



El Paso Natural Gas
Company, L.L.C.
a Kinder Morgan company



APPROVED

By OCD Dr Oberding at 3:27 pm, Nov 29, 2016

Kristen D. Lynch
Environmental Specialist, District 1
Oil Conservation Division, EMNRD
1625 N. French Drive
Hobbs, New Mexico 88240

RE: El Paso Natural Gas Company Line No. 3031 Inadvertent Release – Rupture No. 1
Request for Closure of RP No. 4395

Dear Ms. Lynch,

El Paso Natural Gas Company (EPNG) is formally requesting the closure of RP No. 4395. This RP number was assigned to the notification record for the inadvertent release of hydrostatic test water (Rupture No. 1) during the spike test of EPNG's Line No. 3031 located in Lea County, New Mexico. The attached document includes all of the documentation and email correspondence related to the rupture event which took place on July 22, 2016.

Included in the attached document:

- Final Form C-141_with signature
- Initial Form C-141_with signature
- Email Correspondence related to the assignment of RP#
- Email Correspondence granting permission to backfill the open trench at rupture site
- Soil Analysis Report
- Water Analysis Report

Thank you very much for your assistance with the NMOCD process and documentation of this hydrostatic test rupture event. Please feel free to contact me if you have any questions or require any additional information.

Sincerely,

KINDER MORGAN

Sheila Castellano - Contractor Consultant
2 North Nevada Ave
Colorado Springs, CO 80903
o: 719 520-3719
c: 719 352-1367

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Rupture #1 - RP#4395

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company El Paso Natural Gas Company, LLC (a Kinder Morgan owned company)	Contact Sheila Castellano
Address approximately 0.8 miles north of NM Hwy 82 (Lovington Hwy) and 1.1 miles west of Heidel Road	Telephone No. (719) 520-3719
Facility Name El Paso Natural Gas Company Line 3031	Facility Type 8-inch Natural Gas Pipeline

Surface Owner Stephen & Johnson Operating Company	Mineral Owner	API No.
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LOCATION OF RELEASE

Unit Letter	Section SE/4 Sec35	Township 14S	Range 37E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea County, NM
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Latitude 33.057840 Longitude -103.164042

NATURE OF RELEASE

Type of Release Inadvertent release of hydrostatic test water	Volume of Release Approximately 15,000 gallons	Volume Recovered Approximately 13, 860 gallons
Source of Release 8-inch natural gas pipeline	Date and Hour of Occurrence 7/22/16 9:05a MDT	Date and Hour of Discovery 7/22/16 9:05a MDT
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? NMOCD Santa Fe Office: Jim Griswold NMOCD District 1 Office: Maxey Brown	
By Whom? Sheila Castellano	Date and Hour 7/22/16 2:15p MDT	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
EPNG was conducting a hydrostatic spike test of the existing L3031 and the pipeline failed during the test. Test was stopped. A sample of the residual water in the pipeline was taken and analyzed using Test 8260. Test was recommended by Tomas Oberding, NMOCD Hydrologist.

Describe Area Affected and Cleanup Action Taken.* Test water release was contained within the existing right of way. Approximately 1,140 gallons of hydrostatic test water were not recovered from the rupture site. Affected soil has been piled and covered. Soil sample was taken from within the affected area. Analysis results are pending. A water sample was taken from the pipeline after the rupture. The analysis report is attached.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION		
Printed Name: Sheila F. Castellano	Approved by Environmental Specialist:		
Title: Consultant/Contractor	Approval Date:	Expiration Date:	
E-mail Address: sheila_castellano@kindermorgan.com	Conditions of Approval:		Attached ☐
Date: November 9, 2016	Phone: (719) 520-3719		

* Attach Additional Sheets If Necessary

District I
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Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

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accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

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☒ Initial Report ☐ Final Report

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NATURE OF RELEASE

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Source of Release 8-inch natural gas pipeline	Date and Hour of Occurrence 7/22/16 9:05a MDT	Date and Hour of Discovery 7/22/16 9:05a MDT
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? NMOCD Santa Fe Office: Jim Griswold NMOCD District 1 Office: Maxey Brown	
By Whom? Sheila Castellano	Date and Hour 7/22/16 2:15p MDT	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

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Describe Cause of Problem and Remedial Action Taken.*

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Describe Area Affected and Cleanup Action Taken.* Test water release was contained within the existing right of way. Approximately 1,140 gallons of hydrostatic test water were not recovered from the rupture site. Affected soil has been piled and covered. Soil sample was taken from within the affected area. Analysis results are pending. A water sample was taken from the pipeline after the rupture. The analysis report is attached.

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Signature: 	OIL CONSERVATION DIVISION		
Printed Name: Sheila F. Castellano	Approved by Environmental Specialist:		
Title: Consultant/Contractor	Approval Date:	Expiration Date:	
E-mail Address: sheila.castellano@kindermorgan.com	Conditions of Approval:		Attached ☐
Date: August 4, 2016 Phone: (719) 520-3719			

* Attach Additional Sheets If Necessary

Castellano, Sheila Fennell (Contractor)

From: Castellano, Sheila Fennell (Contractor)
Sent: Friday, August 05, 2016 5:29 PM
To: Jim.Griswold@state.nm.us
Cc: tomas.oberding@state.nm.us; MaxeyG.Brown@state.nm.us; Castellano, Sheila Fennell (Contractor)
Subject: El Paso Natural Gas Company_Line No. 3031 Spike Test_Form C141 Release Notification_Rupture #1
Attachments: Form C141_EPNG L3031Rupture#1.pdf; EPNG LINE 3031 HYDROTEST.PDF; Rupture #1_HT water sample_Report.pdf

Mr. Griswold,

Attached is El Paso Natural Gas Company's (EPNG) submittal of Form C-141, as NMOCD's required Written Notification, for the unauthorized release of hydrostatic test water in Lea County, New Mexico. The event occurred during a hydrostatic spike test of EPNG's existing 8-inch O.D. Tipperary – Denten Crossover Line (Line No. 3031) on July 22, 2016.

Project Background:

As part of the Kinder Morgan Inc. Integrity Management Program, EPNG is conducting a hydrostatic spike test of the existing 8-inch O.D. Line No. 3031, located approximately 15 miles northeast of the City of Lovington in Lea County, New Mexico. The pipeline originates at the Davis Gas Processing Plant and extends northward 7.02 miles where it ties into EPNG's existing 1300 Line System. Line No. 3031 was constructed by EPNG in 1954 and is in a Class 1 location. EPNG determined that a total of 110,000 gallons of water for cleaning and testing would be required for the test. In general, a spike test consists of filling the pipeline with water and testing within a pressure range determined by percentage of specified minimum yield strength (SMYS) of the lowest strength pipe in the test segment. The hydrostatic spike test duration is a total of eight (8) hours at pressures near the pipe yield strength.

To date, EPNG has experience failures at six different locations during the spike test process. Each event was communicated to NMOCD within 24 hours and efforts to compile more detailed information for the required written notification Form C-141 are ongoing. Please refer to the attached map for a general overview of the hydrostatic test water inadvertent release locations.

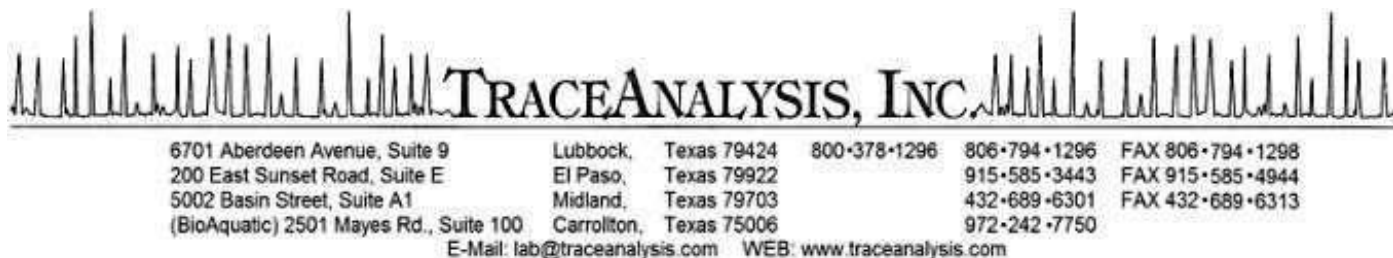
Also attached is the analytical report received for the water sample taken after Rupture #1. At the request of Maxey Brown, soil samples have been taken from within the affected areas at each of the rupture locations. Subsequent water samples were also collected for analysis. All analytical reports will be forwarded to NMOCD upon receipt.

Please feel free to contact me directly if you have any questions.

Thank you,
Sheila Castellano

KINDER MORGAN

Sheila Castellano - Contractor Consultant
2 North Nevada Ave
Colorado Springs, CO 80903
o: 719 520-3719



Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Glen Thompson
Kinder Morgan/El Paso Natural Gas-Odessa
1550 Windway
Odessa, TX, 79761

Report Date: August 2, 2016

Work Order: 16072912



Project Name: Lovington Leak
Project Number: Lovington Leak

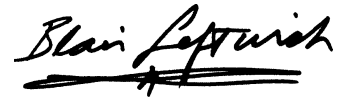
Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
425442	Site 1 Spill	soil	2016-07-28	20:00	2016-07-29
425443	Site 1 Background	soil	2016-07-28	20:00	2016-07-29
425444	Site 2 Spill	soil	2016-07-28	20:15	2016-07-29
425445	Site 2 Background	soil	2016-07-28	20:15	2016-07-29
425446	Site 3 Spill	soil	2016-07-28	20:45	2016-07-29
425447	Site 3 Background	soil	2016-07-28	20:45	2016-07-29

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 44 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

A handwritten signature in black ink, reading "Blair Leftwich". The signature is written in a cursive style with a prominent horizontal stroke at the bottom.

Dr. Blair Leftwich, Director
James Taylor, Assistant Director
Johnny Grindstaff, Operations Manager

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Case Narrative

Samples for project Lovington Leak were received by TraceAnalysis, Inc. on 2016-07-29 and assigned to work order 16072912. Samples for work order 16072912 were received intact at a temperature of 4.0 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (IC)	E 300.0	111704	2016-07-29 at 15:05	131816	2016-07-29 at 21:59
TPH DRO	S 8015 D	111686	2016-07-29 at 14:00	131801	2016-08-01 at 07:32
TPH DRO	S 8015 D	111719	2016-08-01 at 10:00	131830	2016-08-01 at 15:40
TPH GRO	S 8015 D	111698	2016-07-29 at 14:00	131808	2016-07-29 at 14:00
Volatiles	S 8260 C	111708	2016-07-29 at 12:00	131821	2016-07-29 at 12:00

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 16072912 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 425442 - Site 1 Spill

Laboratory:	Lubbock	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	Chloride (IC)	Date Analyzed:	2016-07-29	Analyzed By:	RL
QC Batch:	131816	Sample Preparation:	2016-07-29	Prepared By:	RL
Prep Batch:	111704				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		3,4	46.8	mg/Kg	1	25.0

Sample: 425442 - Site 1 Spill

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO	Date Analyzed:	2016-08-01	Analyzed By:	HJ
QC Batch:	131830	Sample Preparation:	2016-08-01	Prepared By:	HJ
Prep Batch:	111719				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	U	1,2,3	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			21.8	mg/Kg	1	25.0	87	58.2 - 150

Sample: 425442 - Site 1 Spill

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2016-07-29	Analyzed By:	MT
QC Batch:	131808	Sample Preparation:	2016-07-29	Prepared By:	MT
Prep Batch:	111698				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	B,U	1,2,3	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.49	mg/Kg	1	2.00	125	76.4 - 123

continued ...

Report Date: August 2, 2016
Lovington Leak

Work Order: 16072912
Lovington Leak

Page Number: 6 of 44

sample continued ...

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)			2.29	mg/Kg	1	2.00	114	69.4 - 120

Sample: 425442 - Site 1 Spill

Laboratory: Lubbock
Analysis: Volatiles
QC Batch: 131821
Prep Batch: 111708

Analytical Method: S 8260 C
Date Analyzed: 2016-07-29
Sample Preparation: 2016-07-29

Prep Method: S 5030B
Analyzed By: KB
Prepared By: KB

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Bromochloromethane	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dichlorodifluoromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chloromethane (methyl chloride)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Vinyl Chloride	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromomethane (methyl bromide)	U	1,2,3,4	<100	µg/Kg	1	100
Chloroethane	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Trichlorofluoromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Acetone	Qc,U	1,2,3,4	<200	µg/Kg	1	200
Iodomethane (methyl iodide)	Qs,U	1,2,3,4	<100	µg/Kg	1	100
Carbon Disulfide	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Acrylonitrile	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Butanone (MEK)	Qc,Qr,U	1,2,3,4	<100	µg/Kg	1	100
4-Methyl-2-pentanone (MIBK)	Qr,U	1,2,3,4	<100	µg/Kg	1	100
2-Hexanone	Qc,U	1,2,3,4	<100	µg/Kg	1	100
trans 1,4-Dichloro-2-butene	Qc,Qr,U	1,2,3,4	<200	µg/Kg	1	200
1,1-Dichloroethene	Qr,Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Methylene chloride	B,Qs,U	1,2,3,4	<100	µg/Kg	1	100
MTBE	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
trans-1,2-Dichloroethene	Qr,Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1-Dichloroethane	Qr,Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
cis-1,2-Dichloroethene	Qr,Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2,2-Dichloropropane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichloroethane (EDC)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chloroform	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,1-Trichloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1-Dichloropropene	Qr,Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Benzene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Carbon Tetrachloride	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichloropropane	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Trichloroethene (TCE)	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dibromomethane (methylene bromide)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromodichloromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0

continued ...

sample 425442 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
2-Chloroethyl vinyl ether	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
cis-1,3-Dichloropropene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
trans-1,3-Dichloropropene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Toluene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,2-Trichloroethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3-Dichloropropane	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dibromochloromethane	Qr,U	1,3,4	<20.0	µg/Kg	1	20.0
1,2-Dibromoethane (EDB)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Tetrachloroethene (PCE)	Qr,Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chlorobenzene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,1,2-Tetrachloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Ethylbenzene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
m,p-Xylene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromoform	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Styrene	Qr,Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
o-Xylene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,2,2-Tetrachloroethane	Qr,Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Chlorotoluene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2,3-Trichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Isopropylbenzene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromobenzene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
n-Propylbenzene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3,5-Trimethylbenzene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
tert-Butylbenzene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2,4-Trimethylbenzene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,4-Dichlorobenzene (para)	Qr,Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
sec-Butylbenzene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3-Dichlorobenzene (meta)	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
p-Isopropyltoluene	Qs,U	1,2,3	<20.0	µg/Kg	1	20.0
4-Chlorotoluene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichlorobenzene (ortho)	Qr,Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
n-Butylbenzene	Qs,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dibromo-3-chloropropane	Qr,U	1,3,4	<100	µg/Kg	1	100
1,2,3-Trichlorobenzene	Qs,U	1,2,3,4	<100	µg/Kg	1	100
1,2,4-Trichlorobenzene	Qs,U	1,2,3,4	<100	µg/Kg	1	100
Naphthalene	Qs,U	1,2,3,4	<100	µg/Kg	1	100
Hexachlorobutadiene	Qs,U	1,2,3,4	<100	µg/Kg	1	100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		4	793	µg/Kg	1	840	94	78 - 119
Toluene-d8			863	µg/Kg	1	840	103	85 - 116
4-Bromofluorobenzene (4-BFB)			804	µg/Kg	1	840	96	79 - 119

Report Date: August 2, 2016
Lovington Leak

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Sample: 425443 - Site 1 Background

Laboratory:	Lubbock	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	Chloride (IC)	Date Analyzed:	2016-07-29	Analyzed By:	RL
QC Batch:	131816	Sample Preparation:	2016-07-29	Prepared By:	RL
Prep Batch:	111704				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		3,4	<25.0	mg/Kg	1	25.0

Sample: 425443 - Site 1 Background

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO	Date Analyzed:	2016-08-01	Analyzed By:	HJ
QC Batch:	131801	Sample Preparation:	2016-07-29	Prepared By:	HJ
Prep Batch:	111686				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1,2,3	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			20.8	mg/Kg	1	25.0	83	58.2 - 150

Sample: 425443 - Site 1 Background

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2016-07-29	Analyzed By:	MT
QC Batch:	131808	Sample Preparation:	2016-07-29	Prepared By:	MT
Prep Batch:	111698				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	B,Jb	1,2,3	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.36	mg/Kg	1	2.00	118	76.4 - 123
4-Bromofluorobenzene (4-BFB)			2.11	mg/Kg	1	2.00	106	69.4 - 120

Sample: 425443 - Site 1 Background

Laboratory: Lubbock
 Analysis: Volatiles
 QC Batch: 131821
 Prep Batch: 111708

Analytical Method: S 8260 C
 Date Analyzed: 2016-07-29
 Sample Preparation: 2016-07-29

Prep Method: S 5030B
 Analyzed By: KB
 Prepared By: KB

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Bromochloromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dichlorodifluoromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chloromethane (methyl chloride)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Vinyl Chloride	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromomethane (methyl bromide)	U	1,2,3,4	<100	µg/Kg	1	100
Chloroethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Trichlorofluoromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Acetone	Qc,U	1,2,3,4	<200	µg/Kg	1	200
Iodomethane (methyl iodide)	U	1,2,3,4	<100	µg/Kg	1	100
Carbon Disulfide	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Acrylonitrile	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Butanone (MEK)	Qc,Qr,U	1,2,3,4	<100	µg/Kg	1	100
4-Methyl-2-pentanone (MIBK)	Qr,U	1,2,3,4	<100	µg/Kg	1	100
2-Hexanone	Qc,U	1,2,3,4	<100	µg/Kg	1	100
trans 1,4-Dichloro-2-butene	Qc,Qr,U	1,2,3,4	<200	µg/Kg	1	200
1,1-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Methylene chloride	B,Jb	1,2,3,4	<100	µg/Kg	1	100
MTBE	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
trans-1,2-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1-Dichloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
cis-1,2-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2,2-Dichloropropane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichloroethane (EDC)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chloroform	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,1-Trichloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1-Dichloropropene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Benzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Carbon Tetrachloride	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Trichloroethene (TCE)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dibromomethane (methylene bromide)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromodichloromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Chloroethyl vinyl ether	U	1,2,3,4	<20.0	µg/Kg	1	20.0
cis-1,3-Dichloropropene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
trans-1,3-Dichloropropene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Toluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,2-Trichloroethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3-Dichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dibromochloromethane	Qr,U	1,3,4	<20.0	µg/Kg	1	20.0

continued ...

sample 425443 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
1,2-Dibromoethane (EDB)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Tetrachloroethene (PCE)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chlorobenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,1,2-Tetrachloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Ethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
m,p-Xylene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromoform	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Styrene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
o-Xylene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,2,2-Tetrachloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Chlorotoluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2,3-Trichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Isopropylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromobenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
n-Propylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3,5-Trimethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
tert-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2,4-Trimethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,4-Dichlorobenzene (para)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
sec-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3-Dichlorobenzene (meta)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
p-Isopropyltoluene		1,2,3	22.8	µg/Kg	1	20.0
4-Chlorotoluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichlorobenzene (ortho)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
n-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dibromo-3-chloropropane	Qr,U	1,3,4	<100	µg/Kg	1	100
1,2,3-Trichlorobenzene	U	1,2,3,4	<100	µg/Kg	1	100
1,2,4-Trichlorobenzene	U	1,2,3,4	<100	µg/Kg	1	100
Naphthalene	U	1,2,3,4	<100	µg/Kg	1	100
Hexachlorobutadiene	U	1,2,3,4	<100	µg/Kg	1	100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		4	900	µg/Kg	1	980	92	78 - 119
Toluene-d8			999	µg/Kg	1	980	102	85 - 116
4-Bromofluorobenzene (4-BFB)			916	µg/Kg	1	980	93	79 - 119

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Sample: 425444 - Site 2 Spill

Laboratory:	Lubbock	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	Chloride (IC)	Date Analyzed:	2016-07-29	Analyzed By:	RL
QC Batch:	131816	Sample Preparation:	2016-07-29	Prepared By:	RL
Prep Batch:	111704				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		3,4	603	mg/Kg	5	25.0

Sample: 425444 - Site 2 Spill

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO	Date Analyzed:	2016-08-01	Analyzed By:	HJ
QC Batch:	131830	Sample Preparation:	2016-08-01	Prepared By:	HJ
Prep Batch:	111719				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	U	1,2,3	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			23.2	mg/Kg	1	25.0	93	58.2 - 150

Sample: 425444 - Site 2 Spill

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2016-07-29	Analyzed By:	MT
QC Batch:	131808	Sample Preparation:	2016-07-29	Prepared By:	MT
Prep Batch:	111698				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	B,U	1,2,3	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.28	mg/Kg	1	2.00	114	76.4 - 123
4-Bromofluorobenzene (4-BFB)			2.02	mg/Kg	1	2.00	101	69.4 - 120

Sample: 425444 - Site 2 Spill

Laboratory: Lubbock
 Analysis: Volatiles
 QC Batch: 131821
 Prep Batch: 111708

Analytical Method: S 8260 C
 Date Analyzed: 2016-07-29
 Sample Preparation: 2016-07-29

Prep Method: S 5030B
 Analyzed By: KB
 Prepared By: KB

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Bromochloromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dichlorodifluoromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chloromethane (methyl chloride)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Vinyl Chloride	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromomethane (methyl bromide)	U	1,2,3,4	<100	µg/Kg	1	100
Chloroethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Trichlorofluoromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Acetone	Qc,U	1,2,3,4	<200	µg/Kg	1	200
Iodomethane (methyl iodide)	U	1,2,3,4	<100	µg/Kg	1	100
Carbon Disulfide	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Acrylonitrile	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Butanone (MEK)	Qc,Qr,U	1,2,3,4	<100	µg/Kg	1	100
4-Methyl-2-pentanone (MIBK)	Qr,U	1,2,3,4	<100	µg/Kg	1	100
2-Hexanone	Qc,U	1,2,3,4	<100	µg/Kg	1	100
trans 1,4-Dichloro-2-butene	Qc,Qr,U	1,2,3,4	<200	µg/Kg	1	200
1,1-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Methylene chloride	B,Jb	1,2,3,4	<100	µg/Kg	1	100
MTBE	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
trans-1,2-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1-Dichloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
cis-1,2-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2,2-Dichloropropane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichloroethane (EDC)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chloroform	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,1-Trichloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1-Dichloropropene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Benzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Carbon Tetrachloride	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Trichloroethene (TCE)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dibromomethane (methylene bromide)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromodichloromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Chloroethyl vinyl ether	U	1,2,3,4	<20.0	µg/Kg	1	20.0
cis-1,3-Dichloropropene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
trans-1,3-Dichloropropene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Toluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,2-Trichloroethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3-Dichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dibromochloromethane	Qr,U	1,3,4	<20.0	µg/Kg	1	20.0

continued ...

sample 425444 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
1,2-Dibromoethane (EDB)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Tetrachloroethene (PCE)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chlorobenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,1,2-Tetrachloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Ethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
m,p-Xylene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromoform	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Styrene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
o-Xylene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,2,2-Tetrachloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Chlorotoluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2,3-Trichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Isopropylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromobenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
n-Propylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3,5-Trimethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
tert-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2,4-Trimethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,4-Dichlorobenzene (para)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
sec-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3-Dichlorobenzene (meta)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
p-Isopropyltoluene	U	1,2,3	<20.0	µg/Kg	1	20.0
4-Chlorotoluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichlorobenzene (ortho)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
n-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dibromo-3-chloropropane	Qr,U	1,3,4	<100	µg/Kg	1	100
1,2,3-Trichlorobenzene	U	1,2,3,4	<100	µg/Kg	1	100
1,2,4-Trichlorobenzene	U	1,2,3,4	<100	µg/Kg	1	100
Naphthalene	U	1,2,3,4	<100	µg/Kg	1	100
Hexachlorobutadiene	U	1,2,3,4	<100	µg/Kg	1	100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		4	874	µg/Kg	1	965	90	78 - 119
Toluene-d8			989	µg/Kg	1	965	102	85 - 116
4-Bromofluorobenzene (4-BFB)			904	µg/Kg	1	965	94	79 - 119

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Sample: 425445 - Site 2 Background

Laboratory:	Lubbock	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	Chloride (IC)	Date Analyzed:	2016-07-29	Analyzed By:	RL
QC Batch:	131816	Sample Preparation:	2016-07-29	Prepared By:	RL
Prep Batch:	111704				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		3,4	<25.0	mg/Kg	1	25.0

