UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CHICAGO REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

LABORATORY ACCREDITATION BUREAU
ACCREDITED ISO/IEC 17025
Certificate # L2280 Testing

Date: **10/8/2015**

Subject: **Review of Region 5 Data for Tower Standard**

To: **LUST, LCD, US EPA Region 5**
77 West Jackson Boulevard
Chicago, IL 60605

From: **Danielle Kleinmaier, Chemist**
US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with EPA's *Guidance on Environmental Data Verification and Data Validation* (Document EPA QA/G-8), CRL verified and validated the data but does not perform data quality assessment based on project plans.

This report was reviewed and the information provided herein accurately represents the analysis performed.

X _____

Please contact the analyst with any technical report issues, Amanda Wroble at (312)-353-0375 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

Attached are Results for: Tower Standard

_____ / /

Data Management Coordinator and DateTransmitted

Analyses included in this report:

VOA - 8260	VOA - 8260 (MeOH extraction)

Environmental Protection Agency Region5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

LUST, LCD, US EPA Region 5	Project: Tower Standard	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60605	Project Manager: Bob Egan	Oct-08-15 12:58

ANALYSIS CASE NARRATIVE

General Information

Five soil samples were received for volatile organic analysis on September 15th, 2015. The sampling to preservation hold time of 48 hours was exceeded for sample BH5 (LIMS ID 1509014-01). All aromatic data for this sample is qualified as estimated ('J') in the report. All other holding times were met. The designated analyst for these samples, Danielle Kleinmaier, can be reached at (312) 353-9771.

Sample Analysis and Results

Sample preparation and analysis occurred via the Chicago Regional Laboratory standard operating procedure (CRL SOP) MS001 Revision # 2 (based on EPA Method 8260C) with the deviations outlined in the pen-and-ink change #3245.

The preliminary data quality objectives for this project were to report results for a specific list of analytes. The data reported herein meet the data quality objectives.

Several target compounds were detected in field samples BH10 (LIMS ID 1509014-03) and BH12 (LIMS ID 1509014-05) above the reporting limits. See the report for details.

Quality Control

Method Reporting Limit

The target compound 1,2,4-trimethylbenzene in reporting limit check B 15I051-MRL1 had a calculated recovery above the SOP acceptance limits. The nominal reporting limit for 1,2,4-trimethylbenzene in all of the low-level soil samples was raised to 5 ug/kg.

All other quality control audits for the requested analytes were within CRL SOP limits or did not result in qualification of the data.

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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH5	1509014-01	Soil	Sep-14-15 12:00	Sep-15-15 10:30
BH9	1509014-02	Soil	Sep-14-15 13:55	Sep-15-15 10:30
BH10	1509014-03	Soil	Sep-14-15 14:15	Sep-15-15 10:30
BH11	1509014-04	Soil	Sep-14-15 14:55	Sep-15-15 10:30
BH12	1509014-05	Soil	Sep-14-15 15:10	Sep-15-15 10:30

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Volatiles by GC/MS, EPA 8260C (modified)
US EPA Region 5 Chicago Regional Laboratory

BH5 (1509014-01) Soil Sampled: Sep-14-15 12:00 Received: Sep-15-15 10:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Benzene	**U**	J		2.06	ug/kg dry	1	B15I051	Sep-16-15	Sep-24-15
1,2-Dichloroethane	**U**			2.06	"	"	"	"	"
Toluene	**U**	J		2.06	"	"	"	"	"
1,2-Dibromoethane (EDB)	**U**			2.06	"	"	"	"	"
Ethylbenzene	**U**	J		2.06	"	"	"	"	"
m+p-Xylene	**U**	J		4.12	"	"	"	"	"
o-Xylene	**U**	J		2.06	"	"	"	"	"
1,3,5-Trimethylbenzene	**U**	J		2.06	"	"	"	"	"
1,2,4-Trimethylbenzene	**U**	J		5.16	"	"	"	"	"
Naphthalene	**U**	J		5.16	"	"	"	"	"

Surogate	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dibromofluoromethane	9.68	*93.9%*	*70.4-130*	"	"	"
Surrogate: 1,2-Dichloroethane-d4	9.48	*92.0%*	*69.5-129*	"	"	"
Surrogate: Toluene-d8	9.71	*94.2%*	*72.4-132*	"	"	"
Surrogate: 4-Bromofluorobenzene	9.93	*96.3%*	*72.7-133*	"	"	"

