

# Landmark Environmental LLC

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April 9, 2013

Mr. Ed Olson and Al Timm  
Voluntary Investigation & Cleanup Program  
Minnesota Pollution Control Agency  
520 Lafayette Road  
St. Paul, MN 55155

**RE: Soil Vapor Sampling Summary Report  
MN Bio Business Center, Rochester, MN**

Dear Ed and Al:

On behalf of the City of Rochester (Client), Landmark Environmental, LLC (Landmark) completed a soil vapor investigation (Investigation) at the above-referenced property (Property). The field work portion of the Investigation was conducted on December 21, 2012. The Investigation was conducted in accordance with the Soil Vapor Sampling Work Plan submitted to the Minnesota Pollution Control Agency (MPCA) Voluntary Investigation and Cleanup (VIC) Program by Landmark on May 2, 2012, and an email from Landmark dated December 13, 2012. These submittals were approved by the MPCA in an email dated December 18, 2012. This Investigation was required by the MPCA to provide post-dual phase extraction (DPE) system soil vapor data at the Property to compare with soil gas data collected prior to installation of the DPE system, the vapor barrier system, and the passive venting system.

Soil gas and sump headspace sampling was conducted to assess the potential risk of vapor intrusion resulting from residual volatile organic compounds (VOC) contamination in the fractured bedrock and groundwater at the Property. Sampling activities were conducted in general accordance with the following MPCA vapor intrusion guidance documents:

- Vapor Intrusion Technical Support Document, Remediation Division, August 2010; and,
- Risk-Based Guidance for the Vapor Intrusion Pathway, Superfund RCRA and Voluntary Cleanup Section, September 2008.

Soil vapor samples were collected from 4 interior soil vapor sampling ports (LSG-7 through LSG-10) in conjunction with collecting air samples from the headspace of each of the two stormwater sumps (SP-1 and SP-2) located in the basement of the Property building (see **Figure 1**). The DPE system, which was shut down on Oct. 26, 2012, was restarted on December 21, 2012, immediately after collecting the soil vapor and sump head space samples. These samples were collected in the winter when the potential for high soil vapor concentrations is the greatest and while the valves in the venting system riser piping remained closed.

The soil vapor samples were collected at locations LSG-7 through LSG-10 by coring 1-inch holes through the foundation walls near the basement ceiling. The samples collected at LSG-7 and LSG-9 were representative of sub-slab soil vapor samples because they were collected below the Property building slab. LSG-7, which was near the former SG-1 sampling location, was collected beneath the slab of Dooley's Pub. LSG-9, the north sampling location, was collected beneath the slab on grade section of the Property building. These two sample locations are representative of sub-slab samples collected within 1 foot below the bottom of the slab per MPCA requirements. Soil vapor samples, which are not considered "sub-slab" soil vapor samples because they were not located beneath a building slab, were collected at LSG-8 located on the east side of the Property building beneath the sidewalk and LSG-10 located on the west side of the Property building beneath the alley. The soil vapor sample from LSG-8 was collected approximately 6 inches below the concrete surface of the sidewalk. The soil vapor sample LSG-10 was collected approximately 3 feet beneath the concrete surface of the alley. In addition to collecting soil vapor samples at locations LSG-7 through LSG-10, Landmark also collected grab headspace samples from storm sewer sumps SP-1 and SP-2 located in the basement of the Property building.

As required by the MPCA, permanent sampling ports were installed for LSG-7 through LSG-10. The permanent sampling ports were installed using a concrete drill inside the Property building through the exterior concrete walls. The soil vapor samples were collected in an evacuated, 1 L (liter) Summa canister equipped with a dedicated pneumatic flow controller. Prior to collecting the soil gas samples, at a minimum, two volumes of air were purged from the sampling train using a hand-operated syringe. The sampling line (1/4-inch outer diameter [O.D.] Teflon tubing) was attached to the canister inlet using a Swagelok nut and set of stainless steel ferrules. The sampling line was attached to the tubing in the soil void created (approximately 1-inch O.D.) using new small length of inert tubing. The pneumatic flow controller was pre-set by the laboratory so that the canister fills at a rate in no less than 10 minutes. The Summa canister was equipped with a pressure gauge to monitor vacuum. The sump pit samples were grab samples collected over approximately 10 minutes. Following the collection of the soil vapor samples, the soil vapor VOC concentration was measured using a photoionization detector (PID). In addition, Summa canister start and end vacuum levels along with PID measurements were recorded on a field sampling forms. The Summa canisters were submitted to Legend Technical Services, Inc. (Legend) for analysis of VOCs using U.S. Environmental Protection Agency (EPA) Method TO-15. Photos of the sampling event are attached.

As shown in attached **Table 1**, all of the pre- and post-sampling PID readings at LSG-7 through LSG-10 were zero parts per million (ppm), except for the pre-sampling PID reading of 0.5 ppm at LSG-10. As shown in the attached analytical summary Table 2, 20 parameters were detected above the laboratory method detection limit (MDL) at the 6 sampling locations. The detected parameters included a mixture of chlorinated and petroleum-based compounds. All of the detected parameters were below the MPCA's applicable 10X Industrial Intrusion Screening Values (I-ISVs) and the MPCA's 10X Residential Intrusion Screening Values (R-ISVs). The analytical laboratory report from Legend is attached.

The December 21, 2012, soil vapor results show that contaminated soil remediation and DPE system operation at the Property have effectively reduced the soil vapor concentrations on the Property and on adjacent properties. The fact that the soil vapor sampling results did not exceed the R-ISVs and I-ISVs after the DPE system was shut down for 57 days, demonstrates that there is minimal risk of off-site soil vapor migration from the Property to adjacent properties. Residual soil vapor contaminants present beneath the Property building continue to be reduced from ongoing DPE system operation. Once the DPE system is permanently shut down, the vapor barrier and venting system will provide long-term vapor intrusion mitigation at the Property building. The vapor barrier and venting system will also allow sub-slab soil vapors to vent to the atmosphere through the venting system, preventing lateral migration of soil vapors onto adjacent properties.

Based on December 21, 2012, soil vapor sampling results, Landmark believes the vapor intrusion pathway on the Property and for adjacent properties has been sufficiently investigated. On behalf of the Client, Landmark requests that the MPCA VIC Program review and approve this Investigation report.

Please contact me at [jskramstad@landmarkenv.com](mailto:jskramstad@landmarkenv.com) or 952-877-9601 if you have any comments or questions.

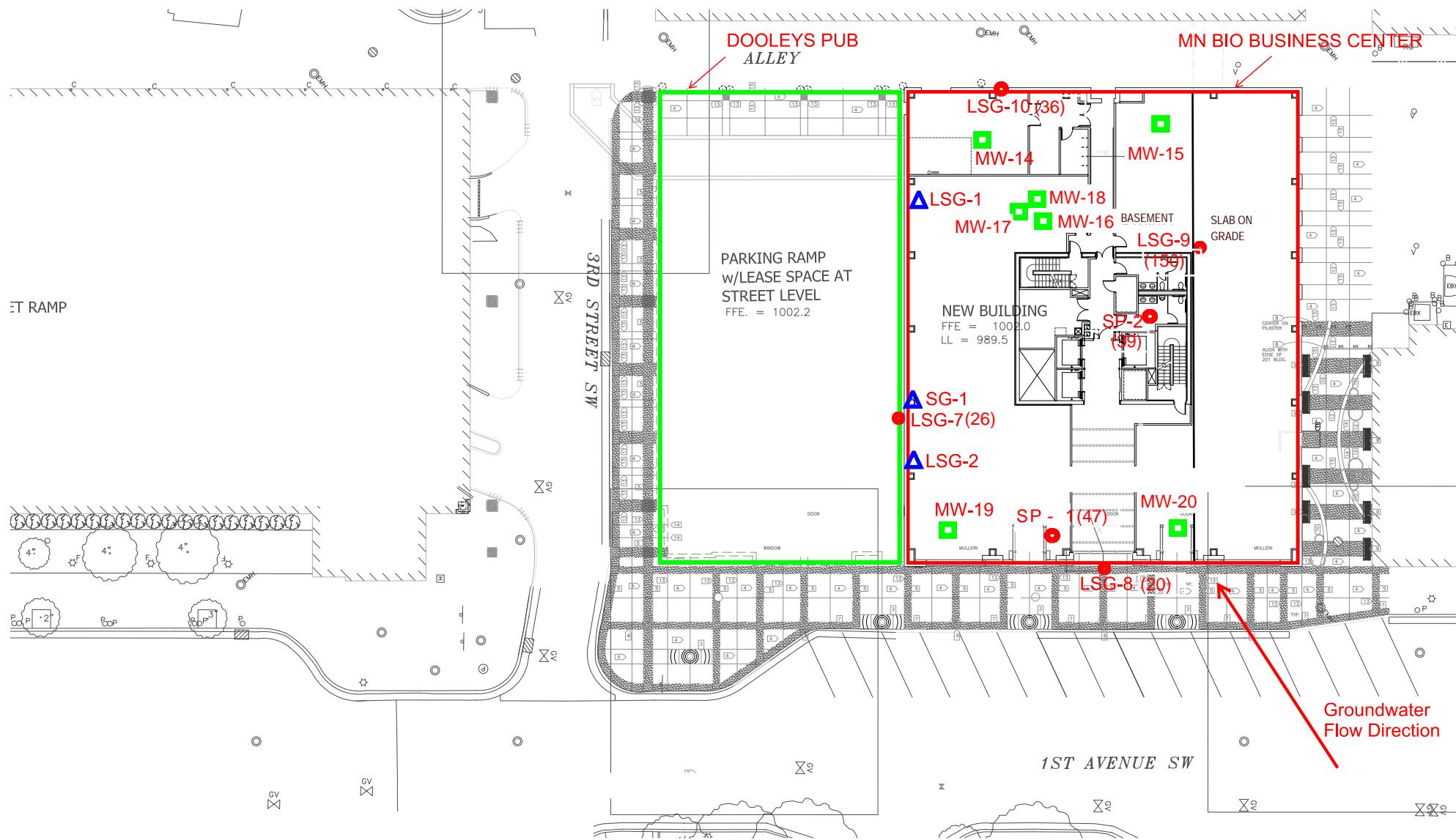
Sincerely,



Jason D. Skramstad

Encl.

cc: Mr. Terry Spaeth, City of Rochester



- SP-1 December 21, 2012 Sump Pit Vapor Sampling Location (ug/m<sup>3</sup>)
- MW-19 Monitoring Well of Interest
- LSG-11 December 21, 2012 Soil Vapor Sampling Locations (ug/m<sup>3</sup>)
- △ LSG-2 Previous Soil Vapor Sampling Location of Interest

Note: The Applicable Screening Criteria for PCE is the MPCA 10X Industrial Intrusion Screening Value, which is 600 ug/m<sup>3</sup>

**FIGURE 1 - DECEMBER 21, 2012 SOIL VAPOR SAMPLING RESULTS**

GENERAL NOTES:

1. UTILIZE GINGER STATE ONE CALL PRIOR TO ALL EXCAVATION WORK. 651-454-2002

KEYNOTES:

- PLANTING AREA
- LINES OF WORK
- △ TREE GRATE REFER TO SPEC. 129300
- EXP. AGG. CONC. REFER TO SPEC. 321313
- EXP. AGG. CONC. REFER TO SPEC. 321313
- LUMINARE REFER TO ED10 ELECTRICAL SITE PLAN
- PARKING METER: PROVIDED BY CITY OF ROCHESTER
- SCREEN WALL: REFER TO A/L301 & SPEC. 057120.CORN.MET.
- BENCH: CITY OF ROCHESTER STANDARD, N.L.C.
- PRECAST CONCRETE PLANTER TYPE 1; REFER TO SPEC. 129300, N.L.C.
- PRECAST CONCRETE PLANTER TYPE 2; REFER TO SPEC. 129300, N.L.C.
- PRECAST CONCRETE PLANTER TYPE 3; REFER TO SPEC. 129300, N.L.C.

LEGEND:

- KEYNOTE
- EXPOSED AGGREGATE CONCRETE CONC.FIN. REFER TO SPEC. 321313
- LUMINARE CITY OF ROCHESTER STANDARD REFER TO SPEC. ED10
- TREE GRATE REFER TO SPEC. 129300
- PARKING METER: PROVIDED BY CITY OF ROCHESTER

TABLE 1  
Soil Vapor Field Readings  
MN Bio Business Center  
Rochester, MN

Location	Can Number	Regulator Number	Pre PID	Post PID	Start Time/Vacuum	Post Time/Vacuum
LSG-7	00420	33	0.0	0.0	07:54/-25	08:04/-4
LSG-8	00376	20	0.0	0.0	08:12/-28	08:20/-6
LGP-9	00360	11	0.0	0.0	07:13/-28	07:22/-5
LSG-10	00385	36	0.5	0.0	07:35/-26	07:44/-4
SP-1	00427	20	0.0	0.0	07:54/-27	07:54/-4
SP-2	00439	40	0.0	0.0	07:19/-28	07:28/-5

**TABLE 2**  
**Soil Vapor Sampling Results**  
**MN Bio Business Center**  
**Rochester, MN**  
**(ug/m<sup>3</sup>)**

Parameter	MPCA Commercial 10X ISV	MPCA Residential 10X ISV	LSG-7	LSG-8	LSG-9	LSG-10	SP-1	SP-2
1,1,2-Trichlorotrifluoroethane	800000	300000	ND	ND	1300	6.9	75	6.0
1,2,4-Trimethylbenzene	200	70	6.1	5.5	1.5	3.4	ND	ND
1,3,5-Trimethylbenzene	200	60	2.1	2.1	ND	1.4	ND	ND
2-Butanone (MEK)	100000	50000	5.4	5.4	6.1	11	ND	3.1
2-Hexanone	ns	ns	2.1	ND	ND	2.3	ND	ND
2-Propanol	200000	70000	13	18	20	26	3.8	4.8
4-Ethyltoluene	ns	ns	3.1	2.8	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	80000	30000	ND	ND	ND	2.6	ND	ND
Acetone	870000	310000	55	49	35	390	5.3	4.7
Benzene	130	45	ND	ND	ND	0.72	ND	0.73
Cyclohexane	200000	60000	14	7.9	11	47	ND	ND
Ethanol	420000	150000	490	470	240	1700	7.9	12
Ethylbenzene	30000	10000	4.5	4.0	0.96	3.2	ND	ND
m&p-Xylene	3000	1000	3.6	2.0	ND	3.2	ND	ND
Methylene Chloride	600	200	4.0	ND	2.6	2.1	2.6	2.2
n-Hexane	60000	20000	38	8.3	4.6	220	ND	2.8
Styrene	30000	10000	14	23	ND	6.8	ND	ND
Tetrachloroethene	600	200	26	20	150	36	47	39
Tetrahydrofuran	ns	ns	3.8	3.5	6.9	3.7	ND	2.1
Toluene	100000	50000	3900	970	21	3900	ND	1.2

Photo Log of Air Sampling  
Bio Business Building – Rochester, MN  
December 2012



Pre and post PID readings were collected with a tedlar bag through the sampling train



Grab samples were collected directly inside the sums



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Fax: 651-642-1239

January 04, 2013

Mr. Jason Skramstad  
Landmark Environmental  
2042 West 98th Street  
Bloomington, MN 55431

Work Order Number: 1205980  
RE: TO-15

Enclosed are the results of analyses for samples received by the laboratory on 12/26/12. If you have any questions concerning this report, please feel free to contact me.

