



State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894-2100 Fax:(303)894-2109



FOR OGCC USE ONLY
Spill report taken by:
FACILITY ID:

SPILL/RELEASE REPORT

This form is to be submitted by the party responsible for the oil and gas spill or release. Any spill or release which may impact waters of the State must be reported as soon as practicable; any spill over 20 bbls must be reported within 24 hours and all spills over five bbls must be reported within ten days. Submit a Site Investigation and

OPERATOR INFORMATION

Name of Operator: Kerr-McGee Oil & Gas Onshore LP OGCC Operator No: 47120
Address: 1099 18th Street, Suite 1800
City: Denver State: CO Zip: 80202
Contact Person: Paul Schneider
Phone Numbers: No: 720-929-6000 Fax: 720-929-7726 Email: Paul.Schneider@anadarko.com

DESCRIPTION OF SPILL OR RELEASE

Date of Incident: 10/19/2010 Facility Name & No: Mixon Harold R GU #1 County: Weld
Type of Facility (well, tank battery, flow line, pit): Flow Line QtrQtr: SWSW Section: 25
Well Name and Number: Mixon Harold R GU #1 Township: 2N Range: 67W
API Number: 05-123-08086 Meridian: 6th
Specify volume spilled and recovered (in bbls) for the following materials:
Oil spilled: Unknown Oil recov'd: 0 Water spilled: Unknown Water recov'd: 0 Other spilled: 0 Other recov'd: 0
Ground Water impacted? [X] Yes [ ] No Surface Water impacted? [ ] Yes [X] No
Contained within berm? [ ] Yes [X] No Area and vertical extent of spill: 20' N-S x 28' E-W x 5' bgs
Current land use: Pasture Weather conditions: 70° F, Clear
Soil/geology description: Silty clay
IF LESS THAN A MILE, report distance IN FEET to nearest ... Surface water: 250 E (canal) wetlands: 250 E buildings: 330 E
Livestock: Unknown Water wells: 330 E Depth to shallowest ground water: 3' bgs
Cause of spill (e.g. equipment failure, human error, etc.): Equipment Failure Detailed description of the spill/release incident:
A leak was discovered in the flow line during pressure testing. The volume released is unknown.

CORRECTIVE ACTION

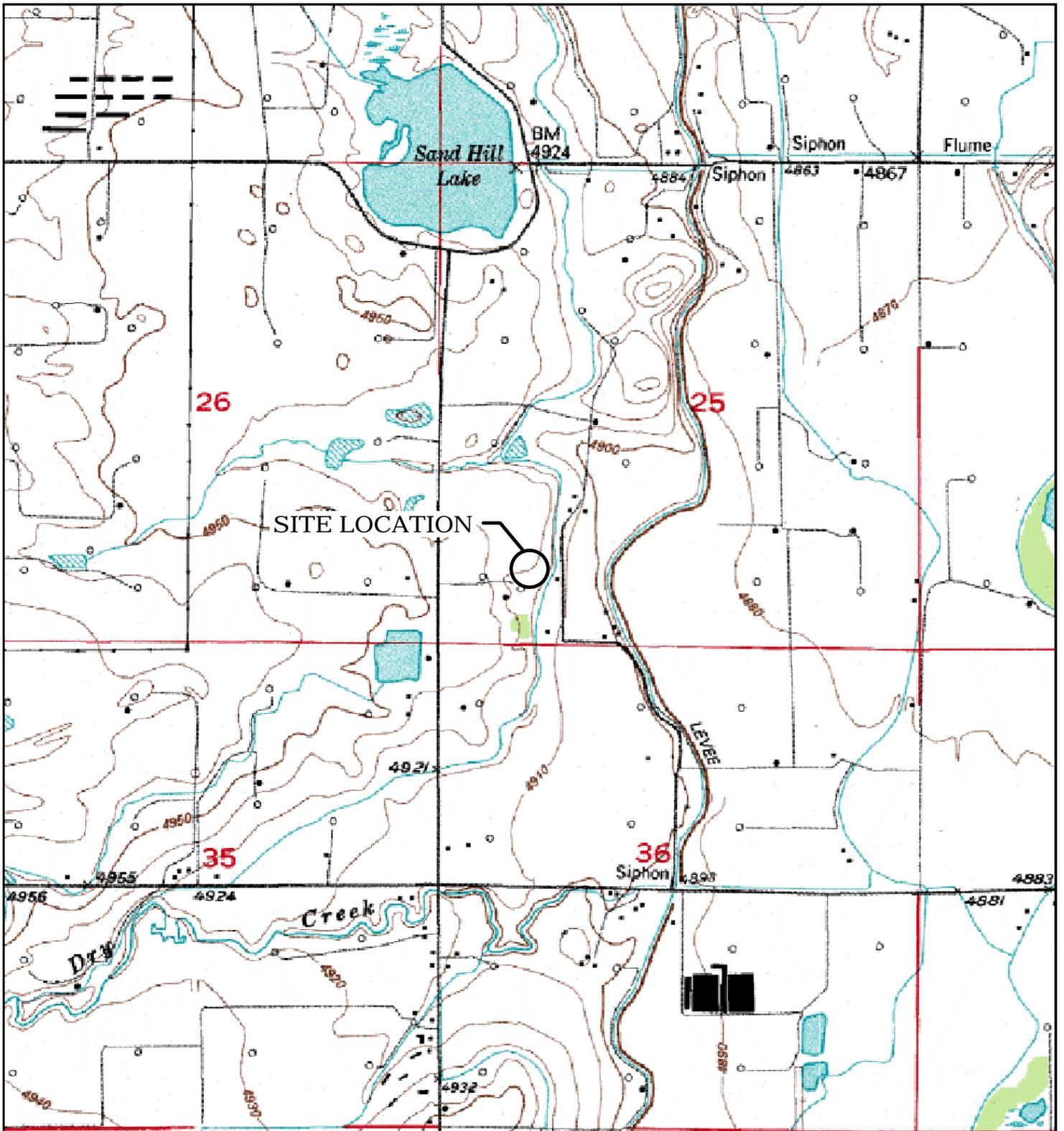
Describe immediate response (how stopped, contained and recovered): The well was shut in and the petroleum hydrocarbon impacted soil was excavated. Groundwater was encountered in the excavation at approximately 3' bgs. Benzene impact to groundwater was confirmed by the laboratory report on October 20, 2010 at which time the release became State reportable.
Describe any emergency pits constructed: NA
How was the extent of contamination determined? Soil and groundwater samples were collected for laboratory analysis. Laboratory results for the confirmation soil samples indicate that TPH and BTEX concentrations are below COGCC allowable levels at the extent of the excavation. Laboratory results for the excavation groundwater sample indicate that benzene concentrations exceed the CGWQS. Approximately 100 cubic yards of impacted soil were removed from the excavation and transported to Kerr-McGee's land treatment facility in Weld County, Colorado.
Further remediation activities proposed (attach separate sheet if needed): Five gallons of MicroBlaze were applied to the groundwater and exposed smear zone soils prior to backfilling the excavation. Groundwater monitoring wells will be installed to determine the extent and magnitude of groundwater impacts.
Describe measures taken to prevent problem from reoccurring: The flow line was replaced.