BH9 (1509014-02) Soil Sampled: Sep-14-15 13:55 Received: Sep-15-15 10:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Benzene	**U**			2.06	ug/kg dry	1	B15I051	Sep-16-15	Sep-24-15
1,2-Dichloroethane	**U**			2.06	"	"	"	"	"
Toluene	**U**			2.06	"	"	"	"	"
1,2-Dibromoethane (EDB)	**U**			2.06	"	"	"	"	"
Ethylbenzene	**U**			2.06	"	"	"	"	"
m+p-Xylene	**U**			4.11	"	"	"	"	"
o-Xylene	**U**			2.06	"	"	"	"	"
1,3,5-Trimethylbenzene	**U**			2.06	"	"	"	"	"
1,2,4-Trimethylbenzene	**U**			5.14	"	"	"	"	"
Naphthalene	**U**			5.14	"	"	"	"	"

Surogate	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dibromofluoromethane	10.4	*101%*	*70.4-130*	"	"	"
Surrogate: 1,2-Dichloroethane-d4	10.7	*104%*	*69.5-129*	"	"	"
Surrogate: Toluene-d8	10.3	*100%*	*72.4-132*	"	"	"

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Volatiles by GC/MS, EPA 8260C (modified)
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BH9 (1509014-02) Soil Sampled: Sep-14-15 13:55 Received: Sep-15-15 10:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surrogate: 4-Bromofluorobenzene	10.4			*101%*		*72.7-133*	*B15I051*	*Sep-16-15*	*Sep-24-15*

BH10 (1509014-03) Soil Sampled: Sep-14-15 14:15 Received: Sep-15-15 10:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Benzene	**U**			187	ug/kg dry	200	B15I046	Sep-16-15	Sep-24-15
1,2-Dichloroethane	**U**			187	"	"	"	"	"
Toluene	**640**			187	"	"	"	"	"
1,2-Dibromoethane (EDB)	**U**			187	"	"	"	"	"
Ethylbenzene	**3010**			187	"	"	"	"	"
m+p-Xylene	**12700**			374	"	"	"	"	"
o-Xylene	**4030**			187	"	"	"	"	"
1,3,5-Trimethylbenzene	**2950**			468	"	"	"	"	"
1,2,4-Trimethylbenzene	**8720**			468	"	"	"	"	"
Naphthalene	**1290**			468	"	"	"	"	"

Surogate	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dibromofluoromethane	9.40	*100%*	*69.4-129*	"	"	"
Surrogate: 1,2-Dichloroethane-d4	8.21	*87.7%*	*75-136*	"	"	"
Surrogate: Toluene-d8	9.54	*102%*	*70-130*	"	"	"
Surrogate: 4-Bromofluorobenzene	9.84	*105%*	*67.3-127*	"	"	"

BH11 (1509014-04) Soil Sampled: Sep-14-15 14:55 Received: Sep-15-15 10:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Benzene	**U**			1.85	ug/kg dry	1	B15I051	Sep-16-15	Sep-24-15
1,2-Dichloroethane	**U**			1.85	"	"	"	"	"
Toluene	**U**			1.85	"	"	"	"	"
1,2-Dibromoethane (EDB)	**U**			1.85	"	"	"	"	"
Ethylbenzene	**U**			1.85	"	"	"	"	"
m+p-Xylene	**U**			3.69	"	"	"	"	"
o-Xylene	**U**			1.85	"	"	"	"	"
1,3,5-Trimethylbenzene	**U**			1.85	"	"	"	"	"
1,2,4-Trimethylbenzene	**U**			4.61	"	"	"	"	"
Naphthalene	**U**			4.61	"	"	"	"	"

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BH11 (1509014-04) Soil Sampled: Sep-14-15 14:55 Received: Sep-15-15 10:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed

Surogate	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dibromofluoromethane	9.21	*99.9%*	*70.4-130*	*B15I051*	*Sep-16-15*	*Sep-24-15*
Surrogate: 1,2-Dichloroethane-d4	9.22	*99.9%*	*69.5-129*	"	"	"
Surrogate: Toluene-d8	9.23	*100%*	*72.4-132*	"	"	"
Surrogate: 4-Bromofluorobenzene	9.20	*99.7%*	*72.7-133*	"	"	"

