

received 03/07/2016  
Project 9549  
Spill 2232617  
Facility 103144  
Document #: 2211815

## Appendix B

### Soil Laboratory Analytical Reports

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 24, 2013

John Cocroft

LT Environmental, Inc.

4600 West 60th Avenue

Arvada, CO 80003

RE: KMG - Helgoth Heirs Unit #1

Enclosed are the results of analyses for samples received by Summit Scientific on 03/13/13 19:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'JME', with a long, sweeping horizontal line extending to the right.

Ben Shrewsbury For Joseph J Egry IV  
Laboratory Director

S<sub>2</sub>

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

Project: KMG - Helgoth Heirs Unit #1  
Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB01@20'	R303072-01	Soil	03/13/13 08:30	03/13/13 19:50
SB02@9'	R303072-02	Soil	03/13/13 09:10	03/13/13 19:50
SB02@17'	R303072-03	Soil	03/13/13 09:20	03/13/13 19:50
SB03@19'	R303072-04	Soil	03/13/13 10:30	03/13/13 19:50
SB04@21'	R303072-05	Soil	03/13/13 11:10	03/13/13 19:50
SB05@21'	R303072-06	Soil	03/13/13 12:00	03/13/13 19:50
SB06@21'	R303072-07	Soil	03/13/13 13:05	03/13/13 19:50
SB02 FP	R303072-08	Water	03/13/13 12:05	03/13/13 19:50
SB03 FP	R303072-09	Water	03/13/13 18:45	03/13/13 19:50
SB04 FP	R303072-10	Water	03/13/13 19:00	03/13/13 19:50
SB05 GW	R303072-11	Water	03/13/13 12:40	03/13/13 19:50

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

Summit Scientific 2303072.1

74 Corporate Circle Suite 1 • Golden, Colorado 80401  
303-277-9510 • 303-277-9511 Fax

Page 1 of 2

Client: LT Environmental, Inc. Project Manager: John Cocroft  
Address: 4600 West 60th Avenue E-Mail: jcocroft@lten.com  
City/State/Zip: Arvada, CO 80003 Project Name: Helgoth Heirs Unit #1  
Phone: (303) 433-9788 Fax: (303) 433-1432  
Sample Name: Augd Verobsp:KZ Project Number: 0142-13053.003

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)	DR/PRO	GBTEX	BTEX	Other (Specify)								
SB01 @ 20'	3/13/13	8:30	1	X	X	X	X	X	X	X	X	X	X	X	X								
SB02 @ 9'	3/13/13	9:10	1	X	X	X	X	X	X	X	X	X	X	X	X								
SB02 @ 17'		9:20	1	X	X	X	X	X	X	X	X	X	X	X	X								
SB03 @ 19'		10:30	1	X	X	X	X	X	X	X	X	X	X	X	X								
SB04 @ 21'		11:10	1	X	X	X	X	X	X	X	X	X	X	X	X								
SB05 @ 21'		12:00	1	X	X	X	X	X	X	X	X	X	X	X	X								
SB06 @ 21'		13:05	1	X	X	X	X	X	X	X	X	X	X	X	X								
SB02 GW		12:05	3	X	X	X	X	X	X	X	X	X	X	X	X								
SB03 GW		18:45	3	X	X	X	X	X	X	X	X	X	X	X	X								
SB04 GW		19:00	3	X	X	X	X	X	X	X	X	X	X	X	X								
Retained by: <u>[Signature]</u> Date/Time: <u>3/13/13 19:50</u>				Received by: <u>[Signature]</u> Date/Time: <u>3/13/13 19:50</u>				Term Approval Time (Check)				Name Day				72 Hours <input type="checkbox"/>				Standard <input type="checkbox"/>			
Requisitioned by: <u>[Signature]</u> Date/Time: <u>3/13/13 19:50</u>				Received by: <u>[Signature]</u> Date/Time: <u>3/13/13 19:50</u>				Sample Integrity:				Temperature Receipt: <u>5.2</u>				Infect: <u>Yes</u> / <u>No</u>							
Requisitioned by: <u>[Signature]</u> Date/Time: <u>3/13/13 19:50</u>				Received in Lab by: <u>[Signature]</u> Date/Time: <u>3/13/13 19:50</u>																			

www.soscientific.com

*[Signature]*





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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

**SB01@20'**  
**R303072-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 03/13/13 08:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3031305	03/13/13	03/14/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 03/13/13 08:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		99.2 %	30-150		"	"	"	"	

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

Date Sampled: 03/13/13 08:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3031304	03/13/13	03/14/13	EPA 8260B	
<b>Toluene</b>	<b>0.0073</b>	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.0079</b>	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 03/13/13 08:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		118 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

SB02@9'  
R303072-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 03/13/13 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	2200	50	mg/kg	1	3031305	03/13/13	03/14/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 03/13/13 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		103 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 03/13/13 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.10	0.0050	mg/kg	1	3031304	03/13/13	03/14/13	EPA 8260B	
Toluene	0.031	0.0050	"	"	"	"	"	"	
Ethylbenzene	8.2	0.050	"	10	"	"	03/13/13	"	
Xylenes (total)	69	0.050	"	"	"	"	"	"	E
Gasoline Range Hydrocarbons	2300	5.0	"	"	"	"	"	"	E

Date Sampled: 03/13/13 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	03/14/13	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		74.1 %	21-167		"	"	"	"	

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

**SB02@17'**  
**R303072-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 03/13/13 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	1700	50	mg/kg	1	3031305	03/13/13	03/14/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 03/13/13 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		102 %	30-150		"	"	"	"	

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

Date Sampled: 03/13/13 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.90</b>	0.050	mg/kg	10	3031304	03/13/13	03/14/13	EPA 8260B	
<b>Toluene</b>	<b>2.8</b>	0.0050	"	1	"	"	03/14/13	"	
<b>Ethylbenzene</b>	<b>9.8</b>	0.050	"	10	"	"	03/14/13	"	
<b>Xylenes (total)</b>	<b>130</b>	0.050	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2800</b>	5.0	"	"	"	"	03/14/13	"	

Date Sampled: 03/13/13 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		89.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		76.6 %	21-167		"	"	"	"	

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

**SB03@19'**  
**R303072-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 03/13/13 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	2100	50	mg/kg	1	3031305	03/13/13	03/14/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 03/13/13 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		110 %	30-150	"	"	"	"	"	

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

Date Sampled: 03/13/13 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>1.9</b>	<b>0.050</b>	<b>mg/kg</b>	<b>10</b>	<b>3031304</b>	<b>03/13/13</b>	<b>03/14/13</b>	<b>EPA 8260B</b>	
<b>Toluene</b>	<b>39</b>	<b>0.050</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>03/14/13</b>	<b>"</b>	
<b>Ethylbenzene</b>	<b>14</b>	<b>0.050</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Xylenes (total)</b>	<b>170</b>	<b>0.050</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>03/14/13</b>	<b>"</b>	
<b>Gasoline Range Hydrocarbons</b>	<b>4600</b>	<b>5.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>03/14/13</b>	<b>"</b>	

Date Sampled: 03/13/13 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173	"	"	"	"	"	
Surrogate: Toluene-d8		83.7 %	20-170	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167	"	"	"	"	"	

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

**SB04@21'**  
**R303072-05 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 03/13/13 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	3300	50	mg/kg	1	3031305	03/13/13	03/14/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 03/13/13 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		116 %	30-150		"	"	"	"	