OTHER NOTIFICATIONS

List the parties and agencies notified (County, BLM, EPA, DOT, Local Emergency Planning Coordinator or other).

Table with 5 columns: Date, Agency, Contact, Phone, Response

Spill/Release Tracking No: \_\_\_\_\_



LEGEND

○ SITE LOCATION



0 375 750 1500  
FEET

SOURCE: TOPOZONE.COM  
USGS 7.5' QUADRANGLE  
(NAD27)

FIGURE 1  
SITE LOCATION MAP  
MIXON HAROLD R GU #1  
SWSW 25-T2N-R67W  
WELD COUNTY, CO  
KERR-MCGEE OIL & GAS ONSHORE LP



KMG1080701\_SL

**TABLE 1**  
**MIXON HAROLD R GU #1**  
**SOIL SAMPLE ANALYTICAL DATA**

SAMPLE ID	SAMPLE DATE	DEPTH (feet bgs)	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL BENZENE (mg/kg)	XYLENES (Total) (mg/kg)	TPH-GRO (mg/kg)	TEPH DRO+ORO (mg/kg)
N01@2.5	10/19/2010	2.5	<0.0050	<0.0050	0.013	0.20	31	<50
E01@2.5	10/19/2010	2.5	<b>2.0</b>	16.0	3.5	39.0	<b>770</b>	<b>180</b>
S01@2.5'	10/19/2010	2.5	<0.0050	<0.0050	<0.0050	<0.0050	<0.5	<50
W01@2.5'	10/19/2010	2.5	<0.0050	0.0052	25.0	0.059	1.2	<50
E02@2.5'	10/21/2010	2.5	0.063	0.18	0.030	0.51	2.3	<50
COGCC Allowable Level			0.17	85	100	175	500	

NA - Not Analyzed

< - less than stated laboratory reporting limit.

mg/kg - milligrams per kilogram

bgs - below ground surface

COGCC - Colorado Oil and Gas Conservation Commission

Results noted in bold exceed COGCC allowable levels.