BH12 (1509014-05) Soil Sampled: Sep-14-15 15:10 Received: Sep-15-15 10:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Benzene	**2850**			1700	ug/kg dry	2000	B15I046	Sep-16-15	Sep-23-15
1,2-Dichloroethane	**U**			1700	"	"	"	"	"
Toluene	**80700**			1700	"	"	"	"	"
1,2-Dibromoethane (EDB)	**U**			1700	"	"	"	"	"
Ethylbenzene	**36700**			1700	"	"	"	"	"
m+p-Xylene	**1.53E5**			3390	"	"	"	"	"
o-Xylene	**58200**			1700	"	"	"	"	"
1,3,5-Trimethylbenzene	**47800**			4240	"	"	"	"	"
1,2,4-Trimethylbenzene	**1.52E5**			4240	"	"	"	"	"
Naphthalene	**29200**			4240	"	"	"	"	"

Surogate	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dibromofluoromethane	8.31	*97.9%*	*69.4-129*	"	"	"
Surrogate: 1,2-Dichloroethane-d4	7.21	*84.9%*	*75-136*	"	"	"
Surrogate: Toluene-d8	8.62	*102%*	*70-130*	"	"	"
Surrogate: 4-Bromofluorobenzene	8.44	*99.4%*	*67.3-127*	"	"	"

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Volatiles by GC/MS, EPA 8260C (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Batch B15I046 - Volatiles

Blank (B15I046-BLK1) **Prepared & Analyzed: Sep-23-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	U			1.00	ug/kg						
1,2-Dichloroethane	U			1.00	"						
Toluene	U			1.00	"						
1,2-Dibromoethane (EDB)	U			1.00	"						
Ethylbenzene	U			1.00	"						
m+p-Xylene	U			2.00	"						
o-Xylene	U			1.00	"						
1,3,5-Trimethylbenzene	U			2.50	"						
1,2,4-Trimethylbenzene	U			2.50	"						
Naphthalene	U			2.50	"						
Surrogate: Dibromofluoromethane	*9.47*				*"*	*10.00*		*94.7%*	*69.4-129*		
Surrogate: 1,2-Dichloroethane-d4	*8.41*				*"*	*10.00*		*84.1%*	*75-136*		
Surrogate: Toluene-d8	*10.0*				*"*	*10.00*		*100%*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*9.76*				*"*	*10.00*		*97.6%*	*67.3-127*		

Blank (B15I046-BLK2) **Prepared: Sep-16-15 Analyzed: Sep-23-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	U			0.980	ug/kg						
1,2-Dichloroethane	U			0.980	"						
Toluene	U			0.980	"						
1,2-Dibromoethane (EDB)	U			0.980	"						
Ethylbenzene	U			0.980	"						
m+p-Xylene	U			1.96	"						
o-Xylene	U			0.980	"						
1,3,5-Trimethylbenzene	U			2.45	"						
1,2,4-Trimethylbenzene	U			2.45	"						
Naphthalene	U			2.45	"						
Surrogate: Dibromofluoromethane	*9.15*				*"*	*9.804*		*93.3%*	*69.4-129*		
Surrogate: 1,2-Dichloroethane-d4	*8.22*				*"*	*9.804*		*83.8%*	*75-136*		
Surrogate: Toluene-d8	*9.63*				*"*	*9.804*		*98.2%*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*9.61*				*"*	*9.804*		*98.0%*	*67.3-127*		

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Batch B15I046 - Volatiles

Blank (B15I046-BLK3) **Prepared: Sep-17-15 Analyzed: Sep-23-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**U**			0.942	ug/kg						
1,2-Dichloroethane	**U**			0.942	"						
Toluene	**U**			0.942	"						
1,2-Dibromoethane (EDB)	**U**			0.942	"						
Ethylbenzene	**U**			0.942	"						
m+p-Xylene	**U**			1.88	"						
o-Xylene	**U**			0.942	"						
1,3,5-Trimethylbenzene	**U**			2.35	"						
1,2,4-Trimethylbenzene	**U**			2.35	"						
Naphthalene	**U**			2.35	"						
Surrogate: Dibromofluoromethane	*9.10*				"	*9.416*		*96.6%*	*69.4-129*		
Surrogate: 1,2-Dichloroethane-d4	*8.25*				"	*9.416*		*87.7%*	*75-136*		
Surrogate: Toluene-d8	*9.39*				"	*9.416*		*99.7%*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*9.07*				"	*9.416*		*96.3%*	*67.3-127*		