Samples will not be retained by LEGEND once the analyses are completed.

All internal quality assurance met the method requirements unless otherwise noted in the case narrative.

For the tentatively identified compounds (TICs), a computer generated library search was done comparing the spectra of the unknown compounds with spectra contained in the NIST (NBS) and Wiley reference libraries. A visual comparison was made of each unknown compound and the best library match. Quantitation was based on the response of the nearest internal standard. Unidentified peaks were quantified using 100 as the molecular weight. Both the identification of specific compounds and the quantities given should be considered approximations.

Chromatograms are included for samples containing detections.

MDH Certification #027-123-295

Prepared by,  
LEGEND TECHNICAL SERVICES, INC

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Landmark Environmental  
2042 West 98th Street  
Bloomington, MN 55431

Project: TO-15  
Project Number: City of Rochester  
Project Manager: Mr. Jason Skramstad

Work Order #: 1205980  
Date Reported: 01/04/13

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LSG-9	1205980-01	Air	12/21/12 07:22	12/26/12 11:45
SP-2	1205980-02	Air	12/21/12 07:28	12/26/12 11:45
LSG-10	1205980-03	Air	12/21/12 07:44	12/26/12 11:45
SP-1	1205980-04	Air	12/21/12 07:54	12/26/12 11:45
LSG-7	1205980-05	Air	12/21/12 08:04	12/26/12 11:45
LSG-8	1205980-06	Air	12/21/12 08:20	12/26/12 11:45

#### Case Narrative:



88 Empire Drive  
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Tel: 651-642-1150  
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Landmark Environmental 2042 West 98th Street Bloomington, MN 55431	Project: TO-15 Project Number: City of Rochester Project Manager: Mr. Jason Skramstad	Work Order #: 1205980 Date Reported: 01/04/13
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**VOC - AIR**  
**Legend Technical Services, Inc.**

Analyte (CAS#)	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>LSG-9 (1205980-01) Air Received:12/26/12 11:45 Sampled:12/21/12 07:22</b>										
1,1,1-Trichloroethane (71-55-6)	<2.7	2.7	0.19	ug/m³	1	B2L2620	12/26/12	12/26/12	TO-15(M)	
1,1,2,2-Tetrachloroethane (79-34-5)	<3.4	3.4	0.57	ug/m³	1	"	"	"	"	
1,1,2-Trichloroethane (79-00-5)	<2.7	2.7	0.35	ug/m³	1	"	"	"	"	
1,1-Dichloroethane (75-34-3)	<2.0	2.0	0.069	ug/m³	1	"	"	"	"	
1,1-Dichloroethene (75-35-4)	<2.0	2.0	0.067	ug/m³	1	"	"	"	"	
1,2,4-Trichlorobenzene (120-82-1)	<3.7	3.7	0.13	ug/m³	1	"	"	"	"	
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>1.5</b>	0.98	0.28	ug/m³	1	"	"	"	"	
1,2-Dibromoethane (106-93-4)	<3.8	3.8	0.48	ug/m³	1	"	"	"	"	
1,2-Dichlorobenzene (95-50-1)	<3.0	3.0	0.31	ug/m³	1	"	"	"	"	
1,2-Dichloroethane (107-06-2)	<2.0	2.0	0.14	ug/m³	1	"	"	"	"	
1,2-Dichloropropane (78-87-5)	<2.3	2.3	0.30	ug/m³	1	"	"	"	"	
1,3,5-Trimethylbenzene (108-67-8)	<0.98	0.98	0.29	ug/m³	1	"	"	"	"	
1,3-Butadiene (106-99-0)	<1.1	1.1	0.13	ug/m³	1	"	"	"	"	
1,3-Dichlorobenzene (541-73-1)	<3.0	3.0	0.29	ug/m³	1	"	"	"	"	
1,4-Dichlorobenzene (106-46-7)	<3.0	3.0	0.29	ug/m³	1	"	"	"	"	
<b>2-Butanone (78-93-3)</b>	<b>6.1</b>	1.5	0.16	ug/m³	1	"	"	"	"	
4-Ethyltoluene (622-96-8)	<2.5	2.5	0.29	ug/m³	1	"	"	"	"	
<b>Acetone (67-64-1)</b>	<b>35</b>	1.2	0.29	ug/m³	1	"	"	"	"	
Benzene (71-43-2)	<0.64	0.64	0.15	ug/m³	1	"	"	"	"	
Benzyl chloride (100-44-7)	<2.6	2.6	0.29	ug/m³	1	"	"	"	"	
Bromodichloromethane (75-27-4)	<3.4	3.4	0.25	ug/m³	1	"	"	"	"	
Bromoform (75-25-2)	<5.2	5.2	0.50	ug/m³	1	"	"	"	"	
Bromomethane (74-83-9)	<1.9	1.9	0.14	ug/m³	1	"	"	"	"	
Carbon disulfide (75-15-0)	<1.6	1.6	0.069	ug/m³	1	"	"	"	"	
Carbon tetrachloride (56-23-5)	<3.1	3.1	0.19	ug/m³	1	"	"	"	"	
Chlorobenzene (108-90-7)	<2.3	2.3	0.28	ug/m³	1	"	"	"	"	
Chloroethane (75-00-3)	<1.3	1.3	0.066	ug/m³	1	"	"	"	"	
Chloroform (67-66-3)	<2.4	2.4	0.26	ug/m³	1	"	"	"	"	
Chloromethane (74-87-3)	<1.0	1.0	0.058	ug/m³	1	"	"	"	"	
cis-1,2-Dichloroethene (156-59-2)	<2.0	2.0	0.075	ug/m³	1	"	"	"	"	
cis-1,3-Dichloropropene (10061-01-5)	<2.3	2.3	0.31	ug/m³	1	"	"	"	"	
<b>Cyclohexane (110-82-7)</b>	<b>11</b>	1.7	0.10	ug/m³	1	"	"	"	"	
Dibromochloromethane (124-48-1)	<4.3	4.3	0.43	ug/m³	1	"	"	"	"	
Dichlorodifluoromethane (75-71-8)	<2.5	2.5	0.13	ug/m³	1	"	"	"	"	
Dichlorotetrafluoroethane (76-14-2)	<3.5	3.5	0.15	ug/m³	1	"	"	"	"	

Landmark Environmental 2042 West 98th Street Bloomington, MN 55431	Project: TO-15 Project Number: City of Rochester Project Manager: Mr. Jason Skramstad	Work Order #: 1205980 Date Reported: 01/04/13
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**VOC - AIR**  
**Legend Technical Services, Inc.**

Analyte (CAS#)	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>LSG-9 (1205980-01) Air Received:12/26/12 11:45 Sampled:12/21/12 07:22</b>										
Ethanol (64-17-5)	240	42	6.8	ug/m³	45	B2L2620	12/26/12	12/27/12	TO-15(M)	"
Ethyl acetate (141-78-6)	<1.8	1.8	0.18	ug/m³	1	"	"	12/26/12	"	"
Ethylbenzene (100-41-4)	0.96	0.87	0.25	ug/m³	1	"	"	"	"	"
Hexachlorobutadiene (87-68-3)	<5.3	5.3	0.69	ug/m³	1	"	"	"	"	"
Isopropyl alcohol (67-63-0)	20	1.2	0.10	ug/m³	1	"	"	"	"	"
m,p-Xylene (136777-61-2)	<1.7	1.7	0.48	ug/m³	1	"	"	"	"	"
Methyl butyl ketone (591-78-6)	<2.0	2.0	0.26	ug/m³	1	"	"	"	"	"
Methyl isobutyl ketone (108-10-1)	<2.0	2.0	0.32	ug/m³	1	"	"	"	"	"
Methyl tert-butyl ether (1634-04-4)	<1.8	1.8	0.21	ug/m³	1	"	"	"	"	"
Methylene chloride (75-09-2)	2.6	1.7	0.15	ug/m³	1	"	"	"	"	"
Naphthalene (91-20-3)	<2.6	2.6	0.14	ug/m³	1	"	"	"	"	"
n-Heptane (142-82-5)	<2.0	2.0	0.13	ug/m³	1	"	"	"	"	"
n-Hexane (110-54-3)	4.6	1.8	0.056	ug/m³	1	"	"	"	"	"
o-Xylene (95-47-6)	<0.87	0.87	0.20	ug/m³	1	"	"	"	"	"
Propylene (115-07-1)	<0.86	0.86	0.031	ug/m³	1	"	"	"	"	"
Styrene (100-42-5)	<2.1	2.1	0.20	ug/m³	1	"	"	"	"	"
Tetrachloroethene (127-18-4)	150	3.4	0.24	ug/m³	1	"	"	"	"	"
Tetrahydrofuran (109-99-9)	6.9	1.5	0.26	ug/m³	1	"	"	"	"	"
Toluene (108-88-3)	21	0.75	0.22	ug/m³	1	"	"	"	"	"
trans-1,2-Dichloroethene (156-60-5)	<2.0	2.0	0.063	ug/m³	1	"	"	"	"	"
trans-1,3-Dichloropropene (10061-02-6)	<2.3	2.3	0.25	ug/m³	1	"	"	"	"	"
Trichloroethene (79-01-6)	<2.7	2.7	0.25	ug/m³	1	"	"	"	"	"
Trichlorofluoromethane (75-69-4)	<2.8	2.8	0.14	ug/m³	1	"	"	"	"	"
Trichlorotrifluoroethane (76-13-1)	1300	170	8.1	ug/m³	45	"	"	12/27/12	"	"
Vinyl acetate (108-05-4)	<1.8	1.8	0.20	ug/m³	1	"	"	12/26/12	"	"
Vinyl chloride (75-01-4)	<1.3	1.3	0.069	ug/m³	1	"	"	"	"	"
<b>SP-2 (1205980-02) Air Received:12/26/12 11:45 Sampled:12/21/12 07:28</b>										
1,1,1-Trichloroethane (71-55-6)	<2.7	2.7	0.19	ug/m³	1	B2L2620	12/26/12	12/26/12	TO-15(M)	"
1,1,2,2-Tetrachloroethane (79-34-5)	<3.4	3.4	0.57	ug/m³	1	"	"	"	"	"
1,1,2-Trichloroethane (79-00-5)	<2.7	2.7	0.35	ug/m³	1	"	"	"	"	"
1,1-Dichloroethane (75-34-3)	<2.0	2.0	0.069	ug/m³	1	"	"	"	"	"
1,1-Dichloroethene (75-35-4)	<2.0	2.0	0.067	ug/m³	1	"	"	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	<3.7	3.7	0.13	ug/m³	1	"	"	"	"	"
1,2,4-Trimethylbenzene (95-63-6)	<0.98	0.98	0.28	ug/m³	1	"	"	"	"	"
1,2-Dibromoethane (106-93-4)	<3.8	3.8	0.48	ug/m³	1	"	"	"	"	"



88 Empire Drive  
St Paul, MN 55103  
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Landmark Environmental 2042 West 98th Street Bloomington, MN 55431	Project: TO-15 Project Number: City of Rochester Project Manager: Mr. Jason Skramstad	Work Order #: 1205980 Date Reported: 01/04/13
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**VOC - AIR**  
**Legend Technical Services, Inc.**