Sample: 425445 - Site 2 Background

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO	Date Analyzed:	2016-08-01	Analyzed By:	HJ
QC Batch:	131801	Sample Preparation:	2016-07-29	Prepared By:	HJ
Prep Batch:	111686				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1,2,3	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			19.0	mg/Kg	1	25.0	76	58.2 - 150

Sample: 425445 - Site 2 Background

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2016-07-29	Analyzed By:	MT
QC Batch:	131808	Sample Preparation:	2016-07-29	Prepared By:	MT
Prep Batch:	111698				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	B,U	1,2,3	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.34	mg/Kg	1	2.00	117	76.4 - 123
4-Bromofluorobenzene (4-BFB)			2.05	mg/Kg	1	2.00	102	69.4 - 120

Sample: 425445 - Site 2 Background

Laboratory: Lubbock
 Analysis: Volatiles
 QC Batch: 131821
 Prep Batch: 111708

Analytical Method: S 8260 C
 Date Analyzed: 2016-07-29
 Sample Preparation: 2016-07-29

Prep Method: S 5030B
 Analyzed By: KB
 Prepared By: KB

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Bromochloromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dichlorodifluoromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chloromethane (methyl chloride)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Vinyl Chloride	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromomethane (methyl bromide)	U	1,2,3,4	<100	µg/Kg	1	100
Chloroethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Trichlorofluoromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Acetone	Qc,U	1,2,3,4	<200	µg/Kg	1	200
Iodomethane (methyl iodide)	U	1,2,3,4	<100	µg/Kg	1	100
Carbon Disulfide	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Acrylonitrile	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Butanone (MEK)	Qc,Qr,U	1,2,3,4	<100	µg/Kg	1	100
4-Methyl-2-pentanone (MIBK)	Qr,U	1,2,3,4	<100	µg/Kg	1	100
2-Hexanone	Qc,U	1,2,3,4	<100	µg/Kg	1	100
trans 1,4-Dichloro-2-butene	Qc,Qr,U	1,2,3,4	<200	µg/Kg	1	200
1,1-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Methylene chloride	B,Jb	1,2,3,4	<100	µg/Kg	1	100
MTBE	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
trans-1,2-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1-Dichloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
cis-1,2-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2,2-Dichloropropane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichloroethane (EDC)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chloroform	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,1-Trichloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1-Dichloropropene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Benzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Carbon Tetrachloride	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Trichloroethene (TCE)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dibromomethane (methylene bromide)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromodichloromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Chloroethyl vinyl ether	U	1,2,3,4	<20.0	µg/Kg	1	20.0
cis-1,3-Dichloropropene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
trans-1,3-Dichloropropene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Toluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,2-Trichloroethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3-Dichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dibromochloromethane	Qr,U	1,3,4	<20.0	µg/Kg	1	20.0

continued ...

sample 425445 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
1,2-Dibromoethane (EDB)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Tetrachloroethene (PCE)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chlorobenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,1,2-Tetrachloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Ethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
m,p-Xylene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromoform	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Styrene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
o-Xylene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,2,2-Tetrachloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Chlorotoluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2,3-Trichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Isopropylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromobenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
n-Propylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3,5-Trimethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
tert-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2,4-Trimethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,4-Dichlorobenzene (para)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
sec-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3-Dichlorobenzene (meta)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
p-Isopropyltoluene	U	1,2,3	<20.0	µg/Kg	1	20.0
4-Chlorotoluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichlorobenzene (ortho)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
n-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dibromo-3-chloropropane	Qr,U	1,3,4	<100	µg/Kg	1	100
1,2,3-Trichlorobenzene	U	1,2,3,4	<100	µg/Kg	1	100
1,2,4-Trichlorobenzene	U	1,2,3,4	<100	µg/Kg	1	100
Naphthalene	U	1,2,3,4	<100	µg/Kg	1	100
Hexachlorobutadiene	U	1,2,3,4	<100	µg/Kg	1	100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		4	827	µg/Kg	1	965	86	78 - 119
Toluene-d8			975	µg/Kg	1	965	101	85 - 116
4-Bromofluorobenzene (4-BFB)			906	µg/Kg	1	965	94	79 - 119

Report Date: August 2, 2016
Lovington Leak

Work Order: 16072912
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Sample: 425446 - Site 3 Spill

Laboratory:	Lubbock	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	Chloride (IC)	Date Analyzed:	2016-07-29	Analyzed By:	RL
QC Batch:	131816	Sample Preparation:	2016-07-29	Prepared By:	RL
Prep Batch:	111704				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		3,4	27.9	mg/Kg	1	25.0

Sample: 425446 - Site 3 Spill

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO	Date Analyzed:	2016-08-01	Analyzed By:	HJ
QC Batch:	131830	Sample Preparation:	2016-08-01	Prepared By:	HJ
Prep Batch:	111719				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1,2,3	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			22.7	mg/Kg	1	25.0	91	58.2 - 150

Sample: 425446 - Site 3 Spill

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2016-07-29	Analyzed By:	MT
QC Batch:	131808	Sample Preparation:	2016-07-29	Prepared By:	MT
Prep Batch:	111698				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	B,Jb	1,2,3	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.18	mg/Kg	1	2.00	109	76.4 - 123
4-Bromofluorobenzene (4-BFB)			1.99	mg/Kg	1	2.00	100	69.4 - 120

Sample: 425446 - Site 3 Spill

Laboratory: Lubbock
 Analysis: Volatiles
 QC Batch: 131821
 Prep Batch: 111708

Analytical Method: S 8260 C
 Date Analyzed: 2016-07-29
 Sample Preparation: 2016-07-29

Prep Method: S 5030B
 Analyzed By: KB
 Prepared By: KB

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Bromochloromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dichlorodifluoromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chloromethane (methyl chloride)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Vinyl Chloride	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromomethane (methyl bromide)	U	1,2,3,4	<100	µg/Kg	1	100
Chloroethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Trichlorofluoromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Acetone	Qc,U	1,2,3,4	<200	µg/Kg	1	200
Iodomethane (methyl iodide)	U	1,2,3,4	<100	µg/Kg	1	100
Carbon Disulfide	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Acrylonitrile	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Butanone (MEK)	Qc,Qr,U	1,2,3,4	<100	µg/Kg	1	100
4-Methyl-2-pentanone (MIBK)	Qr,U	1,2,3,4	<100	µg/Kg	1	100
2-Hexanone	Qc,U	1,2,3,4	<100	µg/Kg	1	100
trans 1,4-Dichloro-2-butene	Qc,Qr,U	1,2,3,4	<200	µg/Kg	1	200
1,1-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Methylene chloride	B,Jb	1,2,3,4	<100	µg/Kg	1	100
MTBE	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
trans-1,2-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1-Dichloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
cis-1,2-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2,2-Dichloropropane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichloroethane (EDC)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chloroform	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,1-Trichloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1-Dichloropropene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Benzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Carbon Tetrachloride	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Trichloroethene (TCE)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dibromomethane (methylene bromide)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromodichloromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Chloroethyl vinyl ether	U	1,2,3,4	<20.0	µg/Kg	1	20.0
cis-1,3-Dichloropropene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
trans-1,3-Dichloropropene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Toluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,2-Trichloroethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3-Dichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dibromochloromethane	Qr,U	1,3,4	<20.0	µg/Kg	1	20.0

continued ...

sample 425446 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
1,2-Dibromoethane (EDB)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Tetrachloroethene (PCE)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chlorobenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,1,2-Tetrachloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Ethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
m,p-Xylene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromoform	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Styrene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
o-Xylene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,2,2-Tetrachloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Chlorotoluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2,3-Trichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Isopropylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromobenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
n-Propylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3,5-Trimethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
tert-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2,4-Trimethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,4-Dichlorobenzene (para)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
sec-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3-Dichlorobenzene (meta)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
p-Isopropyltoluene	U	1,2,3	<20.0	µg/Kg	1	20.0
4-Chlorotoluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichlorobenzene (ortho)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
n-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dibromo-3-chloropropane	Qr,U	1,3,4	<100	µg/Kg	1	100
1,2,3-Trichlorobenzene	U	1,2,3,4	<100	µg/Kg	1	100
1,2,4-Trichlorobenzene	U	1,2,3,4	<100	µg/Kg	1	100
Naphthalene	U	1,2,3,4	<100	µg/Kg	1	100
Hexachlorobutadiene	U	1,2,3,4	<100	µg/Kg	1	100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		4	787	µg/Kg	1	915	86	78 - 119
Toluene-d8			919	µg/Kg	1	915	100	85 - 116
4-Bromofluorobenzene (4-BFB)			855	µg/Kg	1	915	93	79 - 119

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Lovington Leak

Work Order: 16072912
Lovington Leak

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Sample: 425447 - Site 3 Background

Laboratory:	Lubbock	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	Chloride (IC)	Date Analyzed:	2016-07-29	Analyzed By:	RL
QC Batch:	131816	Sample Preparation:	2016-07-29	Prepared By:	RL
Prep Batch:	111704				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		3,4	<25.0	mg/Kg	1	25.0

Sample: 425447 - Site 3 Background

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO	Date Analyzed:	2016-08-01	Analyzed By:	HJ
QC Batch:	131801	Sample Preparation:	2016-07-29	Prepared By:	HJ
Prep Batch:	111686				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1,2,3	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			22.0	mg/Kg	1	25.0	88	58.2 - 150

Sample: 425447 - Site 3 Background

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2016-07-29	Analyzed By:	MT
QC Batch:	131808	Sample Preparation:	2016-07-29	Prepared By:	MT
Prep Batch:	111698				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	B,U	1,2,3	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.25	mg/Kg	1	2.00	112	76.4 - 123
4-Bromofluorobenzene (4-BFB)			2.01	mg/Kg	1	2.00	100	69.4 - 120

Sample: 425447 - Site 3 Background

Laboratory: Lubbock
 Analysis: Volatiles
 QC Batch: 131821
 Prep Batch: 111708

Analytical Method: S 8260 C
 Date Analyzed: 2016-07-29
 Sample Preparation: 2016-07-29

Prep Method: S 5030B
 Analyzed By: KB
 Prepared By: KB

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Bromochloromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dichlorodifluoromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chloromethane (methyl chloride)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Vinyl Chloride	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromomethane (methyl bromide)	U	1,2,3,4	<100	µg/Kg	1	100
Chloroethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Trichlorofluoromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Acetone	Qc,U	1,2,3,4	<200	µg/Kg	1	200
Iodomethane (methyl iodide)	U	1,2,3,4	<100	µg/Kg	1	100
Carbon Disulfide	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Acrylonitrile	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Butanone (MEK)	Qc,Qr,U	1,2,3,4	<100	µg/Kg	1	100
4-Methyl-2-pentanone (MIBK)	Qr,U	1,2,3,4	<100	µg/Kg	1	100
2-Hexanone	Qc,U	1,2,3,4	<100	µg/Kg	1	100
trans 1,4-Dichloro-2-butene	Qc,Qr,U	1,2,3,4	<200	µg/Kg	1	200
1,1-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Methylene chloride	B,Jb	1,2,3,4	<100	µg/Kg	1	100
MTBE	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
trans-1,2-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1-Dichloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
cis-1,2-Dichloroethene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2,2-Dichloropropane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichloroethane (EDC)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chloroform	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,1-Trichloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1-Dichloropropene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Benzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Carbon Tetrachloride	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Trichloroethene (TCE)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dibromomethane (methylene bromide)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromodichloromethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Chloroethyl vinyl ether	U	1,2,3,4	<20.0	µg/Kg	1	20.0
cis-1,3-Dichloropropene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
trans-1,3-Dichloropropene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Toluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,2-Trichloroethane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3-Dichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Dibromochloromethane	Qr,U	1,3,4	<20.0	µg/Kg	1	20.0

continued ...

sample 425447 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
1,2-Dibromoethane (EDB)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Tetrachloroethene (PCE)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Chlorobenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,1,2-Tetrachloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Ethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
m,p-Xylene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromoform	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
Styrene	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
o-Xylene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,1,2,2-Tetrachloroethane	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
2-Chlorotoluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2,3-Trichloropropane	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Isopropylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
Bromobenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
n-Propylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3,5-Trimethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
tert-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2,4-Trimethylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,4-Dichlorobenzene (para)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
sec-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,3-Dichlorobenzene (meta)	U	1,2,3,4	<20.0	µg/Kg	1	20.0
p-Isopropyltoluene	U	1,2,3	<20.0	µg/Kg	1	20.0
4-Chlorotoluene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dichlorobenzene (ortho)	Qr,U	1,2,3,4	<20.0	µg/Kg	1	20.0
n-Butylbenzene	U	1,2,3,4	<20.0	µg/Kg	1	20.0
1,2-Dibromo-3-chloropropane	Qr,U	1,3,4	<100	µg/Kg	1	100
1,2,3-Trichlorobenzene	U	1,2,3,4	<100	µg/Kg	1	100
1,2,4-Trichlorobenzene	U	1,2,3,4	<100	µg/Kg	1	100
Naphthalene	U	1,2,3,4	<100	µg/Kg	1	100
Hexachlorobutadiene	U	1,2,3,4	<100	µg/Kg	1	100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		4	884	µg/Kg	1	990	89	78 - 119
Toluene-d8			987	µg/Kg	1	990	100	85 - 116
4-Bromofluorobenzene (4-BFB)			901	µg/Kg	1	990	91	79 - 119

Method Blanks

Method Blank (1) QC Batch: 131801

QC Batch: 131801 Date Analyzed: 2016-08-01 Analyzed By: HJ
Prep Batch: 111686 QC Preparation: 2016-07-29 Prepared By: HJ

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1,2,3	<8.47	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			26.8	mg/Kg	1	25.0	107	58.2 - 150

Method Blank (1) QC Batch: 131808

QC Batch: 131808 Date Analyzed: 2016-07-29 Analyzed By: MT
Prep Batch: 111698 QC Preparation: 2016-07-29 Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
GRO	B	B	0.376	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Q _{sr}	Q _{sr}	2.47	mg/Kg	1	2.00	124	76.4 - 123
4-Bromofluorobenzene (4-BFB)			2.20	mg/Kg	1	2.00	110	69.4 - 120

Method Blank (1) QC Batch: 131816

QC Batch: 131816 Date Analyzed: 2016-07-29 Analyzed By: RL
Prep Batch: 111704 QC Preparation: 2016-07-29 Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		3,4	<4.44	mg/Kg	25

Method Blank (1) QC Batch: 131821

QC Batch: 131821
 Prep Batch: 111708

Date Analyzed: 2016-07-29
 QC Preparation: 2016-07-29

Analyzed By: KB
 Prepared By: KB

Parameter	Flag	Cert	MDL Result	Units	RL
Bromochloromethane		1,2,3,4	<9.28	µg/Kg	20
Dichlorodifluoromethane		1,2,3,4	<9.82	µg/Kg	20
Chloromethane (methyl chloride)		1,2,3,4	<11.7	µg/Kg	20
Vinyl Chloride		1,2,3,4	<10.6	µg/Kg	20
Bromomethane (methyl bromide)		1,2,3,4	<13.5	µg/Kg	100
Chloroethane		1,2,3,4	<9.16	µg/Kg	20
Trichlorofluoromethane		1,2,3,4	<12.4	µg/Kg	20
Acetone		1,2,3,4	<7.34	µg/Kg	200
Iodomethane (methyl iodide)		1,2,3,4	<8.64	µg/Kg	100
Carbon Disulfide		1,2,3,4	<9.90	µg/Kg	20
Acrylonitrile		1,2,3,4	<9.14	µg/Kg	20
2-Butanone (MEK)		1,2,3,4	<13.4	µg/Kg	100
4-Methyl-2-pentanone (MIBK)		1,2,3,4	<14.1	µg/Kg	100
2-Hexanone		1,2,3,4	<10.6	µg/Kg	100
trans 1,4-Dichloro-2-butene		1,2,3,4	<8.49	µg/Kg	200
1,1-Dichloroethene		1,2,3,4	<10.4	µg/Kg	20
Methylene chloride	B	B	21.9	µg/Kg	100
MTBE		1,2,3,4	<11.4	µg/Kg	20
trans-1,2-Dichloroethene		1,2,3,4	<9.80	µg/Kg	20
1,1-Dichloroethane		1,2,3,4	<9.82	µg/Kg	20
cis-1,2-Dichloroethene		1,2,3,4	<9.58	µg/Kg	20
2,2-Dichloropropane		1,2,3,4	<8.99	µg/Kg	20
1,2-Dichloroethane (EDC)		1,2,3,4	<9.58	µg/Kg	20
Chloroform		1,2,3,4	<9.68	µg/Kg	20
1,1,1-Trichloroethane		1,2,3,4	<10.6	µg/Kg	20
1,1-Dichloropropene		1,2,3,4	<9.74	µg/Kg	20
Benzene		1,2,3,4	<10.3	µg/Kg	20
Carbon Tetrachloride		1,2,3,4	<8.88	µg/Kg	20
1,2-Dichloropropane		1,2,3,4	<9.48	µg/Kg	20
Trichloroethene (TCE)		1,2,3,4	<10.4	µg/Kg	20
Dibromomethane (methylene bromide)		1,2,3,4	<9.65	µg/Kg	20
Bromodichloromethane		1,2,3,4	<9.23	µg/Kg	20
2-Chloroethyl vinyl ether		1,2,3,4	<10.8	µg/Kg	20
cis-1,3-Dichloropropene		1,2,3,4	<9.76	µg/Kg	20
trans-1,3-Dichloropropene		1,2,3,4	<9.24	µg/Kg	20
Toluene		1,2,3,4	<9.74	µg/Kg	20
1,1,2-Trichloroethane		1,2,3,4	<11.1	µg/Kg	20
1,3-Dichloropropane		1,2,3,4	<10.4	µg/Kg	20
Dibromochloromethane		1,3,4	<9.66	µg/Kg	20
1,2-Dibromoethane (EDB)		1,2,3,4	<10.8	µg/Kg	20
Tetrachloroethene (PCE)		1,2,3,4	<6.38	µg/Kg	20

continued ...

method blank continued ...

Parameter	Flag	Cert	MDL Result	Units	RL
Chlorobenzene		1,2,3,4	<10.5	µg/Kg	20
1,1,1,2-Tetrachloroethane		1,2,3,4	<10.2	µg/Kg	20
Ethylbenzene		1,2,3,4	<10.8	µg/Kg	20
m,p-Xylene		1,2,3,4	<11.0	µg/Kg	20
Bromoform		1,2,3,4	<8.43	µg/Kg	20
Styrene		1,2,3,4	<9.62	µg/Kg	20
o-Xylene		1,2,3,4	<11.0	µg/Kg	20
1,1,2,2-Tetrachloroethane		1,2,3,4	<10.2	µg/Kg	20
2-Chlorotoluene		1,2,3,4	<11.5	µg/Kg	20
1,2,3-Trichloropropane		1,2,3,4	<9.22	µg/Kg	20
Isopropylbenzene		1,2,3,4	<10.2	µg/Kg	20
Bromobenzene		1,2,3,4	<11.2	µg/Kg	20
n-Propylbenzene		1,2,3,4	<10.6	µg/Kg	20
1,3,5-Trimethylbenzene		1,2,3,4	<11.5	µg/Kg	20
tert-Butylbenzene		1,2,3,4	<10.3	µg/Kg	20
1,2,4-Trimethylbenzene		1,2,3,4	<11.0	µg/Kg	20
1,4-Dichlorobenzene (para)		1,2,3,4	<12.0	µg/Kg	20
sec-Butylbenzene		1,2,3,4	<11.3	µg/Kg	20
1,3-Dichlorobenzene (meta)		1,2,3,4	<11.6	µg/Kg	20
p-Isopropyltoluene		1,2,3	<11.1	µg/Kg	20
4-Chlorotoluene		1,2,3,4	<11.7	µg/Kg	20
1,2-Dichlorobenzene (ortho)		1,2,3,4	<12.0	µg/Kg	20
n-Butylbenzene		1,2,3,4	<11.0	µg/Kg	20
1,2-Dibromo-3-chloropropane		1,3,4	<9.07	µg/Kg	100
1,2,3-Trichlorobenzene		1,2,3,4	<12.6	µg/Kg	100
1,2,4-Trichlorobenzene		1,2,3,4	<12.4	µg/Kg	100
Naphthalene		1,2,3,4	<10.7	µg/Kg	100
Hexachlorobutadiene		1,2,3,4	<17.2	µg/Kg	100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		4	950	µg/Kg	1	1000	95	78 - 119
Toluene-d8			977	µg/Kg	1	1000	98	85 - 116
4-Bromofluorobenzene (4-BFB)			921	µg/Kg	1	1000	92	79 - 119

Method Blank (1) QC Batch: 131830

QC Batch: 131830
 Prep Batch: 111719

Date Analyzed: 2016-08-01
 QC Preparation: 2016-08-01

Analyzed By: HJ
 Prepared By: HJ

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1,2,3	<8.47	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			21.8	mg/Kg	1	25.0	87	58.2 - 150

Report Date: August 2, 2016
Lovington Leak

Work Order: 16072912
Lovington Leak

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 131801
Prep Batch: 111686

Date Analyzed: 2016-08-01
QC Preparation: 2016-07-29

Analyzed By: HJ
Prepared By: HJ

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1,2,3	391	mg/Kg	1	500	<8.47	78	68.5 - 136

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1,2,3	396	mg/Kg	1	500	<8.47	79	68.5 - 136	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	26.4	25.9	mg/Kg	1	25.0	106	104	58.2 - 150

Laboratory Control Spike (LCS-1)

QC Batch: 131808
Prep Batch: 111698

Date Analyzed: 2016-07-29
QC Preparation: 2016-07-29

Analyzed By: MT
Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1,2,3	22.3	mg/Kg	1	20.0	0.376	110	64.2 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1,2,3	22.3	mg/Kg	1	20.0	0.376	110	64.2 - 120	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

				LCS	LCSD		Spike	LCS	LCSD	Rec.	
Surrogate				Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)				2.33	2.18	mg/Kg	1	2.00	116	109	76.4 - 123
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}		2.44	2.43	mg/Kg	1	2.00	122	122	69.4 - 120

Report Date: August 2, 2016
Lovington Leak

Work Order: 16072912
Lovington Leak

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Laboratory Control Spike (LCS-1)

QC Batch: 131816
Prep Batch: 111704

Date Analyzed: 2016-07-29
QC Preparation: 2016-07-29

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		3,4	243	mg/Kg	1	250	<4.44	97	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		3,4	244	mg/Kg	1	250	<4.44	98	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 131821
Prep Batch: 111708

Date Analyzed: 2016-07-29
QC Preparation: 2016-07-29

Analyzed By: KB
Prepared By: KB

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Bromochloromethane		1,2,3,4	966	µg/Kg	1	1000	<9.28	97	78 - 125
Dichlorodifluoromethane		1,2,3,4	941	µg/Kg	1	1000	<9.82	94	29 - 149
Chloromethane (methyl chloride)		1,2,3,4	830	µg/Kg	1	1000	<11.7	83	50 - 136
Vinyl Chloride		1,2,3,4	884	µg/Kg	1	1000	<10.6	88	56 - 135
Bromomethane (methyl bromide)		1,2,3,4	851	µg/Kg	1	1000	<13.5	85	53 - 143
Chloroethane		1,2,3,4	892	µg/Kg	1	1000	<9.16	89	59 - 139
Trichlorofluoromethane		1,2,3,4	923	µg/Kg	1	1000	<12.4	92	62 - 140
Acetone		1,2,3,4	748	µg/Kg	1	1000	<7.34	75	36 - 164
Iodomethane (methyl iodide)		1,2,3,4	980	µg/Kg	1	1000	<8.64	98	71 - 131
Carbon Disulfide		1,2,3,4	985	µg/Kg	1	1000	<9.90	98	63 - 132
Acrylonitrile		1,2,3,4	836	µg/Kg	1	1000	<9.14	84	65 - 134
2-Butanone (MEK)		1,2,3,4	572	µg/Kg	1	1000	<13.4	57	51 - 148
4-Methyl-2-pentanone (MIBK)		1,2,3,4	870	µg/Kg	1	1000	<14.1	87	65 - 135
2-Hexanone		1,2,3,4	780	µg/Kg	1	1000	<10.6	78	53 - 145
trans 1,4-Dichloro-2-butene		1,2,3,4	1270	µg/Kg	1	1000	<8.49	127	62 - 136
1,1-Dichloroethene		1,2,3,4	972	µg/Kg	1	1000	<10.4	97	70 - 131
Methylene chloride		1,2,3,4	904	µg/Kg	1	1000	21.9	88	70 - 128
MTBE		1,2,3,4	927	µg/Kg	1	1000	<11.4	93	73 - 125
trans-1,2-Dichloroethene		1,2,3,4	966	µg/Kg	1	1000	<9.80	97	74 - 125
1,1-Dichloroethane		1,2,3,4	951	µg/Kg	1	1000	<9.82	95	76 - 125
cis-1,2-Dichloroethene		1,2,3,4	972	µg/Kg	1	1000	<9.58	97	77 - 123

continued ...

control spikes continued ...