LCS (B15I046-BS1) **Prepared & Analyzed: Sep-23-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**25.5**			1.00	ug/kg	25.00		102%	72.4-132		
1,2-Dichloroethane	**22.4**			1.00	"	25.00		89.8%	75-137		
Toluene	**25.9**			1.00	"	25.00		103%	75-135		
1,2-Dibromoethane (EDB)	**24.9**			1.00	"	25.00		99.7%	69.3-129		
Ethylbenzene	**25.1**			1.00	"	25.00		101%	67.7-128		
m+p-Xylene	**51.8**			2.00	"	50.00		104%	69.2-129		
o-Xylene	**25.6**			1.00	"	25.00		103%	69.4-129		
1,3,5-Trimethylbenzene	**26.1**			2.50	"	25.00		104%	70.1-130		
1,2,4-Trimethylbenzene	**25.6**			2.50	"	25.00		103%	70-130		
Naphthalene	**24.8**			2.50	"	25.00		99.2%	72.1-132		
Surrogate: Dibromofluoromethane	*9.90*				"	*10.00*		*99.0%*	*69.4-129*		
Surrogate: 1,2-Dichloroethane-d4	*8.89*				"	*10.00*		*88.9%*	*75-136*		
Surrogate: Toluene-d8	*10.1*				"	*10.00*		*101%*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*10.0*				"	*10.00*		*100%*	*67.3-127*		

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Volatiles by GC/MS, EPA 8260C (modified) - Quality Control
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Batch B15I046 - Volatiles

LCS Dup (B15I046-BSD1) **Prepared: Sep-23-15 Analyzed: Sep-24-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**24.0**			1.00	ug/kg	25.00		96.2%	72.4-132	5.82	30
1,2-Dichloroethane	**22.0**			1.00	"	25.00		88.0%	75-137	1.96	30
Toluene	**24.3**			1.00	"	25.00		97.4%	75-135	6.09	30
1,2-Dibromoethane (EDB)	**23.3**			1.00	"	25.00		93.3%	69.3-129	6.64	30
Ethylbenzene	**23.1**			1.00	"	25.00		92.4%	67.7-128	8.43	30
m+p-Xylene	**48.3**			2.00	"	50.00		96.6%	69.2-129	7.06	30
o-Xylene	**23.6**			1.00	"	25.00		94.5%	69.4-129	8.15	30
1,3,5-Trimethylbenzene	**23.7**			2.50	"	25.00		94.8%	70.1-130	9.57	30
1,2,4-Trimethylbenzene	**22.8**			2.50	"	25.00		91.1%	70-130	11.9	30
Naphthalene	**24.0**			2.50	"	25.00		96.1%	72.1-132	3.18	30
Surrogate: Dibromofluoromethane	*10.0*				"	*10.00*		*100%*	*69.4-129*		
Surrogate: 1,2-Dichloroethane-d4	*8.89*				"	*10.00*		*88.9%*	*75-136*		
Surrogate: Toluene-d8	*10.3*				"	*10.00*		*103%*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*10.0*				"	*10.00*		*100%*	*67.3-127*		

MRL Check (B15I046-MRL1) **Prepared & Analyzed: Sep-22-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**0.978**			1.00	ug/kg	1.000		97.8%	70-130		
1,2-Dichloroethane	**0.998**			1.00	"	1.000		99.8%	70-130		
Toluene	**0.974**			1.00	"	1.000		97.4%	70-130		
1,2-Dibromoethane (EDB)	**1.07**			1.00	"	1.000		107%	70-130		
Ethylbenzene	**1.14**			1.00	"	1.000		114%	70-130		
m+p-Xylene	**1.91**			2.00	"	2.000		95.6%	70-130		
o-Xylene	**0.960**			1.00	"	1.000		96.0%	70-130		
1,3,5-Trimethylbenzene	**0.926**			2.50	"	1.000		92.6%	70-130		
1,2,4-Trimethylbenzene	**1.05**			2.50	"	1.000		105%	70-130		
Naphthalene	**1.02**			2.50	"	1.000		102%	70-130		
Surrogate: Dibromofluoromethane	*9.95*				"	*10.00*		*99.5%*	*69.4-129*		
Surrogate: 1,2-Dichloroethane-d4	*9.76*				"	*10.00*		*97.6%*	*75-136*		
Surrogate: Toluene-d8	*9.97*				"	*10.00*		*99.7%*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*9.71*				"	*10.00*		*97.1%*	*67.3-127*		

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Batch B15I046 - Volatiles

MRL Check (B15I046-MRL2) **Prepared & Analyzed: Sep-22-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**2.45**			1.00	ug/kg	2.500		98.0%	70-130		
1,2-Dichloroethane	**2.48**			1.00	"	2.500		99.2%	70-130		
Toluene	**2.43**			1.00	"	2.500		97.4%	70-130		
1,2-Dibromoethane (EDB)	**2.41**			1.00	"	2.500		96.4%	70-130		
Ethylbenzene	**2.25**			1.00	"	2.500		89.9%	70-130		
m+p-Xylene	**4.73**			2.00	"	5.000		94.6%	70-130		
o-Xylene	**2.48**			1.00	"	2.500		99.2%	70-130		
1,3,5-Trimethylbenzene	**2.45**			2.50	"	2.500		98.0%	70-130		
1,2,4-Trimethylbenzene	**2.36**			2.50	"	2.500		94.5%	70-130		
Naphthalene	**2.36**			2.50	"	2.500		94.2%	70-130		
Surrogate: Dibromofluoromethane	*10.3*				"	*10.00*		*103%*	*69.4-129*		
Surrogate: 1,2-Dichloroethane-d4	*10.2*				"	*10.00*		*102%*	*75-136*		
Surrogate: Toluene-d8	*10.3*				"	*10.00*		*103%*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*10.2*				"	*10.00*		*102%*	*67.3-127*		

Batch B15I051 - Volatiles

Blank (B15I051-BLK1) **Prepared & Analyzed: Sep-24-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**U**			1.86	ug/kg						
1,2-Dichloroethane	**U**			1.86	"						
Toluene	**U**			1.86	"						
1,2-Dibromoethane (EDB)	**U**			1.86	"						
Ethylbenzene	**U**			1.86	"						
m+p-Xylene	**U**			3.72	"						
o-Xylene	**U**			1.86	"						
1,3,5-Trimethylbenzene	**U**			1.86	"						
1,2,4-Trimethylbenzene	**U**			4.66	"						
Naphthalene	**U**			4.66	"						
Surrogate: Dibromofluoromethane	*8.59*				"	*9.311*		*92.3%*	*70.4-130*		
Surrogate: 1,2-Dichloroethane-d4	*8.90*				"	*9.311*		*95.6%*	*69.5-129*		
Surrogate: Toluene-d8	*9.19*				"	*9.311*		*98.7%*	*72.4-132*		

Environmental Protection Agency Region5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

LUST, LCD, US EPA Region 5	Project: Tower Standard	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60605	Project Manager: Bob Egan	Oct-08-15 12:58

Volatiles by GC/MS, EPA 8260C (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Batch B15I051 - Volatiles

Blank (B15I051-BLK1) **Prepared & Analyzed: Sep-24-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 4-Bromofluorobenzene	*9.36*				*ug/kg*	*9.311*		*100%*	*72.7-133*		

Blank (B15I051-BLK2) **Prepared: Sep-16-15 Analyzed: Sep-24-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**U**			1.92	ug/kg						
1,2-Dichloroethane	**U**			1.92	"						
Toluene	**U**			1.92	"						
1,2-Dibromoethane (EDB)	**U**			1.92	"						
Ethylbenzene	**U**			1.92	"						
m+p-Xylene	**U**			3.83	"						
o-Xylene	**U**			1.92	"						
1,3,5-Trimethylbenzene	**U**			1.92	"						
1,2,4-Trimethylbenzene	**U**			4.79	"						
Naphthalene	**U**			4.79	"						
Surrogate: Dibromofluoromethane	*9.25*				*"*	*9.579*		*96.6%*	*70.4-130*		
Surrogate: 1,2-Dichloroethane-d4	*9.78*				*"*	*9.579*		*102%*	*69.5-129*		
Surrogate: Toluene-d8	*9.52*				*"*	*9.579*		*99.3%*	*72.4-132*		
Surrogate: 4-Bromofluorobenzene	*9.43*				*"*	*9.579*		*98.5%*	*72.7-133*		