ORO - Oil Range Organics

GRO - Gasoline Range Organics

DRO - Diesel Range Organics

TPH - Total Petroleum Hydrocarbons

TEPH - Total Extractable Petroleum Hydrocarbons

**TABLE 2**  
**MIXON HAROLD R GU #1**  
**GROUNDWATER SAMPLE ANALYTICAL DATA**

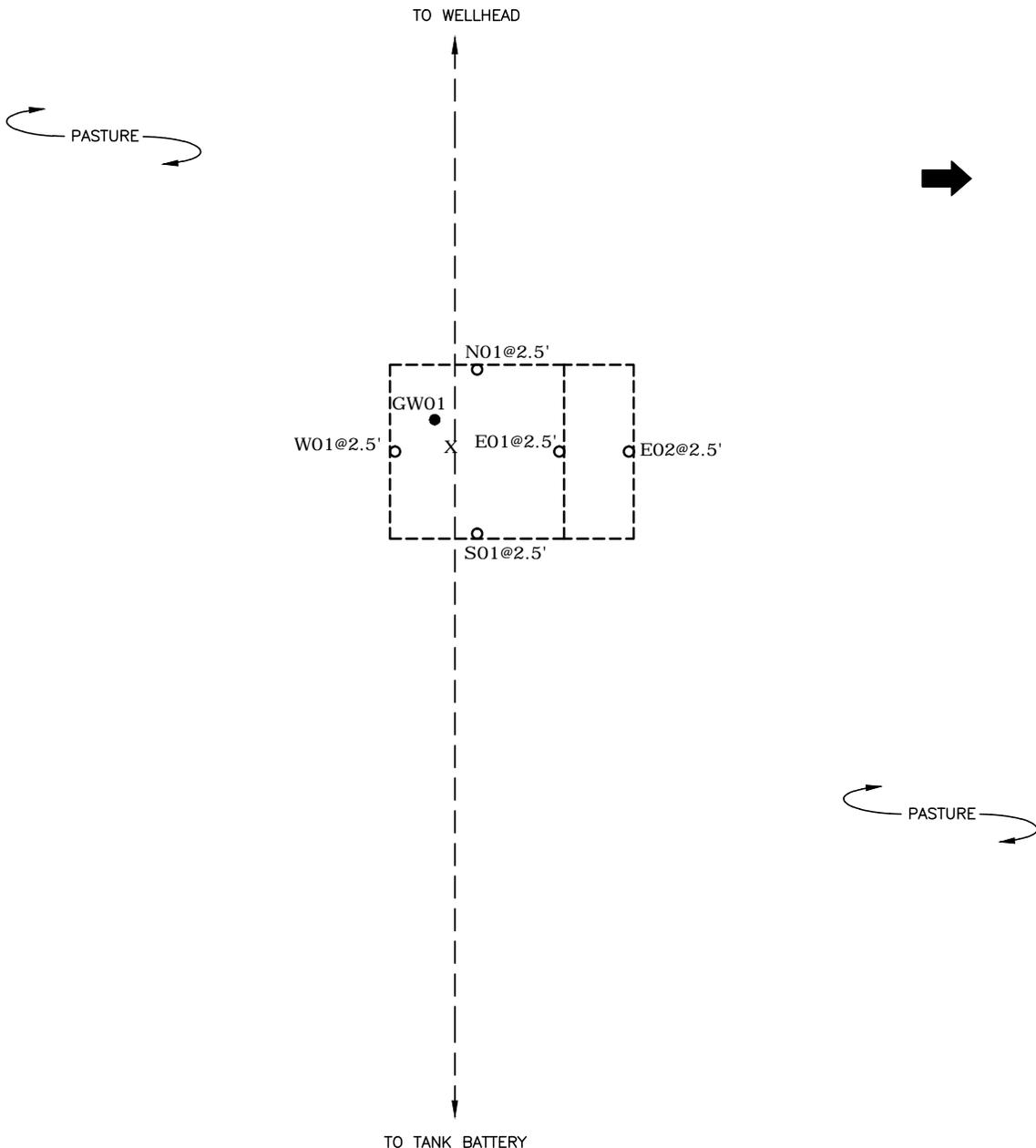
SAMPLE ID	SAMPLE DATE	DEPTH (feet bgs)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYLBENZENE (ug/L)	XYLENES (Total) (ug/L)
GW01	10/19/2010	3	<b>18</b>	70	1.7	210
The Basic Standards for Groundwater			5	560	700	1,400

ug/L - micrograms per liter

< - Less than stated laboratory reporting limits.

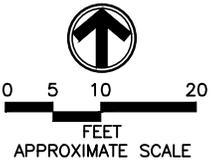
Results noted in bold exceed Colorado Department of Public Health and Environment (CDPHE)-Water Quality Control Commission (WQCC) Regulation 41-The Basic Standards for Groundwater.