Analyte (CAS#)	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SP-2 (1205980-02) Air Received:12/26/12 11:45 Sampled:12/21/12 07:28</b>										
1,2-Dichlorobenzene (95-50-1)	<3.0	3.0	0.31	ug/m³	1	B2L2620	12/26/12	12/26/12	TO-15(M)	"
1,2-Dichloroethane (107-06-2)	<2.0	2.0	0.14	ug/m³	1	"	"	"	"	"
1,2-Dichloropropane (78-87-5)	<2.3	2.3	0.30	ug/m³	1	"	"	"	"	"
1,3,5-Trimethylbenzene (108-67-8)	<0.98	0.98	0.29	ug/m³	1	"	"	"	"	"
1,3-Butadiene (106-99-0)	<1.1	1.1	0.13	ug/m³	1	"	"	"	"	"
1,3-Dichlorobenzene (541-73-1)	<3.0	3.0	0.29	ug/m³	1	"	"	"	"	"
1,4-Dichlorobenzene (106-46-7)	<3.0	3.0	0.29	ug/m³	1	"	"	"	"	"
<b>2-Butanone (78-93-3)</b>	<b>3.1</b>	1.5	0.16	ug/m³	1	"	"	"	"	"
4-Ethyltoluene (622-96-8)	<2.5	2.5	0.29	ug/m³	1	"	"	"	"	"
<b>Acetone (67-64-1)</b>	<b>4.7</b>	1.2	0.29	ug/m³	1	"	"	"	"	"
<b>Benzene (71-43-2)</b>	<b>0.73</b>	0.64	0.15	ug/m³	1	"	"	"	"	"
Benzyl chloride (100-44-7)	<2.6	2.6	0.29	ug/m³	1	"	"	"	"	"
Bromodichloromethane (75-27-4)	<3.4	3.4	0.25	ug/m³	1	"	"	"	"	"
Bromoform (75-25-2)	<5.2	5.2	0.50	ug/m³	1	"	"	"	"	"
Bromomethane (74-83-9)	<1.9	1.9	0.14	ug/m³	1	"	"	"	"	"
Carbon disulfide (75-15-0)	<1.6	1.6	0.069	ug/m³	1	"	"	"	"	"
Carbon tetrachloride (56-23-5)	<3.1	3.1	0.19	ug/m³	1	"	"	"	"	"
Chlorobenzene (108-90-7)	<2.3	2.3	0.28	ug/m³	1	"	"	"	"	"
Chloroethane (75-00-3)	<1.3	1.3	0.066	ug/m³	1	"	"	"	"	"
Chloroform (67-66-3)	<2.4	2.4	0.26	ug/m³	1	"	"	"	"	"
Chloromethane (74-87-3)	<1.0	1.0	0.058	ug/m³	1	"	"	"	"	"
cis-1,2-Dichloroethene (156-59-2)	<2.0	2.0	0.075	ug/m³	1	"	"	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	<2.3	2.3	0.31	ug/m³	1	"	"	"	"	"
Cyclohexane (110-82-7)	<1.7	1.7	0.10	ug/m³	1	"	"	"	"	"
Dibromochloromethane (124-48-1)	<4.3	4.3	0.43	ug/m³	1	"	"	"	"	"
Dichlorodifluoromethane (75-71-8)	<2.5	2.5	0.13	ug/m³	1	"	"	"	"	"
Dichlorotetrafluoroethane (76-14-2)	<3.5	3.5	0.15	ug/m³	1	"	"	"	"	"
<b>Ethanol (64-17-5)</b>	<b>12</b>	0.94	0.15	ug/m³	1	"	"	"	"	"
Ethyl acetate (141-78-6)	<1.8	1.8	0.18	ug/m³	1	"	"	"	"	"
Ethylbenzene (100-41-4)	<0.87	0.87	0.25	ug/m³	1	"	"	"	"	"
Hexachlorobutadiene (87-68-3)	<5.3	5.3	0.69	ug/m³	1	"	"	"	"	"
<b>Isopropyl alcohol (67-63-0)</b>	<b>4.8</b>	1.2	0.10	ug/m³	1	"	"	"	"	"
m,p-Xylene (136777-61-2)	<1.7	1.7	0.48	ug/m³	1	"	"	"	"	"
Methyl butyl ketone (591-78-6)	<2.0	2.0	0.26	ug/m³	1	"	"	"	"	"
Methyl isobutyl ketone (108-10-1)	<2.0	2.0	0.32	ug/m³	1	"	"	"	"	"



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Landmark Environmental 2042 West 98th Street Bloomington, MN 55431	Project: TO-15 Project Number: City of Rochester Project Manager: Mr. Jason Skramstad	Work Order #: 1205980 Date Reported: 01/04/13
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**VOC - AIR**  
**Legend Technical Services, Inc.**

Analyte (CAS#)	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SP-2 (1205980-02) Air Received:12/26/12 11:45 Sampled:12/21/12 07:28</b>										
Methyl tert-butyl ether (1634-04-4)	<1.8	1.8	0.21	ug/m³	1	B2L2620	12/26/12	12/26/12	TO-15(M)	"
<b>Methylene chloride (75-09-2)</b>	<b>2.2</b>	1.7	0.15	ug/m³	1	"	"	"	"	"
Naphthalene (91-20-3)	<2.6	2.6	0.14	ug/m³	1	"	"	"	"	"
n-Heptane (142-82-5)	<2.0	2.0	0.13	ug/m³	1	"	"	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>2.8</b>	1.8	0.056	ug/m³	1	"	"	"	"	"
o-Xylene (95-47-6)	<0.87	0.87	0.20	ug/m³	1	"	"	"	"	"
Propylene (115-07-1)	<0.86	0.86	0.031	ug/m³	1	"	"	"	"	"
Styrene (100-42-5)	<2.1	2.1	0.20	ug/m³	1	"	"	"	"	"
<b>Tetrachloroethene (127-18-4)</b>	<b>39</b>	3.4	0.24	ug/m³	1	"	"	"	"	"
<b>Tetrahydrofuran (109-99-9)</b>	<b>2.1</b>	1.5	0.26	ug/m³	1	"	"	"	"	"
<b>Toluene (108-88-3)</b>	<b>1.2</b>	0.75	0.22	ug/m³	1	"	"	"	"	"
trans-1,2-Dichloroethene (156-60-5)	<2.0	2.0	0.063	ug/m³	1	"	"	"	"	"
trans-1,3-Dichloropropene (10061-02-6)	<2.3	2.3	0.25	ug/m³	1	"	"	"	"	"
Trichloroethene (79-01-6)	<2.7	2.7	0.25	ug/m³	1	"	"	"	"	"
Trichlorofluoromethane (75-69-4)	<2.8	2.8	0.14	ug/m³	1	"	"	"	"	"
<b>Trichlorotrifluoroethane (76-13-1)</b>	<b>6.0</b>	3.8	0.18	ug/m³	1	"	"	"	"	"
Vinyl acetate (108-05-4)	<1.8	1.8	0.20	ug/m³	1	"	"	"	"	"
Vinyl chloride (75-01-4)	<1.3	1.3	0.069	ug/m³	1	"	"	"	"	"
<b>LSG-10 (1205980-03) Air Received:12/26/12 11:45 Sampled:12/21/12 07:44</b>										
1,1,1-Trichloroethane (71-55-6)	<2.7	2.7	0.19	ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	"
1,1,2,2-Tetrachloroethane (79-34-5)	<3.4	3.4	0.57	ug/m³	1	"	"	"	"	"
1,1,2-Trichloroethane (79-00-5)	<2.7	2.7	0.35	ug/m³	1	"	"	"	"	"
1,1-Dichloroethane (75-34-3)	<2.0	2.0	0.069	ug/m³	1	"	"	"	"	"
1,1-Dichloroethene (75-35-4)	<2.0	2.0	0.067	ug/m³	1	"	"	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	<3.7	3.7	0.13	ug/m³	1	"	"	"	"	"
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>3.4</b>	0.98	0.28	ug/m³	1	"	"	"	"	"
1,2-Dibromoethane (106-93-4)	<3.8	3.8	0.48	ug/m³	1	"	"	"	"	"
1,2-Dichlorobenzene (95-50-1)	<3.0	3.0	0.31	ug/m³	1	"	"	"	"	"
1,2-Dichloroethane (107-06-2)	<2.0	2.0	0.14	ug/m³	1	"	"	"	"	"
1,2-Dichloropropane (78-87-5)	<2.3	2.3	0.30	ug/m³	1	"	"	"	"	"
<b>1,3,5-Trimethylbenzene (108-67-8)</b>	<b>1.4</b>	0.98	0.29	ug/m³	1	"	"	"	"	"
1,3-Butadiene (106-99-0)	<1.1	1.1	0.13	ug/m³	1	"	"	"	"	"
1,3-Dichlorobenzene (541-73-1)	<3.0	3.0	0.29	ug/m³	1	"	"	"	"	"
1,4-Dichlorobenzene (106-46-7)	<3.0	3.0	0.29	ug/m³	1	"	"	"	"	"
<b>2-Butanone (78-93-3)</b>	<b>11</b>	1.5	0.16	ug/m³	1	"	"	"	"	"



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Landmark Environmental 2042 West 98th Street Bloomington, MN 55431	Project: TO-15 Project Number: City of Rochester Project Manager: Mr. Jason Skramstad	Work Order #: 1205980 Date Reported: 01/04/13
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**VOC - AIR**  
**Legend Technical Services, Inc.**

Analyte (CAS#)	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>LSG-10 (1205980-03) Air Received:12/26/12 11:45 Sampled:12/21/12 07:44</b>										
4-Ethyltoluene (622-96-8)	<2.5	2.5	0.29	ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	"
<b>Acetone (67-64-1)</b>	<b>390</b>	32	7.8	ug/m³	27	"	"	12/27/12	"	"
<b>Benzene (71-43-2)</b>	<b>0.72</b>	0.64	0.15	ug/m³	1	"	"	12/27/12	"	"
Benzyl chloride (100-44-7)	<2.6	2.6	0.29	ug/m³	1	"	"	"	"	"
Bromodichloromethane (75-27-4)	<3.4	3.4	0.25	ug/m³	1	"	"	"	"	"
Bromoform (75-25-2)	<5.2	5.2	0.50	ug/m³	1	"	"	"	"	"
Bromomethane (74-83-9)	<1.9	1.9	0.14	ug/m³	1	"	"	"	"	"
Carbon disulfide (75-15-0)	<1.6	1.6	0.069	ug/m³	1	"	"	"	"	"
Carbon tetrachloride (56-23-5)	<3.1	3.1	0.19	ug/m³	1	"	"	"	"	"
Chlorobenzene (108-90-7)	<2.3	2.3	0.28	ug/m³	1	"	"	"	"	"
Chloroethane (75-00-3)	<1.3	1.3	0.066	ug/m³	1	"	"	"	"	"
Chloroform (67-66-3)	<2.4	2.4	0.26	ug/m³	1	"	"	"	"	"
Chloromethane (74-87-3)	<1.0	1.0	0.058	ug/m³	1	"	"	"	"	"
cis-1,2-Dichloroethene (156-59-2)	<2.0	2.0	0.075	ug/m³	1	"	"	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	<2.3	2.3	0.31	ug/m³	1	"	"	"	"	"
<b>Cyclohexane (110-82-7)</b>	<b>47</b>	1.7	0.10	ug/m³	1	"	"	"	"	"
Dibromochloromethane (124-48-1)	<4.3	4.3	0.43	ug/m³	1	"	"	"	"	"
Dichlorodifluoromethane (75-71-8)	<2.5	2.5	0.13	ug/m³	1	"	"	"	"	"
Dichlorotetrafluoroethane (76-14-2)	<3.5	3.5	0.15	ug/m³	1	"	"	"	"	"
<b>Ethanol (64-17-5)</b>	<b>1700</b>	130	20	ug/m³	135	"	"	12/27/12	"	"
Ethyl acetate (141-78-6)	<1.8	1.8	0.18	ug/m³	1	"	"	12/27/12	"	"
<b>Ethylbenzene (100-41-4)</b>	<b>3.2</b>	0.87	0.25	ug/m³	1	"	"	"	"	"
Hexachlorobutadiene (87-68-3)	<5.3	5.3	0.69	ug/m³	1	"	"	"	"	"
<b>Isopropyl alcohol (67-63-0)</b>	<b>26</b>	1.2	0.10	ug/m³	1	"	"	"	"	"
m,p-Xylene (136777-61-2)	3.2	1.7	0.48	ug/m³	1	"	"	"	"	"
Methyl butyl ketone (591-78-6)	2.3	2.0	0.26	ug/m³	1	"	"	"	"	"
<b>Methyl isobutyl ketone (108-10-1)</b>	<b>2.6</b>	2.0	0.32	ug/m³	1	"	"	"	"	"
Methyl tert-butyl ether (1634-04-4)	<1.8	1.8	0.21	ug/m³	1	"	"	"	"	"
<b>Methylene chloride (75-09-2)</b>	<b>2.1</b>	1.7	0.15	ug/m³	1	"	"	"	"	"
Naphthalene (91-20-3)	<2.6	2.6	0.14	ug/m³	1	"	"	"	"	"
n-Heptane (142-82-5)	<2.0	2.0	0.13	ug/m³	1	"	"	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>220</b>	49	1.5	ug/m³	27	"	"	12/27/12	"	"
<b>o-Xylene (95-47-6)</b>	<b>1.6</b>	0.87	0.20	ug/m³	1	"	"	12/27/12	"	"
Propylene (115-07-1)	<0.86	0.86	0.031	ug/m³	1	"	"	"	"	"
<b>Styrene (100-42-5)</b>	<b>6.8</b>	2.1	0.20	ug/m³	1	"	"	"	"	"

Landmark Environmental 2042 West 98th Street Bloomington, MN 55431	Project: TO-15 Project Number: City of Rochester Project Manager: Mr. Jason Skramstad	Work Order #: 1205980 Date Reported: 01/04/13
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**VOC - AIR**  
**Legend Technical Services, Inc.**

