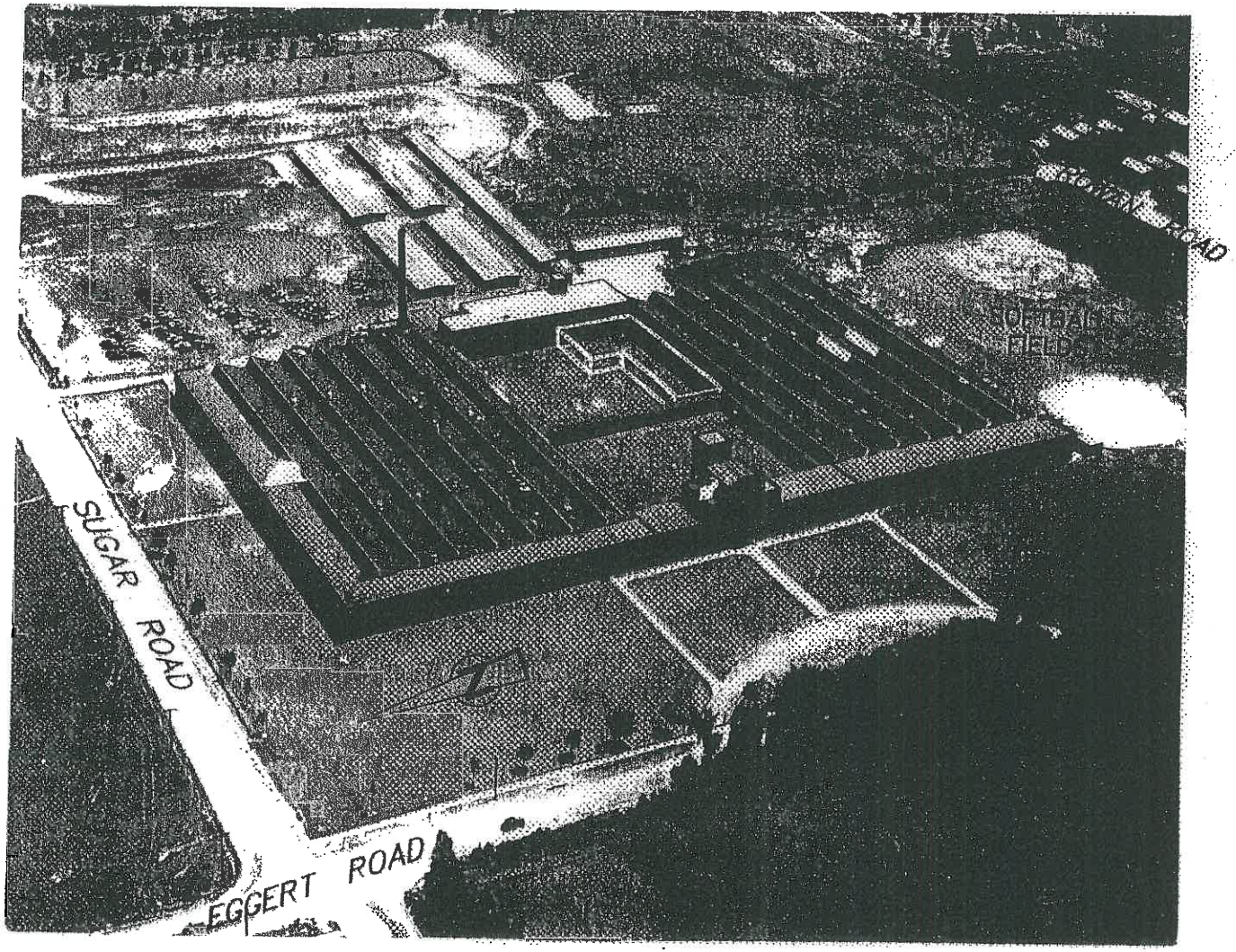


PHOTO CIRCA 1950

figure 2.3
AIR PHOTO
LEICA, INC.
Cheektowaga, New York

CRA