Blank (B15I051-BLK3) **Prepared: Sep-17-15 Analyzed: Sep-24-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**U**			2.00	ug/kg						
1,2-Dichloroethane	**U**			2.00	"						
Toluene	**U**			2.00	"						
1,2-Dibromoethane (EDB)	**U**			2.00	"						
Ethylbenzene	**U**			2.00	"						
m+p-Xylene	**U**			4.01	"						
o-Xylene	**U**			2.00	"						
1,3,5-Trimethylbenzene	**U**			2.00	"						
1,2,4-Trimethylbenzene	**U**			5.01	"						
Naphthalene	**U**			5.01	"						

Environmental Protection Agency Region5
Chicago Regional Laboratory

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Phone:(312)353-8370 Fax:(312)886-2591

LUST, LCD, US EPA Region 5	Project: Tower Standard	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60605	Project Manager: Bob Egan	Oct-08-15 12:58

Volatiles by GC/MS, EPA 8260C (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Batch B15I051 - Volatiles

Blank (B15I051-BLK3) **Prepared: Sep-17-15 Analyzed: Sep-24-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: Dibromofluoromethane	*9.06*				*ug/kg*	*10.02*		*90.4%*	*70.4-130*		
Surrogate: 1,2-Dichloroethane-d4	*9.12*				*"*	*10.02*		*91.0%*	*69.5-129*		
Surrogate: Toluene-d8	*9.66*				*"*	*10.02*		*96.4%*	*72.4-132*		
Surrogate: 4-Bromofluorobenzene	*9.75*				*"*	*10.02*		*97.3%*	*72.7-133*		

LCS (B15I051-BS1) **Prepared & Analyzed: Sep-24-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**49.3**			1.97	ug/kg	49.31		99.9%	74.2-134		
1,2-Dichloroethane	**49.7**			1.97	"	49.31		101%	75-135		
Toluene	**49.7**			1.97	"	49.31		101%	74.4-134		
1,2-Dibromoethane (EDB)	**49.7**			1.97	"	49.31		101%	73.3-133		
Ethylbenzene	**49.0**			1.97	"	49.31		99.4%	73.3-133		
m+p-Xylene	**97.9**			3.94	"	98.62		99.3%	73.2-133		
o-Xylene	**49.2**			1.97	"	49.31		99.7%	75-136		
1,3,5-Trimethylbenzene	**49.0**			1.97	"	49.31		99.4%	73.9-134		
1,2,4-Trimethylbenzene	**46.9**			4.93	"	49.31		95.1%	72-132		
Naphthalene	**48.6**			4.93	"	49.31		98.6%	71.5-132		
Surrogate: Dibromofluoromethane	*9.79*				*"*	*9.862*		*99.3%*	*70.4-130*		
Surrogate: 1,2-Dichloroethane-d4	*10.0*				*"*	*9.862*		*101%*	*69.5-129*		
Surrogate: Toluene-d8	*9.99*				*"*	*9.862*		*101%*	*72.4-132*		
Surrogate: 4-Bromofluorobenzene	*10.1*				*"*	*9.862*		*103%*	*72.7-133*		

LCS Dup (B15I051-BSD1) **Prepared: Sep-24-15 Analyzed: Sep-25-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**43.1**			1.85	ug/kg	46.30		93.1%	74.2-134	13.3	30
1,2-Dichloroethane	**45.6**			1.85	"	46.30		98.5%	75-135	8.70	30
Toluene	**42.4**			1.85	"	46.30		91.7%	74.4-134	15.8	30
1,2-Dibromoethane (EDB)	**45.8**			1.85	"	46.30		99.0%	73.3-133	8.08	30
Ethylbenzene	**42.2**			1.85	"	46.30		91.1%	73.3-133	14.9	30
m+p-Xylene	**83.2**			3.70	"	92.59		89.9%	73.2-133	16.2	30
o-Xylene	**43.6**			1.85	"	46.30		94.2%	75-136	12.0	30

Environmental Protection Agency Region5
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LUST, LCD, US EPA Region 5	Project: Tower Standard	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60605	Project Manager: Bob Egan	Oct-08-15 12:58

Volatiles by GC/MS, EPA 8260C (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Batch B15I051 - Volatiles

LCS Dup (B15I051-BSD1) — **Prepared: Sep-24-15 Analyzed: Sep-25-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,3,5-Trimethylbenzene	**41.8**			1.85	ug/kg	46.30		90.3%	73.9-134	15.9	30
1,2,4-Trimethylbenzene	**39.3**			4.63	"	46.30		84.9%	72-132	17.5	30
Naphthalene	**42.2**			4.63	"	46.30		91.2%	71.5-132	14.1	30
Surrogate: Dibromofluoromethane	*9.40*				"	*9.259*		*102%*	*70.4-130*		
Surrogate: 1,2-Dichloroethane-d4	*9.13*				"	*9.259*		*98.6%*	*69.5-129*		
Surrogate: Toluene-d8	*9.11*				"	*9.259*		*98.3%*	*72.4-132*		
Surrogate: 4-Bromofluorobenzene	*9.73*				"	*9.259*		*105%*	*72.7-133*		

MRL Check (B15I051-MRL1) — **Prepared & Analyzed: Sep-24-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**2.30**			2.00	ug/kg	2.004		115%	70-130		
1,2-Dichloroethane	**2.21**			2.00	"	2.004		110%	70-130		
Toluene	**2.21**			2.00	"	2.004		110%	70-130		
1,2-Dibromoethane (EDB)	**2.34**			2.00	"	2.004		117%	70-130		
Ethylbenzene	**2.49**			2.00	"	2.004		124%	70-130		
m+p-Xylene	**4.92**			4.01	"	4.008		123%	70-130		
o-Xylene	**2.31**			2.00	"	2.004		115%	70-130		
1,3,5-Trimethylbenzene	**2.46**			2.00	"	2.004		123%	70-130		
1,2,4-Trimethylbenzene	**2.65**			5.01	"	2.004		132%	70-130		
Naphthalene	**2.57**			5.01	"	2.004		128%	70-130		
Surrogate: Dibromofluoromethane	*9.22*				"	*10.02*		*92.0%*	*70.4-130*		
Surrogate: 1,2-Dichloroethane-d4	*9.75*				"	*10.02*		*97.3%*	*69.5-129*		
Surrogate: Toluene-d8	*9.75*				"	*10.02*		*97.3%*	*72.4-132*		
Surrogate: 4-Bromofluorobenzene	*9.89*				"	*10.02*		*98.7%*	*72.7-133*		

MRL Check (B15I051-MRL2) — **Prepared & Analyzed: Sep-24-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**4.77**			1.94	ug/kg	4.854		98.2%	70-130		
1,2-Dichloroethane	**4.63**			1.94	"	4.854		95.5%	70-130		
Toluene	**4.75**			1.94	"	4.854		97.8%	70-130		
1,2-Dibromoethane (EDB)	**4.80**			1.94	"	4.854		98.9%	70-130		

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LUST, LCD, US EPA Region 5	Project: Tower Standard	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60605	Project Manager: Bob Egan	Oct-08-15 12:58

Volatiles by GC/MS, EPA 8260C (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Batch B15I051 - Volatiles

MRL Check (B15I051-MRL2) **Prepared & Analyzed: Sep-24-15**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Ethylbenzene	**4.67**			1.94	ug/kg	4.854		96.2%	70-130		
m+p-Xylene	**9.19**			3.88	"	9.709		94.7%	70-130		
o-Xylene	**4.73**			1.94	"	4.854		97.4%	70-130		
1,3,5-Trimethylbenzene	**4.74**			1.94	"	4.854		97.7%	70-130		
1,2,4-Trimethylbenzene	**4.71**			4.85	"	4.854		97.1%	70-130		
Naphthalene	**4.69**			4.85	"	4.854		96.5%	70-130		
Surrogate: Dibromofluoromethane	*9.23*				"	*9.709*		*95.1%*	*70.4-130*		
Surrogate: 1,2-Dichloroethane-d4	*9.14*				"	*9.709*		*94.2%*	*69.5-129*		
Surrogate: Toluene-d8	*9.44*				"	*9.709*		*97.3%*	*72.4-132*		
Surrogate: 4-Bromofluorobenzene	*9.64*				"	*9.709*		*99.3%*	*72.7-133*		

Environmental Protection Agency Region5
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LUST, LCD, US EPA Region 5	Project:	Tower Standard	
77 West Jackson Boulevard	Project Number:	[none]	**Reported:**
Chicago IL, 60605	Project Manager:	Bob Egan	Oct-08-15 12:58

Notes and Definitions

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Not Detected
NR	Not Reported