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
2,2-Dichloropropane		1,2,3,4	1090	µg/Kg	1	1000	<8.99	109	67 - 133
1,2-Dichloroethane (EDC)		1,2,3,4	957	µg/Kg	1	1000	<9.58	96	73 - 128
Chloroform		1,2,3,4	1010	µg/Kg	1	1000	<9.68	101	78 - 123
1,1,1-Trichloroethane		1,2,3,4	1040	µg/Kg	1	1000	<10.6	104	73 - 130
1,1-Dichloropropene		1,2,3,4	1010	µg/Kg	1	1000	<9.74	101	76 - 125
Benzene		1,2,3,4	969	µg/Kg	1	1000	<10.3	97	77 - 121
Carbon Tetrachloride		1,2,3,4	1050	µg/Kg	1	1000	<8.88	105	80 - 120
1,2-Dichloropropane		1,2,3,4	1030	µg/Kg	1	1000	<9.48	103	76 - 123
Trichloroethene (TCE)		1,2,3,4	958	µg/Kg	1	1000	<10.4	96	77 - 123
Dibromomethane (methylene bromide)		1,2,3,4	950	µg/Kg	1	1000	<9.65	95	78 - 125
Bromodichloromethane		1,2,3,4	1010	µg/Kg	1	1000	<9.23	101	75 - 127
2-Chloroethyl vinyl ether		1,2,3,4	1020	µg/Kg	1	1000	<10.8	102	43 - 149
cis-1,3-Dichloropropene		1,2,3,4	957	µg/Kg	1	1000	<9.76	96	74 - 126
trans-1,3-Dichloropropene		1,2,3,4	952	µg/Kg	1	1000	<9.24	95	71 - 130
Toluene		1,2,3,4	983	µg/Kg	1	1000	<9.74	98	77 - 121
1,1,2-Trichloroethane		1,2,3,4	928	µg/Kg	1	1000	<11.1	93	78 - 121
1,3-Dichloropropane		1,2,3,4	957	µg/Kg	1	1000	<10.4	96	77 - 121
Dibromochloromethane		1,3,4	990	µg/Kg	1	1000	<9.66	99	74 - 126
1,2-Dibromoethane (EDB)		1,2,3,4	958	µg/Kg	1	1000	<10.8	96	78 - 122
Tetrachloroethene (PCE)		1,2,3,4	967	µg/Kg	1	1000	<6.38	97	73 - 128
Chlorobenzene		1,2,3,4	1020	µg/Kg	1	1000	<10.5	102	79 - 120
1,1,1,2-Tetrachloroethane		1,2,3,4	1030	µg/Kg	1	1000	<10.2	103	78 - 125
Ethylbenzene		1,2,3,4	1000	µg/Kg	1	1000	<10.8	100	76 - 122
m,p-Xylene		1,2,3,4	2060	µg/Kg	1	2000	<11.0	103	77 - 124
Bromoform		1,2,3,4	1000	µg/Kg	1	1000	<8.43	100	67 - 132
Styrene		1,2,3,4	969	µg/Kg	1	1000	<9.62	97	76 - 124
o-Xylene		1,2,3,4	1040	µg/Kg	1	1000	<11.0	104	77 - 123
1,1,2,2-Tetrachloroethane		1,2,3,4	888	µg/Kg	1	1000	<10.2	89	70 - 124
2-Chlorotoluene		1,2,3,4	1010	µg/Kg	1	1000	<11.5	101	75 - 122
1,2,3-Trichloropropane		1,2,3,4	914	µg/Kg	1	1000	<9.22	91	73 - 125
Isopropylbenzene		1,2,3,4	990	µg/Kg	1	1000	<10.2	99	68 - 134
Bromobenzene		1,2,3,4	985	µg/Kg	1	1000	<11.2	98	78 - 121
n-Propylbenzene		1,2,3,4	994	µg/Kg	1	1000	<10.6	99	73 - 125
1,3,5-Trimethylbenzene		1,2,3,4	1020	µg/Kg	1	1000	<11.5	102	73 - 124
tert-Butylbenzene		1,2,3,4	1000	µg/Kg	1	1000	<10.3	100	73 - 125
1,2,4-Trimethylbenzene		1,2,3,4	1030	µg/Kg	1	1000	<11.0	103	75 - 123
1,4-Dichlorobenzene (para)		1,2,3,4	1030	µg/Kg	1	1000	<12.0	103	75 - 120
sec-Butylbenzene		1,2,3,4	1000	µg/Kg	1	1000	<11.3	100	73 - 126
1,3-Dichlorobenzene (meta)		1,2,3,4	1020	µg/Kg	1	1000	<11.6	102	77 - 121
p-Isopropyltoluene		1,2,3	1020	µg/Kg	1	1000	<11.1	102	73 - 127
4-Chlorotoluene		1,2,3,4	997	µg/Kg	1	1000	<11.7	100	72 - 124
1,2-Dichlorobenzene (ortho)		1,2,3,4	996	µg/Kg	1	1000	<12.0	100	78 - 121
n-Butylbenzene		1,2,3,4	1040	µg/Kg	1	1000	<11.0	104	70 - 128
1,2-Dibromo-3-chloropropane		1,3,4	895	µg/Kg	1	1000	<9.07	90	61 - 132

continued ...

control spikes continued ...

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
1,2,3-Trichlorobenzene		1,2,3,4	995	µg/Kg	1	1000	<12.6	100	66 - 130
1,2,4-Trichlorobenzene		1,2,3,4	1050	µg/Kg	1	1000	<12.4	105	67 - 129
Naphthalene		1,2,3,4	993	µg/Kg	1	1000	<10.7	99	62 - 129
Hexachlorobutadiene		1,2,3,4	1060	µg/Kg	1	1000	<17.2	106	31 - 135

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Bromochloromethane		1,2,3,4	944	µg/Kg	1	1000	<9.28	94	78 - 125	2	20
Dichlorodifluoromethane		1,2,3,4	861	µg/Kg	1	1000	<9.82	86	29 - 149	9	20
Chloromethane (methyl chloride)		1,2,3,4	795	µg/Kg	1	1000	<11.7	80	50 - 136	4	20
Vinyl Chloride		1,2,3,4	850	µg/Kg	1	1000	<10.6	85	56 - 135	4	20
Bromomethane (methyl bromide)		1,2,3,4	836	µg/Kg	1	1000	<13.5	84	53 - 143	2	20
Chloroethane		1,2,3,4	843	µg/Kg	1	1000	<9.16	84	59 - 139	6	20
Trichlorofluoromethane		1,2,3,4	866	µg/Kg	1	1000	<12.4	87	62 - 140	6	20
Acetone		1,2,3,4	774	µg/Kg	1	1000	<7.34	77	36 - 164	3	20
Iodomethane (methyl iodide)		1,2,3,4	945	µg/Kg	1	1000	<8.64	94	71 - 131	4	20
Carbon Disulfide		1,2,3,4	935	µg/Kg	1	1000	<9.90	94	63 - 132	5	20
Acrylonitrile		1,2,3,4	848	µg/Kg	1	1000	<9.14	85	65 - 134	1	20
2-Butanone (MEK)	Qr	Qr 1,2,3,4	746	µg/Kg	1	1000	<13.4	75	51 - 148	26	20
4-Methyl-2-pentanone (MIBK)		1,2,3,4	811	µg/Kg	1	1000	<14.1	81	65 - 135	7	20
2-Hexanone		1,2,3,4	784	µg/Kg	1	1000	<10.6	78	53 - 145	0	20
trans 1,4-Dichloro-2-butene		1,2,3,4	1130	µg/Kg	1	1000	<8.49	113	62 - 136	12	20
1,1-Dichloroethene		1,2,3,4	918	µg/Kg	1	1000	<10.4	92	70 - 131	6	20
Methylene chloride		1,2,3,4	874	µg/Kg	1	1000	21.9	85	70 - 128	3	20
MTBE		1,2,3,4	878	µg/Kg	1	1000	<11.4	88	73 - 125	5	20
trans-1,2-Dichloroethene		1,2,3,4	951	µg/Kg	1	1000	<9.80	95	74 - 125	2	20
1,1-Dichloroethane		1,2,3,4	900	µg/Kg	1	1000	<9.82	90	76 - 125	6	20
cis-1,2-Dichloroethene		1,2,3,4	950	µg/Kg	1	1000	<9.58	95	77 - 123	2	20
2,2-Dichloropropane		1,2,3,4	945	µg/Kg	1	1000	<8.99	94	67 - 133	14	20
1,2-Dichloroethane (EDC)		1,2,3,4	907	µg/Kg	1	1000	<9.58	91	73 - 128	5	20
Chloroform		1,2,3,4	975	µg/Kg	1	1000	<9.68	98	78 - 123	4	20
1,1,1-Trichloroethane		1,2,3,4	973	µg/Kg	1	1000	<10.6	97	73 - 130	7	20
1,1-Dichloropropene		1,2,3,4	968	µg/Kg	1	1000	<9.74	97	76 - 125	4	20
Benzene		1,2,3,4	932	µg/Kg	1	1000	<10.3	93	77 - 121	4	20
Carbon Tetrachloride		1,2,3,4	976	µg/Kg	1	1000	<8.88	98	80 - 120	7	20
1,2-Dichloropropane		1,2,3,4	980	µg/Kg	1	1000	<9.48	98	76 - 123	5	20
Trichloroethene (TCE)		1,2,3,4	940	µg/Kg	1	1000	<10.4	94	77 - 123	2	20
Dibromomethane (methylene bromide)		1,2,3,4	890	µg/Kg	1	1000	<9.65	89	78 - 125	6	20
Bromodichloromethane		1,2,3,4	978	µg/Kg	1	1000	<9.23	98	75 - 127	3	20
2-Chloroethyl vinyl ether		1,2,3,4	951	µg/Kg	1	1000	<10.8	95	43 - 149	7	20
cis-1,3-Dichloropropene		1,2,3,4	921	µg/Kg	1	1000	<9.76	92	74 - 126	4	20
trans-1,3-Dichloropropene		1,2,3,4	908	µg/Kg	1	1000	<9.24	91	71 - 130	5	20
Toluene		1,2,3,4	941	µg/Kg	1	1000	<9.74	94	77 - 121	4	20

continued ...

control spikes continued ...

Param	F	C	LCSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec.		RPD	
			Result	Units					Limit	RPD	Limit	
1,1,2-Trichloroethane		1,2,3,4	910	µg/Kg	1	1000	<11.1	91	78 - 121	2	20	
1,3-Dichloropropane		1,2,3,4	925	µg/Kg	1	1000	<10.4	92	77 - 121	3	20	
Dibromochloromethane		1,3,4	942	µg/Kg	1	1000	<9.66	94	74 - 126	5	20	
1,2-Dibromoethane (EDB)		1,2,3,4	916	µg/Kg	1	1000	<10.8	92	78 - 122	4	20	
Tetrachloroethene (PCE)		1,2,3,4	983	µg/Kg	1	1000	<6.38	98	73 - 128	2	20	
Chlorobenzene		1,2,3,4	984	µg/Kg	1	1000	<10.5	98	79 - 120	4	20	
1,1,1,2-Tetrachloroethane		1,2,3,4	1000	µg/Kg	1	1000	<10.2	100	78 - 125	3	20	
Ethylbenzene		1,2,3,4	988	µg/Kg	1	1000	<10.8	99	76 - 122	1	20	
m,p-Xylene		1,2,3,4	1980	µg/Kg	1	2000	<11.0	99	77 - 124	4	20	
Bromoform		1,2,3,4	983	µg/Kg	1	1000	<8.43	98	67 - 132	2	20	
Styrene		1,2,3,4	946	µg/Kg	1	1000	<9.62	95	76 - 124	2	20	
o-Xylene		1,2,3,4	1010	µg/Kg	1	1000	<11.0	101	77 - 123	3	20	
1,1,2,2-Tetrachloroethane		1,2,3,4	831	µg/Kg	1	1000	<10.2	83	70 - 124	7	20	
2-Chlorotoluene		1,2,3,4	968	µg/Kg	1	1000	<11.5	97	75 - 122	4	20	
1,2,3-Trichloropropane		1,2,3,4	882	µg/Kg	1	1000	<9.22	88	73 - 125	4	20	
Isopropylbenzene		1,2,3,4	956	µg/Kg	1	1000	<10.2	96	68 - 134	4	20	
Bromobenzene		1,2,3,4	960	µg/Kg	1	1000	<11.2	96	78 - 121	3	20	
n-Propylbenzene		1,2,3,4	967	µg/Kg	1	1000	<10.6	97	73 - 125	3	20	
1,3,5-Trimethylbenzene		1,2,3,4	963	µg/Kg	1	1000	<11.5	96	73 - 124	6	20	
tert-Butylbenzene		1,2,3,4	965	µg/Kg	1	1000	<10.3	96	73 - 125	4	20	
1,2,4-Trimethylbenzene		1,2,3,4	980	µg/Kg	1	1000	<11.0	98	75 - 123	5	20	
1,4-Dichlorobenzene (para)		1,2,3,4	1000	µg/Kg	1	1000	<12.0	100	75 - 120	3	20	
sec-Butylbenzene		1,2,3,4	974	µg/Kg	1	1000	<11.3	97	73 - 126	3	20	
1,3-Dichlorobenzene (meta)		1,2,3,4	997	µg/Kg	1	1000	<11.6	100	77 - 121	2	20	
p-Isopropyltoluene		1,2,3	983	µg/Kg	1	1000	<11.1	98	73 - 127	4	20	
4-Chlorotoluene		1,2,3,4	964	µg/Kg	1	1000	<11.7	96	72 - 124	3	20	
1,2-Dichlorobenzene (ortho)		1,2,3,4	968	µg/Kg	1	1000	<12.0	97	78 - 121	3	20	
n-Butylbenzene		1,2,3,4	996	µg/Kg	1	1000	<11.0	100	70 - 128	4	20	
1,2-Dibromo-3-chloropropane		1,3,4	887	µg/Kg	1	1000	<9.07	89	61 - 132	1	20	
1,2,3-Trichlorobenzene		1,2,3,4	1030	µg/Kg	1	1000	<12.6	103	66 - 130	3	20	
1,2,4-Trichlorobenzene		1,2,3,4	1020	µg/Kg	1	1000	<12.4	102	67 - 129	3	20	
Naphthalene		1,2,3,4	971	µg/Kg	1	1000	<10.7	97	62 - 129	2	20	
Hexachlorobutadiene		1,2,3,4	1030	µg/Kg	1	1000	<17.2	103	31 - 135	3	20	

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate		LCS		Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
		Result	Result						
Dibromofluoromethane	4	994	991	µg/Kg	1	1000	99	99	78 - 119
Toluene-d8		1000	993	µg/Kg	1	1000	100	99	85 - 116
4-Bromofluorobenzene (4-BFB)		1010	990	µg/Kg	1	1000	101	99	79 - 119

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Laboratory Control Spike (LCS-1)

QC Batch: 131830
Prep Batch: 111719

Date Analyzed: 2016-08-01
QC Preparation: 2016-08-01

Analyzed By: HJ
Prepared By: HJ

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1,2,3	440	mg/Kg	1	500	<8.47	88	68.5 - 136

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1,2,3	450	mg/Kg	1	500	<8.47	90	68.5 - 136	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	24.9	25.7	mg/Kg	1	25.0	100	103	58.2 - 150

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 425237

QC Batch: 131801
Prep Batch: 111686

Date Analyzed: 2016-08-01
QC Preparation: 2016-07-29

Analyzed By: HJ
Prepared By: HJ

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1,2,3	395	mg/Kg	1	500	<8.47	79	49.3 - 138

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1,2,3	390	mg/Kg	1	500	<8.47	78	49.3 - 138	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	25.1	24.9	mg/Kg	1	25	100	100	58.2 - 150

Matrix Spike (MS-1) Spiked Sample: 425442

QC Batch: 131808
Prep Batch: 111698

Date Analyzed: 2016-07-29
QC Preparation: 2016-07-29

Analyzed By: MT
Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1,2,3	16.1	mg/Kg	1	20.0	<0.271	80	35.3 - 129

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1,2,3	19.2	mg/Kg	1	20.0	<0.271	96	35.3 - 129	18	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.09	2.24	mg/Kg	1	2	104	112	76.4 - 123
4-Bromofluorobenzene (4-BFB)	2.18	2.34	mg/Kg	1	2	109	117	69.4 - 120

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Matrix Spike (MS-1) Spiked Sample: 425226

QC Batch: 131816
Prep Batch: 111704

Date Analyzed: 2016-07-29
QC Preparation: 2016-07-29

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		3,4	254	mg/Kg	1	250	9.33	98	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		3,4	250	mg/Kg	1	250	9.33	96	80 - 120	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 425442

QC Batch: 131821
Prep Batch: 111708

Date Analyzed: 2016-07-29
QC Preparation: 2016-07-29

Analyzed By: KB
Prepared By: KB

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Bromochloromethane	Qs	Qs	1,2,3,4	1630	µg/Kg	1	950	<9.28	172 78 - 125
Dichlorodifluoromethane			1,2,3,4	1250	µg/Kg	1	950	<9.82	132 29 - 149
Chloromethane (methyl chloride)			1,2,3,4	1130	µg/Kg	1	950	<11.7	119 50 - 136
Vinyl Chloride			1,2,3,4	1240	µg/Kg	1	950	<10.6	130 56 - 135
Bromomethane (methyl bromide)			1,2,3,4	758	µg/Kg	1	950	<13.5	80 53 - 143
Chloroethane	Qs	Qs	1,2,3,4	554	µg/Kg	1	950	<9.16	58 59 - 139
Trichlorofluoromethane			1,2,3,4	1130	µg/Kg	1	950	<12.4	119 62 - 140
Acetone			1,2,3,4	1170	µg/Kg	1	950	<7.34	123 36 - 164
Iodomethane (methyl iodide)	Qs	Qs	1,2,3,4	1620	µg/Kg	1	950	<8.64	170 71 - 131
Carbon Disulfide	Qs	Qs	1,2,3,4	1490	µg/Kg	1	950	<9.90	157 63 - 132
Acrylonitrile	Qs	Qs	1,2,3,4	1360	µg/Kg	1	950	<9.14	143 65 - 134
2-Butanone (MEK)			1,2,3,4	1310	µg/Kg	1	950	<13.4	138 51 - 148
4-Methyl-2-pentanone (MIBK)			1,2,3,4	1260	µg/Kg	1	950	<14.1	133 65 - 135
2-Hexanone			1,2,3,4	1100	µg/Kg	1	950	<10.6	116 53 - 145
trans 1,4-Dichloro-2-butene			1,2,3,4	967	µg/Kg	1	950	<8.49	102 62 - 136
1,1-Dichloroethene	Qs	Qs	1,2,3,4	1660	µg/Kg	1	950	<10.4	175 70 - 131
Methylene chloride	Qs	Qs	1,2,3,4	1490	µg/Kg	1	950	<11.0	157 70 - 128
MTBE	Qs	Qs	1,2,3,4	1420	µg/Kg	1	950	<11.4	149 73 - 125
trans-1,2-Dichloroethene	Qs	Qs	1,2,3,4	1670	µg/Kg	1	950	<9.80	176 74 - 125
1,1-Dichloroethane	Qs	Qs	1,2,3,4	1520	µg/Kg	1	950	<9.82	160 76 - 125
cis-1,2-Dichloroethene	Qs	Qs	1,2,3,4	1640	µg/Kg	1	950	<9.58	173 77 - 123

continued ...

matrix spikes continued . . .

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
2,2-Dichloropropane		1,2,3,4	1090	µg/Kg	1	950	<8.99	115	67 - 133
1,2-Dichloroethane (EDC)		1,2,3,4	1190	µg/Kg	1	950	<9.58	125	73 - 128
Chloroform	Qs	Qs	1480	µg/Kg	1	950	<9.68	156	78 - 123
1,1,1-Trichloroethane	Qs	Qs	1290	µg/Kg	1	950	<10.6	136	73 - 130
1,1-Dichloropropene	Qs	Qs	1580	µg/Kg	1	950	<9.74	166	76 - 125
Benzene	Qs	Qs	1550	µg/Kg	1	950	<10.3	163	77 - 121
Carbon Tetrachloride		1,2,3,4	1050	µg/Kg	1	950	<8.88	110	80 - 120
1,2-Dichloropropane	Qs	Qs	1580	µg/Kg	1	950	<9.48	166	76 - 123
Trichloroethene (TCE)	Qs	Qs	2210	µg/Kg	1	950	<10.4	233	77 - 123
Dibromomethane (methylene bromide)	Qs	Qs	1300	µg/Kg	1	950	<9.65	137	78 - 125
Bromodichloromethane		1,2,3,4	1190	µg/Kg	1	950	<9.23	125	75 - 127
2-Chloroethyl vinyl ether	Qs	Qs	1830	µg/Kg	1	950	<10.8	193	43 - 149
cis-1,3-Dichloropropene	Qs	Qs	1310	µg/Kg	1	950	<9.76	138	74 - 126
trans-1,3-Dichloropropene		1,2,3,4	1210	µg/Kg	1	950	<9.24	127	71 - 130
Toluene	Qs	Qs	1630	µg/Kg	1	950	<9.74	172	77 - 121
1,1,2-Trichloroethane	Qs	Qs	1360	µg/Kg	1	950	<11.1	143	78 - 121
1,3-Dichloropropane	Qs	Qs	1390	µg/Kg	1	950	<10.4	146	77 - 121
Dibromochloromethane		1,3,4	1090	µg/Kg	1	950	<9.66	115	74 - 126
1,2-Dibromoethane (EDB)	Qs	Qs	1380	µg/Kg	1	950	<10.8	145	78 - 122
Tetrachloroethene (PCE)	Qs	Qs	2990	µg/Kg	1	950	<6.38	315	73 - 128
Chlorobenzene	Qs	Qs	1730	µg/Kg	1	950	<10.5	182	79 - 120
1,1,1,2-Tetrachloroethane	Qs	Qs	1340	µg/Kg	1	950	<10.2	141	78 - 125
Ethylbenzene	Qs	Qs	1640	µg/Kg	1	950	<10.8	173	76 - 122
m,p-Xylene	Qs	Qs	3320	µg/Kg	1	1900	<11.0	175	77 - 124
Bromoform		1,2,3,4	884	µg/Kg	1	950	<8.43	93	67 - 132
Styrene	Qs	Qs	1640	µg/Kg	1	950	<9.62	173	76 - 124
o-Xylene	Qs	Qs	1640	µg/Kg	1	950	<11.0	173	77 - 123
1,1,2,2-Tetrachloroethane		1,2,3,4	671	µg/Kg	1	950	<10.2	71	70 - 124
2-Chlorotoluene	Qs	Qs	1610	µg/Kg	1	950	<11.5	169	75 - 122
1,2,3-Trichloropropane	Qs	Qs	1210	µg/Kg	1	950	<9.22	127	73 - 125
Isopropylbenzene	Qs	Qs	1680	µg/Kg	1	950	<10.2	177	68 - 134
Bromobenzene	Qs	Qs	1430	µg/Kg	1	950	<11.2	150	78 - 121
n-Propylbenzene	Qs	Qs	1700	µg/Kg	1	950	<10.6	179	73 - 125
1,3,5-Trimethylbenzene	Qs	Qs	1710	µg/Kg	1	950	<11.5	180	73 - 124
tert-Butylbenzene	Qs	Qs	1840	µg/Kg	1	950	<10.3	194	73 - 125
1,2,4-Trimethylbenzene	Qs	Qs	1750	µg/Kg	1	950	<11.0	184	75 - 123
1,4-Dichlorobenzene (para)	Qs	Qs	1800	µg/Kg	1	950	<12.0	189	75 - 120
sec-Butylbenzene	Qs	Qs	1880	µg/Kg	1	950	<11.3	198	73 - 126
1,3-Dichlorobenzene (meta)	Qs	Qs	1810	µg/Kg	1	950	<11.6	190	77 - 121
p-Isopropyltoluene	Qs	Qs	1950	µg/Kg	1	950	<11.1	205	73 - 127
4-Chlorotoluene	Qs	Qs	1540	µg/Kg	1	950	<11.7	162	72 - 124
1,2-Dichlorobenzene (ortho)	Qs	Qs	1670	µg/Kg	1	950	<12.0	176	78 - 121
n-Butylbenzene	Qs	Qs	1950	µg/Kg	1	950	<11.0	205	70 - 128
1,2-Dibromo-3-chloropropane		1,3,4	852	µg/Kg	1	950	<9.07	90	61 - 132

continued . . .

matrix spikes continued ...