**LEGEND**

- N01@2.5' SOIL SAMPLE LOCATION
- GW01 WATER SAMPLE LOCATION
- X RELEASE LOCATION
- — — — FLOW LINE
- - - - - EXTENT OF EXCAVATION
- ESTIMATED GROUNDWATER FLOW DIRECTION



**FIGURE 2**  
**EXCAVATION SITE MAP**  
 MIXON HAROLD R GU #1  
 SWSW 25-T2N-R67W  
 WELD COUNTY, CO  
 KERR-MCGEE OIL & GAS ONSHORE LP



KMG1080701

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 21, 2010

John Cocroft

LT Environmental, Inc.

4600 West 60th Avenue

Arvada, CO 80003

RE: KMG - Harold Mixon CU #1

Enclosed are the results of analyses for samples received by Summit Scientific on 10/20/10 08:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'PS', with a long horizontal flourish extending to the right.

Paul Shrewsbury For Ben Shrewsbury  
President / Laboratory Director



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon CU #1

Project Number: KMG  
Project Manager: John Cocroft

**Reported:**  
10/21/10 10:18

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01@2.5'	R010123-01	Soil	10/19/10 15:20	10/20/10 08:45
E01@2.5'	R010123-02	Soil	10/19/10 15:21	10/20/10 08:45
S01@2.5'	R010123-03	Soil	10/19/10 15:22	10/20/10 08:45
W01@2.5'	R010123-04	Soil	10/19/10 15:23	10/20/10 08:45
GW01	R010123-05	Water	10/19/10 15:30	10/20/10 08:45

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon CU #1

Project Number: KMG  
Project Manager: John Cocroft

Reported:  
10/21/10 10:18

Summit Scientific  
S<sub>2</sub> R010123

741 Corporate Circle Suite 1 • Golden, Colorado 80401  
303-277-9310 • 303-277-9531 Fax

Page 1 of 1

Client: LT Environmental, Inc. Project Manager: John Cocroft  
Address: 4600 West 60th Avenue E-Mail:  
City/State/Zip: Arvada, CO 80003 Project Name: Mixon Harold CU #1  
Phone: (303) 433-9788 Fax: (303) 433-4432 Project Number: New Cal Area  
Sampler Name: Paul Hearn

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:	Special Instructions	Notes:		
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #				Other (Specify)	
101 @ 2.5'	10/20	1520	1		X										
501 @ 2.5'	10/20	1521	1		X										
501 @ 2.5'	10/20	1522	1		X										
401 @ 2.5'	10/20	1523	1		X										
6-401		1510 P	1	X											
Relinquished by: <i>[Signature]</i>	Date/Time: 10/20/10	Received by: <i>[Signature]</i>	Date/Time: 10-20 8:45	Turn Around Time (Check)			Sample Integrity:			Notes:					
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day	24 Hours	48 Hours	72 Hours	Standard	Temperature Upon Receipt: 4.8	Intact: (Yes) No					
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:												

www.e2scientific.com



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon CU #1

Project Number: KMG  
Project Manager: John Cocroft

**Reported:**  
10/21/10 10:18

**N01@2.5'**  
**R010123-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 10/19/10 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	0102006	10/20/10	10/20/10	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 10/19/10 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		107 %	88.8-124		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: 10/19/10 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	0102005	10/20/10	10/20/10	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.013</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.20</b>	0.0050	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>31</b>	0.50	"	"	"	"	"	"	

Date Sampled: 10/19/10 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		92.6 %	67.4-143		"	"	"	"	
Surrogate: Toluene-d8		91.0 %	77.3-114		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	78.4-125		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon CU #1

Project Number: KMG  
Project Manager: John Cocroft

**Reported:**  
10/21/10 10:18

**E01@2.5'**  
**R010123-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 10/19/10 15:21

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	180	50	mg/kg	1	0102006	10/20/10	10/20/10	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 10/19/10 15:21

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		106 %	88.8-124		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: 10/19/10 15:21

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>2.0</b>	0.050	mg/kg	10	0102005	10/20/10	10/20/10	EPA 8260B	
<b>Toluene</b>	<b>16</b>	0.050	"	"	"	"	"	"	E
<b>Ethylbenzene</b>	<b>3.5</b>	0.050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>39</b>	0.050	"	"	"	"	"	"	E
<b>Gasoline Range Hydrocarbons</b>	<b>770</b>	5.0	"	"	"	"	"	"	E

Date Sampled: 10/19/10 15:21

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	67.4-143		"	"	"	"	
Surrogate: Toluene-d8		93.9 %	77.3-114		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.2 %	78.4-125		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon CU #1

Project Number: KMG  
Project Manager: John Cocroft

**Reported:**  
10/21/10 10:18

**S01@2.5'**  
**R010123-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 10/19/10 15:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	0102006	10/20/10	10/20/10	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 10/19/10 15:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		107 %	88.8-124		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: 10/19/10 15:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	0102005	10/20/10	10/20/10	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 10/19/10 15:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	67.4-143		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	77.3-114		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	78.4-125		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon CU #1

Project Number: KMG  
Project Manager: John Cocroft

**Reported:**  
10/21/10 10:18

**W01@2.5'**  
**R010123-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 10/19/10 15:23

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	0102006	10/20/10	10/20/10	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 10/19/10 15:23

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		106 %	88.8-124		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: 10/19/10 15:23

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	0102005	10/20/10	10/20/10	EPA 8260B	
<b>Toluene</b>	<b>0.0052</b>	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.059</b>	0.0050	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>1.2</b>	0.50	"	"	"	"	"	"	

Date Sampled: 10/19/10 15:23

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	67.4-143		"	"	"	"	
Surrogate: Toluene-d8		94.4 %	77.3-114		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	78.4-125		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



LT Environmental, Inc.  
 4600 West 60th Avenue  
 Arvada CO, 80003

Project: KMG - Harold Mixon CU #1

Project Number: KMG  
 Project Manager: John Cocroft

**Reported:**  
 10/21/10 10:18

**GW01**  
**R010123-05 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/19/10 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>18</b>	1.0	ug/l	1	0101917	10/20/10	10/20/10	EPA 8260B	
<b>Toluene</b>	<b>70</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>1.7</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>210</b>	1.0	"	"	"	"	"	"	

Date Sampled: **10/19/10 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		98.0 %	57.9-139		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.4 %	83.1-115		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.2 %	80.8-120		"	"	"	"	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon CU #1

Project Number: KMG  
Project Manager: John Cocroft

**Reported:**  
10/21/10 10:18

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch 0102006 - EPA 5030 Soil GC**

<b>Blank (0102006-BLK1)</b>				Prepared & Analyzed: 10/20/10						
C10-C28 (TEPH-DRO)	ND	50	mg/kg							
C28-C36 (TEPH-ORO)	ND	50	"							
<i>Surrogate: o-Terphenyl</i>	<i>13.3</i>		<i>"</i>	<i>12.5</i>	<i>106</i>	<i>88.8-124</i>				
<b>LCS (0102006-BS1)</b>				Prepared & Analyzed: 10/20/10						
C10-C28 (TEPH-DRO)	511	50	mg/kg	501	102	85-129			11.8	
<b>LCS Dup (0102006-BSD1)</b>				Prepared & Analyzed: 10/20/10						
C10-C28 (TEPH-DRO)	464	50	mg/kg	501	92.7	85-129	9.60		11.8	
<b>Matrix Spike (0102006-MS1)</b>				Source: R010123-01 Prepared & Analyzed: 10/20/10						
C10-C28 (TEPH-DRO)	467	50	mg/kg	501	24.5	88.3	77.3-134		8.39	
<b>Matrix Spike Dup (0102006-MSD1)</b>				Source: R010123-01 Prepared & Analyzed: 10/20/10						
C10-C28 (TEPH-DRO)	469	50	mg/kg	501	24.5	88.8	77.3-134	0.524	8.39	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon CU #1

Project Number: KMG  
Project Manager: John Cocroft

**Reported:**  
10/21/10 10:18

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch 0101917 - EPA 5030 Water MS**

**Blank (0101917-BLK1)**

Prepared: 10/19/10 Analyzed: 10/20/10

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.1</i>		<i>"</i>	<i>13.3</i>		<i>98.1</i>	<i>57.9-139</i>			
<i>Surrogate: Toluene-d8</i>	<i>11.8</i>		<i>"</i>	<i>13.3</i>		<i>88.9</i>	<i>83.1-115</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.9</i>		<i>"</i>	<i>13.3</i>		<i>96.6</i>	<i>80.8-120</i>			

**LCS (0101917-BS1)**

Prepared: 10/19/10 Analyzed: 10/20/10

Benzene	27.2	1.0	ug/l	33.3		81.5	60.1-131		10.9	
Toluene	24.2	1.0	"	33.3		72.6	65.9-127		11.3	
Ethylbenzene	33.2	1.0	"	33.3		99.7	65.1-129		20	
m,p-Xylene	62.9	2.0	"	66.7		94.4	66.8-127		20	
o-Xylene	29.2	1.0	"	33.3		87.7	61.2-120		20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.7</i>		<i>"</i>	<i>13.3</i>		<i>103</i>	<i>57.9-139</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.4</i>		<i>"</i>	<i>13.3</i>		<i>92.6</i>	<i>83.1-115</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.4</i>		<i>"</i>	<i>13.3</i>		<i>93.0</i>	<i>80.8-120</i>			

**LCS Dup (0101917-BSD1)**

Prepared: 10/19/10 Analyzed: 10/20/10

Benzene	27.0	1.0	ug/l	33.3		80.9	60.1-131	0.850	10.9	
Toluene	24.5	1.0	"	33.3		73.5	65.9-127	1.19	11.3	
Ethylbenzene	32.8	1.0	"	33.3		98.4	65.1-129	1.27	20	
m,p-Xylene	62.4	2.0	"	66.7		93.6	66.8-127	0.814	20	
o-Xylene	29.8	1.0	"	33.3		89.3	61.2-120	1.83	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.4</i>		<i>"</i>	<i>13.3</i>		<i>101</i>	<i>57.9-139</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.3</i>		<i>"</i>	<i>13.3</i>		<i>92.3</i>	<i>83.1-115</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.3</i>		<i>"</i>	<i>13.3</i>		<i>92.0</i>	<i>80.8-120</i>			

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon CU #1

Project Number: KMG  
Project Manager: John Cocroft

Reported:  
10/21/10 10:18

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch 0101917 - EPA 5030 Water MS**

<b>Matrix Spike (0101917-MS1)</b>	<b>Source: R010111-01</b>			Prepared: 10/19/10		Analyzed: 10/20/10				
Benzene	27.1	1.0	ug/l	33.3	ND	81.4	52.7-130	7.06	19.3	
Toluene	24.4	1.0	"	33.3	ND	73.2	57-127	8.77	18.7	
Ethylbenzene	32.8	1.0	"	33.3	ND	98.5	59.2-127	6.87	20	
m,p-Xylene	61.4	2.0	"	66.7	1.23	90.3	53.2-132	6.59	20	
o-Xylene	28.7	1.0	"	33.3	ND	86.1	56.3-117	2.51	20	
Surrogate: 1,2-Dichloroethane-d4	13.7		"	13.3		103	57.9-139			
Surrogate: Toluene-d8	12.4		"	13.3		93.2	83.1-115			
Surrogate: 4-Bromofluorobenzene	12.7		"	13.3		95.1	80.8-120			

<b>Matrix Spike Dup (0101917-MSD1)</b>	<b>Source: R010111-01</b>			Prepared: 10/19/10		Analyzed: 10/20/10				
Benzene	25.3	1.0	ug/l	33.3	ND	75.9	52.7-130	7.06	19.3	
Toluene	22.4	1.0	"	33.3	ND	67.1	57-127	8.77	18.7	
Ethylbenzene	30.6	1.0	"	33.3	ND	92.0	59.2-127	6.87	20	
m,p-Xylene	57.5	2.0	"	66.7	1.23	84.4	53.2-132	6.59	20	
o-Xylene	28.0	1.0	"	33.3	ND	83.9	56.3-117	2.51	20	
Surrogate: 1,2-Dichloroethane-d4	13.6		"	13.3		102	57.9-139			
Surrogate: Toluene-d8	12.2		"	13.3		91.1	83.1-115			
Surrogate: 4-Bromofluorobenzene	12.3		"	13.3		92.4	80.8-120			

**Batch 0102005 - EPA 5030 Soil MS**

<b>Blank (0102005-BLK1)</b>	Prepared & Analyzed: 10/20/10									
Benzene	ND	0.0050	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0398		"	0.0400		99.4	67.4-143			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.5	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0427		"	0.0400		107	78.4-125			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon CU #1

Project Number: KMG  
Project Manager: John Cocroft

Reported:  
10/21/10 10:18

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch 0102005 - EPA 5030 Soil MS**

**LCS (0102005-BS1)**

Prepared & Analyzed: 10/20/10

Benzene	0.108	0.0050	mg/kg	0.100		108	61-139		11.1	
Toluene	0.100	0.0050	"	0.100		100	64-132		10.9	
Ethylbenzene	0.104	0.0050	"	0.100		104	68.7-135		20	
m,p-Xylene	0.194	0.010	"	0.200		97.2	70.4-129		20	
o-Xylene	0.0958	0.0050	"	0.100		95.8	66.9-126		20	
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0400		97.6	67.4-143			
Surrogate: Toluene-d8	0.0402		"	0.0400		100	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.1	78.4-125			

**LCS Dup (0102005-BSD1)**

Prepared & Analyzed: 10/20/10

Benzene	0.107	0.0050	mg/kg	0.100		107	61-139	1.42	11.1	
Toluene	0.0986	0.0050	"	0.100		98.6	64-132	1.69	10.9	
Ethylbenzene	0.101	0.0050	"	0.100		101	68.7-135	2.80	20	
m,p-Xylene	0.188	0.010	"	0.200		93.8	70.4-129	3.64	20	
o-Xylene	0.0924	0.0050	"	0.100		92.4	66.9-126	3.63	20	
Surrogate: 1,2-Dichloroethane-d4	0.0420		"	0.0400		105	67.4-143			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.3	78.4-125			

**Matrix Spike (0102005-MS1)**

Source: R010123-03

Prepared & Analyzed: 10/20/10

Benzene	0.106	0.0050	mg/kg	0.100	ND	106	42.9-137		17.9	
Toluene	0.0989	0.0050	"	0.100	ND	98.9	42.6-130		11.9	
Ethylbenzene	0.0979	0.0050	"	0.100	ND	97.9	39-133		20	
m,p-Xylene	0.188	0.010	"	0.200	0.00588	90.8	34.7-134		20	
o-Xylene	0.0927	0.0050	"	0.100	ND	92.7	41.3-126		20	
Surrogate: 1,2-Dichloroethane-d4	0.0425		"	0.0400		106	67.4-143			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0404		"	0.0400		101	78.4-125			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon CU #1

Project Number: KMG  
Project Manager: John Cocroft

**Reported:**  
10/21/10 10:18

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch 0102005 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (0102005-MSD1)</b>	<b>Source: R010123-03</b>			<b>Prepared &amp; Analyzed: 10/20/10</b>						
Benzene	0.101	0.0050	mg/kg	0.100	ND	101	42.9-137	4.49	17.9	
Toluene	0.0944	0.0050	"	0.100	ND	94.4	42.6-130	4.62	11.9	
Ethylbenzene	0.0896	0.0050	"	0.100	ND	89.6	39-133	8.87	20	
m,p-Xylene	0.172	0.010	"	0.200	0.00588	82.9	34.7-134	8.84	20	
o-Xylene	0.0851	0.0050	"	0.100	ND	85.1	41.3-126	8.54	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0443</i>		<i>"</i>	<i>0.0400</i>		<i>111</i>	<i>67.4-143</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0405</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>77.3-114</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0392</i>		<i>"</i>	<i>0.0400</i>		<i>98.0</i>	<i>78.4-125</i>			

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon CU #1

Project Number: KMG  
Project Manager: John Cocroft

**Reported:**  
10/21/10 10:18

### Notes and Definitions

- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

---

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 22, 2010

John Cocroft

LT Environmental, Inc.

4600 West 60th Avenue

Arvada, CO 80003

RE: KMG - Harold Mixon GU #1 Flowline

Enclosed are the results of analyses for samples received by Summit Scientific on 10/21/10 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'PS', with a long horizontal flourish extending to the right.

Paul Shrewsbury For Ben Shrewsbury  
President / Laboratory Director





LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon GU #1 Flowline

Project Number: KMG  
Project Manager: John Cocroft

**Reported:**  
10/22/10 07:37

**E02@2.5'**  
**R010148-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 10/21/10 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	0102107	10/21/10	10/21/10	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 10/21/10 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		106 %	88.8-124		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: 10/21/10 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.063</b>	0.0050	mg/kg	1	0102106	10/21/10	10/21/10	EPA 8260B	
<b>Toluene</b>	<b>0.18</b>	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.030</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.51</b>	0.0050	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2.3</b>	0.50	"	"	"	"	"	"	

Date Sampled: 10/21/10 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	67.4-143		"	"	"	"	
Surrogate: Toluene-d8		101 %	77.3-114		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	78.4-125		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon GU #1 Flowline

Project Number: KMG  
Project Manager: John Cocroft

**Reported:**  
10/22/10 07:37

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch 0102107 - EPA 3550A**

**Blank (0102107-BLK1)**

Prepared: 10/21/10 Analyzed: 10/22/10

C10-C28 (TEPH-DRO)	ND	50	mg/kg							
C28-C36 (TEPH-ORO)	ND	50	"							

*Surrogate: o-Terphenyl*      13.4      "      12.5      107      88.8-124

**LCS (0102107-BS1)**

Prepared & Analyzed: 10/21/10

C10-C28 (TEPH-DRO)	497	50	mg/kg	501	99.1	85-129			11.8	
--------------------	-----	----	-------	-----	------	--------	--	--	------	--

**LCS Dup (0102107-BSD1)**

Prepared: 10/21/10 Analyzed: 10/22/10

C10-C28 (TEPH-DRO)	472	50	mg/kg	501	94.2	85-129	5.15		11.8	
--------------------	-----	----	-------	-----	------	--------	------	--	------	--

**Matrix Spike (0102107-MS1)**

Source: R010148-01

Prepared: 10/21/10 Analyzed: 10/22/10

C10-C28 (TEPH-DRO)	467	50	mg/kg	501	16.1	89.9	77.3-134		8.39	
--------------------	-----	----	-------	-----	------	------	----------	--	------	--

**Matrix Spike Dup (0102107-MSD1)**

Source: R010148-01

Prepared: 10/21/10 Analyzed: 10/22/10

C10-C28 (TEPH-DRO)	466	50	mg/kg	501	16.1	89.9	77.3-134	0.0939	8.39	
--------------------	-----	----	-------	-----	------	------	----------	--------	------	--

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon GU #1 Flowline

Project Number: KMG  
Project Manager: John Cocroft

Reported:  
10/22/10 07:37

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch 0102106 - EPA 5030 Soil MS**

**Blank (0102106-BLK1)**

Prepared: 10/21/10 Analyzed: 10/22/10

Benzene	ND	0.0050	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0393</i>		<i>"</i>	<i>0.0400</i>		<i>98.2</i>	<i>67.4-143</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0388</i>		<i>"</i>	<i>0.0400</i>		<i>97.0</i>	<i>77.3-114</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0422</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>78.4-125</i>			

**LCS (0102106-BS1)**

Prepared & Analyzed: 10/21/10

Benzene	0.103	0.0050	mg/kg	0.100	103	61-139		11.1
Toluene	0.0963	0.0050	"	0.100	96.3	64-132	2.30	10.9
Ethylbenzene	0.103	0.0050	"	0.100	103	68.7-135	1.88	20
m,p-Xylene	0.194	0.010	"	0.200	97.1	70.4-129	1.64	20
o-Xylene	0.0967	0.0050	"	0.100	96.7	66.9-126	2.90	20
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0407</i>		<i>"</i>	<i>0.0400</i>	<i>102</i>	<i>67.4-143</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>	<i>98.6</i>	<i>77.3-114</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0392</i>		<i>"</i>	<i>0.0400</i>	<i>97.9</i>	<i>78.4-125</i>		

**LCS Dup (0102106-BSD1)**

Prepared & Analyzed: 10/21/10

Benzene	0.101	0.0050	mg/kg	0.100	101	61-139	1.82	11.1
Toluene	0.0941	0.0050	"	0.100	94.1	64-132	2.30	10.9
Ethylbenzene	0.101	0.0050	"	0.100	101	68.7-135	1.88	20
m,p-Xylene	0.191	0.010	"	0.200	95.5	70.4-129	1.64	20
o-Xylene	0.0939	0.0050	"	0.100	93.9	66.9-126	2.90	20
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0395</i>		<i>"</i>	<i>0.0400</i>	<i>98.8</i>	<i>67.4-143</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0396</i>		<i>"</i>	<i>0.0400</i>	<i>99.0</i>	<i>77.3-114</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>	<i>96.3</i>	<i>78.4-125</i>		

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon GU #1 Flowline

Project Number: KMG  
Project Manager: John Cocroft

**Reported:**  
10/22/10 07:37

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch 0102106 - EPA 5030 Soil MS**

<b>Matrix Spike (0102106-MS1)</b>	<b>Source: R010148-01</b>			Prepared: 10/21/10		Analyzed: 10/22/10				
Benzene	0.148	0.0050	mg/kg	0.100	0.0630	85.2	42.9-137	13.3	17.9	
Toluene	0.261	0.0050	"	0.100	0.176	84.5	42.6-130	3.05	11.9	
Ethylbenzene	0.121	0.0050	"	0.100	0.0296	91.4	39-133	0.821	20	
m,p-Xylene	0.486	0.010	"	0.200	0.371	57.3	34.7-134	6.82	20	
o-Xylene	0.225	0.0050	"	0.100	0.141	83.9	41.3-126	3.70	20	
Surrogate: 1,2-Dichloroethane-d4	0.0443		"	0.0400		111	67.4-143			
Surrogate: Toluene-d8	0.0414		"	0.0400		104	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	78.4-125			

<b>Matrix Spike Dup (0102106-MSD1)</b>	<b>Source: R010148-01</b>			Prepared: 10/21/10		Analyzed: 10/22/10				
Benzene	0.169	0.0050	mg/kg	0.100	0.0630	106	42.9-137	13.3	17.9	
Toluene	0.269	0.0050	"	0.100	0.176	92.6	42.6-130	3.05	11.9	
Ethylbenzene	0.120	0.0050	"	0.100	0.0296	90.4	39-133	0.821	20	
m,p-Xylene	0.520	0.010	"	0.200	0.371	74.4	34.7-134	6.82	20	
o-Xylene	0.233	0.0050	"	0.100	0.141	92.4	41.3-126	3.70	20	
Surrogate: 1,2-Dichloroethane-d4	0.0448		"	0.0400		112	67.4-143			
Surrogate: Toluene-d8	0.0411		"	0.0400		103	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.3	78.4-125			

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: KMG - Harold Mixon GU #1 Flowline

Project Number: KMG  
Project Manager: John Cocroft

**Reported:**  
10/22/10 07:37

### Notes and Definitions

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

---

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*