Analyte (CAS#)	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>LSG-10 (1205980-03) Air Received:12/26/12 11:45 Sampled:12/21/12 07:44</b>										
Tetrachloroethene (127-18-4)	36	3.4	0.24	ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	"
Tetrahydrofuran (109-99-9)	3.7	1.5	0.26	ug/m³	1	"	"	"	"	"
Toluene (108-88-3)	3900	100	30	ug/m³	135	"	"	"	12/27/12	"
trans-1,2-Dichloroethene (156-60-5)	<2.0	2.0	0.063	ug/m³	1	"	"	"	12/27/12	"
trans-1,3-Dichloropropene (10061-02-6)	<2.3	2.3	0.25	ug/m³	1	"	"	"	"	"
Trichloroethene (79-01-6)	<2.7	2.7	0.25	ug/m³	1	"	"	"	"	"
Trichlorofluoromethane (75-69-4)	<2.8	2.8	0.14	ug/m³	1	"	"	"	"	"
Trichlorotrifluoroethane (76-13-1)	6.9	3.8	0.18	ug/m³	1	"	"	"	"	"
Vinyl acetate (108-05-4)	<1.8	1.8	0.20	ug/m³	1	"	"	"	"	"
Vinyl chloride (75-01-4)	<1.3	1.3	0.069	ug/m³	1	"	"	"	"	"
<b>SP-1 (1205980-04) Air Received:12/26/12 11:45 Sampled:12/21/12 07:54</b>										
1,1,1-Trichloroethane (71-55-6)	<2.7	2.7	0.19	ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	"
1,1,2,2-Tetrachloroethane (79-34-5)	<3.4	3.4	0.57	ug/m³	1	"	"	"	"	"
1,1,2-Trichloroethane (79-00-5)	<2.7	2.7	0.35	ug/m³	1	"	"	"	"	"
1,1-Dichloroethane (75-34-3)	<2.0	2.0	0.069	ug/m³	1	"	"	"	"	"
1,1-Dichloroethene (75-35-4)	<2.0	2.0	0.067	ug/m³	1	"	"	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	<3.7	3.7	0.13	ug/m³	1	"	"	"	"	"
1,2,4-Trimethylbenzene (95-63-6)	<0.98	0.98	0.28	ug/m³	1	"	"	"	"	"
1,2-Dibromoethane (106-93-4)	<3.8	3.8	0.48	ug/m³	1	"	"	"	"	"
1,2-Dichlorobenzene (95-50-1)	<3.0	3.0	0.31	ug/m³	1	"	"	"	"	"
1,2-Dichloroethane (107-06-2)	<2.0	2.0	0.14	ug/m³	1	"	"	"	"	"
1,2-Dichloropropane (78-87-5)	<2.3	2.3	0.30	ug/m³	1	"	"	"	"	"
1,3,5-Trimethylbenzene (108-67-8)	<0.98	0.98	0.29	ug/m³	1	"	"	"	"	"
1,3-Butadiene (106-99-0)	<1.1	1.1	0.13	ug/m³	1	"	"	"	"	"
1,3-Dichlorobenzene (541-73-1)	<3.0	3.0	0.29	ug/m³	1	"	"	"	"	"
1,4-Dichlorobenzene (106-46-7)	<3.0	3.0	0.29	ug/m³	1	"	"	"	"	"
2-Butanone (78-93-3)	<1.5	1.5	0.16	ug/m³	1	"	"	"	"	"
4-Ethyltoluene (622-96-8)	<2.5	2.5	0.29	ug/m³	1	"	"	"	"	"
Acetone (67-64-1)	5.3	1.2	0.29	ug/m³	1	"	"	"	"	"
Benzene (71-43-2)	<0.64	0.64	0.15	ug/m³	1	"	"	"	"	"
Benzyl chloride (100-44-7)	<2.6	2.6	0.29	ug/m³	1	"	"	"	"	"
Bromodichloromethane (75-27-4)	<3.4	3.4	0.25	ug/m³	1	"	"	"	"	"
Bromoform (75-25-2)	<5.2	5.2	0.50	ug/m³	1	"	"	"	"	"
Bromomethane (74-83-9)	<1.9	1.9	0.14	ug/m³	1	"	"	"	"	"
Carbon disulfide (75-15-0)	<1.6	1.6	0.069	ug/m³	1	"	"	"	"	"



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Landmark Environmental 2042 West 98th Street Bloomington, MN 55431	Project: TO-15 Project Number: City of Rochester Project Manager: Mr. Jason Skramstad	Work Order #: 1205980 Date Reported: 01/04/13
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**VOC - AIR**  
**Legend Technical Services, Inc.**

Analyte (CAS#)	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SP-1 (1205980-04) Air Received:12/26/12 11:45 Sampled:12/21/12 07:54</b>										
Carbon tetrachloride (56-23-5)	<3.1	3.1	0.19	ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	"
Chlorobenzene (108-90-7)	<2.3	2.3	0.28	ug/m³	1	"	"	"	"	"
Chloroethane (75-00-3)	<1.3	1.3	0.066	ug/m³	1	"	"	"	"	"
Chloroform (67-66-3)	<2.4	2.4	0.26	ug/m³	1	"	"	"	"	"
Chloromethane (74-87-3)	<1.0	1.0	0.058	ug/m³	1	"	"	"	"	"
cis-1,2-Dichloroethene (156-59-2)	<2.0	2.0	0.075	ug/m³	1	"	"	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	<2.3	2.3	0.31	ug/m³	1	"	"	"	"	"
Cyclohexane (110-82-7)	<1.7	1.7	0.10	ug/m³	1	"	"	"	"	"
Dibromochloromethane (124-48-1)	<4.3	4.3	0.43	ug/m³	1	"	"	"	"	"
Dichlorodifluoromethane (75-71-8)	<2.5	2.5	0.13	ug/m³	1	"	"	"	"	"
Dichlorotetrafluoroethane (76-14-2)	<3.5	3.5	0.15	ug/m³	1	"	"	"	"	"
<b>Ethanol (64-17-5)</b>	<b>7.9</b>	0.94	0.15	ug/m³	1	"	"	"	"	"
Ethyl acetate (141-78-6)	<1.8	1.8	0.18	ug/m³	1	"	"	"	"	"
Ethylbenzene (100-41-4)	<0.87	0.87	0.25	ug/m³	1	"	"	"	"	"
Hexachlorobutadiene (87-68-3)	<5.3	5.3	0.69	ug/m³	1	"	"	"	"	"
<b>Isopropyl alcohol (67-63-0)</b>	<b>3.8</b>	1.2	0.10	ug/m³	1	"	"	"	"	"
m,p-Xylene (136777-61-2)	<1.7	1.7	0.48	ug/m³	1	"	"	"	"	"
Methyl butyl ketone (591-78-6)	<2.0	2.0	0.26	ug/m³	1	"	"	"	"	"
Methyl isobutyl ketone (108-10-1)	<2.0	2.0	0.32	ug/m³	1	"	"	"	"	"
Methyl tert-butyl ether (1634-04-4)	<1.8	1.8	0.21	ug/m³	1	"	"	"	"	"
<b>Methylene chloride (75-09-2)</b>	<b>2.6</b>	1.7	0.15	ug/m³	1	"	"	"	"	"
Naphthalene (91-20-3)	<2.6	2.6	0.14	ug/m³	1	"	"	"	"	"
n-Heptane (142-82-5)	<2.0	2.0	0.13	ug/m³	1	"	"	"	"	"
n-Hexane (110-54-3)	<1.8	1.8	0.056	ug/m³	1	"	"	"	"	"
o-Xylene (95-47-6)	<0.87	0.87	0.20	ug/m³	1	"	"	"	"	"
Propylene (115-07-1)	<0.86	0.86	0.031	ug/m³	1	"	"	"	"	"
Styrene (100-42-5)	<2.1	2.1	0.20	ug/m³	1	"	"	"	"	"
<b>Tetrachloroethene (127-18-4)</b>	<b>47</b>	3.4	0.24	ug/m³	1	"	"	"	"	"
Tetrahydrofuran (109-99-9)	<1.5	1.5	0.26	ug/m³	1	"	"	"	"	"
Toluene (108-88-3)	<0.75	0.75	0.22	ug/m³	1	"	"	"	"	"
trans-1,2-Dichloroethene (156-60-5)	<2.0	2.0	0.063	ug/m³	1	"	"	"	"	"
trans-1,3-Dichloropropene (10061-02-6)	<2.3	2.3	0.25	ug/m³	1	"	"	"	"	"
Trichloroethene (79-01-6)	<2.7	2.7	0.25	ug/m³	1	"	"	"	"	"
Trichlorofluoromethane (75-69-4)	<2.8	2.8	0.14	ug/m³	1	"	"	"	"	"
<b>Trichlorotrifluoroethane (76-13-1)</b>	<b>75</b>	3.8	0.18	ug/m³	1	"	"	"	"	"

Landmark Environmental 2042 West 98th Street Bloomington, MN 55431	Project: TO-15 Project Number: City of Rochester Project Manager: Mr. Jason Skramstad	Work Order #: 1205980 Date Reported: 01/04/13
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<b>VOC - AIR</b> <b>Legend Technical Services, Inc.</b>										
Analyte (CAS#)	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SP-1 (1205980-04) Air Received:12/26/12 11:45 Sampled:12/21/12 07:54</b>										
Vinyl acetate (108-05-4)	<1.8	1.8	0.20	ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	
Vinyl chloride (75-01-4)	<1.3	1.3	0.069	ug/m³	1	"	"	"	"	"
<b>LSG-7 (1205980-05) Air Received:12/26/12 11:45 Sampled:12/21/12 08:04</b>										
1,1,1-Trichloroethane (71-55-6)	<2.7	2.7	0.19	ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	
1,1,2,2-Tetrachloroethane (79-34-5)	<3.4	3.4	0.57	ug/m³	1	"	"	"	"	"
1,1,2-Trichloroethane (79-00-5)	<2.7	2.7	0.35	ug/m³	1	"	"	"	"	"
1,1-Dichloroethane (75-34-3)	<2.0	2.0	0.069	ug/m³	1	"	"	"	"	"
1,1-Dichloroethene (75-35-4)	<2.0	2.0	0.067	ug/m³	1	"	"	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	<3.7	3.7	0.13	ug/m³	1	"	"	"	"	"
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>6.1</b>	0.98	0.28	ug/m³	1	"	"	"	"	"
1,2-Dibromoethane (106-93-4)	<3.8	3.8	0.48	ug/m³	1	"	"	"	"	"
1,2-Dichlorobenzene (95-50-1)	<3.0	3.0	0.31	ug/m³	1	"	"	"	"	"
1,2-Dichloroethane (107-06-2)	<2.0	2.0	0.14	ug/m³	1	"	"	"	"	"
1,2-Dichloropropane (78-87-5)	<2.3	2.3	0.30	ug/m³	1	"	"	"	"	"
<b>1,3,5-Trimethylbenzene (108-67-8)</b>	<b>2.1</b>	0.98	0.29	ug/m³	1	"	"	"	"	"
1,3-Butadiene (106-99-0)	<1.1	1.1	0.13	ug/m³	1	"	"	"	"	"
1,3-Dichlorobenzene (541-73-1)	<3.0	3.0	0.29	ug/m³	1	"	"	"	"	"
1,4-Dichlorobenzene (106-46-7)	<3.0	3.0	0.29	ug/m³	1	"	"	"	"	"
<b>2-Butanone (78-93-3)</b>	<b>5.4</b>	1.5	0.16	ug/m³	1	"	"	"	"	"
<b>4-Ethyltoluene (622-96-8)</b>	<b>3.1</b>	2.5	0.29	ug/m³	1	"	"	"	"	"
<b>Acetone (67-64-1)</b>	<b>55</b>	1.2	0.29	ug/m³	1	"	"	"	"	"
Benzene (71-43-2)	<0.64	0.64	0.15	ug/m³	1	"	"	"	"	"
Benzyl chloride (100-44-7)	<2.6	2.6	0.29	ug/m³	1	"	"	"	"	"
Bromodichloromethane (75-27-4)	<3.4	3.4	0.25	ug/m³	1	"	"	"	"	"
Bromoform (75-25-2)	<5.2	5.2	0.50	ug/m³	1	"	"	"	"	"
Bromomethane (74-83-9)	<1.9	1.9	0.14	ug/m³	1	"	"	"	"	"
Carbon disulfide (75-15-0)	<1.6	1.6	0.069	ug/m³	1	"	"	"	"	"
Carbon tetrachloride (56-23-5)	<3.1	3.1	0.19	ug/m³	1	"	"	"	"	"
Chlorobenzene (108-90-7)	<2.3	2.3	0.28	ug/m³	1	"	"	"	"	"
Chloroethane (75-00-3)	<1.3	1.3	0.066	ug/m³	1	"	"	"	"	"
Chloroform (67-66-3)	<2.4	2.4	0.26	ug/m³	1	"	"	"	"	"
Chloromethane (74-87-3)	<1.0	1.0	0.058	ug/m³	1	"	"	"	"	"
cis-1,2-Dichloroethene (156-59-2)	<2.0	2.0	0.075	ug/m³	1	"	"	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	<2.3	2.3	0.31	ug/m³	1	"	"	"	"	"
<b>Cyclohexane (110-82-7)</b>	<b>14</b>	1.7	0.10	ug/m³	1	"	"	"	"	"

Landmark Environmental 2042 West 98th Street Bloomington, MN 55431	Project: TO-15 Project Number: City of Rochester Project Manager: Mr. Jason Skramstad	Work Order #: 1205980 Date Reported: 01/04/13
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### VOC - AIR

#### Legend Technical Services, Inc.

Analyte (CAS#)	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>LSG-7 (1205980-05) Air Received:12/26/12 11:45 Sampled:12/21/12 08:04</b>										
Dibromochloromethane (124-48-1)	<4.3	4.3	0.43	ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	"
Dichlorodifluoromethane (75-71-8)	<2.5	2.5	0.13	ug/m³	1	"	"	"	"	"
Dichlorotetrafluoroethane (76-14-2)	<3.5	3.5	0.15	ug/m³	1	"	"	"	"	"
<b>Ethanol (64-17-5)</b>	<b>490</b>	130	20	ug/m³	135	"	"	12/28/12	"	"
Ethyl acetate (141-78-6)	<1.8	1.8	0.18	ug/m³	1	"	"	12/27/12	"	"
<b>Ethylbenzene (100-41-4)</b>	<b>4.5</b>	0.87	0.25	ug/m³	1	"	"	"	"	"
Hexachlorobutadiene (87-68-3)	<5.3	5.3	0.69	ug/m³	1	"	"	"	"	"
<b>Isopropyl alcohol (67-63-0)</b>	<b>13</b>	1.2	0.10	ug/m³	1	"	"	"	"	"
<b>m,p-Xylene (136777-61-2)</b>	<b>3.6</b>	1.7	0.48	ug/m³	1	"	"	"	"	"
<b>Methyl butyl ketone (591-78-6)</b>	<b>2.1</b>	2.0	0.26	ug/m³	1	"	"	"	"	"
Methyl isobutyl ketone (108-10-1)	<2.0	2.0	0.32	ug/m³	1	"	"	"	"	"
Methyl tert-butyl ether (1634-04-4)	<1.8	1.8	0.21	ug/m³	1	"	"	"	"	"
<b>Methylene chloride (75-09-2)</b>	<b>4.0</b>	1.7	0.15	ug/m³	1	"	"	"	"	"
Naphthalene (91-20-3)	<2.6	2.6	0.14	ug/m³	1	"	"	"	"	"
n-Heptane (142-82-5)	<2.0	2.0	0.13	ug/m³	1	"	"	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>38</b>	1.8	0.056	ug/m³	1	"	"	"	"	"
<b>o-Xylene (95-47-6)</b>	<b>1.8</b>	0.87	0.20	ug/m³	1	"	"	"	"	"
Propylene (115-07-1)	<0.86	0.86	0.031	ug/m³	1	"	"	"	"	"
<b>Styrene (100-42-5)</b>	<b>14</b>	2.1	0.20	ug/m³	1	"	"	"	"	"
<b>Tetrachloroethene (127-18-4)</b>	<b>26</b>	3.4	0.24	ug/m³	1	"	"	"	"	"
<b>Tetrahydrofuran (109-99-9)</b>	<b>3.8</b>	1.5	0.26	ug/m³	1	"	"	"	"	"
<b>Toluene (108-88-3)</b>	<b>3900</b>	100	30	ug/m³	135	"	"	12/28/12	"	"
trans-1,2-Dichloroethene (156-60-5)	<2.0	2.0	0.063	ug/m³	1	"	"	12/27/12	"	"
trans-1,3-Dichloropropene (10061-02-6)	<2.3	2.3	0.25	ug/m³	1	"	"	"	"	"
Trichloroethene (79-01-6)	<2.7	2.7	0.25	ug/m³	1	"	"	"	"	"
Trichlorofluoromethane (75-69-4)	<2.8	2.8	0.14	ug/m³	1	"	"	"	"	"
Trichlorotrifluoroethane (76-13-1)	<3.8	3.8	0.18	ug/m³	1	"	"	"	"	"
Vinyl acetate (108-05-4)	<1.8	1.8	0.20	ug/m³	1	"	"	"	"	"
Vinyl chloride (75-01-4)	<1.3	1.3	0.069	ug/m³	1	"	"	"	"	"

#### LSG-8 (1205980-06) Air Received:12/26/12 11:45 Sampled:12/21/12 08:20

1,1,1-Trichloroethane (71-55-6)	<2.7	2.7	0.19	ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)
1,1,2,2-Tetrachloroethane (79-34-5)	<3.4	3.4	0.57	ug/m³	1	"	"	"	"
1,1,2-Trichloroethane (79-00-5)	<2.7	2.7	0.35	ug/m³	1	"	"	"	"
1,1-Dichloroethane (75-34-3)	<2.0	2.0	0.069	ug/m³	1	"	"	"	"
1,1-Dichloroethene (75-35-4)	<2.0	2.0	0.067	ug/m³	1	"	"	"	"



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Landmark Environmental 2042 West 98th Street Bloomington, MN 55431	Project: TO-15 Project Number: City of Rochester Project Manager: Mr. Jason Skramstad	Work Order #: 1205980 Date Reported: 01/04/13
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**VOC - AIR**  
**Legend Technical Services, Inc.**

Analyte (CAS#)	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>LSG-8 (1205980-06) Air Received:12/26/12 11:45 Sampled:12/21/12 08:20</b>										
1,2,4-Trichlorobenzene (120-82-1)	<3.7	3.7	0.13	ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	"
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>5.5</b>	0.98	0.28	ug/m³	1	"	"	"	"	"
1,2-Dibromoethane (106-93-4)	<3.8	3.8	0.48	ug/m³	1	"	"	"	"	"
1,2-Dichlorobenzene (95-50-1)	<3.0	3.0	0.31	ug/m³	1	"	"	"	"	"
1,2-Dichloroethane (107-06-2)	<2.0	2.0	0.14	ug/m³	1	"	"	"	"	"
1,2-Dichloropropane (78-87-5)	<2.3	2.3	0.30	ug/m³	1	"	"	"	"	"
<b>1,3,5-Trimethylbenzene (108-67-8)</b>	<b>2.1</b>	0.98	0.29	ug/m³	1	"	"	"	"	"
1,3-Butadiene (106-99-0)	<1.1	1.1	0.13	ug/m³	1	"	"	"	"	"
1,3-Dichlorobenzene (541-73-1)	<3.0	3.0	0.29	ug/m³	1	"	"	"	"	"
1,4-Dichlorobenzene (106-46-7)	<3.0	3.0	0.29	ug/m³	1	"	"	"	"	"
<b>2-Butanone (78-93-3)</b>	<b>5.4</b>	1.5	0.16	ug/m³	1	"	"	"	"	"
<b>4-Ethyltoluene (622-96-8)</b>	<b>2.8</b>	2.5	0.29	ug/m³	1	"	"	"	"	"
<b>Acetone (67-64-1)</b>	<b>49</b>	1.2	0.29	ug/m³	1	"	"	"	"	"
Benzene (71-43-2)	<0.64	0.64	0.15	ug/m³	1	"	"	"	"	"
Benzyl chloride (100-44-7)	<2.6	2.6	0.29	ug/m³	1	"	"	"	"	"
Bromodichloromethane (75-27-4)	<3.4	3.4	0.25	ug/m³	1	"	"	"	"	"
Bromoform (75-25-2)	<5.2	5.2	0.50	ug/m³	1	"	"	"	"	"
Bromomethane (74-83-9)	<1.9	1.9	0.14	ug/m³	1	"	"	"	"	"
Carbon disulfide (75-15-0)	<1.6	1.6	0.069	ug/m³	1	"	"	"	"	"
Carbon tetrachloride (56-23-5)	<3.1	3.1	0.19	ug/m³	1	"	"	"	"	"
Chlorobenzene (108-90-7)	<2.3	2.3	0.28	ug/m³	1	"	"	"	"	"
Chloroethane (75-00-3)	<1.3	1.3	0.066	ug/m³	1	"	"	"	"	"
Chloroform (67-66-3)	<2.4	2.4	0.26	ug/m³	1	"	"	"	"	"
Chloromethane (74-87-3)	<1.0	1.0	0.058	ug/m³	1	"	"	"	"	"
cis-1,2-Dichloroethene (156-59-2)	<2.0	2.0	0.075	ug/m³	1	"	"	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	<2.3	2.3	0.31	ug/m³	1	"	"	"	"	"
<b>Cyclohexane (110-82-7)</b>	<b>7.9</b>	1.7	0.10	ug/m³	1	"	"	"	"	"
Dibromochloromethane (124-48-1)	<4.3	4.3	0.43	ug/m³	1	"	"	"	"	"
Dichlorodifluoromethane (75-71-8)	<2.5	2.5	0.13	ug/m³	1	"	"	"	"	"
Dichlorotetrafluoroethane (76-14-2)	<3.5	3.5	0.15	ug/m³	1	"	"	"	"	"
<b>Ethanol (64-17-5)</b>	<b>470</b>	42	6.8	ug/m³	45	"	"	12/27/12	"	"
Ethyl acetate (141-78-6)	<1.8	1.8	0.18	ug/m³	1	"	"	12/27/12	"	"
<b>Ethylbenzene (100-41-4)</b>	<b>4.0</b>	0.87	0.25	ug/m³	1	"	"	"	"	"
Hexachlorobutadiene (87-68-3)	<5.3	5.3	0.69	ug/m³	1	"	"	"	"	"
<b>Isopropyl alcohol (67-63-0)</b>	<b>18</b>	1.2	0.10	ug/m³	1	"	"	"	"	"



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Landmark Environmental 2042 West 98th Street Bloomington, MN 55431	Project: TO-15 Project Number: City of Rochester Project Manager: Mr. Jason Skramstad	Work Order #: 1205980 Date Reported: 01/04/13
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**VOC - AIR**  
**Legend Technical Services, Inc.**

Analyte (CAS#)	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>LSG-8 (1205980-06) Air Received:12/26/12 11:45 Sampled:12/21/12 08:20</b>										
m,p-Xylene (136777-61-2)	2.0	1.7	0.48	ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	"
Methyl butyl ketone (591-78-6)	<2.0	2.0	0.26	ug/m³	1	"	"	"	"	"
Methyl isobutyl ketone (108-10-1)	<2.0	2.0	0.32	ug/m³	1	"	"	"	"	"
Methyl tert-butyl ether (1634-04-4)	<1.8	1.8	0.21	ug/m³	1	"	"	"	"	"
Methylene chloride (75-09-2)	<1.7	1.7	0.15	ug/m³	1	"	"	"	"	"
Naphthalene (91-20-3)	<2.6	2.6	0.14	ug/m³	1	"	"	"	"	"
n-Heptane (142-82-5)	<2.0	2.0	0.13	ug/m³	1	"	"	"	"	"
n-Hexane (110-54-3)	8.3	1.8	0.056	ug/m³	1	"	"	"	"	"
o-Xylene (95-47-6)	<0.87	0.87	0.20	ug/m³	1	"	"	"	"	"
Propylene (115-07-1)	<0.86	0.86	0.031	ug/m³	1	"	"	"	"	"
Styrene (100-42-5)	23	2.1	0.20	ug/m³	1	"	"	"	"	"
Tetrachloroethene (127-18-4)	20	3.4	0.24	ug/m³	1	"	"	"	"	"
Tetrahydrofuran (109-99-9)	3.5	1.5	0.26	ug/m³	1	"	"	"	"	"
Toluene (108-88-3)	970	34	9.9	ug/m³	45	"	"	12/27/12	"	"
trans-1,2-Dichloroethene (156-60-5)	<2.0	2.0	0.063	ug/m³	1	"	"	12/27/12	"	"
trans-1,3-Dichloropropene (10061-02-6)	<2.3	2.3	0.25	ug/m³	1	"	"	"	"	"
Trichloroethene (79-01-6)	<2.7	2.7	0.25	ug/m³	1	"	"	"	"	"
Trichlorofluoromethane (75-69-4)	<2.8	2.8	0.14	ug/m³	1	"	"	"	"	"
Trichlorotrifluoroethane (76-13-1)	<3.8	3.8	0.18	ug/m³	1	"	"	"	"	"
Vinyl acetate (108-05-4)	<1.8	1.8	0.20	ug/m³	1	"	"	"	"	"
Vinyl chloride (75-01-4)	<1.3	1.3	0.069	ug/m³	1	"	"	"	"	"



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Landmark Environmental 2042 West 98th Street Bloomington, MN 55431	Project: TO-15 Project Number: City of Rochester Project Manager: Mr. Jason Skramstad	Work Order #: 1205980 Date Reported: 01/04/13
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**TENTATIVELY IDENTIFIED COMPOUNDS**  
**Legend Technical Services, Inc.**

Analyte (CAS#)	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>LSG-9 (1205980-01) Air Received:12/26/12 11:45 Sampled:12/21/12 07:22</b>										
2-Propanol, 2-methyl- (75-65-0)	35			ug/m³	1	B2L2620	12/26/12	12/26/12	TO-15(M)	T-1
Butane, 2-methyl- (78-78-4)	24			ug/m³	1	"	"	"	"	T-1
Cyclopentane, methyl- (96-37-7)	44			ug/m³	1	"	"	"	"	T-1
d-Limonene (5989-27-5)	27			ug/m³	1	"	"	"	"	T-1
Ethane, 1-chloro-1,1-difluoro- (75-68-3)	2000			ug/m³	1	"	"	"	"	T-1
<b>SP-2 (1205980-02) Air Received:12/26/12 11:45 Sampled:12/21/12 07:28</b>										
Tentatively Identified Compounds (NA)	ND			ug/m³	1	B2L2620	12/26/12	12/26/12	TO-15(M)	A-02
<b>LSG-10 (1205980-03) Air Received:12/26/12 11:45 Sampled:12/21/12 07:44</b>										
1-Butanol (71-36-3)	230			ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	T-1
1-Propene, 2-methyl- (115-11-7)	15			ug/m³	1	"	"	"	"	T-1
2-Propanol, 2-methyl- (75-65-0)	340			ug/m³	1	"	"	"	"	T-1
Butane, 2-methyl- (78-78-4)	21			ug/m³	1	"	"	"	"	T-1
Cyclopentane, methyl- (96-37-7)	420			ug/m³	1	"	"	"	"	T-1
d-Limonene (5989-27-5)	41			ug/m³	1	"	"	"	"	T-1
Ethane, 1-chloro-1,1-difluoro- (75-68-3)	190			ug/m³	1	"	"	"	"	T-1
<b>SP-1 (1205980-04) Air Received:12/26/12 11:45 Sampled:12/21/12 07:54</b>										
Ethane, 1-chloro-1,1-difluoro- (75-68-3)	2100			ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	T-1
<b>LSG-7 (1205980-05) Air Received:12/26/12 11:45 Sampled:12/21/12 08:04</b>										
1-Butanol (71-36-3)	88			ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	T-1
2-Propanol, 2-methyl- (75-65-0)	53			ug/m³	1	"	"	"	"	T-1
Butane, 2-methyl- (78-78-4)	60			ug/m³	1	"	"	"	"	T-1
Cyclopentane, methyl- (96-37-7)	70			ug/m³	1	"	"	"	"	T-1
Ethane, 1-chloro-1,1-difluoro- (75-68-3)	580			ug/m³	1	"	"	"	"	T-1
Limonene (138-86-3)	41			ug/m³	1	"	"	"	"	T-1
Pentane, 3-methyl- (96-14-0)	23			ug/m³	1	"	"	"	"	T-1
<b>LSG-8 (1205980-06) Air Received:12/26/12 11:45 Sampled:12/21/12 08:20</b>										
1-Butanol (71-36-3)	53			ug/m³	1	B2L2620	12/26/12	12/27/12	TO-15(M)	T-1
2-Propanol, 2-methyl- (75-65-0)	56			ug/m³	1	"	"	"	"	T-1
Cyclopentane, methyl- (96-37-7)	39			ug/m³	1	"	"	"	"	T-1
d-Limonene (5989-27-5)	42			ug/m³	1	"	"	"	"	T-1
Ethane, 1-chloro-1,1-difluoro- (75-68-3)	3400			ug/m³	1	"	"	"	"	T-1



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Landmark Environmental  
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Project: TO-15  
Project Number: City of Rochester  
Project Manager: Mr. Jason Skramstad

Work Order #: 1205980  
Date Reported: 01/04/13

**VOC - AIR - Quality Control**  
**Legend Technical Services, Inc.**

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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**Batch B2L2620 - TO-15**

**Blank (B2L2620-BLK1)**

Prepared & Analyzed: 12/26/12

1,1,1-Trichloroethane	< 2.7	2.7	0.19	ug/m³							
1,1,2,2-Tetrachloroethane	< 3.4	3.4	0.57	ug/m³							
1,1,2-Trichloroethane	< 2.7	2.7	0.35	ug/m³							
1,1-Dichloroethane	< 2.0	2.0	0.069	ug/m³							
1,1-Dichloroethene	< 2.0	2.0	0.067	ug/m³							
1,2,4-Trichlorobenzene	< 3.7	3.7	0.13	ug/m³							
1,2,4-Trimethylbenzene	< 0.98	0.98	0.28	ug/m³							
1,2-Dibromoethane	< 3.8	3.8	0.48	ug/m³							
1,2-Dichlorobenzene	< 3.0	3.0	0.31	ug/m³							
1,2-Dichloroethane	< 2.0	2.0	0.14	ug/m³							
1,2-Dichloropropane	< 2.3	2.3	0.30	ug/m³							
1,3,5-Trimethylbenzene	< 0.98	0.98	0.29	ug/m³							
1,3-Butadiene	< 1.1	1.1	0.13	ug/m³							
1,3-Dichlorobenzene	< 3.0	3.0	0.29	ug/m³							
1,4-Dichlorobenzene	< 3.0	3.0	0.29	ug/m³							
2-Butanone	< 1.5	1.5	0.16	ug/m³							
4-Ethyltoluene	< 2.5	2.5	0.29	ug/m³							
Acetone	< 1.2	1.2	0.29	ug/m³							
Benzene	< 0.64	0.64	0.15	ug/m³							
Benzyl chloride	< 2.6	2.6	0.29	ug/m³							
Bromodichloromethane	< 3.4	3.4	0.25	ug/m³							
Bromoform	< 5.2	5.2	0.50	ug/m³							
Bromomethane	< 1.9	1.9	0.14	ug/m³							
Carbon disulfide	< 1.6	1.6	0.069	ug/m³							
Carbon tetrachloride	< 3.1	3.1	0.19	ug/m³							
Chlorobenzene	< 2.3	2.3	0.28	ug/m³							
Chloroethane	< 1.3	1.3	0.066	ug/m³							
Chloroform	< 2.4	2.4	0.26	ug/m³							
Chloromethane	< 1.0	1.0	0.058	ug/m³							
cis-1,2-Dichloroethene	< 2.0	2.0	0.075	ug/m³							
cis-1,3-Dichloropropene	< 2.3	2.3	0.31	ug/m³							
Cyclohexane	< 1.7	1.7	0.10	ug/m³							
Dibromochloromethane	< 4.3	4.3	0.43	ug/m³							
Dichlorodifluoromethane	< 2.5	2.5	0.13	ug/m³							
Dichlortetrafluoroethane	< 3.5	3.5	0.15	ug/m³							
Ethanol	< 0.94	0.94	0.15	ug/m³							
Ethyl acetate	< 1.8	1.8	0.18	ug/m³							
Ethylbenzene	< 0.87	0.87	0.25	ug/m³							
Hexachlorobutadiene	< 5.3	5.3	0.69	ug/m³							
Isopropyl alcohol	< 1.2	1.2	0.10	ug/m³							



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Project: TO-15  
Project Number: City of Rochester  
Project Manager: Mr. Jason Skramstad

Work Order #: 1205980  
Date Reported: 01/04/13

**VOC - AIR - Quality Control**  
**Legend Technical Services, Inc.**

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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**Batch B2L2620 - TO-15**

**Blank (B2L2620-BLK1)**

Prepared & Analyzed: 12/26/12

m,p-Xylene	< 1.7	1.7	0.48	ug/m³							
Methyl butyl ketone	< 2.0	2.0	0.26	ug/m³							
Methyl isobutyl ketone	< 2.0	2.0	0.32	ug/m³							
Methyl tert-butyl ether	< 1.8	1.8	0.21	ug/m³							
Methylene chloride	< 1.7	1.7	0.15	ug/m³							
Naphthalene	< 2.6	2.6	0.14	ug/m³							
n-Heptane	< 2.0	2.0	0.13	ug/m³							
n-Hexane	< 1.8	1.8	0.056	ug/m³							
o-Xylene	< 0.87	0.87	0.20	ug/m³							
Propylene	< 0.86	0.86	0.031	ug/m³							
Styrene	< 2.1	2.1	0.20	ug/m³							
Tetrachloroethene	< 3.4	3.4	0.24	ug/m³							
Tetrahydrofuran	< 1.5	1.5	0.26	ug/m³							
Toluene	< 0.75	0.75	0.22	ug/m³							
trans-1,2-Dichloroethene	< 2.0	2.0	0.063	ug/m³							
trans-1,3-Dichloropropene	< 2.3	2.3	0.25	ug/m³							
Trichloroethene	< 2.7	2.7	0.25	ug/m³							
Trichlorofluoromethane	< 2.8	2.8	0.14	ug/m³							
Trichlorotrifluoroethane	< 3.8	3.8	0.18	ug/m³							
Vinyl acetate	< 1.8	1.8	0.20	ug/m³							
Vinyl chloride	< 1.3	1.3	0.069	ug/m³							

**LCS (B2L2620-BS1)**

Prepared & Analyzed: 12/26/12

1,1,1-Trichloroethane	59.5	2.7	0.19	ug/m³	54.6		109	70-130			
1,1,2,2-Tetrachloroethane	62.5	3.4	0.57	ug/m³	68.6		91.0	70-130			
1,1,2-Trichloroethane	51.0	2.7	0.35	ug/m³	54.6		93.5	70-130			
1,1-Dichloroethane	39.1	2.0	0.069	ug/m³	40.5		96.6	70-130			
1,1-Dichloroethene	46.4	2.0	0.067	ug/m³	39.6		117	70-130			
1,2,4-Trichlorobenzene	76.4	3.7	0.13	ug/m³	74.2		103	70-130			
1,2,4-Trimethylbenzene	50.1	0.98	0.28	ug/m³	49.2		102	70-130			
1,2-Dibromoethane	79.9	3.8	0.48	ug/m³	76.8		104	70-130			
1,2-Dichlorobenzene	59.9	3.0	0.31	ug/m³	60.1		99.6	70-130			
1,2-Dichloroethane	43.7	2.0	0.14	ug/m³	40.5		108	70-130			
1,2-Dichloropropane	49.0	2.3	0.30	ug/m³	46.2		106	70-130			
1,3,5-Trimethylbenzene	49.6	0.98	0.29	ug/m³	49.2		101	70-130			
1,3-Butadiene	22.6	1.1	0.13	ug/m³	22.1		102	70-130			
1,3-Dichlorobenzene	60.1	3.0	0.29	ug/m³	60.1		100	70-130			
1,4-Dichlorobenzene	61.3	3.0	0.29	ug/m³	60.1		102	70-130			
2-Butanone	33.3	1.5	0.16	ug/m³	29.5		113	70-130			
4-Ethyltoluene	51.6	2.5	0.29	ug/m³	49.2		105	70-130			



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Project Number: City of Rochester  
Project Manager: Mr. Jason Skramstad

Work Order #: 1205980  
Date Reported: 01/04/13

**VOC - AIR - Quality Control**  
**Legend Technical Services, Inc.**

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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**Batch B2L2620 - TO-15**

**LCS (B2L2620-BS1)**

Prepared & Analyzed: 12/26/12

Acetone	24.2	1.2	0.29	ug/m³	23.8		102	70-130		
Benzene	33.2	0.64	0.15	ug/m³	31.9		104	70-130		
Benzyl chloride	49.4	2.6	0.29	ug/m³	51.8		95.5	70-130		
Bromodichloromethane	65.4	3.4	0.25	ug/m³	67.0		97.6	70-130		
Bromoform	94.4	5.2	0.50	ug/m³	103		91.3	70-130		
Bromomethane	36.4	1.9	0.14	ug/m³	38.8		93.8	70-130		
Carbon disulfide	28.9	1.6	0.069	ug/m³	31.1		92.7	70-130		
Carbon tetrachloride	68.6	3.1	0.19	ug/m³	62.9		109	70-130		
Chlorobenzene	42.5	2.3	0.28	ug/m³	46.0		92.3	70-130		
Chloroethane	26.4	1.3	0.066	ug/m³	26.4		100	70-130		
Chloroform	51.3	2.4	0.26	ug/m³	48.8		105	70-130		
Chloromethane	19.6	1.0	0.058	ug/m³	20.6		94.7	70-130		
cis-1,2-Dichloroethene	44.0	2.0	0.075	ug/m³	39.6		111	70-130		
cis-1,3-Dichloropropene	56.7	2.3	0.31	ug/m³	45.4		125	70-130		
Cyclohexane	42.3	1.7	0.10	ug/m³	34.4		123	70-130		
Dibromochloromethane	80.6	4.3	0.43	ug/m³	85.2		94.6	70-130		
Dichlorodifluoromethane	50.4	2.5	0.13	ug/m³	49.5		102	70-130		
Dichlorotetrafluoroethane	66.1	3.5	0.15	ug/m³	69.9		94.6	70-130		
Ethanol	20.7	0.94	0.15	ug/m³	18.8		110	70-130		
Ethyl acetate	42.9	1.8	0.18	ug/m³	36.0		119	70-130		
Ethylbenzene	51.2	0.87	0.25	ug/m³	43.4		118	70-130		
Hexachlorobutadiene	94.7	5.3	0.69	ug/m³	107		88.8	70-130		
Isopropyl alcohol	28.5	1.2	0.10	ug/m³	24.6		116	70-130		
m,p-Xylene	85.1	1.7	0.48	ug/m³	86.8		98.0	70-130		
Methyl butyl ketone	47.9	2.0	0.26	ug/m³	41.0		117	70-130		
Methyl isobutyl ketone	47.5	2.0	0.32	ug/m³	41.0		116	70-130		
Methyl tert-butyl ether	42.2	1.8	0.21	ug/m³	36.1		117	70-130		
Methylene chloride	31.0	1.7	0.15	ug/m³	34.7		89.2	70-130		
Naphthalene	54.5	2.6	0.14	ug/m³	52.4		104	70-130		
n-Heptane	45.1	2.0	0.13	ug/m³	41.0		110	70-130		
n-Hexane	37.0	1.8	0.056	ug/m³	35.2		105	70-130		
o-Xylene	49.5	0.87	0.20	ug/m³	43.4		114	70-130		
Propylene	17.6	0.86	0.031	ug/m³	17.2		102	70-130		
Styrene	48.1	2.1	0.20	ug/m³	42.6		113	70-130		
Tetrachloroethene	63.5	3.4	0.24	ug/m³	67.8		93.6	70-130		
Tetrahydrofuran	35.4	1.5	0.26	ug/m³	29.5		120	70-130		
Toluene	43.7	0.75	0.22	ug/m³	37.7		116	70-130		
trans-1,2-Dichloroethene	44.4	2.0	0.063	ug/m³	39.6		112	70-130		
trans-1,3-Dichloropropene	56.7	2.3	0.25	ug/m³	45.4		125	70-130		
Trichloroethene	55.3	2.7	0.25	ug/m³	53.7		103	70-130		



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Project: TO-15  
Project Number: City of Rochester  
Project Manager: Mr. Jason Skramstad

Work Order #: 1205980  
Date Reported: 01/04/13

**VOC - AIR - Quality Control**  
**Legend Technical Services, Inc.**

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
<b>Batch B2L2620 - TO-15</b>											
<b>LCS (B2L2620-BS1)</b>											
Prepared & Analyzed: 12/26/12											
Trichlorofluoromethane	55.2	2.8	0.14	ug/m³	56.2		98.2	70-130			
Trichlorotrifluoroethane	71.9	3.8	0.18	ug/m³	76.6		93.8	70-130			
Vinyl acetate	38.7	1.8	0.20	ug/m³	35.2		110	70-130			
Vinyl chloride	25.5	1.3	0.069	ug/m³	25.6		99.9	70-130			
<b>Duplicate (B2L2620-DUP1)</b>											
Source: 1205971-01											
Prepared & Analyzed: 12/26/12											
1,1,1-Trichloroethane	< 2.7	2.7	0.19	ug/m³	<2.7			NA	25		
1,1,2,2-Tetrachloroethane	< 3.4	3.4	0.57	ug/m³	<3.4			NA	25		
1,1,2-Trichloroethane	< 2.7	2.7	0.35	ug/m³	<2.7			NA	25		
1,1-Dichloroethane	< 2.0	2.0	0.069	ug/m³	<2.0			NA	25		
1,1-Dichloroethene	< 2.0	2.0	0.067	ug/m³	<2.0			NA	25		
1,2,4-Trichlorobenzene	< 3.7	3.7	0.13	ug/m³	<3.7			NA	25		
1,2,4-Trimethylbenzene	1.01	0.98	0.28	ug/m³	0.983			3.07	25		
1,2-Dibromoethane	< 3.8	3.8	0.48	ug/m³	<3.8			NA	25		
1,2-Dichlorobenzene	< 3.0	3.0	0.31	ug/m³	<3.0			NA	25		
1,2-Dichloroethane	< 2.0	2.0	0.14	ug/m³	<2.0			NA	25		
1,2-Dichloropropane	< 2.3	2.3	0.30	ug/m³	<2.3			NA	25		
1,3,5-Trimethylbenzene	< 0.98	0.98	0.29	ug/m³	<0.98			NA	25		
1,3-Butadiene	< 1.1	1.1	0.13	ug/m³	<1.1			NA	25		
1,3-Dichlorobenzene	< 3.0	3.0	0.29	ug/m³	<3.0			NA	25		
1,4-Dichlorobenzene	< 3.0	3.0	0.29	ug/m³	<3.0			NA	25		
2-Butanone	< 1.5	1.5	0.16	ug/m³	<1.5			NA	25		
4-Ethyltoluene	< 2.5	2.5	0.29	ug/m³	<2.5			NA	25		
Acetone	49.0	1.2	0.29	ug/m³	46.2			6.05	25		
Benzene	< 0.64	0.64	0.15	ug/m³	<0.64			NA	25		
Benzyl chloride	< 2.6	2.6	0.29	ug/m³	<2.6			NA	25		
Bromodichloromethane	< 3.4	3.4	0.25	ug/m³	<3.4			NA	25		
Bromoform	< 5.2	5.2	0.50	ug/m³	<5.2			NA	25		
Bromomethane	< 1.9	1.9	0.14	ug/m³	<1.9			NA	25		
Carbon disulfide	< 1.6	1.6	0.069	ug/m³	<1.6			NA	25		
Carbon tetrachloride	< 3.1	3.1	0.19	ug/m³	<3.1			NA	25		
Chlorobenzene	< 2.3	2.3	0.28	ug/m³	<2.3			NA	25		
Chloroethane	< 1.3	1.3	0.066	ug/m³	<1.3			NA	25		
Chloroform	< 2.4	2.4	0.26	ug/m³	<2.4			NA	25		
Chloromethane	< 1.0	1.0	0.058	ug/m³	<1.0			NA	25		
cis-1,2-Dichloroethene	< 2.0	2.0	0.075	ug/m³	<2.0			NA	25		
cis-1,3-Dichloropropene	< 2.3	2.3	0.31	ug/m³	<2.3			NA	25		
Cyclohexane	< 1.7	1.7	0.10	ug/m³	<1.7			NA	25		
Dibromochloromethane	< 4.3	4.3	0.43	ug/m³	<4.3			NA	25		
Dichlorodifluoromethane	3.02	2.5	0.13	ug/m³	3.03			0.430	25		



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Project Number: City of Rochester  
Project Manager: Mr. Jason Skramstad

Work Order #: 1205980  
Date Reported: 01/04/13

**VOC - AIR - Quality Control**  
**Legend Technical Services, Inc.**

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
<b>Batch B2L2620 - TO-15</b>											
<b>Duplicate (B2L2620-DUP1)</b>											
<b>Source: 1205971-01</b> Prepared & Analyzed: 12/26/12											
Dichlorotetrafluoroethane	< 3.5	3.5	0.15	ug/m³		<3.5			NA	25	
Ethanol	332	42	6.8	ug/m³		337			1.40	25	
Ethyl acetate	< 1.8	1.8	0.18	ug/m³		<1.8			NA	25	
Ethylbenzene	< 0.87	0.87	0.25	ug/m³		<0.87			NA	25	
Hexachlorobutadiene	< 5.3	5.3	0.69	ug/m³		<5.3			NA	25	
Isopropyl alcohol	1820	54	4.5	ug/m³		1850			1.40	25	
m,p-Xylene	< 1.7	1.7	0.48	ug/m³		<1.7			NA	25	
Methyl butyl ketone	< 2.0	2.0	0.26	ug/m³		<2.0			NA	25	
Methyl isobutyl ketone	< 2.0	2.0	0.32	ug/m³		<2.0			NA	25	
Methyl tert-butyl ether	< 1.8	1.8	0.21	ug/m³		<1.8			NA	25	
Methylene chloride	< 1.7	1.7	0.15	ug/m³		<1.7			NA	25	
Naphthalene	< 2.6	2.6	0.14	ug/m³		<2.6			NA	25	
n-Heptane	< 2.0	2.0	0.13	ug/m³		<2.0			NA	25	
n-Hexane	< 1.8	1.8	0.056	ug/m³		<1.8			NA	25	
o-Xylene	< 0.87	0.87	0.20	ug/m³		<0.87			NA	25	
Propylene	< 0.86	0.86	0.031	ug/m³		<0.86			NA	25	
Styrene	< 2.1	2.1	0.20	ug/m³		<2.1			NA	25	
Tetrachloroethene	< 3.4	3.4	0.24	ug/m³		<3.4			NA	25	
Tetrahydrofuran	< 1.5	1.5	0.26	ug/m³		<1.5			NA	25	
Toluene	2.58	0.75	0.22	ug/m³		2.53			1.75	25	
trans-1,2-Dichloroethene	< 2.0	2.0	0.063	ug/m³		<2.0			NA	25	
trans-1,3-Dichloropropene	< 2.3	2.3	0.25	ug/m³		<2.3			NA	25	
Trichloroethene	< 2.7	2.7	0.25	ug/m³		<2.7			NA	25	
Trichlorofluoromethane	< 2.8	2.8	0.14	ug/m³		<2.8			NA	25	
Trichlorotrifluoroethane	< 3.8	3.8	0.18	ug/m³		<3.8			NA	25	
Vinyl acetate	< 1.8	1.8	0.20	ug/m³		<1.8			NA	25	
Vinyl chloride	< 1.3	1.3	0.069	ug/m³		<1.3			NA	25	



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Landmark Environmental  
2042 West 98th Street  
Bloomington, MN 55431

Project: TO-15  
Project Number: City of Rochester  
Project Manager: Mr. Jason Skramstad

Work Order #: 1205980  
Date Reported: 01/04/13

**TENTATIVELY IDENTIFIED COMPOUNDS - Quality Control**  
**Legend Technical Services, Inc.**

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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**Batch B2L2620 - TO-15**

**Blank (B2L2620-BLK1)**

Tentatively Identified Compounds

ND

Prepared & Analyzed: 12/26/12

ug/m<sup>3</sup>

A-02



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Landmark Environmental  
2042 West 98th Street  
Bloomington, MN 55431

Project: TO-15  
Project Number: City of Rochester  
Project Manager: Mr. Jason Skramstad

Work Order #: 1205980  
Date Reported: 01/04/13

#### Notes and Definitions

T-1	MDH does not offer certification for this parameter.
A-02	No tentatively identified compounds (TICs) were present above 5.0 ppbv.
<	Less than value listed
NA	Not applicable. The %RPD is not calculated from values less than the reporting limit.
MDL	Method Detection Limit
RL	Reporting Limit
RPD	Relative Percent Difference
LCS	Laboratory Control Spike = Blank Spike (BS) = Laboratory Fortified Blank (LFB)

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Page \_\_\_\_ of \_\_\_\_  
 88 Empire Drive, St. Paul, MN 55103 - Telephone: 651-642-1150, Fax: 651-642-1239  
**CHAIN-OF-CUSTODY RECORD**

**LEGEND TECHNICAL SERVICES, INC.**

Client Name:	Bill To:	Legend	LEGEND Project #: 1205980	TO-15 (M) w/TICs Air Analysis							
Address:	Address:		Turnaround Time: <input checked="" type="checkbox"/> Normal <input type="checkbox"/> RUSH	Project Comments:							
Attn:	PO #:		Requested Due Date: _____	Client Project Number: _____							
Phone:	Fax:		Client Project Name: City of Rush								
Item No.	Field ID / Sample ID	Canister Serial #	Flow Cont. Serial #	Pressure (Hg)	Date Collected	Time Collected	Total Stop	Stop Start	Stop Stop	PID Reading	Sample Comments
01	LSG-9	00360	11	0743	-27	12/11/12	0742	-5	9	✓	0.0
02	SP-2	00439	40	0749	-23	0748	-5	9	✓	0.0	
03	LSG-10	00285	36	0735	-26	0749	-4	9	✓	0.0	
04	SP-1	00427	20	0744	-27	0744	-4	9	✓	0.5	
05	LSG-7	00420	33	0754	-25	0904	-4	7	✓	0.0	
06	LSG-8	00376	20	0812	-28	0820	-6	8	✓	0.0	
07											
08											
09											
10											
Sample Collector (please print):				Reinforced By:	Date: 12/11/12	Time: _____	Accepted By:	Date: _____	Time: _____		
Comments: Dynamic				Reinforced By:	Date: _____	Time: _____	Received By Lab: Kelly Barber	Date: 12/11/12	Time: 1145		

**PLEASE REVIEW TERMS AND CONDITIONS ON BACK BEFORE SIGNING**  
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Page 1

Date File: \\lts-target\targetdata\chem\CHS6.i\121226.b\12.d  
Date : 26-DEC-2012 21:03

Client ID: LSQ-9

Sample Info: 1205980-01

Purge Volume: 1.0

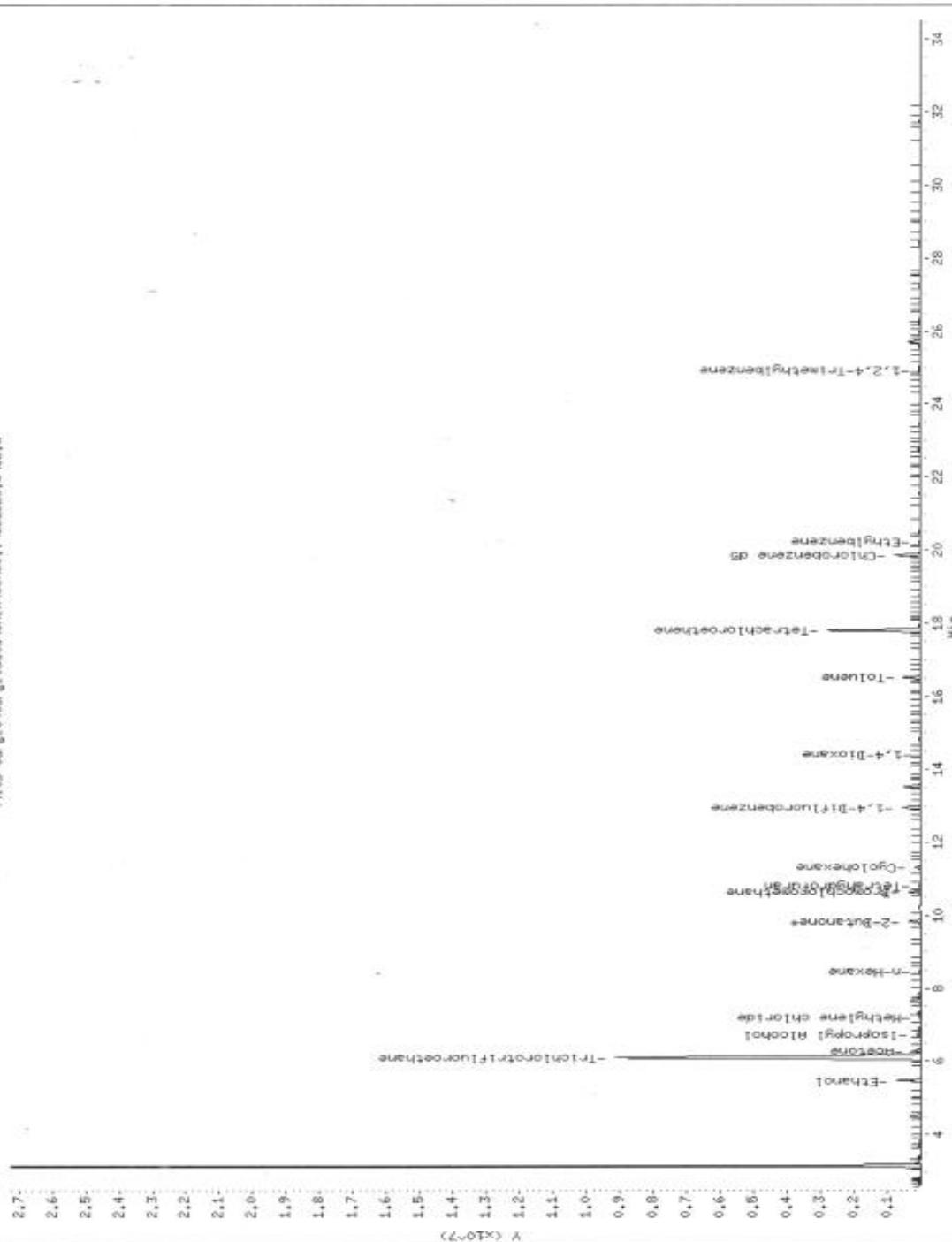
Column Phase:

Instrument: GCNS6.i

Operator: SLH

Column diameter: 0.20

\\lts-target\targetdata\chem\CHS6.i\121226.b\12.d



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Page 1

Date File: \\lta-target\\targetdata\\chem\\CHS6.1\\121226.b\\14.d  
Date : 26-DEC-2012 22:47  
Client ID: SP-2  
Sample Info: 1209980-02  
Purge Volume: 1.0  
Column Phase:

Instrument: GC96.i

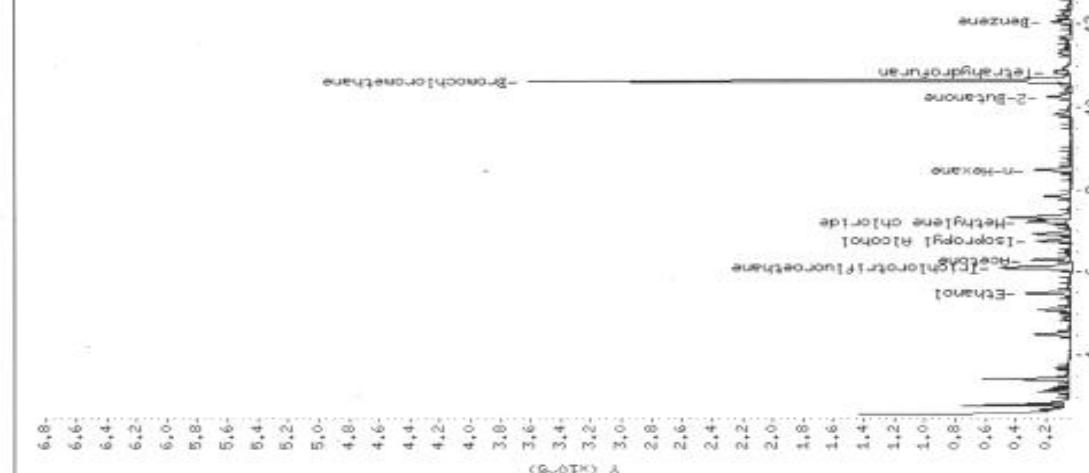
Operator: SLH

Column diameter: 0.20

\\lta-target\\targetdata\\chem\\CHS6.1\\121226.b\\14.d

Chlorobenzene d6  
Tetrachloroethane  
1,4-Difluorobenzene

Toluene  
Benzene  
2-Butanone  
Terahydronaphthalene  
2-Oxochloroethane  
n-hexane  
Ethanol  
Heptane  
Isopropyl Alcohol  
Tetrahydrofuran  
Methylene chloride  
Ethylene



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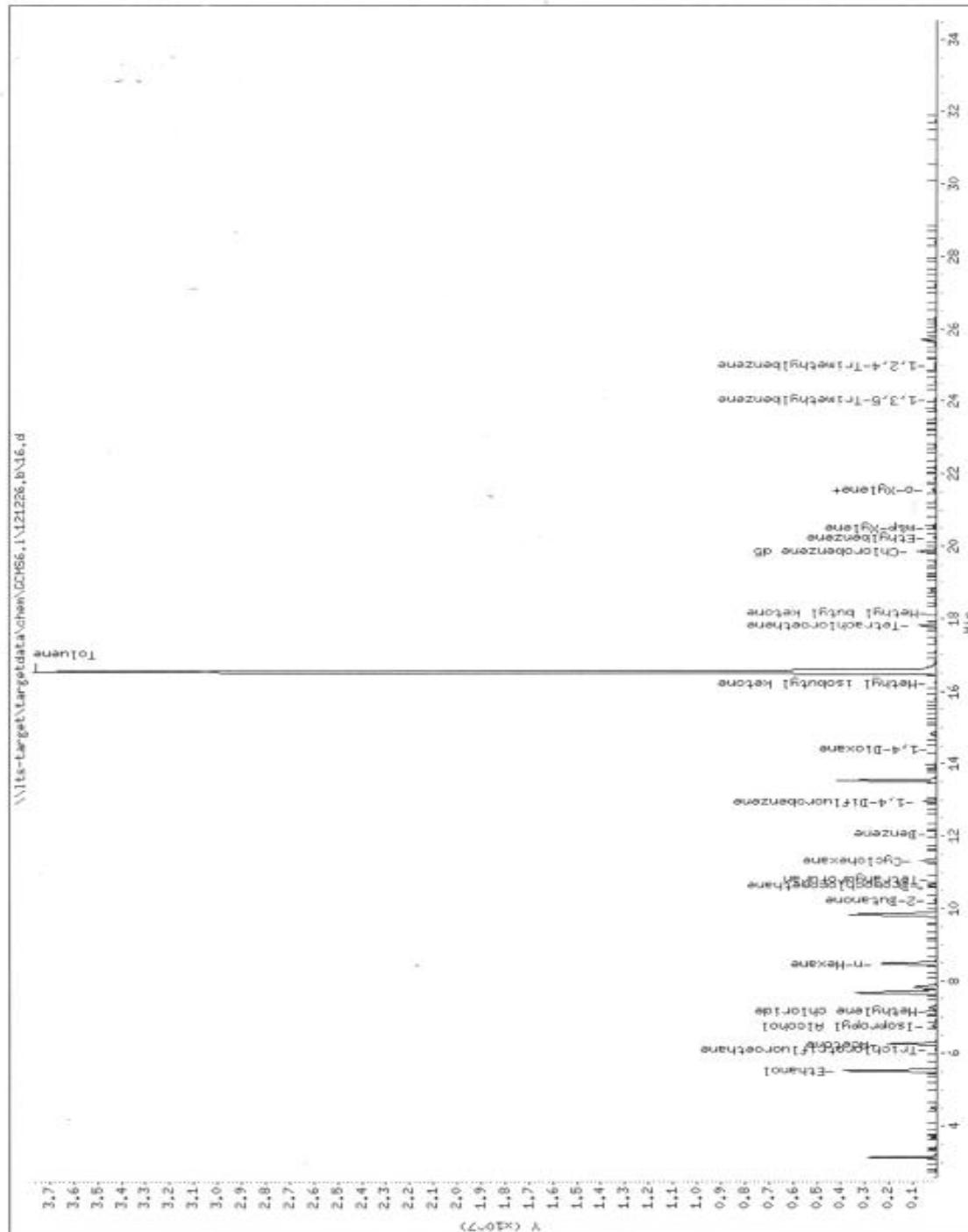
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Page 1

Data File: \\115-target\Target\data\chem\CHS6,1\121226.b\16.d  
Date: 27-DEC-2012 00:31  
Client ID: LS0-10  
Sample Info: 1206080-03  
Purge Volume: 1.0  
Column Phase:

Instrument: GC96.i  
Detector: SLH  
Column diameter: 0.20



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Page 1

Data File: \\lts-target\targetdata\chrom\CHS6.1\121226.b\18.d

Date : 27-DEC-2012 02:13

Client ID: SP-1

Sample Info: 1205980-04

Purge Volume: 1.0

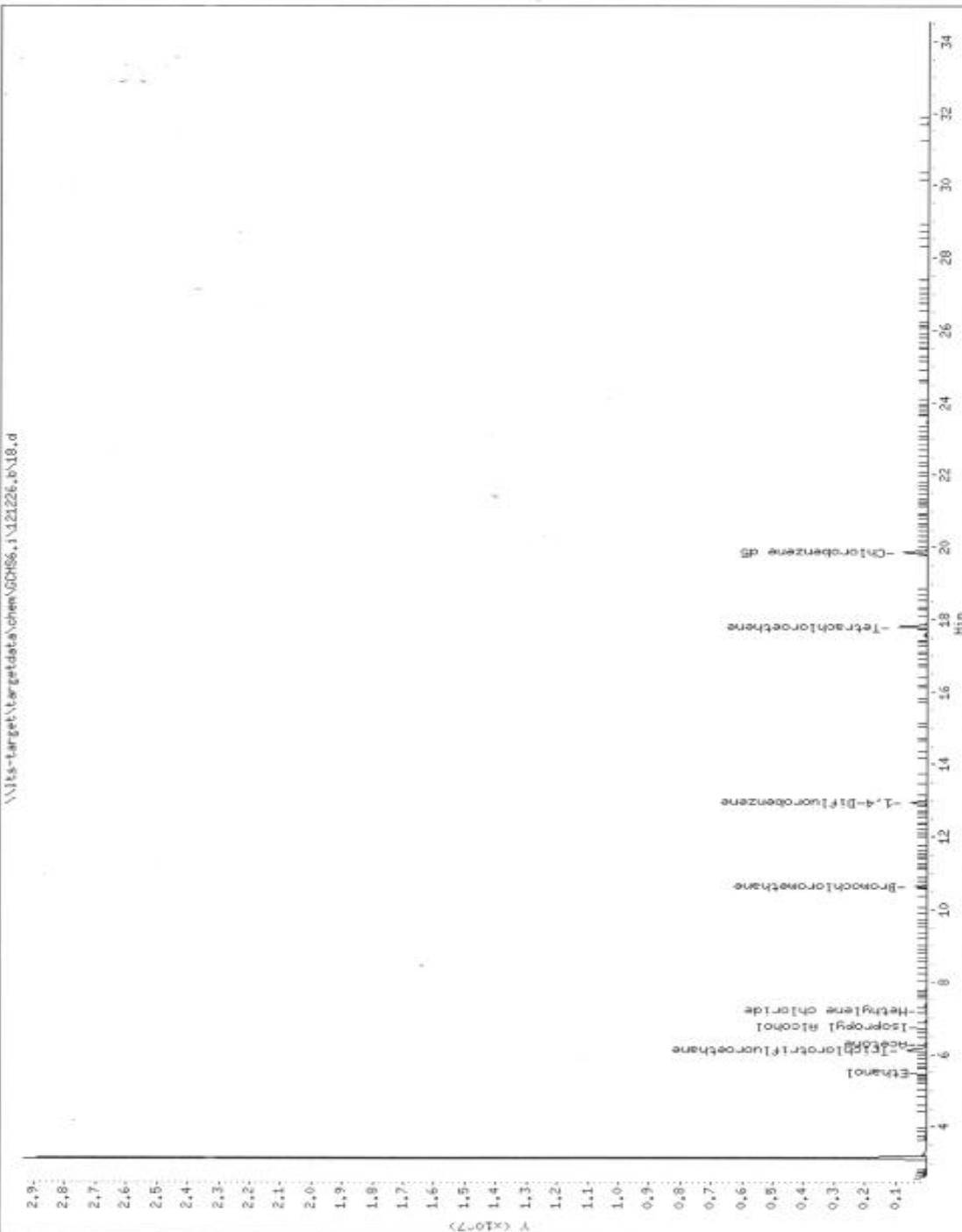
Column phase:

Instrument: GC/HG6.i

Operator: SLH

Column diameter: 0.20

\\lts-target\targetdata\chrom\CHS6.1\121226.b\18.d



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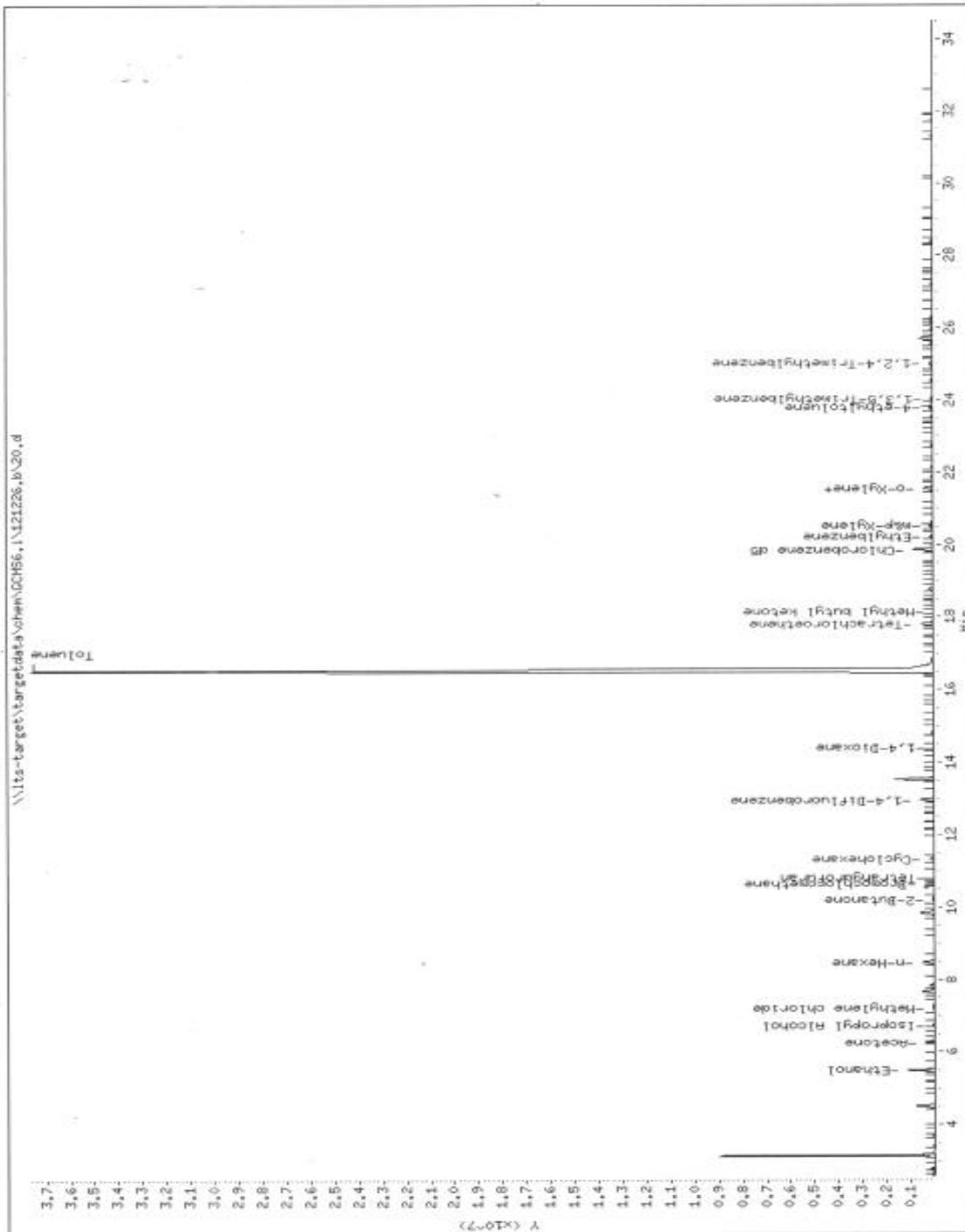
Page 1

Data File: \\lts-target\targetdata\chen\GCH56.1\121226\b\20.d  
Date : 27-DEC-2012 03:07  
Client ID: LGC-7  
Sample Info: 1208290-05  
Purge Volume: 1.0  
Column Phase:

Instrument: GCH56.1

Operator: SLH  
Column diameter: 0.20

\V:\lts-target\targetdata\chen\GCH56.1\121226\b\20.d



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Page 1

Data File: \\lts-target\\targetdata\\chen\\GCMS6.1\\121226.b\\22.d

Date : 27-DEC-2012 08:40

Client ID: LSG-8

Sample Info: 120590-06

Purge Volume: 1.0

Column phase:

Instrument: GCMS6.i

Operator: SLH

Column diameter: 0.20