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
1,2,3-Trichlorobenzene	Qs	Qs	1,2,3,4	1480	µg/Kg	1	950	<12.6	156 66 - 130
1,2,4-Trichlorobenzene	Qs	Qs	1,2,3,4	1840	µg/Kg	1	950	<12.4	194 67 - 129
Naphthalene	Qs	Qs	1,2,3,4	1260	µg/Kg	1	950	<10.7	133 62 - 129
Hexachlorobutadiene	Qs	Qs	1,2,3,4	2050	µg/Kg	1	950	<17.2	216 31 - 135

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Bromochloromethane	Qs	Qs	1,2,3,4	1340	µg/Kg	1	960	<9.28	140 78 - 125	20	20
Dichlorodifluoromethane			1,2,3,4	1140	µg/Kg	1	960	<9.82	119 29 - 149	9	20
Chloromethane (methyl chloride)			1,2,3,4	1050	µg/Kg	1	960	<11.7	109 50 - 136	7	20
Vinyl Chloride			1,2,3,4	1190	µg/Kg	1	960	<10.6	124 56 - 135	4	20
Bromomethane (methyl bromide)			1,2,3,4	668	µg/Kg	1	960	<13.5	70 53 - 143	13	20
Chloroethane	Qs	Qs	1,2,3,4	474	µg/Kg	1	960	<9.16	49 59 - 139	16	20
Trichlorofluoromethane			1,2,3,4	1030	µg/Kg	1	960	<12.4	107 62 - 140	9	20
Acetone			1,2,3,4	1210	µg/Kg	1	960	<7.34	126 36 - 164	3	20
Iodomethane (methyl iodide)	Qs	Qs	1,2,3,4	1340	µg/Kg	1	960	<8.64	140 71 - 131	19	20
Carbon Disulfide	Qr	Qr	1,2,3,4	1180	µg/Kg	1	960	<9.90	123 63 - 132	23	20
Acrylonitrile	Qr	Qr	1,2,3,4	1080	µg/Kg	1	960	<9.14	112 65 - 134	23	20
2-Butanone (MEK)			1,2,3,4	1140	µg/Kg	1	960	<13.4	119 51 - 148	14	20
4-Methyl-2-pentanone (MIBK)	Qr	Qr	1,2,3,4	1000	µg/Kg	1	960	<14.1	104 65 - 135	23	20
2-Hexanone			1,2,3,4	953	µg/Kg	1	960	<10.6	99 53 - 145	14	20
trans 1,4-Dichloro-2-butene	Qr	Qr	1,2,3,4	790	µg/Kg	1	960	<8.49	82 62 - 136	20	20
1,1-Dichloroethene	Qr,Qs	Qr,Qs	1,2,3,4	1330	µg/Kg	1	960	<10.4	138 70 - 131	22	20
Methylene chloride	Qs	Qs	1,2,3,4	1230	µg/Kg	1	960	<11.0	128 70 - 128	19	20
MTBE	Qr	Qr	1,2,3,4	1120	µg/Kg	1	960	<11.4	117 73 - 125	24	20
trans-1,2-Dichloroethene	Qr,Qs	Qr,Qs	1,2,3,4	1340	µg/Kg	1	960	<9.80	140 74 - 125	22	20
1,1-Dichloroethane	Qr,Qs	Qr,Qs	1,2,3,4	1210	µg/Kg	1	960	<9.82	126 76 - 125	23	20
cis-1,2-Dichloroethene	Qr,Qs	Qr,Qs	1,2,3,4	1330	µg/Kg	1	960	<9.58	138 77 - 123	21	20
2,2-Dichloropropane	Qr	Qr	1,2,3,4	875	µg/Kg	1	960	<8.99	91 67 - 133	22	20
1,2-Dichloroethane (EDC)	Qr	Qr	1,2,3,4	960	µg/Kg	1	960	<9.58	100 73 - 128	21	20
Chloroform	Qr	Qr	1,2,3,4	1180	µg/Kg	1	960	<9.68	123 78 - 123	23	20
1,1,1-Trichloroethane	Qr	Qr	1,2,3,4	1020	µg/Kg	1	960	<10.6	106 73 - 130	23	20
1,1-Dichloropropene	Qr,Qs	Qr,Qs	1,2,3,4	1240	µg/Kg	1	960	<9.74	129 76 - 125	24	20
Benzene	Qs	Qs	1,2,3,4	1290	µg/Kg	1	960	<10.3	134 77 - 121	18	20
Carbon Tetrachloride	Qr	Qr	1,2,3,4	838	µg/Kg	1	960	<8.88	87 80 - 120	22	20
1,2-Dichloropropane	Qs	Qs	1,2,3,4	1380	µg/Kg	1	960	<9.48	144 76 - 123	14	20
Trichloroethene (TCE)	Qs	Qs	1,2,3,4	1970	µg/Kg	1	960	<10.4	205 77 - 123	12	20
Dibromomethane (methylene bromide)			1,2,3,4	1120	µg/Kg	1	960	<9.65	117 78 - 125	15	20
Bromodichloromethane			1,2,3,4	1020	µg/Kg	1	960	<9.23	106 75 - 127	15	20
2-Chloroethyl vinyl ether	Qs	Qs	1,2,3,4	1590	µg/Kg	1	960	<10.8	166 43 - 149	14	20
cis-1,3-Dichloropropene			1,2,3,4	1110	µg/Kg	1	960	<9.76	116 74 - 126	16	20
trans-1,3-Dichloropropene			1,2,3,4	1020	µg/Kg	1	960	<9.24	106 71 - 130	17	20
Toluene	Qs	Qs	1,2,3,4	1350	µg/Kg	1	960	<9.74	141 77 - 121	19	20

continued ...

matrix spikes continued ...

Param			MSD		Dil.	Spike Amount	Matrix Result	Rec.		RPD	Limit
	F	C	Result	Units				Rec.	Limit		
1,1,2-Trichloroethane			1,2,3,4 1140	µg/Kg	1	960	<11.1	119	78 - 121	18	20
1,3-Dichloropropane	Qs	Qs	1,2,3,4 1170	µg/Kg	1	960	<10.4	122	77 - 121	17	20
Dibromochloromethane	Qr	Qr	1,3,4 873	µg/Kg	1	960	<9.66	91	74 - 126	22	20
1,2-Dibromoethane (EDB)			1,2,3,4 1150	µg/Kg	1	960	<10.8	120	78 - 122	18	20
Tetrachloroethene (PCE)	Qr, Qs	Qr, Qs	1,2,3,4 2380	µg/Kg	1	960	<6.38	248	73 - 128	23	20
Chlorobenzene	Qs	Qs	1,2,3,4 1420	µg/Kg	1	960	<10.5	148	79 - 120	20	20
1,1,1,2-Tetrachloroethane	Qr	Qr	1,2,3,4 1090	µg/Kg	1	960	<10.2	114	78 - 125	21	20
Ethylbenzene	Qs	Qs	1,2,3,4 1360	µg/Kg	1	960	<10.8	142	76 - 122	19	20
m,p-Xylene	Qs	Qs	1,2,3,4 2740	µg/Kg	1	1920	<11.0	143	77 - 124	19	20
Bromoform	Qr	Qr	1,2,3,4 670	µg/Kg	1	960	<8.43	70	67 - 132	28	20
Styrene	Qr, Qs	Qr, Qs	1,2,3,4 1320	µg/Kg	1	960	<9.62	138	76 - 124	22	20
o-Xylene	Qs	Qs	1,2,3,4 1350	µg/Kg	1	960	<11.0	141	77 - 123	19	20
1,1,2,2-Tetrachloroethane	Qr, Qs	Qr, Qs	1,2,3,4 397	µg/Kg	1	960	<10.2	41	70 - 124	51	20
2-Chlorotoluene	Qs	Qs	1,2,3,4 1370	µg/Kg	1	960	<11.5	143	75 - 122	16	20
1,2,3-Trichloropropane			1,2,3,4 1020	µg/Kg	1	960	<9.22	106	73 - 125	17	20
Isopropylbenzene	Qs	Qs	1,2,3,4 1410	µg/Kg	1	960	<10.2	147	68 - 134	18	20
Bromobenzene	Qs	Qs	1,2,3,4 1220	µg/Kg	1	960	<11.2	127	78 - 121	16	20
n-Propylbenzene	Qs	Qs	1,2,3,4 1440	µg/Kg	1	960	<10.6	150	73 - 125	17	20
1,3,5-Trimethylbenzene	Qs	Qs	1,2,3,4 1460	µg/Kg	1	960	<11.5	152	73 - 124	16	20
tert-Butylbenzene	Qs	Qs	1,2,3,4 1520	µg/Kg	1	960	<10.3	158	73 - 125	19	20
1,2,4-Trimethylbenzene	Qs	Qs	1,2,3,4 1460	µg/Kg	1	960	<11.0	152	75 - 123	18	20
1,4-Dichlorobenzene (para)	Qr, Qs	Qr, Qs	1,2,3,4 1450	µg/Kg	1	960	<12.0	151	75 - 120	22	20
sec-Butylbenzene	Qs	Qs	1,2,3,4 1570	µg/Kg	1	960	<11.3	164	73 - 126	18	20
1,3-Dichlorobenzene (meta)	Qs	Qs	1,2,3,4 1490	µg/Kg	1	960	<11.6	155	77 - 121	19	20
p-Isopropyltoluene	Qs	Qs	1,2,3 1610	µg/Kg	1	960	<11.1	168	73 - 127	19	20
4-Chlorotoluene	Qs	Qs	1,2,3,4 1350	µg/Kg	1	960	<11.7	141	72 - 124	13	20
1,2-Dichlorobenzene (ortho)	Qr, Qs	Qr, Qs	1,2,3,4 1350	µg/Kg	1	960	<12.0	141	78 - 121	21	20
n-Butylbenzene	Qs	Qs	1,2,3,4 1640	µg/Kg	1	960	<11.0	171	70 - 128	17	20
1,2-Dibromo-3-chloropropane	Qr	Qr	1,3,4 623	µg/Kg	1	960	<9.07	65	61 - 132	31	20
1,2,3-Trichlorobenzene	Qs	Qs	1,2,3,4 1480	µg/Kg	1	960	<12.6	154	66 - 130	0	20
1,2,4-Trichlorobenzene	Qs	Qs	1,2,3,4 1600	µg/Kg	1	960	<12.4	167	67 - 129	14	20
Naphthalene	Qs	Qs	1,2,3,4 1260	µg/Kg	1	960	<10.7	131	62 - 129	0	20
Hexachlorobutadiene	Qs	Qs	1,2,3,4 1710	µg/Kg	1	960	<17.2	178	31 - 135	18	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate			MSD		Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
		MS Result	Result	Units					
Dibromofluoromethane	4	839	818	µg/Kg	1	950	88	85	78 - 119
Toluene-d8		897	944	µg/Kg	1	950	94	98	85 - 116
4-Bromofluorobenzene (4-BFB)		859	866	µg/Kg	1	950	90	90	79 - 119

Report Date: August 2, 2016
Lovington Leak

Work Order: 16072912
Lovington Leak

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Matrix Spike (MS-1) Spiked Sample:

QC Batch: 131830
Prep Batch: 111719

Date Analyzed: 2016-08-01
QC Preparation: 2016-08-01

Analyzed By: HJ
Prepared By: HJ

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1,2,3	436	mg/Kg	1	500	<8.47	87	49.3 - 138

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1,2,3	487	mg/Kg	1	500	<8.47	97	49.3 - 138	11	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	26.1	28.1	mg/Kg	1	25	104	112	58.2 - 150

Calibration Standards

Standard (CCV-1)

QC Batch: 131801

Date Analyzed: 2016-08-01

Analyzed By: HJ

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1,2,3	mg/Kg	500	410	82	80 - 120	2016-08-01

Standard (CCV-2)

QC Batch: 131801

Date Analyzed: 2016-08-01

Analyzed By: HJ

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1,2,3	mg/Kg	500	417	83	80 - 120	2016-08-01

Standard (CCV-1)

QC Batch: 131808

Date Analyzed: 2016-07-29

Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1,2,3	mg/Kg	1.00	1.08	108	80 - 120	2016-07-29

Standard (CCV-2)

QC Batch: 131808

Date Analyzed: 2016-07-29

Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1,2,3	mg/Kg	1.00	0.878	88	80 - 120	2016-07-29

Standard (CCV-1)

QC Batch: 131816

Date Analyzed: 2016-07-29

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		3,4	mg/Kg	25.0	24.7	99	90 - 110	2016-07-29

Standard (CCV-2)

QC Batch: 131816

Date Analyzed: 2016-07-29

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		3,4	mg/Kg	25.0	24.6	98	90 - 110	2016-07-29

Standard (CCV-1)

QC Batch: 131821

Date Analyzed: 2016-07-29

Analyzed By: KB

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Bromochloromethane			1,2,3,4 $\mu\text{g/Kg}$	50.0	51.5	103	80 - 120	2016-07-29
Dichlorodifluoromethane			1,2,3,4 $\mu\text{g/Kg}$	50.0	45.2	90	80 - 120	2016-07-29
Chloromethane (methyl chloride)			1,2,3,4 $\mu\text{g/Kg}$	50.0	41.1	82	80 - 120	2016-07-29
Vinyl Chloride			1,2,3,4 $\mu\text{g/Kg}$	50.0	43.3	87	80 - 120	2016-07-29
Bromomethane (methyl bromide)			1,2,3,4 $\mu\text{g/Kg}$	50.0	41.4	83	80 - 120	2016-07-29
Chloroethane			1,2,3,4 $\mu\text{g/Kg}$	50.0	44.6	89	80 - 120	2016-07-29
Trichlorofluoromethane			1,2,3,4 $\mu\text{g/Kg}$	50.0	45.9	92	80 - 120	2016-07-29
Acetone	Qc	Qc	1,2,3,4 $\mu\text{g/Kg}$	50.0	35.8	72	80 - 120	2016-07-29
Iodomethane (methyl iodide)			1,2,3,4 $\mu\text{g/Kg}$	50.0	49.5	99	80 - 120	2016-07-29
Carbon Disulfide			1,2,3,4 $\mu\text{g/Kg}$	50.0	49.7	99	80 - 120	2016-07-29
Acrylonitrile			1,2,3,4 $\mu\text{g/Kg}$	50.0	45.7	91	80 - 120	2016-07-29
2-Butanone (MEK)	Qc	Qc	1,2,3,4 $\mu\text{g/Kg}$	50.0	39.4	79	80 - 120	2016-07-29
4-Methyl-2-pentanone (MIBK)			1,2,3,4 $\mu\text{g/Kg}$	50.0	40.2	80	80 - 120	2016-07-29
2-Hexanone	Qc	Qc	1,2,3,4 $\mu\text{g/Kg}$	50.0	38.2	76	80 - 120	2016-07-29
trans 1,4-Dichloro-2-butene	Qc	Qc	1,2,3,4 $\mu\text{g/Kg}$	50.0	66.8	134	80 - 120	2016-07-29
1,1-Dichloroethene			1,2,3,4 $\mu\text{g/Kg}$	50.0	49.3	99	80 - 120	2016-07-29
Methylene chloride			1,2,3,4 $\mu\text{g/Kg}$	50.0	46.8	94	80 - 120	2016-07-29
MTBE			1,2,3,4 $\mu\text{g/Kg}$	50.0	47.8	96	80 - 120	2016-07-29

continued . . .

standard continued ...

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
trans-1,2-Dichloroethene		1,2,3,4	µg/Kg	50.0	50.2	100	80 - 120	2016-07-29
1,1-Dichloroethane		1,2,3,4	µg/Kg	50.0	49.0	98	80 - 120	2016-07-29
cis-1,2-Dichloroethene		1,2,3,4	µg/Kg	50.0	49.0	98	80 - 120	2016-07-29
2,2-Dichloropropane		1,2,3,4	µg/Kg	50.0	53.1	106	80 - 120	2016-07-29
1,2-Dichloroethane (EDC)		1,2,3,4	µg/Kg	50.0	51.1	102	80 - 120	2016-07-29
Chloroform		1,2,3,4	µg/Kg	50.0	51.4	103	80 - 120	2016-07-29
1,1,1-Trichloroethane		1,2,3,4	µg/Kg	50.0	53.8	108	80 - 120	2016-07-29
1,1-Dichloropropene		1,2,3,4	µg/Kg	50.0	52.4	105	80 - 120	2016-07-29
Benzene		1,2,3,4	µg/Kg	50.0	50.1	100	80 - 120	2016-07-29
Carbon Tetrachloride		1,2,3,4	µg/Kg	50.0	53.8	108	80 - 120	2016-07-29
1,2-Dichloropropane		1,2,3,4	µg/Kg	50.0	52.4	105	80 - 120	2016-07-29
Trichloroethene (TCE)		1,2,3,4	µg/Kg	50.0	48.3	97	80 - 120	2016-07-29
Dibromomethane (methylene bromide)		1,2,3,4	µg/Kg	50.0	47.9	96	80 - 120	2016-07-29
Bromodichloromethane		1,2,3,4	µg/Kg	50.0	53.3	107	80 - 120	2016-07-29
2-Chloroethyl vinyl ether		1,2,3,4	µg/Kg	50.0	51.4	103	80 - 120	2016-07-29
cis-1,3-Dichloropropene		1,2,3,4	µg/Kg	50.0	49.3	99	80 - 120	2016-07-29
trans-1,3-Dichloropropene		1,2,3,4	µg/Kg	50.0	49.8	100	80 - 120	2016-07-29
Toluene		1,2,3,4	µg/Kg	50.0	50.8	102	80 - 120	2016-07-29
1,1,2-Trichloroethane		1,2,3,4	µg/Kg	50.0	48.0	96	80 - 120	2016-07-29
1,3-Dichloropropane		1,2,3,4	µg/Kg	50.0	49.9	100	80 - 120	2016-07-29
Dibromochloromethane		1,3,4	µg/Kg	50.0	51.8	104	80 - 120	2016-07-29
1,2-Dibromoethane (EDB)		1,2,3,4	µg/Kg	50.0	48.1	96	80 - 120	2016-07-29
Tetrachloroethene (PCE)		1,2,3,4	µg/Kg	50.0	47.6	95	80 - 120	2016-07-29
Chlorobenzene		1,2,3,4	µg/Kg	50.0	52.6	105	80 - 120	2016-07-29
1,1,1,2-Tetrachloroethane		1,2,3,4	µg/Kg	50.0	53.8	108	80 - 120	2016-07-29
Ethylbenzene		1,2,3,4	µg/Kg	50.0	52.4	105	80 - 120	2016-07-29
m,p-Xylene		1,2,3,4	µg/Kg	100	107	107	80 - 120	2016-07-29
Bromoform		1,2,3,4	µg/Kg	50.0	52.4	105	80 - 120	2016-07-29
Styrene		1,2,3,4	µg/Kg	50.0	50.8	102	80 - 120	2016-07-29
o-Xylene		1,2,3,4	µg/Kg	50.0	54.3	109	80 - 120	2016-07-29
1,1,2,2-Tetrachloroethane		1,2,3,4	µg/Kg	50.0	46.6	93	80 - 120	2016-07-29
2-Chlorotoluene		1,2,3,4	µg/Kg	50.0	50.5	101	80 - 120	2016-07-29
1,2,3-Trichloropropane		1,2,3,4	µg/Kg	50.0	48.5	97	80 - 120	2016-07-29
Isopropylbenzene		1,2,3,4	µg/Kg	50.0	49.2	98	80 - 120	2016-07-29
Bromobenzene		1,2,3,4	µg/Kg	50.0	49.2	98	80 - 120	2016-07-29
n-Propylbenzene		1,2,3,4	µg/Kg	50.0	49.4	99	80 - 120	2016-07-29
1,3,5-Trimethylbenzene		1,2,3,4	µg/Kg	50.0	50.7	101	80 - 120	2016-07-29
tert-Butylbenzene		1,2,3,4	µg/Kg	50.0	49.6	99	80 - 120	2016-07-29
1,2,4-Trimethylbenzene		1,2,3,4	µg/Kg	50.0	50.8	102	80 - 120	2016-07-29
1,4-Dichlorobenzene (para)		1,2,3,4	µg/Kg	50.0	51.3	103	80 - 120	2016-07-29
sec-Butylbenzene		1,2,3,4	µg/Kg	50.0	50.2	100	80 - 120	2016-07-29
1,3-Dichlorobenzene (meta)		1,2,3,4	µg/Kg	50.0	50.9	102	80 - 120	2016-07-29
p-Isopropyltoluene		1,2,3	µg/Kg	50.0	49.9	100	80 - 120	2016-07-29

continued ...

standard continued ...

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
4-Chlorotoluene		1,2,3,4	µg/Kg	50.0	49.6	99	80 - 120	2016-07-29
1,2-Dichlorobenzene (ortho)		1,2,3,4	µg/Kg	50.0	50.1	100	80 - 120	2016-07-29
n-Butylbenzene		1,2,3,4	µg/Kg	50.0	50.7	101	80 - 120	2016-07-29
1,2-Dibromo-3-chloropropane		1,3,4	µg/Kg	50.0	43.7	87	80 - 120	2016-07-29
1,2,3-Trichlorobenzene		1,2,3,4	µg/Kg	50.0	42.3	85	80 - 120	2016-07-29
1,2,4-Trichlorobenzene		1,2,3,4	µg/Kg	50.0	48.7	97	80 - 120	2016-07-29
Naphthalene		1,2,3,4	µg/Kg	50.0	43.1	86	80 - 120	2016-07-29
Hexachlorobutadiene		1,2,3,4	µg/Kg	50.0	48.4	97	80 - 120	2016-07-29

Standard (CCV-1)

QC Batch: 131830

Date Analyzed: 2016-08-01

Analyzed By: HJ

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1,2,3	mg/Kg	500	431	86	80 - 120	2016-08-01

Standard (CCV-2)

QC Batch: 131830

Date Analyzed: 2016-08-01

Analyzed By: HJ

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1,2,3	mg/Kg	500	430	86	80 - 120	2016-08-01

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	L-A-B	L2418	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	NELAP	T104704219-16-12	Lubbock
4		2015-066	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

Summary Report

Glen Thompson
Kinder Morgan/El Paso Natural Gas-Odessa
1550 Windway
Odessa, TX 79761

Report Date: August 2, 2016

Work Order: 16072912



Project Name: Lovington Leak

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
425442	Site 1 Spill	soil	2016-07-28	20:00	2016-07-29
425443	Site 1 Background	soil	2016-07-28	20:00	2016-07-29
425444	Site 2 Spill	soil	2016-07-28	20:15	2016-07-29
425445	Site 2 Background	soil	2016-07-28	20:15	2016-07-29
425446	Site 3 Spill	soil	2016-07-28	20:45	2016-07-29
425447	Site 3 Background	soil	2016-07-28	20:45	2016-07-29

Sample - Field Code	TPH DRO DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
425442 - Site 1 Spill	<50.0	<4.00 B
425443 - Site 1 Background	<50.0	<4.00 B
425444 - Site 2 Spill	<50.0	<4.00 B
425445 - Site 2 Background	<50.0	<4.00 B
425446 - Site 3 Spill	<50.0	<4.00 B
425447 - Site 3 Background	<50.0	<4.00 B

Sample: 425442 - Site 1 Spill

Param	Flag	Result	Units	RL
Chloride		46.8	mg/Kg	25
Bromochloromethane	Q _s	<20.0	μg/Kg	20
Dichlorodifluoromethane		<20.0	μg/Kg	20
Chloromethane (methyl chloride)		<20.0	μg/Kg	20
Vinyl Chloride		<20.0	μg/Kg	20
Bromomethane (methyl bromide)		<100	μg/Kg	100
Chloroethane	Q _s	<20.0	μg/Kg	20
Trichlorofluoromethane		<20.0	μg/Kg	20
Acetone	Q _c	<200	μg/Kg	200
Iodomethane (methyl iodide)	Q _s	<100	μg/Kg	100

continued ...

sample 425442 continued ...

Param	Flag	Result	Units	RL
Carbon Disulfide	Q _r	<20.0	µg/Kg	20
Acrylonitrile	Q _r	<20.0	µg/Kg	20
2-Butanone (MEK)	Q _c , Q _r	<100	µg/Kg	100
4-Methyl-2-pentanone (MIBK)	Q _r	<100	µg/Kg	100
2-Hexanone	Q _c	<100	µg/Kg	100
trans 1,4-Dichloro-2-butene	Q _c , Q _r	<200	µg/Kg	200
1,1-Dichloroethene	Q _r , Q _s	<20.0	µg/Kg	20
Methylene chloride	B, Q _s	<100	µg/Kg	100
MTBE	Q _r	<20.0	µg/Kg	20
trans-1,2-Dichloroethene	Q _r , Q _s	<20.0	µg/Kg	20
1,1-Dichloroethane	Q _r , Q _s	<20.0	µg/Kg	20
cis-1,2-Dichloroethene	Q _r , Q _s	<20.0	µg/Kg	20
2,2-Dichloropropane	Q _r	<20.0	µg/Kg	20
1,2-Dichloroethane (EDC)	Q _r	<20.0	µg/Kg	20
Chloroform	Q _r	<20.0	µg/Kg	20
1,1,1-Trichloroethane	Q _r	<20.0	µg/Kg	20
1,1-Dichloropropene	Q _r , Q _s	<20.0	µg/Kg	20
Benzene	Q _s	<20.0	µg/Kg	20
Carbon Tetrachloride	Q _r	<20.0	µg/Kg	20
1,2-Dichloropropane	Q _s	<20.0	µg/Kg	20
Trichloroethene (TCE)	Q _s	<20.0	µg/Kg	20
Dibromomethane (methylene bromide)		<20.0	µg/Kg	20
Bromodichloromethane		<20.0	µg/Kg	20
2-Chloroethyl vinyl ether	Q _s	<20.0	µg/Kg	20
cis-1,3-Dichloropropene		<20.0	µg/Kg	20
trans-1,3-Dichloropropene		<20.0	µg/Kg	20
Toluene	Q _s	<20.0	µg/Kg	20
1,1,2-Trichloroethane		<20.0	µg/Kg	20
1,3-Dichloropropane	Q _s	<20.0	µg/Kg	20
Dibromochloromethane	Q _r	<20.0	µg/Kg	20
1,2-Dibromoethane (EDB)		<20.0	µg/Kg	20
Tetrachloroethene (PCE)	Q _r , Q _s	<20.0	µg/Kg	20
Chlorobenzene	Q _s	<20.0	µg/Kg	20
1,1,1,2-Tetrachloroethane	Q _r	<20.0	µg/Kg	20
Ethylbenzene	Q _s	<20.0	µg/Kg	20
m,p-Xylene	Q _s	<20.0	µg/Kg	20
Bromoform	Q _r	<20.0	µg/Kg	20
Styrene	Q _r , Q _s	<20.0	µg/Kg	20
o-Xylene	Q _s	<20.0	µg/Kg	20
1,1,2,2-Tetrachloroethane	Q _r , Q _s	<20.0	µg/Kg	20
2-Chlorotoluene	Q _s	<20.0	µg/Kg	20
1,2,3-Trichloropropane		<20.0	µg/Kg	20
Isopropylbenzene	Q _s	<20.0	µg/Kg	20
Bromobenzene	Q _s	<20.0	µg/Kg	20
n-Propylbenzene	Q _s	<20.0	µg/Kg	20
1,3,5-Trimethylbenzene	Q _s	<20.0	µg/Kg	20
tert-Butylbenzene	Q _s	<20.0	µg/Kg	20

continued ...

sample 425442 continued ...

Param	Flag	Result	Units	RL
1,2,4-Trimethylbenzene	Qs	<20.0	µg/Kg	20
1,4-Dichlorobenzene (para)	Qr, Qs	<20.0	µg/Kg	20
sec-Butylbenzene	Qs	<20.0	µg/Kg	20
1,3-Dichlorobenzene (meta)	Qs	<20.0	µg/Kg	20
p-Isopropyltoluene	Qs	<20.0	µg/Kg	20
4-Chlorotoluene	Qs	<20.0	µg/Kg	20
1,2-Dichlorobenzene (ortho)	Qr, Qs	<20.0	µg/Kg	20
n-Butylbenzene	Qs	<20.0	µg/Kg	20
1,2-Dibromo-3-chloropropane	Qr	<100	µg/Kg	100
1,2,3-Trichlorobenzene	Qs	<100	µg/Kg	100
1,2,4-Trichlorobenzene	Qs	<100	µg/Kg	100
Naphthalene	Qs	<100	µg/Kg	100
Hexachlorobutadiene	Qs	<100	µg/Kg	100

Sample: 425443 - Site 1 Background

Param	Flag	Result	Units	RL
Chloride		<25.0	mg/Kg	25
Bromochloromethane		<20.0	µg/Kg	20
Dichlorodifluoromethane		<20.0	µg/Kg	20
Chloromethane (methyl chloride)		<20.0	µg/Kg	20
Vinyl Chloride		<20.0	µg/Kg	20
Bromomethane (methyl bromide)		<100	µg/Kg	100
Chloroethane		<20.0	µg/Kg	20
Trichlorofluoromethane		<20.0	µg/Kg	20
Acetone	Qc	<200	µg/Kg	200
Iodomethane (methyl iodide)		<100	µg/Kg	100
Carbon Disulfide	Qr	<20.0	µg/Kg	20
Acrylonitrile	Qr	<20.0	µg/Kg	20
2-Butanone (MEK)	Qc, Qr	<100	µg/Kg	100
4-Methyl-2-pentanone (MIBK)	Qr	<100	µg/Kg	100
2-Hexanone	Qc	<100	µg/Kg	100
trans 1,4-Dichloro-2-butene	Qc, Qr	<200	µg/Kg	200
1,1-Dichloroethene	Qr	<20.0	µg/Kg	20
Methylene chloride	B	<100	µg/Kg	100
MTBE	Qr	<20.0	µg/Kg	20
trans-1,2-Dichloroethene	Qr	<20.0	µg/Kg	20
1,1-Dichloroethane	Qr	<20.0	µg/Kg	20
cis-1,2-Dichloroethene	Qr	<20.0	µg/Kg	20
2,2-Dichloropropane	Qr	<20.0	µg/Kg	20
1,2-Dichloroethane (EDC)	Qr	<20.0	µg/Kg	20
Chloroform	Qr	<20.0	µg/Kg	20
1,1,1-Trichloroethane	Qr	<20.0	µg/Kg	20
1,1-Dichloropropene	Qr	<20.0	µg/Kg	20
Benzene		<20.0	µg/Kg	20
Carbon Tetrachloride	Qr	<20.0	µg/Kg	20

continued ...

sample 425443 continued ...

Param	Flag	Result	Units	RL
1,2-Dichloropropane		<20.0	µg/Kg	20
Trichloroethene (TCE)		<20.0	µg/Kg	20
Dibromomethane (methylene bromide)		<20.0	µg/Kg	20
Bromodichloromethane		<20.0	µg/Kg	20
2-Chloroethyl vinyl ether		<20.0	µg/Kg	20
cis-1,3-Dichloropropene		<20.0	µg/Kg	20
trans-1,3-Dichloropropene		<20.0	µg/Kg	20
Toluene		<20.0	µg/Kg	20
1,1,2-Trichloroethane		<20.0	µg/Kg	20
1,3-Dichloropropane		<20.0	µg/Kg	20
Dibromochloromethane	Qr	<20.0	µg/Kg	20
1,2-Dibromoethane (EDB)		<20.0	µg/Kg	20
Tetrachloroethene (PCE)	Qr	<20.0	µg/Kg	20
Chlorobenzene		<20.0	µg/Kg	20
1,1,1,2-Tetrachloroethane	Qr	<20.0	µg/Kg	20
Ethylbenzene		<20.0	µg/Kg	20
m,p-Xylene		<20.0	µg/Kg	20
Bromoform	Qr	<20.0	µg/Kg	20
Styrene	Qr	<20.0	µg/Kg	20
o-Xylene		<20.0	µg/Kg	20
1,1,2,2-Tetrachloroethane	Qr	<20.0	µg/Kg	20
2-Chlorotoluene		<20.0	µg/Kg	20
1,2,3-Trichloropropane		<20.0	µg/Kg	20
Isopropylbenzene		<20.0	µg/Kg	20
Bromobenzene		<20.0	µg/Kg	20
n-Propylbenzene		<20.0	µg/Kg	20
1,3,5-Trimethylbenzene		<20.0	µg/Kg	20
tert-Butylbenzene		<20.0	µg/Kg	20
1,2,4-Trimethylbenzene		<20.0	µg/Kg	20
1,4-Dichlorobenzene (para)	Qr	<20.0	µg/Kg	20
sec-Butylbenzene		<20.0	µg/Kg	20
1,3-Dichlorobenzene (meta)		<20.0	µg/Kg	20
p-Isopropyltoluene		22.8	µg/Kg	20
4-Chlorotoluene		<20.0	µg/Kg	20
1,2-Dichlorobenzene (ortho)	Qr	<20.0	µg/Kg	20
n-Butylbenzene		<20.0	µg/Kg	20
1,2-Dibromo-3-chloropropane	Qr	<100	µg/Kg	100
1,2,3-Trichlorobenzene		<100	µg/Kg	100
1,2,4-Trichlorobenzene		<100	µg/Kg	100
Naphthalene		<100	µg/Kg	100
Hexachlorobutadiene		<100	µg/Kg	100

Sample: 425444 - Site 2 Spill

Param	Flag	Result	Units	RL
Chloride		603	mg/Kg	25

continued ...

sample 425444 continued ...

Param	Flag	Result	Units	RL
Bromochloromethane		<20.0	µg/Kg	20
Dichlorodifluoromethane		<20.0	µg/Kg	20
Chloromethane (methyl chloride)		<20.0	µg/Kg	20
Vinyl Chloride		<20.0	µg/Kg	20
Bromomethane (methyl bromide)		<100	µg/Kg	100
Chloroethane		<20.0	µg/Kg	20
Trichlorofluoromethane		<20.0	µg/Kg	20
Acetone	Qc	<200	µg/Kg	200
Iodomethane (methyl iodide)		<100	µg/Kg	100
Carbon Disulfide	Qr	<20.0	µg/Kg	20
Acrylonitrile	Qr	<20.0	µg/Kg	20
2-Butanone (MEK)	Qc, Qr	<100	µg/Kg	100
4-Methyl-2-pentanone (MIBK)	Qr	<100	µg/Kg	100
2-Hexanone	Qc	<100	µg/Kg	100
trans 1,4-Dichloro-2-butene	Qc, Qr	<200	µg/Kg	200
1,1-Dichloroethene	Qr	<20.0	µg/Kg	20
Methylene chloride	B	<100	µg/Kg	100
MTBE	Qr	<20.0	µg/Kg	20
trans-1,2-Dichloroethene	Qr	<20.0	µg/Kg	20
1,1-Dichloroethane	Qr	<20.0	µg/Kg	20
cis-1,2-Dichloroethene	Qr	<20.0	µg/Kg	20
2,2-Dichloropropane	Qr	<20.0	µg/Kg	20
1,2-Dichloroethane (EDC)	Qr	<20.0	µg/Kg	20
Chloroform	Qr	<20.0	µg/Kg	20
1,1,1-Trichloroethane	Qr	<20.0	µg/Kg	20
1,1-Dichloropropene	Qr	<20.0	µg/Kg	20
Benzene		<20.0	µg/Kg	20
Carbon Tetrachloride	Qr	<20.0	µg/Kg	20
1,2-Dichloropropane		<20.0	µg/Kg	20
Trichloroethene (TCE)		<20.0	µg/Kg	20
Dibromomethane (methylene bromide)		<20.0	µg/Kg	20
Bromodichloromethane		<20.0	µg/Kg	20
2-Chloroethyl vinyl ether		<20.0	µg/Kg	20
cis-1,3-Dichloropropene		<20.0	µg/Kg	20
trans-1,3-Dichloropropene		<20.0	µg/Kg	20
Toluene		<20.0	µg/Kg	20
1,1,2-Trichloroethane		<20.0	µg/Kg	20
1,3-Dichloropropane		<20.0	µg/Kg	20
Dibromochloromethane	Qr	<20.0	µg/Kg	20
1,2-Dibromoethane (EDB)		<20.0	µg/Kg	20
Tetrachloroethene (PCE)	Qr	<20.0	µg/Kg	20
Chlorobenzene		<20.0	µg/Kg	20
1,1,1,2-Tetrachloroethane	Qr	<20.0	µg/Kg	20
Ethylbenzene		<20.0	µg/Kg	20
m,p-Xylene		<20.0	µg/Kg	20
Bromoform	Qr	<20.0	µg/Kg	20
Styrene	Qr	<20.0	µg/Kg	20

continued ...

sample 425444 continued ...

Param	Flag	Result	Units	RL
o-Xylene		<20.0	µg/Kg	20
1,1,2,2-Tetrachloroethane	Qr	<20.0	µg/Kg	20
2-Chlorotoluene		<20.0	µg/Kg	20
1,2,3-Trichloropropane		<20.0	µg/Kg	20
Isopropylbenzene		<20.0	µg/Kg	20
Bromobenzene		<20.0	µg/Kg	20
n-Propylbenzene		<20.0	µg/Kg	20
1,3,5-Trimethylbenzene		<20.0	µg/Kg	20
tert-Butylbenzene		<20.0	µg/Kg	20
1,2,4-Trimethylbenzene		<20.0	µg/Kg	20
1,4-Dichlorobenzene (para)	Qr	<20.0	µg/Kg	20
sec-Butylbenzene		<20.0	µg/Kg	20
1,3-Dichlorobenzene (meta)		<20.0	µg/Kg	20
p-Isopropyltoluene		<20.0	µg/Kg	20
4-Chlorotoluene		<20.0	µg/Kg	20
1,2-Dichlorobenzene (ortho)	Qr	<20.0	µg/Kg	20
n-Butylbenzene		<20.0	µg/Kg	20
1,2-Dibromo-3-chloropropane	Qr	<100	µg/Kg	100
1,2,3-Trichlorobenzene		<100	µg/Kg	100
1,2,4-Trichlorobenzene		<100	µg/Kg	100
Naphthalene		<100	µg/Kg	100
Hexachlorobutadiene		<100	µg/Kg	100

Sample: 425445 - Site 2 Background

Param	Flag	Result	Units	RL
Chloride		<25.0	mg/Kg	25
Bromochloromethane		<20.0	µg/Kg	20
Dichlorodifluoromethane		<20.0	µg/Kg	20
Chloromethane (methyl chloride)		<20.0	µg/Kg	20
Vinyl Chloride		<20.0	µg/Kg	20
Bromomethane (methyl bromide)		<100	µg/Kg	100
Chloroethane		<20.0	µg/Kg	20
Trichlorofluoromethane		<20.0	µg/Kg	20
Acetone	Qc	<200	µg/Kg	200
Iodomethane (methyl iodide)		<100	µg/Kg	100
Carbon Disulfide	Qr	<20.0	µg/Kg	20
Acrylonitrile	Qr	<20.0	µg/Kg	20
2-Butanone (MEK)	Qc, Qr	<100	µg/Kg	100
4-Methyl-2-pentanone (MIBK)	Qr	<100	µg/Kg	100
2-Hexanone	Qc	<100	µg/Kg	100
trans 1,4-Dichloro-2-butene	Qc, Qr	<200	µg/Kg	200
1,1-Dichloroethene	Qr	<20.0	µg/Kg	20
Methylene chloride	B	<100	µg/Kg	100
MTBE	Qr	<20.0	µg/Kg	20
trans-1,2-Dichloroethene	Qr	<20.0	µg/Kg	20

continued ...

sample 425445 continued ...

Param	Flag	Result	Units	RL
1,1-Dichloroethane	Qr	<20.0	µg/Kg	20
cis-1,2-Dichloroethene	Qr	<20.0	µg/Kg	20
2,2-Dichloropropane	Qr	<20.0	µg/Kg	20
1,2-Dichloroethane (EDC)	Qr	<20.0	µg/Kg	20
Chloroform	Qr	<20.0	µg/Kg	20
1,1,1-Trichloroethane	Qr	<20.0	µg/Kg	20
1,1-Dichloropropene	Qr	<20.0	µg/Kg	20
Benzene		<20.0	µg/Kg	20
Carbon Tetrachloride	Qr	<20.0	µg/Kg	20
1,2-Dichloropropane		<20.0	µg/Kg	20
Trichloroethene (TCE)		<20.0	µg/Kg	20
Dibromomethane (methylene bromide)		<20.0	µg/Kg	20
Bromodichloromethane		<20.0	µg/Kg	20
2-Chloroethyl vinyl ether		<20.0	µg/Kg	20
cis-1,3-Dichloropropene		<20.0	µg/Kg	20
trans-1,3-Dichloropropene		<20.0	µg/Kg	20
Toluene		<20.0	µg/Kg	20
1,1,2-Trichloroethane		<20.0	µg/Kg	20
1,3-Dichloropropane		<20.0	µg/Kg	20
Dibromochloromethane	Qr	<20.0	µg/Kg	20
1,2-Dibromoethane (EDB)		<20.0	µg/Kg	20
Tetrachloroethene (PCE)	Qr	<20.0	µg/Kg	20
Chlorobenzene		<20.0	µg/Kg	20
1,1,1,2-Tetrachloroethane	Qr	<20.0	µg/Kg	20
Ethylbenzene		<20.0	µg/Kg	20
m,p-Xylene		<20.0	µg/Kg	20
Bromoform	Qr	<20.0	µg/Kg	20
Styrene	Qr	<20.0	µg/Kg	20
o-Xylene		<20.0	µg/Kg	20
1,1,2,2-Tetrachloroethane	Qr	<20.0	µg/Kg	20
2-Chlorotoluene		<20.0	µg/Kg	20
1,2,3-Trichloropropane		<20.0	µg/Kg	20
Isopropylbenzene		<20.0	µg/Kg	20
Bromobenzene		<20.0	µg/Kg	20
n-Propylbenzene		<20.0	µg/Kg	20
1,3,5-Trimethylbenzene		<20.0	µg/Kg	20
tert-Butylbenzene		<20.0	µg/Kg	20
1,2,4-Trimethylbenzene		<20.0	µg/Kg	20
1,4-Dichlorobenzene (para)	Qr	<20.0	µg/Kg	20
sec-Butylbenzene		<20.0	µg/Kg	20
1,3-Dichlorobenzene (meta)		<20.0	µg/Kg	20
p-Isopropyltoluene		<20.0	µg/Kg	20
4-Chlorotoluene		<20.0	µg/Kg	20
1,2-Dichlorobenzene (ortho)	Qr	<20.0	µg/Kg	20
n-Butylbenzene		<20.0	µg/Kg	20
1,2-Dibromo-3-chloropropane	Qr	<100	µg/Kg	100
1,2,3-Trichlorobenzene		<100	µg/Kg	100

continued ...

sample 425445 continued ...

Param	Flag	Result	Units	RL
1,2,4-Trichlorobenzene		<100	µg/Kg	100
Naphthalene		<100	µg/Kg	100
Hexachlorobutadiene		<100	µg/Kg	100

Sample: 425446 - Site 3 Spill

Param	Flag	Result	Units	RL
Chloride		27.9	mg/Kg	25
Bromochloromethane		<20.0	µg/Kg	20
Dichlorodifluoromethane		<20.0	µg/Kg	20
Chloromethane (methyl chloride)		<20.0	µg/Kg	20
Vinyl Chloride		<20.0	µg/Kg	20
Bromomethane (methyl bromide)		<100	µg/Kg	100
Chloroethane		<20.0	µg/Kg	20
Trichlorofluoromethane		<20.0	µg/Kg	20
Acetone	Q _c	<200	µg/Kg	200
Iodomethane (methyl iodide)		<100	µg/Kg	100
Carbon Disulfide	Q _r	<20.0	µg/Kg	20
Acrylonitrile	Q _r	<20.0	µg/Kg	20
2-Butanone (MEK)	Q _c , Q _r	<100	µg/Kg	100
4-Methyl-2-pentanone (MIBK)	Q _r	<100	µg/Kg	100
2-Hexanone	Q _c	<100	µg/Kg	100
trans 1,4-Dichloro-2-butene	Q _c , Q _r	<200	µg/Kg	200
1,1-Dichloroethene	Q _r	<20.0	µg/Kg	20
Methylene chloride	B	<100	µg/Kg	100
MTBE	Q _r	<20.0	µg/Kg	20
trans-1,2-Dichloroethene	Q _r	<20.0	µg/Kg	20
1,1-Dichloroethane	Q _r	<20.0	µg/Kg	20
cis-1,2-Dichloroethene	Q _r	<20.0	µg/Kg	20
2,2-Dichloropropane	Q _r	<20.0	µg/Kg	20
1,2-Dichloroethane (EDC)	Q _r	<20.0	µg/Kg	20
Chloroform	Q _r	<20.0	µg/Kg	20
1,1,1-Trichloroethane	Q _r	<20.0	µg/Kg	20
1,1-Dichloropropene	Q _r	<20.0	µg/Kg	20
Benzene		<20.0	µg/Kg	20
Carbon Tetrachloride	Q _r	<20.0	µg/Kg	20
1,2-Dichloropropane		<20.0	µg/Kg	20
Trichloroethene (TCE)		<20.0	µg/Kg	20
Dibromomethane (methylene bromide)		<20.0	µg/Kg	20
Bromodichloromethane		<20.0	µg/Kg	20
2-Chloroethyl vinyl ether		<20.0	µg/Kg	20
cis-1,3-Dichloropropene		<20.0	µg/Kg	20
trans-1,3-Dichloropropene		<20.0	µg/Kg	20
Toluene		<20.0	µg/Kg	20
1,1,2-Trichloroethane		<20.0	µg/Kg	20
1,3-Dichloropropane		<20.0	µg/Kg	20

continued ...

sample 425446 continued ...

Param	Flag	Result	Units	RL
Dibromochloromethane	Q _r	<20.0	µg/Kg	20
1,2-Dibromoethane (EDB)		<20.0	µg/Kg	20
Tetrachloroethene (PCE)	Q _r	<20.0	µg/Kg	20
Chlorobenzene		<20.0	µg/Kg	20
1,1,1,2-Tetrachloroethane	Q _r	<20.0	µg/Kg	20
Ethylbenzene		<20.0	µg/Kg	20
m,p-Xylene		<20.0	µg/Kg	20
Bromoform	Q _r	<20.0	µg/Kg	20
Styrene	Q _r	<20.0	µg/Kg	20
o-Xylene		<20.0	µg/Kg	20
1,1,2,2-Tetrachloroethane	Q _r	<20.0	µg/Kg	20
2-Chlorotoluene		<20.0	µg/Kg	20
1,2,3-Trichloropropane		<20.0	µg/Kg	20
Isopropylbenzene		<20.0	µg/Kg	20
Bromobenzene		<20.0	µg/Kg	20
n-Propylbenzene		<20.0	µg/Kg	20
1,3,5-Trimethylbenzene		<20.0	µg/Kg	20
tert-Butylbenzene		<20.0	µg/Kg	20
1,2,4-Trimethylbenzene		<20.0	µg/Kg	20
1,4-Dichlorobenzene (para)	Q _r	<20.0	µg/Kg	20
sec-Butylbenzene		<20.0	µg/Kg	20
1,3-Dichlorobenzene (meta)		<20.0	µg/Kg	20
p-Isopropyltoluene		<20.0	µg/Kg	20
4-Chlorotoluene		<20.0	µg/Kg	20
1,2-Dichlorobenzene (ortho)	Q _r	<20.0	µg/Kg	20
n-Butylbenzene		<20.0	µg/Kg	20
1,2-Dibromo-3-chloropropane	Q _r	<100	µg/Kg	100
1,2,3-Trichlorobenzene		<100	µg/Kg	100
1,2,4-Trichlorobenzene		<100	µg/Kg	100
Naphthalene		<100	µg/Kg	100
Hexachlorobutadiene		<100	µg/Kg	100

Sample: 425447 - Site 3 Background

Param	Flag	Result	Units	RL
Chloride		<25.0	mg/Kg	25
Bromochloromethane		<20.0	µg/Kg	20
Dichlorodifluoromethane		<20.0	µg/Kg	20
Chloromethane (methyl chloride)		<20.0	µg/Kg	20
Vinyl Chloride		<20.0	µg/Kg	20
Bromomethane (methyl bromide)		<100	µg/Kg	100
Chloroethane		<20.0	µg/Kg	20
Trichlorofluoromethane		<20.0	µg/Kg	20
Acetone	Q _c	<200	µg/Kg	200
Iodomethane (methyl iodide)		<100	µg/Kg	100
Carbon Disulfide	Q _r	<20.0	µg/Kg	20

continued ...

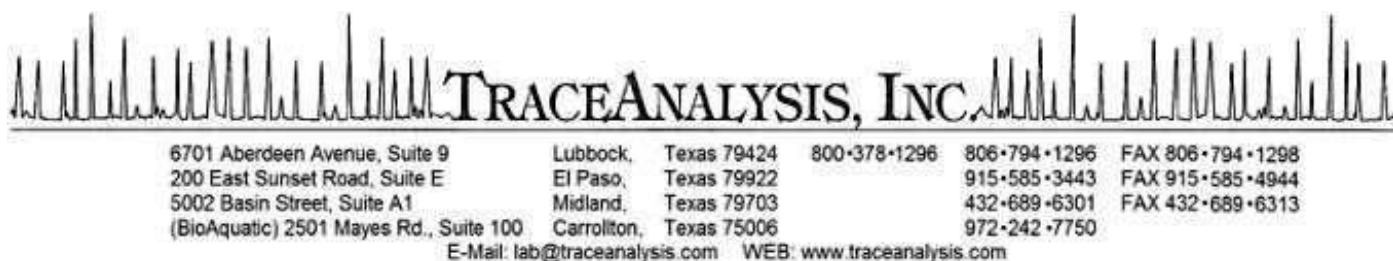
sample 425447 continued ...

Param	Flag	Result	Units	RL
Acrylonitrile	Q _r	<20.0	µg/Kg	20
2-Butanone (MEK)	Q _c , Q _r	<100	µg/Kg	100
4-Methyl-2-pentanone (MIBK)	Q _r	<100	µg/Kg	100
2-Hexanone	Q _c	<100	µg/Kg	100
trans 1,4-Dichloro-2-butene	Q _c , Q _r	<200	µg/Kg	200
1,1-Dichloroethene	Q _r	<20.0	µg/Kg	20
Methylene chloride	B	<100	µg/Kg	100
MTBE	Q _r	<20.0	µg/Kg	20
trans-1,2-Dichloroethene	Q _r	<20.0	µg/Kg	20
1,1-Dichloroethane	Q _r	<20.0	µg/Kg	20
cis-1,2-Dichloroethene	Q _r	<20.0	µg/Kg	20
2,2-Dichloropropane	Q _r	<20.0	µg/Kg	20
1,2-Dichloroethane (EDC)	Q _r	<20.0	µg/Kg	20
Chloroform	Q _r	<20.0	µg/Kg	20
1,1,1-Trichloroethane	Q _r	<20.0	µg/Kg	20
1,1-Dichloropropene	Q _r	<20.0	µg/Kg	20
Benzene		<20.0	µg/Kg	20
Carbon Tetrachloride	Q _r	<20.0	µg/Kg	20
1,2-Dichloropropane		<20.0	µg/Kg	20
Trichloroethene (TCE)		<20.0	µg/Kg	20
Dibromomethane (methylene bromide)		<20.0	µg/Kg	20
Bromodichloromethane		<20.0	µg/Kg	20
2-Chloroethyl vinyl ether		<20.0	µg/Kg	20
cis-1,3-Dichloropropene		<20.0	µg/Kg	20
trans-1,3-Dichloropropene		<20.0	µg/Kg	20
Toluene		<20.0	µg/Kg	20
1,1,2-Trichloroethane		<20.0	µg/Kg	20
1,3-Dichloropropane		<20.0	µg/Kg	20
Dibromochloromethane	Q _r	<20.0	µg/Kg	20
1,2-Dibromoethane (EDB)		<20.0	µg/Kg	20
Tetrachloroethene (PCE)	Q _r	<20.0	µg/Kg	20
Chlorobenzene		<20.0	µg/Kg	20
1,1,1,2-Tetrachloroethane	Q _r	<20.0	µg/Kg	20
Ethylbenzene		<20.0	µg/Kg	20
m,p-Xylene		<20.0	µg/Kg	20
Bromoform	Q _r	<20.0	µg/Kg	20
Styrene	Q _r	<20.0	µg/Kg	20
o-Xylene		<20.0	µg/Kg	20
1,1,2,2-Tetrachloroethane	Q _r	<20.0	µg/Kg	20
2-Chlorotoluene		<20.0	µg/Kg	20
1,2,3-Trichloropropane		<20.0	µg/Kg	20
Isopropylbenzene		<20.0	µg/Kg	20
Bromobenzene		<20.0	µg/Kg	20
n-Propylbenzene		<20.0	µg/Kg	20
1,3,5-Trimethylbenzene		<20.0	µg/Kg	20
tert-Butylbenzene		<20.0	µg/Kg	20
1,2,4-Trimethylbenzene		<20.0	µg/Kg	20

continued ...

sample 425447 continued ...

Param	Flag	Result	Units	RL
1,4-Dichlorobenzene (para)	Qr	<20.0	µg/Kg	20
sec-Butylbenzene		<20.0	µg/Kg	20
1,3-Dichlorobenzene (meta)		<20.0	µg/Kg	20
p-Isopropyltoluene		<20.0	µg/Kg	20
4-Chlorotoluene		<20.0	µg/Kg	20
1,2-Dichlorobenzene (ortho)	Qr	<20.0	µg/Kg	20
n-Butylbenzene		<20.0	µg/Kg	20
1,2-Dibromo-3-chloropropane	Qr	<100	µg/Kg	100
1,2,3-Trichlorobenzene		<100	µg/Kg	100
1,2,4-Trichlorobenzene		<100	µg/Kg	100
Naphthalene		<100	µg/Kg	100
Hexachlorobutadiene		<100	µg/Kg	100



Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Glen Thompson
Kinder Morgan/El Paso Natural Gas-Odessa
1550 Windway
Odessa, TX, 79761

Report Date: July 26, 2016

Work Order: 16072501



Project Name: Lovington Leak
Project Number: Lovington Leak

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
425046	Lovington Leak	water	2016-07-22	16:17	2016-07-22

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 27 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director
James Taylor, Assistant Director
Johnny Grindstaff, Operations Manager

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Case Narrative

Samples for project Lovington Leak were received by TraceAnalysis, Inc. on 2016-07-22 and assigned to work order 16072501. Samples for work order 16072501 were received intact at a temperature of 3.3 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (IC)	E 300.0	111600	2016-07-26 at 15:08	131694	2016-07-25 at 16:20
pH	SM 4500-H+	111584	2016-07-25 at 13:20	131673	2016-07-25 at 13:20
TPH DRO	S 8015 D	111608	2016-07-25 at 13:00	131700	2016-07-26 at 12:25
TPH GRO	S 8015 D	111589	2016-07-25 at 08:32	131681	2016-07-25 at 08:32
Volatiles	S 8260 C	111601	2016-07-25 at 12:00	131696	2016-07-25 at 12:00

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 16072501 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: July 26, 2016
Lovington Leak

Work Order: 16072501
Lovington Leak

Page Number: 4 of 27

Analytical Report

Sample: 425046 - Lovington Leak

Laboratory:	Lubbock	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	Chloride (IC)	Date Analyzed:	2016-07-25	Analyzed By:	CF
QC Batch:	131694	Sample Preparation:		Prepared By:	CF
Prep Batch:	111600				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1,2,3,4	91.8	mg/L	5	2.50

Sample: 425046 - Lovington Leak

Laboratory:	Lubbock	Analytical Method:	SM 4500-H+	Prep Method:	N/A
Analysis:	pH	Date Analyzed:	2016-07-25	Analyzed By:	CF
QC Batch:	131673	Sample Preparation:	2016-07-25	Prepared By:	CF
Prep Batch:	111584				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
pH		1,2,3,4	7.40	s.u.	1	2.00

Sample: 425046 - Lovington Leak

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO	Date Analyzed:	2016-07-26	Analyzed By:	HJ
QC Batch:	131700	Sample Preparation:	2016-07-25	Prepared By:	HJ
Prep Batch:	111608				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1,2,3	5.52	mg/L	1	5.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			2.98	mg/L	1	2.50	119	70 - 130

Report Date: July 26, 2016
Lovington Leak

Work Order: 16072501
Lovington Leak

Page Number: 5 of 27

Sample: 425046 - Lovington Leak

Laboratory: Lubbock
Analysis: TPH GRO
QC Batch: 131681
Prep Batch: 111589

Analytical Method: S 8015 D
Date Analyzed: 2016-07-25
Sample Preparation: 2016-07-25

Prep Method: S 5030B
Analyzed By: MT
Prepared By: MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qs	1,2,3	0.734	mg/L	1	0.200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.116	mg/L	1	0.100	116	72.8 - 136
4-Bromofluorobenzene (4-BFB)			0.111	mg/L	1	0.100	111	73.3 - 120

Sample: 425046 - Lovington Leak

Laboratory: Lubbock
Analysis: Volatiles
QC Batch: 131696
Prep Batch: 111601

Analytical Method: S 8260 C
Date Analyzed: 2016-07-25
Sample Preparation: 2016-07-25

Prep Method: S 5030B
Analyzed By: KB
Prepared By: KB

Parameter	Flag	Cert	RL				
			Result	Units	Dilution	RL	
Bromochloromethane	1	U	1,2,3,4	<5.00	µg/L	5	1.00
Dichlorodifluoromethane		U	1,2,3,4	<5.00	µg/L	5	1.00
Chloromethane (methyl chloride)		U	1,2,3,4	<5.00	µg/L	5	1.00
Vinyl Chloride		U	1,2,3,4	<5.00	µg/L	5	1.00
Bromomethane (methyl bromide)		U	1,2,3,4	<25.0	µg/L	5	5.00
Chloroethane		Qc,U	1,2,3,4	<5.00	µg/L	5	1.00
Trichlorofluoromethane		U	1,2,3,4	<5.00	µg/L	5	1.00
Acetone		Qr,U	1,2,3,4	<50.0	µg/L	5	10.0
Iodomethane (methyl iodide)		U	1,2,3,4	<25.0	µg/L	5	5.00
Carbon Disulfide			1,2,3,4	5.24	µg/L	5	1.00
Acrylonitrile		U	1,2,3,4	<5.00	µg/L	5	1.00
2-Butanone (MEK)		Qc,U	1,2,3,4	<25.0	µg/L	5	5.00
4-Methyl-2-pentanone (MIBK)		Qc,U	1,2,3,4	<25.0	µg/L	5	5.00
2-Hexanone		Qc,U	1,2,3,4	<25.0	µg/L	5	5.00
trans 1,4-Dichloro-2-butene		Qc,U	1,2,3,4	<50.0	µg/L	5	10.0
1,1-Dichloroethene		U	1,2,3,4	<5.00	µg/L	5	1.00
Methylene chloride		U	1,2,3,4	<25.0	µg/L	5	5.00
MTBE		U	1,2,3,4	<5.00	µg/L	5	1.00
trans-1,2-Dichloroethene		U	1,2,3,4	<5.00	µg/L	5	1.00
1,1-Dichloroethane		U	1,2,3,4	<5.00	µg/L	5	1.00
cis-1,2-Dichloroethene		U	1,2,3,4	<5.00	µg/L	5	1.00

continued ...

sample 425046 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
2,2-Dichloropropane	U	1,2,3,4	<5.00	µg/L	5	1.00
1,2-Dichloroethane (EDC)	U	1,2,3,4	<5.00	µg/L	5	1.00
Chloroform	U	1,2,3,4	<5.00	µg/L	5	1.00
1,1,1-Trichloroethane	U	1,2,3,4	<5.00	µg/L	5	1.00
1,1-Dichloropropene	U	1,2,3,4	<5.00	µg/L	5	1.00
Benzene		1,2,3,4	<5.00	µg/L	5	1.00
Carbon Tetrachloride	U	1,2,3,4	<5.00	µg/L	5	1.00
1,2-Dichloropropane	U	1,2,3,4	<5.00	µg/L	5	1.00
Trichloroethene (TCE)	U	1,2,3,4	<5.00	µg/L	5	1.00
Dibromomethane (methylene bromide)	U	1,2,3,4	<5.00	µg/L	5	1.00
Bromodichloromethane	U	1,2,3,4	<5.00	µg/L	5	1.00
2-Chloroethyl vinyl ether	U	1,2,3,4	<25.0	µg/L	5	5.00
cis-1,3-Dichloropropene	U	1,2,3,4	<5.00	µg/L	5	1.00
trans-1,3-Dichloropropene	U	1,2,3,4	<5.00	µg/L	5	1.00
Toluene	U	1,2,3,4	<5.00	µg/L	5	1.00
1,1,2-Trichloroethane	U	1,2,3,4	<5.00	µg/L	5	1.00
1,3-Dichloropropane	U	1,2,3,4	<5.00	µg/L	5	1.00
Dibromochloromethane	U	1,3,4	<5.00	µg/L	5	1.00
1,2-Dibromoethane (EDB)	Qc,U	1,2,3,4	<5.00	µg/L	5	1.00
Tetrachloroethene (PCE)	U	1,2,3,4	<5.00	µg/L	5	1.00
Chlorobenzene	U	1,2,3,4	<5.00	µg/L	5	1.00
1,1,1,2-Tetrachloroethane	U	1,2,3,4	<5.00	µg/L	5	1.00
Ethylbenzene	U	1,2,3,4	<5.00	µg/L	5	1.00
m,p-Xylene	U	1,2,3,4	<5.00	µg/L	5	1.00
Bromoform	Qc,U	1,2,3,4	<5.00	µg/L	5	1.00
Styrene	U	1,2,3,4	<5.00	µg/L	5	1.00
o-Xylene	U	1,2,3,4	<5.00	µg/L	5	1.00
1,1,2,2-Tetrachloroethane	Qc,U	1,2,3,4	<5.00	µg/L	5	1.00
2-Chlorotoluene	U	1,2,3,4	<5.00	µg/L	5	1.00
1,2,3-Trichloropropane	U	1,2,3,4	<5.00	µg/L	5	1.00
Isopropylbenzene	U	1,2,3,4	<5.00	µg/L	5	1.00
Bromobenzene	U	1,2,3,4	<5.00	µg/L	5	1.00
n-Propylbenzene	U	1,2,3,4	<5.00	µg/L	5	1.00
1,3,5-Trimethylbenzene	U	1,2,3,4	<5.00	µg/L	5	1.00
tert-Butylbenzene	U	1,2,3,4	<5.00	µg/L	5	1.00
1,2,4-Trimethylbenzene	U	1,2,3,4	<5.00	µg/L	5	1.00
1,4-Dichlorobenzene (para)	U	1,2,3,4	<5.00	µg/L	5	1.00
sec-Butylbenzene	U	1,2,3,4	<5.00	µg/L	5	1.00
1,3-Dichlorobenzene (meta)	U	1,2,3,4	<5.00	µg/L	5	1.00
p-Isopropyltoluene	U	1,2,3	<5.00	µg/L	5	1.00
4-Chlorotoluene	U	1,2,3,4	<5.00	µg/L	5	1.00
1,2-Dichlorobenzene (ortho)	U	1,2,3,4	<5.00	µg/L	5	1.00
n-Butylbenzene	U	1,2,3,4	<5.00	µg/L	5	1.00

continued ...

sample 425046 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
1,2-Dibromo-3-chloropropane	Qc,U	1,3	<25.0	µg/L	5	5.00
1,2,3-Trichlorobenzene	Qc,U	1,2,3,4	<25.0	µg/L	5	5.00
1,2,4-Trichlorobenzene	Qc,U	1,2,3,4	<25.0	µg/L	5	5.00
Naphthalene	Qc,U	1,2,3,4	<25.0	µg/L	5	5.00
Hexachlorobutadiene	B,U	1,2,3,4	<25.0	µg/L	5	5.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane			270	µg/L	5	250	108	70 - 130
Toluene-d8			235	µg/L	5	250	94	70 - 130
4-Bromofluorobenzene (4-BFB)			271	µg/L	5	250	108	70 - 130

Method Blanks

Method Blank (1) QC Batch: 131681

QC Batch: 131681 Date Analyzed: 2016-07-25 Analyzed By: MT
Prep Batch: 111589 QC Preparation: 2016-07-25 Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1,2,3	<0.0369	mg/L	0.2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.118	mg/L	1	0.100	118	72.8 - 136
4-Bromofluorobenzene (4-BFB)			0.104	mg/L	1	0.100	104	73.3 - 120

Method Blank (1) QC Batch: 131694

QC Batch: 131694 Date Analyzed: 2016-07-25 Analyzed By: CF
Prep Batch: 111600 QC Preparation: 2016-07-26 Prepared By: CF

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1,2,3,4	<0.297	mg/L	2.5

Method Blank (1) QC Batch: 131696

QC Batch: 131696 Date Analyzed: 2016-07-25 Analyzed By: KB
Prep Batch: 111601 QC Preparation: 2016-07-25 Prepared By: KB

Parameter	Flag	Cert	MDL Result	Units	RL
Bromochloromethane		1,2,3,4	<0.330	µg/L	1
Dichlorodifluoromethane		1,2,3,4	<0.350	µg/L	1
Chloromethane (methyl chloride)		1,2,3,4	<0.330	µg/L	1
Vinyl Chloride		1,2,3,4	<0.410	µg/L	1
Bromomethane (methyl bromide)		1,2,3,4	<1.69	µg/L	5
Chloroethane		1,2,3,4	<0.420	µg/L	1
Trichlorofluoromethane		1,2,3,4	<0.410	µg/L	1

continued ...

method blank continued . . .

Parameter	Flag	Cert	MDL Result	Units	RL
Acetone		1,2,3,4	<1.09	µg/L	10
Iodomethane (methyl iodide)		1,2,3,4	<2.47	µg/L	5
Carbon Disulfide		1,2,3,4	<0.400	µg/L	1
Acrylonitrile		1,2,3,4	<0.360	µg/L	1
2-Butanone (MEK)		1,2,3,4	<1.67	µg/L	5
4-Methyl-2-pentanone (MIBK)		1,2,3,4	<2.14	µg/L	5
2-Hexanone		1,2,3,4	<1.49	µg/L	5
trans 1,4-Dichloro-2-butene		1,2,3,4	<1.75	µg/L	10
1,1-Dichloroethene		1,2,3,4	<0.330	µg/L	1
Methylene chloride		1,2,3,4	<2.04	µg/L	5
MTBE		1,2,3,4	<0.320	µg/L	1
trans-1,2-Dichloroethene		1,2,3,4	<0.360	µg/L	1
1,1-Dichloroethane		1,2,3,4	<0.330	µg/L	1
cis-1,2-Dichloroethene		1,2,3,4	<0.330	µg/L	1
2,2-Dichloropropane		1,2,3,4	<0.380	µg/L	1
1,2-Dichloroethane (EDC)		1,2,3,4	<0.280	µg/L	1
Chloroform		1,2,3,4	<0.390	µg/L	1
1,1,1-Trichloroethane		1,2,3,4	<0.370	µg/L	1
1,1-Dichloropropene		1,2,3,4	<0.320	µg/L	1
Benzene		1,2,3,4	<0.340	µg/L	1
Carbon Tetrachloride		1,2,3,4	<0.350	µg/L	1
1,2-Dichloropropane		1,2,3,4	<0.270	µg/L	1
Trichloroethene (TCE)		1,2,3,4	<0.310	µg/L	1
Dibromomethane (methylene bromide)		1,2,3,4	<0.230	µg/L	1
Bromodichloromethane		1,2,3,4	<0.320	µg/L	1
2-Chloroethyl vinyl ether		1,2,3,4	<0.480	µg/L	5
cis-1,3-Dichloropropene		1,2,3,4	<0.210	µg/L	1
trans-1,3-Dichloropropene		1,2,3,4	<0.310	µg/L	1
Toluene		1,2,3,4	<0.350	µg/L	1
1,1,2-Trichloroethane		1,2,3,4	<0.390	µg/L	1
1,3-Dichloropropane		1,2,3,4	<0.310	µg/L	1
Dibromochloromethane		1,3,4	<0.370	µg/L	1
1,2-Dibromoethane (EDB)		1,2,3,4	<0.310	µg/L	1
Tetrachloroethene (PCE)		1,2,3,4	<0.190	µg/L	1
Chlorobenzene		1,2,3,4	<0.290	µg/L	1
1,1,1,2-Tetrachloroethane		1,2,3,4	<0.300	µg/L	1
Ethylbenzene		1,2,3,4	<0.260	µg/L	1
m,p-Xylene		1,2,3,4	<0.480	µg/L	1
Bromoform		1,2,3,4	<0.480	µg/L	1
Styrene		1,2,3,4	<0.250	µg/L	1
o-Xylene		1,2,3,4	<0.260	µg/L	1
1,1,2,2-Tetrachloroethane		1,2,3,4	<0.560	µg/L	1
2-Chlorotoluene		1,2,3,4	<0.250	µg/L	1
1,2,3-Trichloropropane		1,2,3,4	<0.450	µg/L	1

continued . . .

method blank continued ...

Parameter	Flag	Cert	MDL Result	Units	RL
Isopropylbenzene		1,2,3,4	<0.260	µg/L	1
Bromobenzene		1,2,3,4	<0.280	µg/L	1
n-Propylbenzene		1,2,3,4	<0.240	µg/L	1
1,3,5-Trimethylbenzene		1,2,3,4	<0.260	µg/L	1
tert-Butylbenzene		1,2,3,4	<0.270	µg/L	1
1,2,4-Trimethylbenzene		1,2,3,4	<0.270	µg/L	1
1,4-Dichlorobenzene (para)		1,2,3,4	<0.310	µg/L	1
sec-Butylbenzene		1,2,3,4	<0.200	µg/L	1
1,3-Dichlorobenzene (meta)		1,2,3,4	<0.280	µg/L	1
p-Isopropyltoluene		1,2,3	<0.200	µg/L	1
4-Chlorotoluene		1,2,3,4	<0.290	µg/L	1
1,2-Dichlorobenzene (ortho)		1,2,3,4	<0.250	µg/L	1
n-Butylbenzene		1,2,3,4	<0.170	µg/L	1
1,2-Dibromo-3-chloropropane		1,3	<1.70	µg/L	5
1,2,3-Trichlorobenzene		1,2,3,4	<0.400	µg/L	5
1,2,4-Trichlorobenzene		1,2,3,4	<2.12	µg/L	5
Naphthalene		1,2,3,4	<2.23	µg/L	5
Hexachlorobutadiene	B	B	0.790	µg/L	5

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane			56.0	µg/L	1	50.0	112	70 - 130
Toluene-d8			47.4	µg/L	1	50.0	95	70 - 130
4-Bromofluorobenzene (4-BFB)			54.3	µg/L	1	50.0	109	70 - 130

Method Blank (1) QC Batch: 131700

QC Batch: 131700 Date Analyzed: 2016-07-26 Analyzed By: HJ
 Prep Batch: 111608 QC Preparation: 2016-07-25 Prepared By: HJ

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1,2,3	<0.890	mg/L	5

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			2.92	mg/L	1	2.50	117	70 - 130

Duplicates

Duplicates (1) Duplicated Sample: 425046

QC Batch:	131673	Date Analyzed:	2016-07-25	Analyzed By:	CF
Prep Batch:	111584	QC Preparation:	2016-07-25	Prepared By:	CF

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	1,2,3,4	7.44	7.40	s.u.	1	0	20

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 131681
Prep Batch: 111589

Date Analyzed: 2016-07-25
QC Preparation: 2016-07-25

Analyzed By: MT
Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1,2,3	0.951	mg/L	1	1.00	<0.0369	95	74.6 - 123

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1,2,3	1.11	mg/L	1	1.00	<0.0369	111	74.6 - 123	15	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.110	0.112	mg/L	1	0.100	110	112	72.8 - 136
4-Bromofluorobenzene (4-BFB)	0.111	0.113	mg/L	1	0.100	111	113	73.3 - 120

Laboratory Control Spike (LCS-1)

QC Batch: 131694
Prep Batch: 111600

Date Analyzed: 2016-07-25
QC Preparation: 2016-07-26

Analyzed By: CF
Prepared By: CF

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1,2,3,4	24.2	mg/L	1	25.0	<0.297	97	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1,2,3,4	24.2	mg/L	1	25.0	<0.297	97	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 131696
 Prep Batch: 111601

Date Analyzed: 2016-07-25
 QC Preparation: 2016-07-25

Analyzed By: KB
 Prepared By: KB

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Bromochloromethane		1,2,3,4	48.7	µg/L	1	50.0	<0.330	97	74.4 - 128
Dichlorodifluoromethane		1,2,3,4	49.6	µg/L	1	50.0	<0.350	99	46.8 - 148
Chloromethane (methyl chloride)		1,2,3,4	54.9	µg/L	1	50.0	<0.330	110	63.8 - 125
Vinyl Chloride		1,2,3,4	60.4	µg/L	1	50.0	<0.410	121	60.3 - 129
Bromomethane (methyl bromide)		1,2,3,4	62.6	µg/L	1	50.0	<1.69	125	49.7 - 141
Chloroethane	Qs	Qs	66.1	µg/L	1	50.0	<0.420	132	62.4 - 131
Trichlorofluoromethane		1,2,3,4	61.2	µg/L	1	50.0	<0.410	122	53.5 - 152
Acetone		1,2,3,4	40.9	µg/L	1	50.0	<1.09	82	20 - 190
Iodomethane (methyl iodide)		1,2,3,4	51.2	µg/L	1	50.0	<2.47	102	67.8 - 135
Carbon Disulfide		1,2,3,4	50.7	µg/L	1	50.0	<0.400	101	68.9 - 136
Acrylonitrile		1,2,3,4	42.0	µg/L	1	50.0	<0.360	84	67.6 - 131
2-Butanone (MEK)		1,2,3,4	41.6	µg/L	1	50.0	<1.67	83	45 - 137
4-Methyl-2-pentanone (MIBK)		1,2,3,4	36.0	µg/L	1	50.0	<2.14	72	61.4 - 142
2-Hexanone		1,2,3,4	36.7	µg/L	1	50.0	<1.49	73	51.7 - 145
trans 1,4-Dichloro-2-butene		1,2,3,4	32.0	µg/L	1	50.0	<1.75	64	44.3 - 137
1,1-Dichloroethene		1,2,3,4	51.6	µg/L	1	50.0	<0.330	103	70.6 - 132
Methylene chloride		1,2,3,4	57.8	µg/L	1	50.0	<2.04	116	66.5 - 135
MTBE		1,2,3,4	48.5	µg/L	1	50.0	<0.320	97	72.1 - 130
trans-1,2-Dichloroethene		1,2,3,4	51.5	µg/L	1	50.0	<0.360	103	75.5 - 127
1,1-Dichloroethane		1,2,3,4	54.4	µg/L	1	50.0	<0.330	109	73.7 - 129
cis-1,2-Dichloroethene		1,2,3,4	55.2	µg/L	1	50.0	<0.330	110	75.5 - 127
2,2-Dichloropropane		1,2,3,4	57.7	µg/L	1	50.0	<0.380	115	24.3 - 158
1,2-Dichloroethane (EDC)		1,2,3,4	51.9	µg/L	1	50.0	<0.280	104	71 - 134
Chloroform		1,2,3,4	54.2	µg/L	1	50.0	<0.390	108	74 - 131
1,1,1-Trichloroethane		1,2,3,4	60.0	µg/L	1	50.0	<0.370	120	59.2 - 150
1,1-Dichloropropene		1,2,3,4	54.9	µg/L	1	50.0	<0.320	110	77.7 - 128
Benzene		1,2,3,4	52.6	µg/L	1	50.0	<0.340	105	73 - 124
Carbon Tetrachloride		1,2,3,4	58.8	µg/L	1	50.0	<0.350	118	61.2 - 146
1,2-Dichloropropane		1,2,3,4	52.6	µg/L	1	50.0	<0.270	105	78 - 125
Trichloroethene (TCE)		1,2,3,4	53.5	µg/L	1	50.0	<0.310	107	70.9 - 137
Dibromomethane (methylene bromide)		1,2,3,4	49.1	µg/L	1	50.0	<0.230	98	76.2 - 127
Bromodichloromethane		1,2,3,4	54.5	µg/L	1	50.0	<0.320	109	73.6 - 130
2-Chloroethyl vinyl ether		1,2,3,4	44.2	µg/L	1	50.0	<0.480	88	61.1 - 136
cis-1,3-Dichloropropene		1,2,3,4	51.7	µg/L	1	50.0	<0.210	103	79 - 125
trans-1,3-Dichloropropene		1,2,3,4	50.0	µg/L	1	50.0	<0.310	100	77.1 - 128
Toluene		1,2,3,4	54.0	µg/L	1	50.0	<0.350	108	75.4 - 126
1,1,2-Trichloroethane		1,2,3,4	41.9	µg/L	1	50.0	<0.390	84	72.9 - 122
1,3-Dichloropropane		1,2,3,4	43.0	µg/L	1	50.0	<0.310	86	75 - 120
Dibromochloromethane		1,3,4	42.7	µg/L	1	50.0	<0.370	85	64.8 - 128
1,2-Dibromoethane (EDB)		1,2,3,4	40.5	µg/L	1	50.0	<0.310	81	74.6 - 121

continued ...

control spikes continued ...

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Tetrachloroethene (PCE)		1,2,3,4	46.3	µg/L	1	50.0	<0.190	93	28.6 - 177
Chlorobenzene		1,2,3,4	45.2	µg/L	1	50.0	<0.290	90	73.5 - 120
1,1,1,2-Tetrachloroethane		1,2,3,4	47.0	µg/L	1	50.0	<0.300	94	67 - 128
Ethylbenzene		1,2,3,4	48.5	µg/L	1	50.0	<0.260	97	73 - 123
m,p-Xylene		1,2,3,4	97.8	µg/L	1	100	<0.480	98	71 - 126
Bromoform		1,2,3,4	37.2	µg/L	1	50.0	<0.480	74	55.5 - 131
Styrene		1,2,3,4	45.6	µg/L	1	50.0	<0.250	91	75.7 - 122
o-Xylene		1,2,3,4	48.5	µg/L	1	50.0	<0.260	97	70.2 - 125
1,1,2,2-Tetrachloroethane		1,2,3,4	36.1	µg/L	1	50.0	<0.560	72	61.1 - 133
2-Chlorotoluene		1,2,3,4	48.2	µg/L	1	50.0	<0.250	96	71.8 - 120
1,2,3-Trichloropropane		1,2,3,4	37.3	µg/L	1	50.0	<0.450	75	67.2 - 132
Isopropylbenzene		1,2,3,4	49.2	µg/L	1	50.0	<0.260	98	72.2 - 123
Bromobenzene		1,2,3,4	43.6	µg/L	1	50.0	<0.280	87	66.7 - 121
n-Propylbenzene		1,2,3,4	49.5	µg/L	1	50.0	<0.240	99	72.9 - 121
1,3,5-Trimethylbenzene		1,2,3,4	48.6	µg/L	1	50.0	<0.260	97	68.4 - 126
tert-Butylbenzene		1,2,3,4	48.4	µg/L	1	50.0	<0.270	97	68.7 - 128
1,2,4-Trimethylbenzene		1,2,3,4	48.0	µg/L	1	50.0	<0.270	96	70.4 - 124
1,4-Dichlorobenzene (para)		1,2,3,4	42.4	µg/L	1	50.0	<0.310	85	73.5 - 120
sec-Butylbenzene		1,2,3,4	49.0	µg/L	1	50.0	<0.200	98	69.6 - 128
1,3-Dichlorobenzene (meta)		1,2,3,4	44.2	µg/L	1	50.0	<0.280	88	74.2 - 120
p-Isopropyltoluene		1,2,3	47.0	µg/L	1	50.0	<0.200	94	73.1 - 124
4-Chlorotoluene		1,2,3,4	48.5	µg/L	1	50.0	<0.290	97	72.8 - 120
1,2-Dichlorobenzene (ortho)		1,2,3,4	42.0	µg/L	1	50.0	<0.250	84	65.2 - 126
n-Butylbenzene		1,2,3,4	48.3	µg/L	1	50.0	<0.170	97	70.1 - 127
1,2-Dibromo-3-chloropropane		1,3	38.6	µg/L	1	50.0	<1.70	77	50.5 - 136
1,2,3-Trichlorobenzene		1,2,3,4	42.5	µg/L	1	50.0	<0.400	85	43.3 - 153
1,2,4-Trichlorobenzene		1,2,3,4	43.6	µg/L	1	50.0	<2.12	87	59.6 - 134
Naphthalene		1,2,3,4	37.1	µg/L	1	50.0	<2.23	74	38.5 - 159
Hexachlorobutadiene		1,2,3,4	54.7	µg/L	1	50.0	0.79	108	35.8 - 175

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Bromochloromethane		1,2,3,4	46.1	µg/L	1	50.0	<0.330	92	74.4 - 128	6	20
Dichlorodifluoromethane		1,2,3,4	45.1	µg/L	1	50.0	<0.350	90	46.8 - 148	10	20
Chloromethane (methyl chloride)		1,2,3,4	50.6	µg/L	1	50.0	<0.330	101	63.8 - 125	8	20
Vinyl Chloride		1,2,3,4	54.9	µg/L	1	50.0	<0.410	110	60.3 - 129	10	20
Bromomethane (methyl bromide)		1,2,3,4	56.7	µg/L	1	50.0	<1.69	113	49.7 - 141	10	20
Chloroethane		1,2,3,4	61.3	µg/L	1	50.0	<0.420	123	62.4 - 131	8	20
Trichlorofluoromethane		1,2,3,4	55.2	µg/L	1	50.0	<0.410	110	53.5 - 152	10	20
Acetone		1,2,3,4	39.2	µg/L	1	50.0	<1.09	78	20 - 190	4	20
Iodomethane (methyl iodide)		1,2,3,4	49.3	µg/L	1	50.0	<2.47	99	67.8 - 135	4	20
Carbon Disulfide		1,2,3,4	49.6	µg/L	1	50.0	<0.400	99	68.9 - 136	2	20
Acrylonitrile		1,2,3,4	39.6	µg/L	1	50.0	<0.360	79	67.6 - 131	6	20

continued ...

control spikes continued ...

Param	F	C	LCSD		Dil.	Spike	Matrix	Rec.	Rec.	RPD	RPD
			Result	Units		Amount	Result		Limit		Limit
2-Butanone (MEK)		1,2,3,4	39.3	µg/L	1	50.0	<1.67	79	45 - 137	6	20
4-Methyl-2-pentanone (MIBK)		1,2,3,4	35.4	µg/L	1	50.0	<2.14	71	61.4 - 142	2	20
2-Hexanone		1,2,3,4	35.4	µg/L	1	50.0	<1.49	71	51.7 - 145	4	20
trans 1,4-Dichloro-2-butene		1,2,3,4	30.2	µg/L	1	50.0	<1.75	60	44.3 - 137	6	20
1,1-Dichloroethene		1,2,3,4	49.6	µg/L	1	50.0	<0.330	99	70.6 - 132	4	20
Methylene chloride		1,2,3,4	56.2	µg/L	1	50.0	<2.04	112	66.5 - 135	3	20
MTBE		1,2,3,4	47.0	µg/L	1	50.0	<0.320	94	72.1 - 130	3	20
trans-1,2-Dichloroethene		1,2,3,4	50.6	µg/L	1	50.0	<0.360	101	75.5 - 127	2	20
1,1-Dichloroethane		1,2,3,4	52.4	µg/L	1	50.0	<0.330	105	73.7 - 129	4	20
cis-1,2-Dichloroethene		1,2,3,4	51.7	µg/L	1	50.0	<0.330	103	75.5 - 127	6	20
2,2-Dichloropropane		1,2,3,4	54.5	µg/L	1	50.0	<0.380	109	24.3 - 158	6	20
1,2-Dichloroethane (EDC)		1,2,3,4	50.7	µg/L	1	50.0	<0.280	101	71 - 134	2	20
Chloroform		1,2,3,4	52.5	µg/L	1	50.0	<0.390	105	74 - 131	3	20
1,1,1-Trichloroethane		1,2,3,4	56.8	µg/L	1	50.0	<0.370	114	59.2 - 150	6	20
1,1-Dichloropropene		1,2,3,4	53.4	µg/L	1	50.0	<0.320	107	77.7 - 128	3	20
Benzene		1,2,3,4	51.6	µg/L	1	50.0	<0.340	103	73 - 124	2	20
Carbon Tetrachloride		1,2,3,4	57.2	µg/L	1	50.0	<0.350	114	61.2 - 146	3	20
1,2-Dichloropropane		1,2,3,4	52.1	µg/L	1	50.0	<0.270	104	78 - 125	1	20
Trichloroethene (TCE)		1,2,3,4	51.5	µg/L	1	50.0	<0.310	103	70.9 - 137	4	20
Dibromomethane (methylene bromide)		1,2,3,4	46.8	µg/L	1	50.0	<0.230	94	76.2 - 127	5	20
Bromodichloromethane		1,2,3,4	52.8	µg/L	1	50.0	<0.320	106	73.6 - 130	3	20
2-Chloroethyl vinyl ether		1,2,3,4	39.7	µg/L	1	50.0	<0.480	79	61.1 - 136	11	20
cis-1,3-Dichloropropene		1,2,3,4	50.6	µg/L	1	50.0	<0.210	101	79 - 125	2	20
trans-1,3-Dichloropropene		1,2,3,4	48.7	µg/L	1	50.0	<0.310	97	77.1 - 128	3	20
Toluene		1,2,3,4	52.0	µg/L	1	50.0	<0.350	104	75.4 - 126	4	20
1,1,2-Trichloroethane		1,2,3,4	40.1	µg/L	1	50.0	<0.390	80	72.9 - 122	4	20
1,3-Dichloropropane		1,2,3,4	41.3	µg/L	1	50.0	<0.310	83	75 - 120	4	20
Dibromochloromethane		1,3,4	41.2	µg/L	1	50.0	<0.370	82	64.8 - 128	4	20
1,2-Dibromoethane (EDB)		1,2,3,4	39.2	µg/L	1	50.0	<0.310	78	74.6 - 121	3	20
Tetrachloroethene (PCE)		1,2,3,4	45.0	µg/L	1	50.0	<0.190	90	28.6 - 177	3	20
Chlorobenzene		1,2,3,4	44.1	µg/L	1	50.0	<0.290	88	73.5 - 120	2	20
1,1,1,2-Tetrachloroethane		1,2,3,4	44.8	µg/L	1	50.0	<0.300	90	67 - 128	5	20
Ethylbenzene		1,2,3,4	46.4	µg/L	1	50.0	<0.260	93	73 - 123	4	20
m,p-Xylene		1,2,3,4	95.2	µg/L	1	100	<0.480	95	71 - 126	3	20
Bromoform		1,2,3,4	35.8	µg/L	1	50.0	<0.480	72	55.5 - 131	4	20
Styrene		1,2,3,4	44.9	µg/L	1	50.0	<0.250	90	75.7 - 122	2	20
o-Xylene		1,2,3,4	46.7	µg/L	1	50.0	<0.260	93	70.2 - 125	4	20
1,1,2,2-Tetrachloroethane		1,2,3,4	35.3	µg/L	1	50.0	<0.560	71	61.1 - 133	2	20
2-Chlorotoluene		1,2,3,4	47.0	µg/L	1	50.0	<0.250	94	71.8 - 120	2	20
1,2,3-Trichloropropane		1,2,3,4	37.7	µg/L	1	50.0	<0.450	75	67.2 - 132	1	20
Isopropylbenzene		1,2,3,4	47.4	µg/L	1	50.0	<0.260	95	72.2 - 123	4	20
Bromobenzene		1,2,3,4	41.8	µg/L	1	50.0	<0.280	84	66.7 - 121	4	20
n-Propylbenzene		1,2,3,4	48.1	µg/L	1	50.0	<0.240	96	72.9 - 121	3	20
1,3,5-Trimethylbenzene		1,2,3,4	47.7	µg/L	1	50.0	<0.260	95	68.4 - 126	2	20

continued ...

control spikes continued ...

Param	F	C	LCSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
tert-Butylbenzene		1,2,3,4	46.8	µg/L	1	50.0	<0.270	94	68.7 - 128	3	20
1,2,4-Trimethylbenzene		1,2,3,4	47.0	µg/L	1	50.0	<0.270	94	70.4 - 124	2	20
1,4-Dichlorobenzene (para)		1,2,3,4	41.6	µg/L	1	50.0	<0.310	83	73.5 - 120	2	20
sec-Butylbenzene		1,2,3,4	47.3	µg/L	1	50.0	<0.200	95	69.6 - 128	4	20
1,3-Dichlorobenzene (meta)		1,2,3,4	43.5	µg/L	1	50.0	<0.280	87	74.2 - 120	2	20
p-Isopropyltoluene		1,2,3	45.4	µg/L	1	50.0	<0.200	91	73.1 - 124	4	20
4-Chlorotoluene		1,2,3,4	46.4	µg/L	1	50.0	<0.290	93	72.8 - 120	4	20
1,2-Dichlorobenzene (ortho)		1,2,3,4	41.0	µg/L	1	50.0	<0.250	82	65.2 - 126	2	20
n-Butylbenzene		1,2,3,4	47.0	µg/L	1	50.0	<0.170	94	70.1 - 127	3	20
1,2-Dibromo-3-chloropropane		1,3	37.2	µg/L	1	50.0	<1.70	74	50.5 - 136	4	20
1,2,3-Trichlorobenzene		1,2,3,4	43.1	µg/L	1	50.0	<0.400	86	43.3 - 153	1	20
1,2,4-Trichlorobenzene		1,2,3,4	42.8	µg/L	1	50.0	<2.12	86	59.6 - 134	2	20
Naphthalene		1,2,3,4	36.7	µg/L	1	50.0	<2.23	73	38.5 - 159	1	20
Hexachlorobutadiene		1,2,3,4	53.2	µg/L	1	50.0	0.79	105	35.8 - 175	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	53.7	53.4	µg/L	1	50.0	107	107	70 - 130
Toluene-d8	48.2	47.9	µg/L	1	50.0	96	96	70 - 130
4-Bromofluorobenzene (4-BFB)	53.5	53.8	µg/L	1	50.0	107	108	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 131700
Prep Batch: 111608

Date Analyzed: 2016-07-26
QC Preparation: 2016-07-25

Analyzed By: HJ
Prepared By: HJ

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1,2,3	48.8	mg/L	1	50.0	<0.890	98	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1,2,3	46.0	mg/L	1	50.0	<0.890	92	70 - 130	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	2.53	2.39	mg/L	1	2.50	101	96	70 - 130

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 425046

QC Batch: 131681
Prep Batch: 111589

Date Analyzed: 2016-07-25
QC Preparation: 2016-07-25

Analyzed By: MT
Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1,2,3	6.77	mg/L	5	5.00	0.734	121	57 - 134

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

				MSD			Spike	Matrix		Rec.		RPD
Param		F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO	Qs	Qs	1,2,3	7.64	mg/L	5	5.00	0.734	138	57 - 134	12	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.569	0.568	mg/L	5	0.5	114	114	72.8 - 136
4-Bromofluorobenzene (4-BFB)	0.582	0.577	mg/L	5	0.5	116	115	73.3 - 120

Matrix Spike (MS-1) Spiked Sample: 425046

QC Batch: 131694
Prep Batch: 111600

Date Analyzed: 2016-07-25
QC Preparation: 2016-07-26

Analyzed By: CF
Prepared By: CF

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1,2,3,4	215	mg/L	5	125	91.8	98	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1,2,3,4	218	mg/L	5	125	91.8	101	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 425046

QC Batch: 131696
 Prep Batch: 111601

Date Analyzed: 2016-07-25
 QC Preparation: 2016-07-25

Analyzed By: KB
 Prepared By: KB

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Bromochloromethane		1,2,3,4	254	µg/L	5	250	<1.65	102	64.4 - 146
Dichlorodifluoromethane		1,2,3,4	234	µg/L	5	250	<1.75	94	36.2 - 162
Chloromethane (methyl chloride)		1,2,3,4	270	µg/L	5	250	<1.65	108	56.1 - 142
Vinyl Chloride		1,2,3,4	293	µg/L	5	250	<2.05	117	12 - 172
Bromomethane (methyl bromide)		1,2,3,4	315	µg/L	5	250	<8.45	126	43.6 - 159
Chloroethane		1,2,3,4	338	µg/L	5	250	<2.10	135	58 - 148
Trichlorofluoromethane		1,2,3,4	310	µg/L	5	250	<2.05	124	52.2 - 163
Acetone		1,2,3,4	126	µg/L	5	250	<5.45	50	12.8 - 120
Iodomethane (methyl iodide)		1,2,3,4	260	µg/L	5	250	<12.4	104	10 - 200
Carbon Disulfide		1,2,3,4	264	µg/L	5	250	5.24	104	57.6 - 149
Acrylonitrile		1,2,3,4	226	µg/L	5	250	<1.80	90	67.2 - 134
2-Butanone (MEK)		1,2,3,4	161	µg/L	5	250	<8.35	64	31.3 - 124
4-Methyl-2-pentanone (MIBK)		1,2,3,4	214	µg/L	5	250	<10.7	86	56.5 - 143
2-Hexanone		1,2,3,4	167	µg/L	5	250	<7.45	67	29 - 144
trans 1,4-Dichloro-2-butene		1,2,3,4	232	µg/L	5	250	<8.75	93	10 - 143
1,1-Dichloroethene		1,2,3,4	259	µg/L	5	250	<1.65	104	34.6 - 166
Methylene chloride		1,2,3,4	300	µg/L	5	250	<10.2	120	64.3 - 140
MTBE		1,2,3,4	266	µg/L	5	250	<1.60	106	41.6 - 161
trans-1,2-Dichloroethene		1,2,3,4	265	µg/L	5	250	<1.80	106	63.2 - 146
1,1-Dichloroethane		1,2,3,4	280	µg/L	5	250	<1.65	112	69.2 - 143
cis-1,2-Dichloroethene		1,2,3,4	279	µg/L	5	250	<1.65	112	64.8 - 144
2,2-Dichloropropane		1,2,3,4	295	µg/L	5	250	<1.90	118	21.7 - 152
1,2-Dichloroethane (EDC)		1,2,3,4	288	µg/L	5	250	<1.40	115	62 - 157
Chloroform		1,2,3,4	289	µg/L	5	250	<1.95	116	64.9 - 150
1,1,1-Trichloroethane		1,2,3,4	315	µg/L	5	250	<1.85	126	62.3 - 163
1,1-Dichloropropene		1,2,3,4	286	µg/L	5	250	<1.60	114	31 - 174
Benzene		1,2,3,4	278	µg/L	5	250	4	110	62 - 139
Carbon Tetrachloride		1,2,3,4	313	µg/L	5	250	<1.75	125	58 - 164
1,2-Dichloropropane		1,2,3,4	279	µg/L	5	250	<1.35	112	68.1 - 140
Trichloroethene (TCE)		1,2,3,4	274	µg/L	5	250	<1.55	110	49.9 - 163
Dibromomethane (methylene bromide)		1,2,3,4	266	µg/L	5	250	<1.15	106	66.8 - 142
Bromodichloromethane		1,2,3,4	290	µg/L	5	250	<1.60	116	63.9 - 152
2-Chloroethyl vinyl ether		1,2,3,4	<2.40	µg/L	5	250	<2.40	0	0 - 120
cis-1,3-Dichloropropene		1,2,3,4	278	µg/L	5	250	<1.05	111	32.6 - 160
trans-1,3-Dichloropropene		1,2,3,4	277	µg/L	5	250	<1.55	111	31.4 - 163
Toluene		1,2,3,4	278	µg/L	5	250	<1.75	111	40.7 - 160
1,1,2-Trichloroethane		1,2,3,4	218	µg/L	5	250	<1.95	87	66 - 130
1,3-Dichloropropane		1,2,3,4	226	µg/L	5	250	<1.55	90	66.2 - 131
Dibromochloromethane		1,3,4	232	µg/L	5	250	<1.85	93	58.8 - 143
1,2-Dibromoethane (EDB)		1,2,3,4	216	µg/L	5	250	<1.55	86	66.8 - 132

continued ...

matrix spikes continued ...

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Tetrachloroethene (PCE)		1,2,3,4	236	µg/L	5	250	<0.950	94	28.8 - 126
Chlorobenzene		1,2,3,4	232	µg/L	5	250	<1.45	93	61.6 - 134
1,1,1,2-Tetrachloroethane		1,2,3,4	246	µg/L	5	250	<1.50	98	63.1 - 139
Ethylbenzene		1,2,3,4	249	µg/L	5	250	<1.30	100	43 - 148
m,p-Xylene		1,2,3,4	507	µg/L	5	500	<2.40	101	21.5 - 165
Bromoform		1,2,3,4	221	µg/L	5	250	<2.40	88	49 - 144
Styrene		1,2,3,4	235	µg/L	5	250	<1.25	94	10 - 192
o-Xylene		1,2,3,4	252	µg/L	5	250	<1.30	101	28.4 - 160
1,1,2,2-Tetrachloroethane		1,2,3,4	202	µg/L	5	250	<2.80	81	65.3 - 133
2-Chlorotoluene		1,2,3,4	240	µg/L	5	250	<1.25	96	56 - 134
1,2,3-Trichloropropane		1,2,3,4	204	µg/L	5	250	<2.25	82	62.8 - 126
Isopropylbenzene		1,2,3,4	242	µg/L	5	250	<1.30	97	31.4 - 156
Bromobenzene		1,2,3,4	223	µg/L	5	250	<1.40	89	57.8 - 128
n-Propylbenzene		1,2,3,4	246	µg/L	5	250	<1.20	98	30.5 - 154
1,3,5-Trimethylbenzene		1,2,3,4	241	µg/L	5	250	<1.30	96	10 - 183
tert-Butylbenzene		1,2,3,4	237	µg/L	5	250	<1.35	95	42.8 - 148
1,2,4-Trimethylbenzene		1,2,3,4	243	µg/L	5	250	<1.35	97	10 - 179
1,4-Dichlorobenzene (para)		1,2,3,4	213	µg/L	5	250	<1.55	85	66 - 123
sec-Butylbenzene		1,2,3,4	235	µg/L	5	250	<1.00	94	30.8 - 155
1,3-Dichlorobenzene (meta)		1,2,3,4	223	µg/L	5	250	<1.40	89	66 - 124
p-Isopropyltoluene		1,2,3	228	µg/L	5	250	<1.00	91	20.9 - 164
4-Chlorotoluene		1,2,3,4	239	µg/L	5	250	<1.45	96	54.8 - 136
1,2-Dichlorobenzene (ortho)		1,2,3,4	213	µg/L	5	250	<1.25	85	65.9 - 124
n-Butylbenzene		1,2,3,4	238	µg/L	5	250	<0.850	95	31.3 - 153
1,2-Dibromo-3-chloropropane		1,3	214	µg/L	5	250	<8.50	86	49.3 - 138
1,2,3-Trichlorobenzene		1,2,3,4	215	µg/L	5	250	<2.00	86	37.5 - 146
1,2,4-Trichlorobenzene		1,2,3,4	220	µg/L	5	250	<10.6	88	55.3 - 132
Naphthalene		1,2,3,4	185	µg/L	5	250	<11.2	74	10 - 169
Hexachlorobutadiene		1,2,3,4	248	µg/L	5	250	<3.80	99	47.4 - 146

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Bromochloromethane		1,2,3,4	246	µg/L	5	250	<1.65	98	64.4 - 146	3	20
Dichlorodifluoromethane		1,2,3,4	234	µg/L	5	250	<1.75	94	36.2 - 162	0	20
Chloromethane (methyl chloride)		1,2,3,4	268	µg/L	5	250	<1.65	107	56.1 - 142	1	20
Vinyl Chloride		1,2,3,4	300	µg/L	5	250	<2.05	120	12 - 172	2	20
Bromomethane (methyl bromide)		1,2,3,4	317	µg/L	5	250	<8.45	127	43.6 - 159	1	20
Chloroethane		1,2,3,4	340	µg/L	5	250	<2.10	136	58 - 148	1	20
Trichlorofluoromethane		1,2,3,4	314	µg/L	5	250	<2.05	126	52.2 - 163	1	20
Acetone	Qr	Qr	103	µg/L	5	250	<5.45	41	12.8 - 120	20	20
Iodomethane (methyl iodide)		1,2,3,4	256	µg/L	5	250	<12.4	102	10 - 200	2	20
Carbon Disulfide		1,2,3,4	258	µg/L	5	250	5.24	101	57.6 - 149	2	20
Acrylonitrile		1,2,3,4	222	µg/L	5	250	<1.80	89	67.2 - 134	2	20

continued ...

matrix spikes continued . . .

Param	F	C	MSD		Dil.	Spike Amount	Matrix		Rec. Limit	RPD	RPD Limit
			Result	Units			Result	Rec.			
2-Butanone (MEK)		1,2,3,4	179	µg/L	5	250	<8.35	72	31.3 - 124	11	20
4-Methyl-2-pentanone (MIBK)		1,2,3,4	205	µg/L	5	250	<10.7	82	56.5 - 143	4	20
2-Hexanone		1,2,3,4	164	µg/L	5	250	<7.45	66	29 - 144	2	20
trans 1,4-Dichloro-2-butene		1,2,3,4	219	µg/L	5	250	<8.75	88	10 - 143	6	20
1,1-Dichloroethene		1,2,3,4	253	µg/L	5	250	<1.65	101	34.6 - 166	2	20
Methylene chloride		1,2,3,4	301	µg/L	5	250	<10.2	120	64.3 - 140	0	20
MTBE		1,2,3,4	260	µg/L	5	250	<1.60	104	41.6 - 161	2	20
trans-1,2-Dichloroethene		1,2,3,4	259	µg/L	5	250	<1.80	104	63.2 - 146	2	20
1,1-Dichloroethane		1,2,3,4	273	µg/L	5	250	<1.65	109	69.2 - 143	2	20
cis-1,2-Dichloroethene		1,2,3,4	269	µg/L	5	250	<1.65	108	64.8 - 144	4	20
2,2-Dichloropropane		1,2,3,4	283	µg/L	5	250	<1.90	113	21.7 - 152	4	20
1,2-Dichloroethane (EDC)		1,2,3,4	277	µg/L	5	250	<1.40	111	62 - 157	4	20
Chloroform		1,2,3,4	282	µg/L	5	250	<1.95	113	64.9 - 150	2	20
1,1,1-Trichloroethane		1,2,3,4	305	µg/L	5	250	<1.85	122	62.3 - 163	3	20
1,1-Dichloropropene		1,2,3,4	282	µg/L	5	250	<1.60	113	31 - 174	1	20
Benzene		1,2,3,4	273	µg/L	5	250	4	108	62 - 139	2	20
Carbon Tetrachloride		1,2,3,4	304	µg/L	5	250	<1.75	122	58 - 164	3	20
1,2-Dichloropropane		1,2,3,4	272	µg/L	5	250	<1.35	109	68.1 - 140	2	20
Trichloroethene (TCE)		1,2,3,4	265	µg/L	5	250	<1.55	106	49.9 - 163	3	20
Dibromomethane (methylene bromide)		1,2,3,4	259	µg/L	5	250	<1.15	104	66.8 - 142	3	20
Bromodichloromethane		1,2,3,4	286	µg/L	5	250	<1.60	114	63.9 - 152	1	20
2-Chloroethyl vinyl ether		1,2,3,4	<2.40	µg/L	5	250	<2.40	0	0 - 120	0	20
cis-1,3-Dichloropropene		1,2,3,4	270	µg/L	5	250	<1.05	108	32.6 - 160	3	20
trans-1,3-Dichloropropene		1,2,3,4	269	µg/L	5	250	<1.55	108	31.4 - 163	3	20
Toluene		1,2,3,4	269	µg/L	5	250	<1.75	108	40.7 - 160	3	20
1,1,2-Trichloroethane		1,2,3,4	215	µg/L	5	250	<1.95	86	66 - 130	1	20
1,3-Dichloropropane		1,2,3,4	221	µg/L	5	250	<1.55	88	66.2 - 131	2	20
Dibromochloromethane		1,3,4	227	µg/L	5	250	<1.85	91	58.8 - 143	2	20
1,2-Dibromoethane (EDB)		1,2,3,4	209	µg/L	5	250	<1.55	84	66.8 - 132	3	20
Tetrachloroethene (PCE)		1,2,3,4	232	µg/L	5	250	<0.950	93	28.8 - 126	2	20
Chlorobenzene		1,2,3,4	225	µg/L	5	250	<1.45	90	61.6 - 134	3	20
1,1,1,2-Tetrachloroethane		1,2,3,4	242	µg/L	5	250	<1.50	97	63.1 - 139	2	20
Ethylbenzene		1,2,3,4	244	µg/L	5	250	<1.30	98	43 - 148	2	20
m,p-Xylene		1,2,3,4	495	µg/L	5	500	<2.40	99	21.5 - 165	2	20
Bromoform		1,2,3,4	214	µg/L	5	250	<2.40	86	49 - 144	3	20
Styrene		1,2,3,4	230	µg/L	5	250	<1.25	92	10 - 192	2	20
o-Xylene		1,2,3,4	244	µg/L	5	250	<1.30	98	28.4 - 160	3	20
1,1,2,2-Tetrachloroethane		1,2,3,4	198	µg/L	5	250	<2.80	79	65.3 - 133	2	20
2-Chlorotoluene		1,2,3,4	236	µg/L	5	250	<1.25	94	56 - 134	2	20
1,2,3-Trichloropropane		1,2,3,4	206	µg/L	5	250	<2.25	82	62.8 - 126	1	20
Isopropylbenzene		1,2,3,4	240	µg/L	5	250	<1.30	96	31.4 - 156	1	20
Bromobenzene		1,2,3,4	219	µg/L	5	250	<1.40	88	57.8 - 128	2	20
n-Propylbenzene		1,2,3,4	238	µg/L	5	250	<1.20	95	30.5 - 154	3	20
1,3,5-Trimethylbenzene		1,2,3,4	237	µg/L	5	250	<1.30	95	10 - 183	2	20

continued . . .

matrix spikes continued ...

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
tert-Butylbenzene		1,2,3,4	233	µg/L	5	250	<1.35	93	42.8 - 148	2	20
1,2,4-Trimethylbenzene		1,2,3,4	239	µg/L	5	250	<1.35	96	10 - 179	2	20
1,4-Dichlorobenzene (para)		1,2,3,4	210	µg/L	5	250	<1.55	84	66 - 123	1	20
sec-Butylbenzene		1,2,3,4	235	µg/L	5	250	<1.00	94	30.8 - 155	0	20
1,3-Dichlorobenzene (meta)		1,2,3,4	218	µg/L	5	250	<1.40	87	66 - 124	2	20
p-Isopropyltoluene		1,2,3	225	µg/L	5	250	<1.00	90	20.9 - 164	1	20
4-Chlorotoluene		1,2,3,4	236	µg/L	5	250	<1.45	94	54.8 - 136	1	20
1,2-Dichlorobenzene (ortho)		1,2,3,4	211	µg/L	5	250	<1.25	84	65.9 - 124	1	20
n-Butylbenzene		1,2,3,4	234	µg/L	5	250	<0.850	94	31.3 - 153	2	20
1,2-Dibromo-3-chloropropane		1,3	216	µg/L	5	250	<8.50	86	49.3 - 138	1	20
1,2,3-Trichlorobenzene		1,2,3,4	233	µg/L	5	250	<2.00	93	37.5 - 146	8	20
1,2,4-Trichlorobenzene		1,2,3,4	229	µg/L	5	250	<10.6	92	55.3 - 132	4	20
Naphthalene		1,2,3,4	204	µg/L	5	250	<11.2	82	10 - 169	10	20
Hexachlorobutadiene		1,2,3,4	265	µg/L	5	250	<3.80	106	47.4 - 146	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Dibromofluoromethane	277	274	µg/L	5	250	111	110	70 - 130
Toluene-d8	235	235	µg/L	5	250	94	94	70 - 130
4-Bromofluorobenzene (4-BFB)	274	274	µg/L	5	250	110	110	70 - 130

Matrix Spike (xMS-1) Spiked Sample: 425047

QC Batch: 131700
 Prep Batch: 111608

Date Analyzed: 2016-07-26
 QC Preparation: 2016-07-25

Analyzed By: HJ
 Prepared By: HJ

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1,2,3	42.8	mg/L	1	50.0	<0.890	86	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1,2,3	40.9	mg/L	1	50.0	<0.890	82	70 - 130	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	2.72	2.62	mg/L	1	2.5	109	105	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 131673

Date Analyzed: 2016-07-25

Analyzed By: CF

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		1,2,3,4	s.u.	7.00	7.01	100	98.6 - 101.4	2016-07-25

Standard (CCV-1)

QC Batch: 131681

Date Analyzed: 2016-07-25

Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1,2,3	mg/L	1.00	1.06	106	80 - 120	2016-07-25

Standard (CCV-2)

QC Batch: 131681

Date Analyzed: 2016-07-25

Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1,2,3	mg/L	1.00	1.14	114	80 - 120	2016-07-25

Standard (ICV-1)

QC Batch: 131694

Date Analyzed: 2016-07-25

Analyzed By: CF

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1,2,3,4	mg/L	25.0	25.4	102	90 - 110	2016-07-25

Standard (CCV-1)

QC Batch: 131694

Date Analyzed: 2016-07-25

Analyzed By: CF

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1,2,3,4	mg/L	25.0	24.4	98	90 - 110	2016-07-25

Standard (CCV-1)

QC Batch: 131696

Date Analyzed: 2016-07-25

Analyzed By: KB

Param	Flag	Cert	Units	CCVs	CCVs	CCVs	Percent	Date
				True Conc.	Found Conc.	Percent Recovery	Recovery Limits	
Bromochloromethane		1,2,3,4	µg/L	50.0	46.4	93	80 - 120	2016-07-25
Dichlorodifluoromethane		1,2,3,4	µg/L	50.0	45.9	92	80 - 120	2016-07-25
Chloromethane (methyl chloride)		1,2,3,4	µg/L	50.0	50.5	101	80 - 120	2016-07-25
Vinyl Chloride		1,2,3,4	µg/L	50.0	55.4	111	80 - 120	2016-07-25
Bromomethane (methyl bromide)		1,2,3,4	µg/L	50.0	59.3	119	80 - 120	2016-07-25
Chloroethane	Qc	Qc	1,2,3,4	µg/L	50.0	62.7	125	2016-07-25
Trichlorofluoromethane		1,2,3,4	µg/L	50.0	58.2	116	80 - 120	2016-07-25
Acetone		1,2,3,4	µg/L	50.0	41.1	82	80 - 120	2016-07-25
Iodomethane (methyl iodide)		1,2,3,4	µg/L	50.0	48.8	98	80 - 120	2016-07-25
Carbon Disulfide		1,2,3,4	µg/L	50.0	48.9	98	80 - 120	2016-07-25
Acrylonitrile		1,2,3,4	µg/L	50.0	40.2	80	80 - 120	2016-07-25
2-Butanone (MEK)	Qc	Qc	1,2,3,4	µg/L	50.0	33.3	67	2016-07-25
4-Methyl-2-pentanone (MIBK)	Qc	Qc	1,2,3,4	µg/L	50.0	36.0	72	2016-07-25
2-Hexanone	Qc	Qc	1,2,3,4	µg/L	50.0	35.0	70	2016-07-25
trans 1,4-Dichloro-2-butene	Qc	Qc	1,2,3,4	µg/L	50.0	29.8	60	2016-07-25
1,1-Dichloroethene		1,2,3,4	µg/L	50.0	48.7	97	80 - 120	2016-07-25
Methylene chloride		1,2,3,4	µg/L	50.0	56.1	112	80 - 120	2016-07-25
MTBE		1,2,3,4	µg/L	50.0	46.7	93	80 - 120	2016-07-25
trans-1,2-Dichloroethene		1,2,3,4	µg/L	50.0	50.3	101	80 - 120	2016-07-25
1,1-Dichloroethane		1,2,3,4	µg/L	50.0	52.0	104	80 - 120	2016-07-25
cis-1,2-Dichloroethene		1,2,3,4	µg/L	50.0	51.2	102	80 - 120	2016-07-25
2,2-Dichloropropane		1,2,3,4	µg/L	50.0	56.9	114	80 - 120	2016-07-25
1,2-Dichloroethane (EDC)		1,2,3,4	µg/L	50.0	50.9	102	80 - 120	2016-07-25
Chloroform		1,2,3,4	µg/L	50.0	52.5	105	80 - 120	2016-07-25
1,1,1-Trichloroethane		1,2,3,4	µg/L	50.0	57.7	115	80 - 120	2016-07-25
1,1-Dichloropropene		1,2,3,4	µg/L	50.0	53.3	107	80 - 120	2016-07-25
Benzene		1,2,3,4	µg/L	50.0	51.0	102	80 - 120	2016-07-25
Carbon Tetrachloride		1,2,3,4	µg/L	50.0	57.7	115	80 - 120	2016-07-25
1,2-Dichloropropane		1,2,3,4	µg/L	50.0	52.1	104	80 - 120	2016-07-25

continued ...

standard continued ...

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	
Trichloroethene (TCE)		1,2,3,4	µg/L	50.0	50.8	102	80 - 120	2016-07-25	
Dibromomethane (methylene bromide)		1,2,3,4	µg/L	50.0	47.3	95	80 - 120	2016-07-25	
Bromodichloromethane		1,2,3,4	µg/L	50.0	52.8	106	80 - 120	2016-07-25	
2-Chloroethyl vinyl ether		1,2,3,4	µg/L	50.0	45.6	91	80 - 120	2016-07-25	
cis-1,3-Dichloropropene		1,2,3,4	µg/L	50.0	50.5	101	80 - 120	2016-07-25	
trans-1,3-Dichloropropene		1,2,3,4	µg/L	50.0	47.8	96	80 - 120	2016-07-25	
Toluene		1,2,3,4	µg/L	50.0	51.6	103	80 - 120	2016-07-25	
1,1,2-Trichloroethane		1,2,3,4	µg/L	50.0	40.9	82	80 - 120	2016-07-25	
1,3-Dichloropropane		1,2,3,4	µg/L	50.0	41.4	83	80 - 120	2016-07-25	
Dibromochloromethane		1,3,4	µg/L	50.0	41.2	82	80 - 120	2016-07-25	
1,2-Dibromoethane (EDB)	Qc	Qc	1,2,3,4	µg/L	50.0	38.9	78	80 - 120	2016-07-25
Tetrachloroethene (PCE)		1,2,3,4	µg/L	50.0	45.5	91	80 - 120	2016-07-25	
Chlorobenzene		1,2,3,4	µg/L	50.0	43.6	87	80 - 120	2016-07-25	
1,1,1,2-Tetrachloroethane		1,2,3,4	µg/L	50.0	46.9	94	80 - 120	2016-07-25	
Ethylbenzene		1,2,3,4	µg/L	50.0	47.4	95	80 - 120	2016-07-25	
m,p-Xylene		1,2,3,4	µg/L	100	96.6	97	80 - 120	2016-07-25	
Bromoform	Qc	Qc	1,2,3,4	µg/L	50.0	36.6	73	80 - 120	2016-07-25
Styrene		1,2,3,4	µg/L	50.0	45.0	90	80 - 120	2016-07-25	
o-Xylene		1,2,3,4	µg/L	50.0	47.5	95	80 - 120	2016-07-25	
1,1,2,2-Tetrachloroethane	Qc	Qc	1,2,3,4	µg/L	50.0	35.0	70	80 - 120	2016-07-25
2-Chlorotoluene		1,2,3,4	µg/L	50.0	47.3	95	80 - 120	2016-07-25	
1,2,3-Trichloropropane		1,2,3,4	µg/L	50.0	41.9	84	80 - 120	2016-07-25	
Isopropylbenzene		1,2,3,4	µg/L	50.0	47.9	96	80 - 120	2016-07-25	
Bromobenzene		1,2,3,4	µg/L	50.0	42.3	85	80 - 120	2016-07-25	
n-Propylbenzene		1,2,3,4	µg/L	50.0	48.8	98	80 - 120	2016-07-25	
1,3,5-Trimethylbenzene		1,2,3,4	µg/L	50.0	48.1	96	80 - 120	2016-07-25	
tert-Butylbenzene		1,2,3,4	µg/L	50.0	47.5	95	80 - 120	2016-07-25	
1,2,4-Trimethylbenzene		1,2,3,4	µg/L	50.0	47.3	95	80 - 120	2016-07-25	
1,4-Dichlorobenzene (para)		1,2,3,4	µg/L	50.0	41.5	83	80 - 120	2016-07-25	
sec-Butylbenzene		1,2,3,4	µg/L	50.0	47.8	96	80 - 120	2016-07-25	
1,3-Dichlorobenzene (meta)		1,2,3,4	µg/L	50.0	43.3	87	80 - 120	2016-07-25	
p-Isopropyltoluene		1,2,3	µg/L	50.0	46.1	92	80 - 120	2016-07-25	
4-Chlorotoluene		1,2,3,4	µg/L	50.0	47.4	95	80 - 120	2016-07-25	
1,2-Dichlorobenzene (ortho)		1,2,3,4	µg/L	50.0	41.2	82	80 - 120	2016-07-25	
n-Butylbenzene		1,2,3,4	µg/L	50.0	47.6	95	80 - 120	2016-07-25	
1,2-Dibromo-3-chloropropane	Qc	Qc	1,3	µg/L	50.0	34.4	69	80 - 120	2016-07-25
1,2,3-Trichlorobenzene	Qc	Qc	1,2,3,4	µg/L	50.0	36.7	73	80 - 120	2016-07-25
1,2,4-Trichlorobenzene	Qc	Qc	1,2,3,4	µg/L	50.0	39.3	79	80 - 120	2016-07-25
Naphthalene	Qc	Qc	1,2,3,4	µg/L	50.0	30.5	61	80 - 120	2016-07-25
Hexachlorobutadiene		1,2,3,4	µg/L	50.0	51.7	103	80 - 120	2016-07-25	

Report Date: July 26, 2016
Lovington Leak

Work Order: 16072501
Lovington Leak

Page Number: 25 of 27

Standard (CCV-1)

QC Batch: 131700

Date Analyzed: 2016-07-26

Analyzed By: HJ

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1,2,3	mg/L	500	551	110	80 - 120	2016-07-26

Standard (CCV-2)

QC Batch: 131700

Date Analyzed: 2016-07-26

Analyzed By: HJ

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1,2,3	mg/L	500	518	104	80 - 120	2016-07-26

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	L-A-B	L2418	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	NELAP	T104704219-16-12	Lubbock
4		2015-066	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Result Comments

- 1 Sample dilution due to hydrocarbons.

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

From: Keyes, Jamie, EMNRD [mailto:Jamie.Keyes@state.nm.us]
Sent: Monday, August 22, 2016 8:37 AM
To: Castellano, Sheila Fennell (Contractor)
Cc: Martino, Mary K; Oberding, Tomas, EMNRD; Lynch, Kristen, EMNRD
Subject: RE: EPNG Line 3031_Request to Backfill Rupture Sites 1 - 4

Good morning,

Permission to backfill is granted for 1, 3, and 4 as those soil samples look good. However, 2 has elevated chlorides and will need further delineation.

Thank you,

Jamie R. Keyes
Environmental Specialist, District 1
Oil Conservation Division, EMNRD
(575) 393-6161 ext. 113
575-370-3188 (emergency-cell)

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Castellano, Sheila Fennell (Contractor) [mailto:Sheila_Castellano@KinderMorgan.com]
Sent: Wednesday, August 17, 2016 4:19 PM
To: Lynch, Kristen, EMNRD; Keyes, Jamie, EMNRD
Cc: Martino, Mary K; Oberding, Tomas, EMNRD
Subject: EPNG Line 3031_Request to Backfill Rupture Sites 1 - 4

Mr. Keyes,

EPNG has become concerned about cattle roaming in the vicinity of our L3031 Project, located in Lea County, NM.
We would like to request approval to backfill the open trench at the following rupture site locations:

Rupture #1 - 33.057840N, -103.164042W
Rupture #2 - 33.108137N, -103.128895W.
Rupture #3 - 33.132511N, -103.111687W
Rupture #4 - 33.097587N, -103.136577W

Thank you,
Sheila Castellano



Sheila Castellano - Contractor Consultant
2 North Nevada Ave
Colorado Springs, CO 80903
o: 719 520-3719
c: 719 352-1367

From: Lynch, Kristen, EMNRD [mailto:Kristen.Lynch@state.nm.us]
Sent: Monday, August 15, 2016 2:16 PM
To: Castellano, Sheila Fennell (Contractor)
Cc: Oberding, Tomas, EMNRD; Keyes, Jamie, EMNRD; Brown, Maxey G, EMNRD; Griswold, Jim, EMNRD
Subject: El Paso Natural Gas Co Line 3031 Rupture #1

4395	8/15/2016	A	El Paso Natural Gas	El Paso Natural Gas Co Line 3031	14S 37E 35 SE/4 Sec 35	7/22/2016
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Good Afternoon,

The C-141 has been received and the RP # for this event is 4395.

Thank You,

Kristen D. Lynch
Environmental Specialist, District 1
Oil Conservation Division, EMNRD
(575) 393-6161 ext. 111
575-370-3180 (emergency-cell)

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.