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

Date Sampled: 03/13/13 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.50	0.0050	mg/kg	1	3031304	03/13/13	03/14/13	EPA 8260B	
Toluene	16	0.050	"	10	"	"	03/14/13	"	
Ethylbenzene	11	0.050	"	"	"	"	"	"	
Xylenes (total)	14	0.0050	"	1	"	"	03/14/13	"	
Gasoline Range Hydrocarbons	3200	5.0	"	10	"	"	03/14/13	"	

Date Sampled: 03/13/13 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	03/14/13	"	
Surrogate: Toluene-d8		90.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		146 %	21-167		"	"	"	"	

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

Project: KMG - Helgoth Heirs Unit #1  
Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

SB05@21'  
R303072-06 (Soil)

Summit Scientific

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 03/13/13 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	650	50	mg/kg	1	3031305	03/13/13	03/14/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 03/13/13 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		103 %	30-150		"	"	"	"	

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

Date Sampled: 03/13/13 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0080	0.0050	mg/kg	1	3031304	03/13/13	03/14/13	EPA 8260B	
Toluene	0.13	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.12	0.0050	"	"	"	"	"	"	
Xylenes (total)	1.5	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	390	5.0	"	10	"	"	03/14/13	"	

Date Sampled: 03/13/13 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	03/14/13	"	
Surrogate: Toluene-d8		97.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		119 %	21-167		"	"	"	"	

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

**SB06@21'**  
**R303072-07 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 03/13/13 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	69	50	mg/kg	1	3031305	03/13/13	03/14/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 03/13/13 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		100 %	30-150		"	"	"	"	

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

Date Sampled: 03/13/13 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3031304	03/13/13	03/14/13	EPA 8260B	
Toluene	0.010	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.012	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.26	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	7.6	0.50	"	"	"	"	"	"	

Date Sampled: 03/13/13 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		120 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003

Project Manager: John Cocroft

Reported:  
04/24/13 08:25

**SB02 FP**  
**R303072-08 (Water)**

**Summit Scientific**

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

Date Sampled: 03/13/13 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>3600</b>	10	ug/l	10	3031306	03/13/13	03/13/13	EPA 8260B	E
<b>Toluene</b>	<b>8300</b>	10	"	"	"	"	"	"	E
<b>Ethylbenzene</b>	<b>1100</b>	10	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>15000</b>	10	"	"	"	"	"	"	

Date Sampled: 03/13/13 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		96.9 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.2 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	45-146		"	"	"	"	

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

Project: KMG - Helgoth Heirs Unit #1  
Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

**SB03 FP**  
**R303072-09 (Water)**

**Summit Scientific**

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

Date Sampled: 03/13/13 18:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	700000	1000	ug/l	1000	3031306	03/13/13	03/13/13	EPA 8260B	E
Toluene	6600000	1000	"	"	"	"	"	"	E
Ethylbenzene	18000000	1000	"	"	"	"	"	"	E
Xylenes (total)	30000000	1000	"	"	"	"	"	"	E

Date Sampled: 03/13/13 18:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		294 %	37-154		"	"	"	"	S-02
Surrogate: Toluene-d8		1810 %	45-149		"	"	"	"	S-02
Surrogate: 4-Bromofluorobenzene		2900 %	45-146		"	"	"	"	S-02

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

Project: KMG - Helgoth Heirs Unit #1  
Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

**SB04 FP**  
**R303072-10 (Water)**

**Summit Scientific**

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

Date Sampled: 03/13/13 19:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>550000</b>	1000	ug/l	1000	3031306	03/13/13	03/13/13	EPA 8260B	E
<b>Toluene</b>	<b>6000000</b>	1000	"	"	"	"	"	"	E
<b>Ethylbenzene</b>	<b>19000000</b>	1000	"	"	"	"	"	"	E
<b>Xylenes (total)</b>	<b>33000000</b>	1000	"	"	"	"	"	"	E

Date Sampled: 03/13/13 19:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		299 %	37-154		"	"	"	"	S-02
<i>Surrogate: Toluene-d8</i>		2030 %	45-149		"	"	"	"	S-02
<i>Surrogate: 4-Bromofluorobenzene</i>		2990 %	45-146		"	"	"	"	S-02

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003

Project Manager: John Cocroft

Reported:  
04/24/13 08:25

**SB05 GW**  
**R303072-11 (Water)**

**Summit Scientific**

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

Date Sampled: 03/13/13 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>2.2</b>	1.0	ug/l	1	3031306	03/13/13	03/13/13	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>750</b>	10	"	10	"	"	"	"	
<b>Xylenes (total)</b>	<b>5100</b>	10	"	"	"	"	"	"	

Date Sampled: 03/13/13 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		104 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.4 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	45-146		"	"	"	"	

Summit Scientific



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

Project: KMG - Helgoth Heirs Unit #1  
Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

**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 3031305 - EPA 3550A**

**Blank (3031305-BLK1)**

Prepared: 03/13/13 Analyzed: 03/14/13

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

**LCS (3031305-BS1)**

Prepared: 03/13/13 Analyzed: 03/14/13

C10-C28 (TEPH-DRO)	469	50	mg/kg	501		93.6	73-134			
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**LCS Dup (3031305-BSD1)**

Prepared: 03/13/13 Analyzed: 03/14/13

C10-C28 (TEPH-DRO)	464	50	mg/kg	501		92.6	73-134	1.02	11	
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**Matrix Spike (3031305-MS1)**

Source: R303071-03

Prepared: 03/13/13 Analyzed: 03/14/13

C10-C28 (TEPH-DRO)	449	50	mg/kg	501	ND	89.6	50-148			
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**Matrix Spike Dup (3031305-MSD1)**

Source: R303071-03

Prepared: 03/13/13 Analyzed: 03/14/13

C10-C28 (TEPH-DRO)	447	50	mg/kg	501	ND	89.2	50-148	0.508	13	
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Summit Scientific



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S<sub>2</sub>

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

Project: KMG - Helgoth Heirs Unit #1  
Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

**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 3031304 - EPA 5030 Soil MS**

**Blank (3031304-BLK1)**

Prepared: 03/13/13 Analyzed: 03/14/13

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>0.0417</i>		<i>"</i>	<i>0.0397</i>		<i>105</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0384</i>		<i>"</i>	<i>0.0400</i>		<i>96.0</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0382</i>		<i>"</i>	<i>0.0400</i>		<i>95.6</i>	<i>21-167</i>			

**LCS (3031304-BS1)**

Prepared: 03/13/13 Analyzed: 03/14/13

Benzene	0.115	0.0050	mg/kg	0.100		115	58-130			
Toluene	0.117	0.0050	"	0.100		117	61-134			
Ethylbenzene	0.112	0.0050	"	0.100		112	74-139			
m,p-Xylene	0.247	0.010	"	0.200		124	73-137			
o-Xylene	0.120	0.0050	"	0.100		120	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0432</i>		<i>"</i>	<i>0.0397</i>		<i>109</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0380</i>		<i>"</i>	<i>0.0400</i>		<i>95.0</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0380</i>		<i>"</i>	<i>0.0400</i>		<i>94.9</i>	<i>21-167</i>			

**LCS Dup (3031304-BSD1)**

Prepared: 03/13/13 Analyzed: 03/14/13

Benzene	0.111	0.0050	mg/kg	0.100		111	58-130	3.29	13	
Toluene	0.111	0.0050	"	0.100		111	61-134	4.45	16	
Ethylbenzene	0.112	0.0050	"	0.100		112	74-139	0.642	12	
m,p-Xylene	0.236	0.010	"	0.200		118	73-137	4.57	14	
o-Xylene	0.117	0.0050	"	0.100		117	73-141	2.33	12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0420</i>		<i>"</i>	<i>0.0397</i>		<i>106</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0382</i>		<i>"</i>	<i>0.0400</i>		<i>95.5</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0386</i>		<i>"</i>	<i>0.0400</i>		<i>96.4</i>	<i>21-167</i>			

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

**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 3031304 - EPA 5030 Soil MS**

**Matrix Spike (3031304-MS1)**

Source: R303071-03

Prepared: 03/13/13 Analyzed: 03/14/13

Benzene	0.0986	0.0050	mg/kg	0.100	ND	98.6	30-131			
Toluene	0.0978	0.0050	"	0.100	ND	97.8	30-134			
Ethylbenzene	0.0961	0.0050	"	0.100	ND	96.1	22-153			
m,p-Xylene	0.197	0.010	"	0.200	0.00423	96.2	10-159			
o-Xylene	0.0997	0.0050	"	0.100	ND	99.7	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0401		"	0.0397		101	23-173			
Surrogate: Toluene-d8	0.0377		"	0.0400		94.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0379		"	0.0400		94.8	21-167			

**Matrix Spike Dup (3031304-MSD1)**

Source: R303071-03

Prepared: 03/13/13 Analyzed: 03/14/13

Benzene	0.100	0.0050	mg/kg	0.100	ND	100	30-131	1.54	34	
Toluene	0.0998	0.0050	"	0.100	ND	99.8	30-134	2.00	30	
Ethylbenzene	0.0985	0.0050	"	0.100	ND	98.5	22-153	2.44	24	
m,p-Xylene	0.201	0.010	"	0.200	0.00423	98.2	10-159	2.02	68	
o-Xylene	0.102	0.0050	"	0.100	ND	102	31-151	2.73	38	
Surrogate: 1,2-Dichloroethane-d4	0.0431		"	0.0397		109	23-173			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		95.0	21-167			

**Batch 3031306 - EPA 5030 Water MS**

**Blank (3031306-BLK1)**

Prepared: 03/13/13 Analyzed: 03/15/13

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.0		"	13.2		91.1	37-154			
Surrogate: Toluene-d8	12.1		"	13.3		90.9	45-149			
Surrogate: 4-Bromofluorobenzene	12.4		"	13.3		92.9	45-146			

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

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

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

**Batch 3031306 - EPA 5030 Water MS**

**LCS (3031306-BS1)**

Prepared: 03/13/13 Analyzed: 03/15/13

Benzene	36.1	1.0	ug/l	33.3		108	51-132			
Toluene	36.4	1.0	"	33.3		109	51-138			
Ethylbenzene	37.5	1.0	"	33.3		113	58-146			
m,p-Xylene	74.4	2.0	"	66.7		112	57-144			
o-Xylene	38.8	1.0	"	33.3		117	53-146			
Surrogate: 1,2-Dichloroethane-d4	12.6		"	13.2		95.0	37-154			
Surrogate: Toluene-d8	12.6		"	13.3		94.1	45-149			
Surrogate: 4-Bromofluorobenzene	12.0		"	13.3		89.9	45-146			

**LCS Dup (3031306-BSD1)**

Prepared: 03/13/13 Analyzed: 03/15/13

Benzene	38.0	1.0	ug/l	33.3		114	51-132	4.94	17	
Toluene	37.8	1.0	"	33.3		113	51-138	3.72	17	
Ethylbenzene	40.0	1.0	"	33.3		120	58-146	6.27	16	
m,p-Xylene	80.2	2.0	"	66.7		120	57-144	7.40	16	
o-Xylene	40.9	1.0	"	33.3		123	53-146	5.12	15	
Surrogate: 1,2-Dichloroethane-d4	12.8		"	13.2		96.3	37-154			
Surrogate: Toluene-d8	12.5		"	13.3		93.5	45-149			
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.4	45-146			

**Matrix Spike (3031306-MS1)**

Source: R303031-01

Prepared: 03/13/13 Analyzed: 03/15/13

Benzene	38.5	1.0	ug/l	33.3	ND	116	34-141			
Toluene	37.9	1.0	"	33.3	ND	114	27-151			
Ethylbenzene	38.5	1.0	"	33.3	ND	116	29-160			
m,p-Xylene	77.1	2.0	"	66.7	ND	116	20-166			
o-Xylene	39.8	1.0	"	33.3	ND	119	33-159			
Surrogate: 1,2-Dichloroethane-d4	12.1		"	13.2		91.5	37-154			
Surrogate: Toluene-d8	12.7		"	13.3		95.0	45-149			
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.9	45-146			

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

**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 3031306 - EPA 5030 Water MS**

Matrix Spike Dup (3031306-MSD1)	Source: R303031-01			Prepared: 03/13/13	Analyzed: 03/15/13					
Benzene	37.8	1.0	ug/l	33.3	ND	113	34-141	1.86	32	
Toluene	37.3	1.0	"	33.3	ND	112	27-151	1.52	25	
Ethylbenzene	38.5	1.0	"	33.3	ND	116	29-160	0.0519	50	
m,p-Xylene	77.3	2.0	"	66.7	ND	116	20-166	0.311	36	
o-Xylene	39.4	1.0	"	33.3	ND	118	33-159	1.19	26	
Surrogate: 1,2-Dichloroethane-d4	12.3		"	13.2		93.2	37-154			
Surrogate: Toluene-d8	12.2		"	13.3		91.7	45-149			
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.4	45-146			

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:25

### Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- 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

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Summit Scientific

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# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 24, 2013

John Cocroft

LT Environmental, Inc.

4600 West 60th Avenue

Arvada, CO 80003

RE: KMG - Helgoth Heirs Unit #1

Enclosed are the results of analyses for samples received by Summit Scientific on 03/15/13 20:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'BS' with a long, sweeping underline that extends to the right.

Ben Shrewsbury For Joseph J Egry IV  
Laboratory Director

S<sub>2</sub>

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB07@23'	R303083-01	Soil	03/15/13 11:30	03/15/13 20:15
SB07 GW	R303083-02	Water	03/15/13 15:15	03/15/13 20:15
SB08@21'	R303083-03	Soil	03/15/13 12:25	03/15/13 20:15
SB09@21'	R303083-04	Soil	03/15/13 15:10	03/15/13 20:15
SB09@25'	R303083-05	Soil	03/15/13 15:30	03/15/13 20:15
SB09 FP	R303083-06	Water	03/15/13 19:20	03/15/13 20:15
SB010@23'	R303083-07	Soil	03/15/13 13:20	03/15/13 20:15
SB011@20'	R303083-08	Soil	03/15/13 14:15	03/15/13 20:15
SB010 GW	R303083-09	Water	03/15/13 00:00	03/15/13 20:15

Summit Scientific



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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

**SB07@23'**  
**R303083-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 03/15/13 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3031511	03/15/13	03/16/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 03/15/13 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		97.8 %	30-150		"	"	"	"	

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

Date Sampled: 03/15/13 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3031510	03/15/13	03/15/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 03/15/13 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003

Project Manager: John Cocroft

Reported:  
04/24/13 08:28

**SB07 GW**  
**R303083-02 (Water)**

**Summit Scientific**

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

Date Sampled: 03/15/13 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>7.3</b>	1.0	ug/l	1	3031509	03/15/13	03/15/13	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>14</b>	1.0	"	"	"	"	"	"	

Date Sampled: 03/15/13 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		97.1 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.6 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		90.8 %	45-146		"	"	"	"	

Summit Scientific



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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

**SB08@21'**  
**R303083-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 03/15/13 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3031511	03/15/13	03/16/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 03/15/13 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		98.0 %	30-150		"	"	"	"	

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

Date Sampled: 03/15/13 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3031510	03/15/13	03/15/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 03/15/13 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		125 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

**SB09@21'**  
**R303083-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 03/15/13 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	170	50	mg/kg	1	3031511	03/15/13	03/16/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 03/15/13 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		102 %	30-150		"	"	"	"	

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

Date Sampled: 03/15/13 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3031510	03/15/13	03/16/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.11	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.40	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	230	5.0	"	10	"	"	"	"	

Date Sampled: 03/15/13 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		110 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %	21-167		"	"	"	"	

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1  
Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

**SB09@25'**  
**R303083-05 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 03/15/13 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	3000	50	mg/kg	1	3031511	03/15/13	03/16/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 03/15/13 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		113 %	30-150		"	"	"	"	

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

Date Sampled: 03/15/13 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.38</b>	0.0050	mg/kg	1	3031510	03/15/13	03/16/13	EPA 8260B	
<b>Toluene</b>	<b>22</b>	0.050	"	10	"	"	"	"	E
<b>Ethylbenzene</b>	<b>14</b>	0.050	"	"	"	"	"	"	E
<b>Xylenes (total)</b>	<b>200</b>	0.050	"	"	"	"	"	"	E
<b>Gasoline Range Hydrocarbons</b>	<b>1600</b>	5.0	"	"	"	"	"	"	E

Date Sampled: 03/15/13 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		147 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		177 %	21-167		"	"	"	"	S-02

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

**SB09 FP**  
**R303083-06 (Water)**

**Summit Scientific**

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

Date Sampled: 03/15/13 19:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>2400</b>	100	ug/l	100	3031509	03/15/13	03/15/13	EPA 8260B	
<b>Toluene</b>	<b>12000</b>	100	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>3900</b>	100	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>60000</b>	100	"	"	"	"	"	"	

Date Sampled: 03/15/13 19:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		114 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		112 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		110 %	45-146		"	"	"	"	

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

**SB010@23'**  
**R303083-07 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 03/15/13 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3031511	03/15/13	03/16/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 03/15/13 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		94.4 %	30-150		"	"	"	"	

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

Date Sampled: 03/15/13 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3031510	03/15/13	03/15/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 03/15/13 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

SB011@20'  
R303083-08 (Soil)

Summit Scientific

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 03/15/13 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3031511	03/15/13	03/16/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 03/15/13 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		91.6 %	30-150		"	"	"	"	

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

Date Sampled: 03/15/13 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3031510	03/15/13	03/15/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 03/15/13 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		121 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

**SB010 GW**  
**R303083-09 (Water)**

**Summit Scientific**

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

Date Sampled: 03/15/13 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	3031509	03/15/13	03/15/13	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 03/15/13 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.8 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		94.3 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.3 %	45-146		"	"	"	"	

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

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

Analyte	Reporting			Spike Level	Source		%REC		RPD		Notes
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit		
<b>Batch 3031511 - EPA 3550A</b>											
<b>Blank (3031511-BLK1)</b>											
					Prepared: 03/15/13 Analyzed: 03/16/13						
C10-C28 (TEPH-DRO)	ND	50	mg/kg								
C28-C36 (TEPH-ORO)	ND	50	"								
<b>LCS (3031511-BS1)</b>											
					Prepared: 03/15/13 Analyzed: 03/16/13						
C10-C28 (TEPH-DRO)	531	50	mg/kg	501	106	73-134					
<b>LCS Dup (3031511-BSD1)</b>											
					Prepared: 03/15/13 Analyzed: 03/16/13						
C10-C28 (TEPH-DRO)	555	50	mg/kg	501	111	73-134	4.51		11		
<b>Matrix Spike (3031511-MS1)</b>											
					Source: R303083-01		Prepared: 03/15/13 Analyzed: 03/16/13				
C10-C28 (TEPH-DRO)	496	50	mg/kg	501	ND	99.1	50-148				
<b>Matrix Spike Dup (3031511-MSD1)</b>											
					Source: R303083-01		Prepared: 03/15/13 Analyzed: 03/16/13				
C10-C28 (TEPH-DRO)	473	50	mg/kg	501	ND	94.5	50-148	4.72		13	

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

**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 3031509 - EPA 5030 Water MS**

**Blank (3031509-BLK1)**

Prepared: 03/15/13 Analyzed: 03/16/13

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>12.8</i>		<i>"</i>	<i>13.2</i>		<i>96.3</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.0</i>		<i>"</i>	<i>13.3</i>		<i>97.9</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.2</i>		<i>"</i>	<i>13.3</i>		<i>91.4</i>	<i>45-146</i>			

**LCS (3031509-BS1)**

Prepared: 03/15/13 Analyzed: 03/16/13

Benzene	37.5	1.0	ug/l	33.3		112	51-132			
Toluene	38.8	1.0	"	33.3		116	51-138			
Ethylbenzene	37.7	1.0	"	33.3		113	58-146			
m,p-Xylene	75.5	2.0	"	66.7		113	57-144			
o-Xylene	38.5	1.0	"	33.3		116	53-146			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>12.4</i>		<i>"</i>	<i>13.2</i>		<i>93.4</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.0</i>		<i>"</i>	<i>13.3</i>		<i>97.7</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>11.9</i>		<i>"</i>	<i>13.3</i>		<i>89.4</i>	<i>45-146</i>			

**LCS Dup (3031509-BSD1)**

Prepared: 03/15/13 Analyzed: 03/16/13

Benzene	36.7	1.0	ug/l	33.3		110	51-132	2.18	17	
Toluene	38.4	1.0	"	33.3		115	51-138	1.04	17	
Ethylbenzene	38.0	1.0	"	33.3		114	58-146	0.713	16	
m,p-Xylene	75.8	2.0	"	66.7		114	57-144	0.384	16	
o-Xylene	38.4	1.0	"	33.3		115	53-146	0.468	15	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>12.7</i>		<i>"</i>	<i>13.2</i>		<i>96.0</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.0</i>		<i>"</i>	<i>13.3</i>		<i>97.8</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.0</i>		<i>"</i>	<i>13.3</i>		<i>89.6</i>	<i>45-146</i>			

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

**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 3031509 - EPA 5030 Water MS**

Matrix Spike (3031509-MS1)	Source: R303066-01			Prepared: 03/15/13	Analyzed: 03/16/13							
Benzene	41.8	1.0	ug/l	33.3	ND	126	34-141					
Toluene	41.4	1.0	"	33.3	ND	124	27-151					
Ethylbenzene	40.9	1.0	"	33.3	ND	123	29-160					
m,p-Xylene	81.1	2.0	"	66.7	ND	122	20-166					
o-Xylene	41.2	1.0	"	33.3	ND	124	33-159					
Surrogate: 1,2-Dichloroethane-d4	12.5		"	13.2		94.8	37-154					
Surrogate: Toluene-d8	12.8		"	13.3		95.6	45-149					
Surrogate: 4-Bromofluorobenzene	12.2		"	13.3		91.7	45-146					

Matrix Spike Dup (3031509-MSD1)	Source: R303066-01			Prepared: 03/15/13	Analyzed: 03/16/13							
Benzene	37.8	1.0	ug/l	33.3	ND	113	34-141	10.3	32			
Toluene	39.7	1.0	"	33.3	ND	119	27-151	4.14	25			
Ethylbenzene	38.6	1.0	"	33.3	ND	116	29-160	5.66	50			
m,p-Xylene	76.9	2.0	"	66.7	ND	115	20-166	5.34	36			
o-Xylene	39.1	1.0	"	33.3	ND	117	33-159	5.36	26			
Surrogate: 1,2-Dichloroethane-d4	12.4		"	13.2		93.9	37-154					
Surrogate: Toluene-d8	12.8		"	13.3		96.2	45-149					
Surrogate: 4-Bromofluorobenzene	11.9		"	13.3		89.4	45-146					

**Batch 3031510 - EPA 5030 Soil MS**

Blank (3031510-BLK1)	Prepared: 03/15/13 Analyzed: 03/16/13											
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	0.0454		"	0.0397		114	23-173					
Surrogate: Toluene-d8	0.0387		"	0.0400		96.7	20-170					
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	21-167					

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

**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 3031510 - EPA 5030 Soil MS**

**LCS (3031510-BS1)**

Prepared: 03/15/13 Analyzed: 03/16/13

Benzene	0.104	0.0050	mg/kg	0.100		104	58-130			
Toluene	0.113	0.0050	"	0.100		113	61-134			
Ethylbenzene	0.127	0.0050	"	0.100		127	74-139			
m,p-Xylene	0.252	0.010	"	0.200		126	73-137			
o-Xylene	0.124	0.0050	"	0.100		124	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0462</i>		"	<i>0.0397</i>		<i>116</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0415</i>		"	<i>0.0400</i>		<i>104</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0400</i>		"	<i>0.0400</i>		<i>100</i>	<i>21-167</i>			

**LCS Dup (3031510-BSD1)**

Prepared: 03/15/13 Analyzed: 03/16/13

Benzene	0.110	0.0050	mg/kg	0.100		110	58-130	5.50	13	
Toluene	0.120	0.0050	"	0.100		120	61-134	6.02	16	
Ethylbenzene	0.134	0.0050	"	0.100		134	74-139	5.01	12	
m,p-Xylene	0.262	0.010	"	0.200		131	73-137	3.61	14	
o-Xylene	0.130	0.0050	"	0.100		130	73-141	4.85	12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0455</i>		"	<i>0.0397</i>		<i>115</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0418</i>		"	<i>0.0400</i>		<i>104</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0400</i>		"	<i>0.0400</i>		<i>100</i>	<i>21-167</i>			

**Matrix Spike (3031510-MS1)**

Source: R303083-01

Prepared: 03/15/13 Analyzed: 03/16/13

Benzene	0.102	0.0050	mg/kg	0.100	ND	102	30-131			
Toluene	0.109	0.0050	"	0.100	ND	109	30-134			
Ethylbenzene	0.124	0.0050	"	0.100	ND	124	22-153			
m,p-Xylene	0.246	0.010	"	0.200	ND	123	10-159			
o-Xylene	0.119	0.0050	"	0.100	ND	119	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0451</i>		"	<i>0.0397</i>		<i>114</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0410</i>		"	<i>0.0400</i>		<i>103</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0391</i>		"	<i>0.0400</i>		<i>97.7</i>	<i>21-167</i>			

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

**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 3031510 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (3031510-MSD1)</b>	<b>Source: R303083-01</b>			Prepared: 03/15/13	Analyzed: 03/16/13					
Benzene	0.104	0.0050	mg/kg	0.100	ND	104	30-131	1.31	34	
Toluene	0.112	0.0050	"	0.100	ND	112	30-134	2.87	30	
Ethylbenzene	0.127	0.0050	"	0.100	ND	127	22-153	2.80	24	
m,p-Xylene	0.248	0.010	"	0.200	ND	124	10-159	0.741	68	
o-Xylene	0.123	0.0050	"	0.100	ND	123	31-151	3.37	38	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0471</i>		<i>"</i>	<i>0.0397</i>		<i>119</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0405</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>		<i>98.4</i>	<i>21-167</i>			

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/24/13 08:28

### Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- 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

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Summit Scientific

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# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 19, 2013

John Cocroft

LT Environmental, Inc.

4600 West 60th Avenue

Arvada, CO 80003

RE: KMG - Helgoth Heirs Unit #1

Enclosed are the results of analyses for samples received by Summit Scientific on 04/03/13 16:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Joseph J Egry IV For Ben Shrewsbury

President / Laboratory Manager

This report shall not be reproduced, except in its entirety, without the written approval of Summit Scientific. Test results relate only to samples analyzed.

Summit Scientific is the sole authority for authorizing edits or modifications to this document. Unauthorized modification of this report is strictly prohibited.

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/19/13 16:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB12@16.5'	R304029-01	Soil	04/03/13 09:46	04/03/13 16:45
SB13@23'	R304029-02	Soil	04/03/13 11:01	04/03/13 16:45
SB14@14'	R304029-03	Soil	04/03/13 12:30	04/03/13 16:45
SB13	R304029-04	Water	04/03/13 14:05	04/03/13 16:45
SB15@23'	R304029-06	Soil	04/03/13 13:30	04/03/13 16:45
SB16@24.5'	R304029-07	Soil	04/03/13 15:24	04/03/13 16:45

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1  
Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/19/13 16:29

**SB12@16.5'**  
**R304029-01 (Soil)**

Summit Scientific

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 04/03/13 09:46

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3040307	04/03/13	04/04/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 04/03/13 09:46

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		108 %	30-150		"	"	"	"	

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

Date Sampled: 04/03/13 09:46

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3040306	04/03/13	04/03/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 04/03/13 09:46

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.2 %	21-167		"	"	"	"	

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/19/13 16:29

**SB13@23'**  
**R304029-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 04/03/13 11:01

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	170	50	mg/kg	1	3040307	04/03/13	04/04/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 04/03/13 11:01

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		112 %	30-150	"	"	"	"	"	

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

Date Sampled: 04/03/13 11:01

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3040306	04/03/13	04/04/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.031	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.11	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	26	0.50	"	"	"	"	"	"	

Date Sampled: 04/03/13 11:01

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173	"	"	"	"	"	
Surrogate: Toluene-d8		99.0 %	20-170	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.5 %	21-167	"	"	"	"	"	

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/19/13 16:29

**SB14@14'**  
**R304029-03 (Soil)**

Summit Scientific

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 04/03/13 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3040307	04/03/13	04/04/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 04/03/13 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		95.4 %	30-150	"	"	"	"	"	

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

Date Sampled: 04/03/13 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3040306	04/03/13	04/04/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.032	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	8.6	0.50	"	"	"	"	"	"	

Date Sampled: 04/03/13 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173	"	"	"	"	"	
Surrogate: Toluene-d8		97.2 %	20-170	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167	"	"	"	"	"	

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/19/13 16:29

**SB13**  
**R304029-04 (Water)**

**Summit Scientific**

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

Date Sampled: 04/03/13 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	3040305	04/03/13	04/03/13	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	4.6	1.0	"	"	"	"	"	"	
Xylenes (total)	15	1.0	"	"	"	"	"	"	

Date Sampled: 04/03/13 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		103 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.5 %	45-146		"	"	"	"	

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/19/13 16:29

**SB15@23'**  
**R304029-06 (Soil)**

Summit Scientific

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 04/03/13 13:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	910	50	mg/kg	1	3040307	04/03/13	04/04/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 04/03/13 13:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		93.4 %	30-150		"	"	"	"	

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

Date Sampled: 04/03/13 13:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3040306	04/03/13	04/03/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	6.3	0.050	"	10	"	"	"	"	
Gasoline Range Hydrocarbons	280	5.0	"	"	"	"	"	"	

Date Sampled: 04/03/13 13:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		124 %	21-167		"	"	"	"	

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/19/13 16:29

**SB16@24.5'**  
**R304029-07 (Soil)**

Summit Scientific

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 04/03/13 15:24

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3040307	04/03/13	04/04/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 04/03/13 15:24

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		92.8 %	30-150		"	"	"	"	

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

Date Sampled: 04/03/13 15:24

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3040306	04/03/13	04/03/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 04/03/13 15:24

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.2 %	21-167		"	"	"	"	

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/19/13 16:29

**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 3040307 - EPA 3550A**

<b>Blank (3040307-BLK1)</b>				Prepared: 04/03/13 Analyzed: 04/04/13						
C10-C28 (TEPH-DRO)	ND	50	mg/kg							
C28-C36 (TEPH-ORO)	ND	50	"							
<b>Blank (3040307-BLK2)</b>				Prepared: 04/03/13 Analyzed: 04/04/13						
C10-C28 (TEPH-DRO)	ND	50	mg/kg							
C28-C36 (TEPH-ORO)	ND	50	"							
<b>LCS (3040307-BS1)</b>				Prepared: 04/03/13 Analyzed: 04/04/13						
C10-C28 (TEPH-DRO)	573	50	mg/kg	501	114	73-134				
<b>LCS (3040307-BS2)</b>				Prepared: 04/03/13 Analyzed: 04/04/13						
C10-C28 (TEPH-DRO)	505	50	mg/kg	501	101	73-134				
<b>LCS Dup (3040307-BSD1)</b>				Prepared: 04/03/13 Analyzed: 04/04/13						
C10-C28 (TEPH-DRO)	559	50	mg/kg	501	112	73-134	2.51	11		
<b>LCS Dup (3040307-BSD2)</b>				Prepared: 04/03/13 Analyzed: 04/04/13						
C10-C28 (TEPH-DRO)	552	50	mg/kg	501	110	73-134	8.77	11		
<b>Matrix Spike (3040307-MS1)</b>				Source: R304031-01 Prepared: 04/03/13 Analyzed: 04/04/13						
C10-C28 (TEPH-DRO)	909	50	mg/kg	501	283	125	50-148			
<b>Matrix Spike (3040307-MS2)</b>				Source: R304031-02 Prepared: 04/03/13 Analyzed: 04/04/13						
C10-C28 (TEPH-DRO)	584	50	mg/kg	501	ND	117	50-148			
<b>Matrix Spike Dup (3040307-MSD1)</b>				Source: R304031-01 Prepared: 04/03/13 Analyzed: 04/04/13						
C10-C28 (TEPH-DRO)	888	50	mg/kg	501	283	121	50-148	2.42	13	

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/19/13 16:29

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

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

**Batch 3040307 - EPA 3550A**

<b>Matrix Spike Dup (3040307-MSD2)</b>	<b>Source: R304031-02</b>		Prepared: 04/03/13		Analyzed: 04/04/13				
C10-C28 (TEPH-DRO)	580	50	mg/kg	501	ND	116	50-148	0.781	13

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/19/13 16:29

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

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

**Batch 3040305 - EPA 5030 Water MS**

**Blank (3040305-BLK1)**

Prepared: 04/03/13 Analyzed: 04/04/13

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>	12.7		"	13.2	96.0	37-154				
<i>Surrogate: Toluene-d8</i>	13.2		"	13.3	99.3	45-149				
<i>Surrogate: 4-Bromofluorobenzene</i>	12.9		"	13.3	96.8	45-146				

**LCS (3040305-BS1)**

Prepared: 04/03/13 Analyzed: 04/04/13

Benzene	21.2	1.0	ug/l	33.3	63.5	51-132				
Toluene	23.0	1.0	"	33.3	69.1	51-138				
Ethylbenzene	24.5	1.0	"	33.3	73.5	58-146				
m,p-Xylene	49.4	2.0	"	66.7	74.1	57-144				
o-Xylene	24.0	1.0	"	33.3	71.9	53-146				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.1		"	13.2	98.7	37-154				
<i>Surrogate: Toluene-d8</i>	13.4		"	13.3	101	45-149				
<i>Surrogate: 4-Bromofluorobenzene</i>	13.3		"	13.3	100	45-146				

**LCS Dup (3040305-BSD1)**

Prepared: 04/03/13 Analyzed: 04/04/13

Benzene	19.8	1.0	ug/l	33.3	59.3	51-132	6.84	17		
Toluene	21.5	1.0	"	33.3	64.4	51-138	7.05	17		
Ethylbenzene	23.2	1.0	"	33.3	69.6	58-146	5.49	16		
m,p-Xylene	46.5	2.0	"	66.7	69.7	57-144	6.09	16		
o-Xylene	22.7	1.0	"	33.3	68.2	53-146	5.31	15		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	12.2		"	13.2	92.2	37-154				
<i>Surrogate: Toluene-d8</i>	13.3		"	13.3	99.5	45-149				
<i>Surrogate: 4-Bromofluorobenzene</i>	12.6		"	13.3	94.2	45-146				

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/19/13 16:29

**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 3040306 - EPA 5030 Soil MS**

LCS (3040306-BS1)		Prepared: 04/03/13 Analyzed: 04/04/13								
Benzene	0.0820	0.0050	mg/kg	0.100		82.0	58-130			
Toluene	0.0928	0.0050	"	0.100		92.8	61-134			
Ethylbenzene	0.118	0.0050	"	0.100		118	74-139			
m,p-Xylene	0.226	0.010	"	0.200		113	73-137			
o-Xylene	0.113	0.0050	"	0.100		113	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0421		"	0.0397		106	23-173			
Surrogate: Toluene-d8	0.0386		"	0.0400		96.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0410		"	0.0400		102	21-167			

LCS Dup (3040306-BSD1)		Prepared: 04/03/13 Analyzed: 04/04/13								
Benzene	0.0783	0.0050	mg/kg	0.100		78.3	58-130	4.64	13	
Toluene	0.0899	0.0050	"	0.100		89.9	61-134	3.12	16	
Ethylbenzene	0.120	0.0050	"	0.100		120	74-139	1.76	12	
m,p-Xylene	0.230	0.010	"	0.200		115	73-137	1.70	14	
o-Xylene	0.117	0.0050	"	0.100		117	73-141	3.26	12	
Surrogate: 1,2-Dichloroethane-d4	0.0406		"	0.0397		102	23-173			
Surrogate: Toluene-d8	0.0366		"	0.0400		91.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400		96.8	21-167			

Matrix Spike (3040306-MS1)		Source: R304031-01		Prepared: 04/03/13 Analyzed: 04/04/13							
Benzene	0.0806	0.0050	mg/kg	0.100	ND	80.6	30-131				
Toluene	0.0920	0.0050	"	0.100	ND	92.0	30-134				
Ethylbenzene	0.120	0.0050	"	0.100	ND	120	22-153				
m,p-Xylene	0.236	0.010	"	0.200	0.0100	113	10-159				
o-Xylene	0.123	0.0050	"	0.100	0.00900	114	31-151				
Surrogate: 1,2-Dichloroethane-d4	0.0439		"	0.0397		111	23-173				
Surrogate: Toluene-d8	0.0381		"	0.0400		95.2	20-170				
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		99.0	21-167				

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/19/13 16:29

**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 3040306 - EPA 5030 Soil MS**

Matrix Spike Dup (3040306-MSD1)	Source: R304031-01			Prepared: 04/03/13	Analyzed: 04/04/13					
Benzene	0.0825	0.0050	mg/kg	0.100	ND	82.5	30-131	2.43	34	
Toluene	0.0938	0.0050	"	0.100	ND	93.8	30-134	1.94	30	
Ethylbenzene	0.120	0.0050	"	0.100	ND	120	22-153	0.251	24	
m,p-Xylene	0.237	0.010	"	0.200	0.0100	113	10-159	0.241	68	
o-Xylene	0.124	0.0050	"	0.100	0.00900	115	31-151	1.09	38	
Surrogate: 1,2-Dichloroethane-d4	0.0434		"	0.0397		109	23-173			
Surrogate: Toluene-d8	0.0377		"	0.0400		94.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0415		"	0.0400		104	21-167			

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1  
Project Number: 0142-13053.003  
Project Manager: John Cocroft

**Reported:**  
04/19/13 16:29

### 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

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 05, 2013

John Cocroft

LT Environmental, Inc.

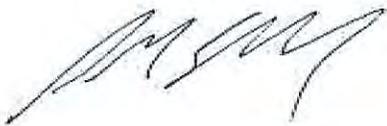
4600 West 60th Avenue

Arvada, CO 80003

RE: KMG - Helgoth Heirs Unit #1

Enclosed are the results of analyses for samples received by Summit Scientific on 04/04/13 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury  
President / Laboratory Manager

S<sub>2</sub>

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

Project: KMG - Helgoth Heirs Unit #1

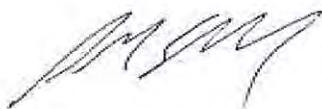
Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/05/13 07:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB15	R304056-01	Water	04/04/13 10:05	04/04/13 16:00
SB17@21'	R304056-02	Soil	04/04/13 10:30	04/04/13 16:00

Summit Scientific



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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/05/13 07:37

**SB15**  
**R304056-01 (Water)**

**Summit Scientific**

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

Date Sampled: 04/04/13 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>7.2</b>	1.0	ug/l	1	3040210	04/04/13	04/04/13	EPA 8260B	
<b>Toluene</b>	<b>1.3</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>22</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>700</b>	1.0	"	"	"	"	"	"	

Date Sampled: 04/04/13 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		101 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		104 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.1 %	45-146		"	"	"	"	

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/05/13 07:37

**SB17@21'**  
**R304056-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 04/04/13 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3040402	04/04/13	04/04/13	8015 Full Carbon Chain	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 04/04/13 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		93.4 %	30-150		"	"	"	"	

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

Date Sampled: 04/04/13 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3040414	04/04/13	04/04/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 04/04/13 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.1 %	21-167		"	"	"	"	

Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1  
Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/05/13 07:37

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

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

**Batch 3040402 - EPA 3550A**

**Blank (3040402-BLK1)**

Prepared: 04/04/13 Analyzed: 04/05/13

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

**LCS (3040402-BS1)**

Prepared: 04/04/13 Analyzed: 04/05/13

C10-C28 (TEPH-DRO)	570	50	mg/kg	501	114	73-134			
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**LCS Dup (3040402-BSD1)**

Prepared: 04/04/13 Analyzed: 04/05/13

C10-C28 (TEPH-DRO)	551	50	mg/kg	501	110	73-134	3.31	11	
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**Matrix Spike (3040402-MS1)**

Source: R304026-05

Prepared: 04/04/13 Analyzed: 04/05/13

C10-C28 (TEPH-DRO)	597	50	mg/kg	501	119	50-148			
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**Matrix Spike Dup (3040402-MSD1)**

Source: R304026-05

Prepared: 04/04/13 Analyzed: 04/05/13

C10-C28 (TEPH-DRO)	582	50	mg/kg	501	116	50-148	2.60	13	
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Summit Scientific

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/05/13 07:37

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

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

**Batch 3040210 - EPA 5030 Water MS**

**Blank (3040210-BLK1)**

Prepared & Analyzed: 04/02/13

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>13.2</i>	<i>99.1</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.1</i>		<i>"</i>	<i>13.3</i>	<i>98.1</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>14.1</i>		<i>"</i>	<i>13.3</i>	<i>106</i>	<i>45-146</i>			

**LCS (3040210-BS1)**

Prepared & Analyzed: 04/02/13

Benzene	30.0	1.0	ug/l	33.3	90.0	51-132			
Toluene	33.7	1.0	"	33.3	101	51-138			
Ethylbenzene	40.7	1.0	"	33.3	122	58-146			
m,p-Xylene	78.7	2.0	"	66.7	118	57-144			
o-Xylene	39.1	1.0	"	33.3	117	53-146			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.5</i>		<i>"</i>	<i>13.2</i>	<i>102</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.9</i>		<i>"</i>	<i>13.3</i>	<i>96.6</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.6</i>		<i>"</i>	<i>13.3</i>	<i>102</i>	<i>45-146</i>			

**LCS Dup (3040210-BSD1)**

Prepared & Analyzed: 04/02/13

Benzene	28.3	1.0	ug/l	33.3	84.8	51-132	5.87	17	
Toluene	32.3	1.0	"	33.3	96.8	51-138	4.25	17	
Ethylbenzene	41.5	1.0	"	33.3	124	58-146	1.85	16	
m,p-Xylene	79.5	2.0	"	66.7	119	57-144	1.11	16	
o-Xylene	39.2	1.0	"	33.3	117	53-146	0.230	15	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>12.5</i>		<i>"</i>	<i>13.2</i>	<i>94.4</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.9</i>		<i>"</i>	<i>13.3</i>	<i>96.8</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.4</i>		<i>"</i>	<i>13.3</i>	<i>101</i>	<i>45-146</i>			

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LT Environmental, Inc.  
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Arvada CO, 80003

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/05/13 07:37

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

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

**Batch 3040210 - EPA 5030 Water MS**

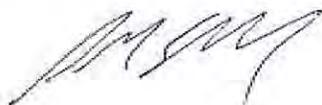
Matrix Spike (3040210-MS1)	Source: R304004-04			Prepared & Analyzed: 04/02/13						
Benzene	29.9	1.0	ug/l	33.3	ND	89.6	34-141			
Toluene	34.7	1.0	"	33.3	ND	104	27-151			
Ethylbenzene	41.2	1.0	"	33.3	ND	124	29-160			
m,p-Xylene	79.3	2.0	"	66.7	ND	119	20-166			
o-Xylene	39.7	1.0	"	33.3	ND	119	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.0		"	13.2		98.5	37-154			
Surrogate: Toluene-d8	12.8		"	13.3		95.6	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101	45-146			

Matrix Spike Dup (3040210-MSD1)	Source: R304004-04			Prepared & Analyzed: 04/02/13						
Benzene	29.0	1.0	ug/l	33.3	ND	87.1	34-141	2.89	32	
Toluene	32.6	1.0	"	33.3	ND	97.9	27-151	6.06	25	
Ethylbenzene	40.8	1.0	"	33.3	ND	122	29-160	1.05	50	
m,p-Xylene	78.4	2.0	"	66.7	ND	118	20-166	1.12	36	
o-Xylene	39.7	1.0	"	33.3	ND	119	33-159	0.0504	26	
Surrogate: 1,2-Dichloroethane-d4	13.0		"	13.2		98.5	37-154			
Surrogate: Toluene-d8	12.6		"	13.3		94.6	45-149			
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3		103	45-146			

**Batch 3040414 - EPA 5030 Soil MS**

Blank (3040414-BLK1)	Prepared & Analyzed: 04/04/13									
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	0.0404		"	0.0397		102	23-173			
Surrogate: Toluene-d8	0.0389		"	0.0400		97.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0413		"	0.0400		103	21-167			

Summit Scientific



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

Project: KMG - Helgoth Heirs Unit #1  
Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/05/13 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 3040414 - EPA 5030 Soil MS**

**LCS (3040414-BS1)**

Prepared & Analyzed: 04/04/13

Benzene	0.136	0.0050	mg/kg	0.150		90.7	58-130			
Toluene	0.135	0.0050	"	0.150		89.7	61-134			
Ethylbenzene	0.157	0.0050	"	0.150		105	74-139			
m,p-Xylene	0.318	0.010	"	0.300		106	73-137			
o-Xylene	0.150	0.0050	"	0.150		100	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0384</i>		"	<i>0.0397</i>		<i>96.8</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0373</i>		"	<i>0.0400</i>		<i>93.3</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0384</i>		"	<i>0.0400</i>		<i>96.0</i>	<i>21-167</i>			

**LCS Dup (3040414-BSD1)**

Prepared & Analyzed: 04/04/13

Benzene	0.153	0.0050	mg/kg	0.150		102	58-130	12.0	13	
Toluene	0.152	0.0050	"	0.150		101	61-134	11.8	16	
Ethylbenzene	0.155	0.0050	"	0.150		103	74-139	1.42	12	
m,p-Xylene	0.310	0.010	"	0.300		103	73-137	2.53	14	
o-Xylene	0.154	0.0050	"	0.150		103	73-141	2.92	12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0427</i>		"	<i>0.0397</i>		<i>108</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0401</i>		"	<i>0.0400</i>		<i>100</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0422</i>		"	<i>0.0400</i>		<i>105</i>	<i>21-167</i>			

**Matrix Spike (3040414-MS1)**

Source: R304052-01

Prepared & Analyzed: 04/04/13

Benzene	0.123	0.0050	mg/kg	0.150	ND	81.7	30-131			
Toluene	0.118	0.0050	"	0.150	ND	78.8	30-134			
Ethylbenzene	0.120	0.0050	"	0.150	ND	79.9	22-153			
m,p-Xylene	0.240	0.010	"	0.300	ND	79.9	10-159			
o-Xylene	0.123	0.0050	"	0.150	ND	81.7	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0475</i>		"	<i>0.0397</i>		<i>120</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0400</i>		"	<i>0.0400</i>		<i>100</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0412</i>		"	<i>0.0400</i>		<i>103</i>	<i>21-167</i>			

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

Project: KMG - Helgoth Heirs Unit #1

Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/05/13 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 3040414 - EPA 5030 Soil MS**

Matrix Spike Dup (3040414-MSD1)	Source: R304052-01			Prepared & Analyzed: 04/04/13						
Benzene	0.117	0.0050	mg/kg	0.150	ND	77.8	30-131	4.84	34	
Toluene	0.113	0.0050	"	0.150	ND	75.1	30-134	4.83	30	
Ethylbenzene	0.114	0.0050	"	0.150	ND	75.8	22-153	5.29	24	
m,p-Xylene	0.226	0.010	"	0.300	ND	75.5	10-159	5.63	68	
o-Xylene	0.116	0.0050	"	0.150	ND	77.3	31-151	5.48	38	
Surrogate: 1,2-Dichloroethane-d4	0.0456		"	0.0397		115	23-173			
Surrogate: Toluene-d8	0.0406		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0412		"	0.0400		103	21-167			

Summit Scientific

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S<sub>2</sub>

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

Project: KMG - Helgoth Heirs Unit #1  
Project Number: 0142-13053.003  
Project Manager: John Cocroft

Reported:  
04/05/13 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

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Summit Scientific

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# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 01, 2013

Mike Dinkel  
Anadarko - Denver  
1099 18th St, Suite 1800  
Denver, CO 80202  
RE: Helgoth Heirs #1

Enclosed are the results of analyses for samples received by Summit Scientific on 07/29/13 14:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Joseph J Egry IV For Ben Shrewsbury  
President / Laboratory Manager

This report shall not be reproduced, except in its entirety, without the written approval of Summit Scientific. Test results relate only to samples analyzed.

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Anadarko - Denver  
1099 18th St, Suite 1800  
Denver CO, 80202

Project: Helgoth Heirs #1

Project Number: AFE #2086239.EHS  
Project Manager: Mike Dinkel

Reported:  
08/01/13 09:10

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@14'	R307271-01	Soil	07/29/13 09:45	07/29/13 14:30
N01@10'	R307271-02	Soil	07/29/13 09:50	07/29/13 14:30
E01@10'	R307271-03	Soil	07/29/13 10:10	07/29/13 14:30
S01@10'	R307271-04	Soil	07/29/13 10:20	07/29/13 14:30
W01@10'	R307271-05	Soil	07/29/13 10:30	07/29/13 14:30
B02@12'	R307271-06	Soil	07/29/13 10:45	07/29/13 14:30
TP1@4'	R307271-07	Soil	07/29/13 10:00	07/29/13 14:30



S<sub>2</sub>

Anadarko - Denver  
1099 18th St, Suite 1800  
Denver CO, 80202

Project: Helgoth Heirs #1  
Project Number: AFE #2086239.EHS  
Project Manager: Mike Dinkel

Reported:  
08/01/13 09:10

**B01@14'**  
**R307271-01 (Soil)**

Summit Scientific

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 07/29/13 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	170	50	mg/kg	1	3072914	07/29/13	07/30/13	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 07/29/13 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		122 %	30-150		"	"	"	"	

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

Date Sampled: 07/29/13 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3072913	07/29/13	07/31/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	9.6	0.50	"	"	"	"	"	"	

Date Sampled: 07/29/13 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	21-167		"	"	"	"	

Summit Scientific

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Anadarko - Denver  
1099 18th St, Suite 1800  
Denver CO, 80202

Project: Helgoth Heirs #1  
Project Number: AFE #2086239.EHS  
Project Manager: Mike Dinkel

Reported:  
08/01/13 09:10

N01@10'  
R307271-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/29/13 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	140	50	mg/kg	1	3072914	07/29/13	07/30/13	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 07/29/13 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		121 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/29/13 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3072913	07/29/13	07/31/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	11	0.50	"	"	"	"	"	"	

Date Sampled: 07/29/13 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

Summit Scientific

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Anadarko - Denver  
1099 18th St, Suite 1800  
Denver CO, 80202

Project: Helgoth Heirs #1  
Project Number: AFE #2086239.EHS  
Project Manager: Mike Dinkel

Reported:  
08/01/13 09:10

**E01@10'**  
**R307271-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 07/29/13 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	260	50	mg/kg	1	3072914	07/29/13	07/30/13	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 07/29/13 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		102 %	30-150		"	"	"	"	

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

Date Sampled: 07/29/13 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3072913	07/29/13	07/31/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.014	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	220	5.0	"	10	"	"	07/30/13	"	

Date Sampled: 07/29/13 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	07/31/13	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		321 %	21-167		"	"	"	"	S-02

Summit Scientific

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Anadarko - Denver  
1099 18th St, Suite 1800  
Denver CO, 80202

Project: Helgoth Heirs #1  
Project Number: AFE #2086239.EHS  
Project Manager: Mike Dinkel

Reported:  
08/01/13 09:10

S01@10'  
R307271-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/29/13 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3072914	07/29/13	07/30/13	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 07/29/13 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		121 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/29/13 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3072913	07/29/13	07/30/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 07/29/13 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.0 %	21-167		"	"	"	"	

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Anadarko - Denver  
1099 18th St, