

June 24, 2015

Mr. Steve Weathers
Principal Environmental Specialist
DCP Midstream, L.P.
370 17th St. #2500
Denver, CO 80202

RE: Indoor Air Quality Sampling Results
DCP Midstream, L.P. – 301 Hickory St., Eaton CO 80615

Dear Mr. Weathers:

Tasman Geosciences (Tasman), on behalf of DCP Midstream L.P. (DCP) conducted an indoor air quality (IAQ) survey on June 4th and 5th, 2015 in the interior of a private residence located at 301 Hickory St., Eaton, CO 80615. The residence is located adjacent to a DCP Pipeline located approximately 0.25 miles north of the intersection of County Road 39 and County Road 74 near the town of Eaton, CO (Site [Figure 1]). The purpose of the survey was to evaluate IAQ at the residence, particularly the potential for soil vapor intrusion, following a pipeline release that resulted in petroleum hydrocarbon impacts to soil and groundwater at the pipeline and towards the residence at the southeastern boundary of the development.

Background:

A release of hydrocarbons and water occurred at DCP's low-pressure gathering pipeline near CR39 and CR 74 near Eaton, Colorado, nearby a property addressed as 301 Hickory St. (the residence). DCP repaired the subject pipeline, and has recently completed soil remediation at and around the location of the release consistent with remediation standards of the Colorado Oil and Gas Conservation Commission (COGCC). DCP determined that groundwater in the immediate vicinity of the release has also been affected by hydrocarbons from the release, and will be remediated with the oversight of the COGCC. A groundwater sample in the vicinity of the residence showed elevated levels of BTEX compounds¹ from the pipeline release.

The groundwater sample result close to the residence prompted DCP as a precautionary action to sample basement air at the residence for the presence of BTEX vapors, which potentially could occur from vapors associated with groundwater in the immediate area. While collecting a basement air sample, it also made sense to simultaneously take an air sample outside the structure as background, and on the first floor of the residence (total of three samples related to the residence).

Tasman Geosciences (Tasman) was hired by DCP to take the air samples following appropriate scientific protocols.

Air Sampling Exercise:

This report provides the results of Tasman's air sampling exercise at the residence, including: (i) BTEX vapor sampling results; (ii) the results from "4 gas monitoring" to evaluate real-time readings of oxygen, hydrogen sulfide, carbon monoxide, and percent of lower explosive limit (LEL), and; (iii) the presence of volatile organic compounds (VOCs) using a photoionization

¹ BTEX compounds are found in natural gas hydrocarbons, and are benzene, toluene, ethylbenzene, and xylene.

detector (PID). The sampling exercise was conducted on June 4 and 5, 2015, at the residence, specifically in the basement, first floor, and outdoors to provide a background result. The sampling devices were properly calibrated and positioned following appropriate available protocols, and the devices were transported under chain of custody to a certified laboratory in Castle Rock, Colo., to be analyzed.

Results:

The results of the (i) real-time 4 gas monitoring, and (ii) BTEX vapor sample laboratory analyses for the residence are provided in the following two tables, and the laboratory analytical report for the BTEX samples are included in Attachment A.

Real Time Monitoring with 4 Gas Monitor & PID readings

Location	4 Gas Meter Readings (units as indicated)	PID Organic Vapor Readings (ppm)
Background	O ₂ – 20.9% H ₂ S – 0.00 ppm LEL – 0% CO – 0 ppm	0.3
301 Hickory - Basement	O ₂ – 20.9% H ₂ S – 0.00 ppm LEL – 0% CO – 0 ppm	0.7
301 Hickory – Main Floor	O ₂ – 20.9% H ₂ S – 0.00 ppm LEL – 0% CO – 0 ppm	0.5

As summarized in the table above, the 4 gas meter readings indicate normal atmospheric conditions within the residence and outside. Additionally, because PID instruments are broad band VOC detectors and are not selective to petroleum hydrocarbon constituents, the very low PID organic vapor readings that were observed are not considered abnormal or above average.

Summa Canister Results

Sample ID	Location	Analytical results in micrograms/meters cubed ($\mu\text{g}/\text{m}^3$)
Exterior/Background	SW Corner of 940 E 3 rd Street	Benzene - 2.0 Toluene – 8.6 Ethylbenzene – ND Xylenes, Total - ND
301 Hickory - B	Basement	Benzene – 8.0 Toluene - 13 Ethylbenzene – 2.9 Xylenes, Total - 12
301 Hickory - M	Main Floor	Benzene – 11 Toluene - 35 Ethylbenzene – 6.4 Xylenes, Total - 33
CDPHE-HWMMD Air Screening Concentrations; Residential Action Level ($\mu\text{g}/\text{m}^3$)	Benzene – 3.1 Toluene – 5,200 Ethylbenzene – 9.7 Xylenes (Mixture/Total) - 100	

ND= Analyte NOT DETECTED at or above the reporting limit
Bold values indicate and exceedance of the CDPHE Residential Action Level value.

The BTEX vapor sample results are expressed in micrograms (μg) of the chemical in a cubic meter of air (m^3), which can also be expressed as “parts per billion” of the chemical in the air. The results in bold font reflect benzene results that are slightly above the Colorado Department of Public Health & Environment (CDPHE) long-term health standard for BTEX in a residential setting, *i.e.*, over a lifetime exposure to the relevant chemical, referred to as the Residential Action Level.² BTEX concentrations can exist in a structure, for example, due to vapor intrusion from the soil over groundwater impacted by hydrocarbons, and can also be associated with the presence of, *e.g.*, gasoline cans or household products in the building or basement, or cars in a garage, or smoking.

Next Steps:

Upon review, the BTEX vapor sampling results reported, above, which are slightly above the CDPHE Residential Action Level for benzene, are not helpful in determining if the presence of any benzene is associated with possible vapor intrusion from soil underlying the residence. A conclusive determination regarding VOC vapors being present in the residence due to soil vapor intrusion at levels that pose an unacceptable exposure risk cannot be made at this time. This is because: (i) the main floor sample result was higher than the basement air sample, (ii) the samples were taken at a time when there was an open excavation and hydrocarbon-impacted soils were being removed within 100 feet from the residence, (iii) the residence had open windows during the air sampling exercise, (iv) the background outdoor sample was located on the far side of the private residence located at 940 East 3rd St., away from the excavation, so it is not representative of background air when the soil remediation was occurring, and (v) there was no comprehensive inventory of chemicals or smoking in the residence to inform whether detected chemicals were attributed to those materials.

² CDPHE, Hazardous Materials and Waste Management Division, Draft Indoor Air Guidance Document, and Air Screening Concentrations Table – Residential Action Level. These Residential Action Levels are based on long-term exposure to a particular chemical, typically a lifetime. The CDPHE does not specifically address acute short-term standards for exposure to these chemicals and references that such high concentrations will typically be indicated by a strong chemical odor that will usually be apparent and responded to early in the corrective action process. Acceptable short term exposure concentrations for BTEX for work related exposure limits (*e.g.* 8-hour exposure) typically are hundreds to thousands of times higher than long-term exposure concentrations.

Accordingly, it is recommended that a second air sampling exercise be conducted under conditions, and when conditions are appropriate, to provide informative sampling results regarding the potential for soil vapor intrusion in the basement of the residence. To provide meaningful information, this recommendation would entail the following:

1. A complete indoor air sampling building and occupant survey per CDPHE guidelines shall be completed to adequately identify the presence of (or occupant activities that could generate) any possible indoor air emissions of target VOC in the dwelling.
2. All possible indoor air emission sources be removed prior to vapor sampling.
3. A minimum 48-hour stabilization period be allowed subsequent to conducting the building and occupant survey and the removal of potential VOC emission sources.

Sincerely,



Brian Humphrey
Environmental Scientist
Tasman Geosciences

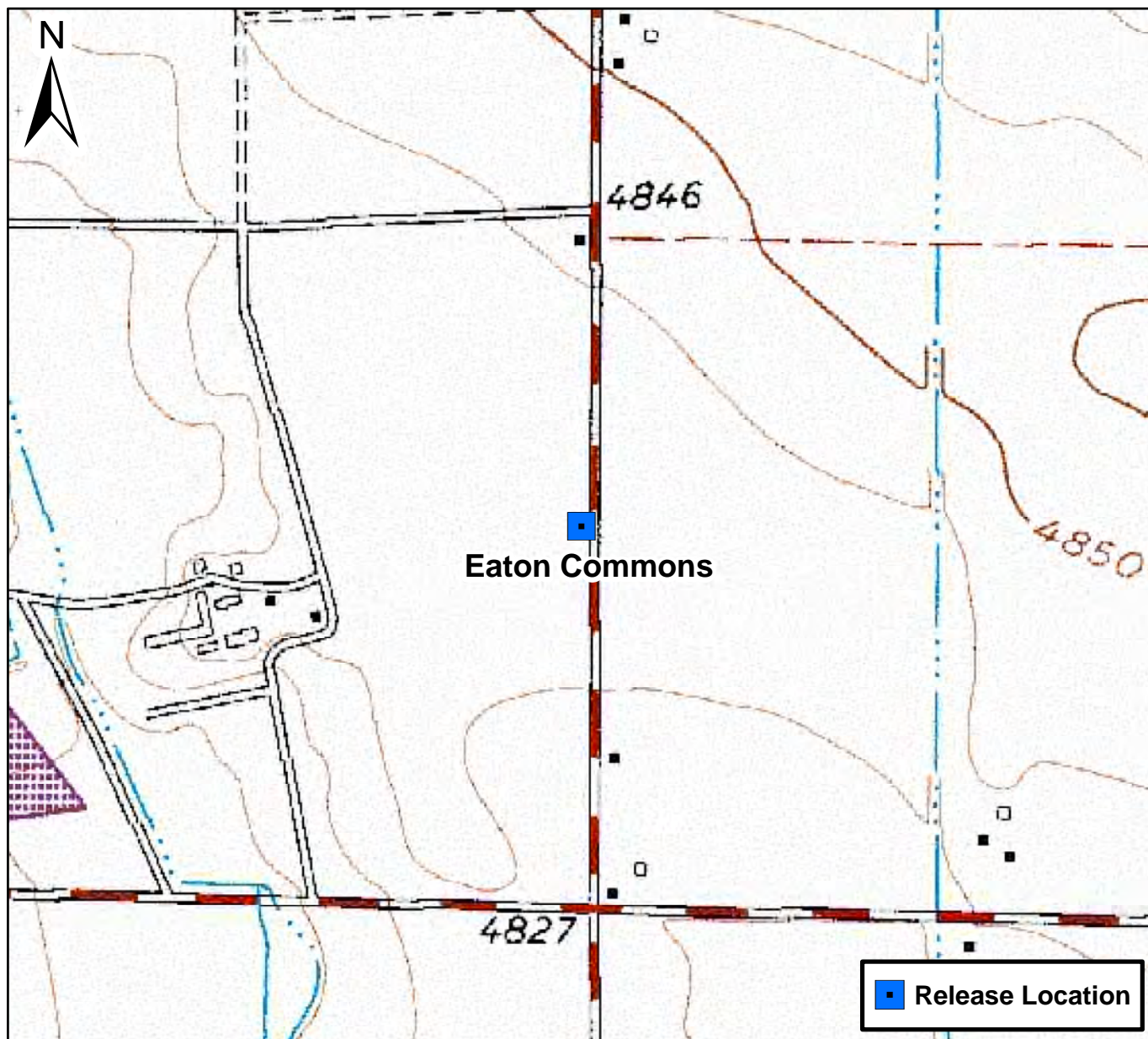
Enclosures:

Figure 1 – Site Location Map

Attachment A – Vapor Sample Analytical Results

cc:
File

Figures



0 750 1,500 Feet

Figure 1

Site Location Map
Eaton Commons
NESE S31 T7N R65W
Weld County, Colorado



Attachment A – Vapor Sample Analytical Results

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

June 19, 2015

Brian Humphrey
DCP Midstream
370 17th Street #2500
Denver, CO 80202
RE: Eaton Commons

Enclosed are the results of analyses for samples received by Summit Scientific on 06/05/15 15:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President

Reported:

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
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2 Oakwood Park Plaza, Suite 100
Castle Rock, Colorado 80104
Phone: 303.850.7606
Fax: 303.850.7609
www.ecs-corp.com

Chain of Custody Record (COC)

1506041

COC # 14365

[illegible]

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other Preservative: H = HCl N = Nitric SF = Sulfuric
**Container: A = Amber B = Brass C = Clear Glass P = Plastic S = Soil Jar SU = Summa PF = PUF T = Tedlar TU = Tube OT = Other

Page 1 of 1



*Environmental Chemistry Services, Inc.
2 Oakwood Park Plaza; 100
Castle Rock, CO 80104-1885
TEL: (303) 850-7606 FAX: (303) 850-7609
Website: www.ecs-corp.com*

June 19, 2015

Paul Shrewsbury
Summit Scientific
741 Corporate Circle
Suite I
Golden, CO 80401
TEL: (303) 277-9310
FAX (303) 374-5933

RE: Eaton Commons

Order No.: 1506017

Dear Paul Shrewsbury:

Environmental Chemistry Services, Inc. received 5 sample(s) on 6/5/2015 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report, , unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call or email.

TEL: (303) 850-7606 ext:300
kris@ecs-corp.com

Sincerely,

A handwritten signature in purple ink, appearing to be "Kris", with a stylized flourish at the end.

Kris Mascarenas
Director of Client Services
2 Oakwood Park Plaza; 100
Castle Rock, CO 80104-1885



Environmental Chemistry Services, Inc.
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Castle Rock, CO 80104-1885
TEL: (303) 850-7606 FAX: (303) 850-7609
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Case Narrative

WO#: 1506017
Date: 6/19/2015

CLIENT: Summit Scientific
Project: Eaton Commons

This report in its entirety consists of the documents listed below. All documents contain the Environmental Chemistry Services, Inc. Work Order Number assigned to this report.

1. Paginated Report including: A Cover Letter, Case Narrative, Analytical Results, and Applicable Quality Control Reports.
2. Copies of the Chain of Custody Document(s) supplied with this sample set.
3. Electronic Data Deliverables (EDD) if requested.

All samples were analyzed in accordance with "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air Second Edition." The method used is the Compendium Method TO-15 for the Determination of Volatile Organic Compounds (VOCs) in air collected in specially prepared canisters and analyzed by Gas Chromatography/Mass Spectrometry (GC/MS).

REF:

Center for Environmental Research Information
Office of Research and Development
U.S. Environmental Protection Agency
Cincinnati, OH 45268
January 1999

Any comments or problems with the analytical events associated with this report are noted below.

Environmental Chemistry Services, Inc.

Date: 19-Jun-15

Client: Summit Scientific
Work Order: 1506017
Project: Eaton Commons
Lab ID: 1506017-03A

Client Sample ID: Background
Canister ID: 2573
Collection Date: 6/4/2015 12:46:00 PM
Matrix: AIR

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BTEX AND TVPH						
		Method: TO-15				Analyst: TSM
Benzene	2.0	0.32		µg/m ³	1	6/6/2015 12:36:00 AM
Toluene	8.6	0.38		µg/m ³	1	6/6/2015 12:36:00 AM
Ethylbenzene	ND	0.43		µg/m ³	1	6/6/2015 12:36:00 AM
Xylenes, Total	ND	0.43		µg/m ³	1	6/6/2015 12:36:00 AM
Surr: Toluene-d8	93.7	30-170		%REC	1	6/6/2015 12:36:00 AM
Surr: 4-Bromofluorobenzene	94.7	30-170		%REC	1	6/6/2015 12:36:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.
	DF	Dilution Factor	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	N	Tentatively identified compounds
	ND	Not Detected at the RL	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits	R	Percent Difference outside accepted limits
				Page 3 of 7

Environmental Chemistry Services, Inc.

Date: 19-Jun-15

Client: Summit Scientific
Work Order: 1506017
Project: Eaton Commons
Lab ID: 1506017-04A

Client Sample ID: 301 Hickory-B
Canister ID: 2522
Collection Date: 6/4/2015 2:29:00 PM
Matrix: AIR

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BTEX AND TVPH		Method: TO-15				Analyst: TSM
Benzene	8.0	0.32		µg/m³	1	6/6/2015 1:29:00 AM
Toluene	13	0.38		µg/m³	1	6/6/2015 1:29:00 AM
Ethylbenzene	2.9	0.43		µg/m³	1	6/6/2015 1:29:00 AM
Xylenes, Total	12	0.43		µg/m³	1	6/6/2015 1:29:00 AM
Surr: Toluene-d8	95.0	30-170		%REC	1	6/6/2015 1:29:00 AM
Surr: 4-Bromofluorobenzene	96.4	30-170		%REC	1	6/6/2015 1:29:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.
	DF	Dilution Factor	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	N	Tentatively identified compounds
	ND	Not Detected at the RL	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits	R	Percent Difference outside accepted limits
				Page 4 of 7

Environmental Chemistry Services, Inc.

Date: 19-Jun-15

Client: Summit Scientific
Work Order: 1506017
Project: Eaton Commons
Lab ID: 1506017-05A

Client Sample ID: 301 Hickory-M
Canister ID: 2511
Collection Date: 6/4/2015 2:34:00 PM
Matrix: AIR

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BTEX AND TVPH						
		Method: TO-15				Analyst: TSM
Benzene	11	0.32		µg/m³	1	6/6/2015 2:23:00 AM
Toluene	35	0.38		µg/m³	1	6/6/2015 2:23:00 AM
Ethylbenzene	6.4	0.43		µg/m³	1	6/6/2015 2:23:00 AM
Xylenes, Total	33	0.43		µg/m³	1	6/6/2015 2:23:00 AM
Surr: Toluene-d8	96.5	30-170		%REC	1	6/6/2015 2:23:00 AM
Surr: 4-Bromofluorobenzene	98.2	30-170		%REC	1	6/6/2015 2:23:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.
	DF	Dilution Factor	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	N	Tentatively identified compounds
	ND	Not Detected at the RL	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits	R	Percent Difference outside accepted limits
				Page 5 of 7



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QC SUMMARY REPORT

Work Order: **1506017**

19-Jun-15

Client: Summit Scientific
Project: Eaton Commons

BatchID: R2024

Sample ID	MBLK	SampType: MBLK	TestCode: TO15B	Units: µg/m³	Prep Date:					RunNo: 2024		
Client ID:	PBW	Batch ID: R2024	TestNo: TO-15		Analysis Date: 6/5/2015					SeqNo: 26590		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		ND	0.32	0	0				0			
Toluene		ND	0.38	0	0				0			
Ethylbenzene		ND	0.43	0	0				0			
Xylenes, Total		ND	0.43	0	0				0			
Surr: Toluene-d8		9.8		10.00		98.3	30	170				
Surr: 4-Bromofluorobenzene		8.2		10.00		81.9	30	170				

Sample ID	BTEX LCS	SampType: LCS	TestCode: TO15B		Units: µg/m³	Prep Date:			RunNo: 2024			
Client ID:	LCSW	Batch ID: R2024	TestNo: TO-15			Analysis Date: 6/5/2015			SeqNo: 26591			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		34	0.32	32	0	105	30	170	0			
Toluene		41	0.38	38	0	110	30	170	0			
Ethylbenzene		47	0.43	43	0	109	30	170	0			
Xylenes, Total		140	0.43	130	0	106	30	170	0			
Surr: Toluene-d8		11		10.00		107	30	170				
Surr: 4-Bromofluorobenzene		10		10.00		103	30	170				

Sample ID	BTEX LCSD	SampType: LCSD	TestCode: TO15B	Units: µg/m³	Prep Date:	RunNo: 2024					
Client ID:	LCSS02	Batch ID: R2024	TestNo: TO-15		Analysis Date: 6/6/2015	SeqNo: 26602					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	32	0.32	32	0	99.0	30	170	34	6.26	30	

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the RL	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted reco



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QC SUMMARY REPORT

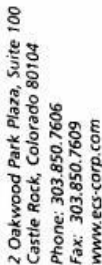
Work Order: **1506017**
19-Jun-15

Client: Summit Scientific
Project: Eaton Commons

BatchID: R2024

Sample ID	BTEX LCSD	SampType: LCSD	TestCode: TO15B	Units: µg/m³	Prep Date:				RunNo: 2024		
Client ID:	LCSS02	Batch ID: R2024	TestNo: TO-15	Analysis Date: 6/6/2015				SeqNo: 26602			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	40	0.38	38	0	105	30	170	41	4.29	30	
Ethylbenzene	46	0.43	43	0	106	30	170	47	2.88	30	
Xylenes, Total	130	0.43	130	0	103	30	170	140	2.99	30	
Surr: Toluene-d8	10		10.00		102	30	170		0	30	
Surr: 4-Bromofluorobenzene	9.6		10.00		96.2	30	170		0	30	

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the RL	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted reco



www.ecs-corp.com

COC # 14365

THE ABOVE SIGNED HAS READ AND UNDERSTANDS THE CREDIT TERMS AND CREDIT POLICIES OF ECS, INC. AND AGREES TO THE TERMS AND CONDITIONS AS SET FORTH IN THIS AGREEMENT.

Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other
Preservative: H = HCl N = Nitric SF = Sulfuric
Container: A = Amber B = Brass C = Clear Glass P = Plastic S = Soil Jar
 SU = Summa PF = PUF T = Tedlar TU = Tube OT = Other

Page 1 of 1



Project:

Project Number:

Project Manager:

Reported:

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

A handwritten signature in black ink, appearing to be 'MSM'.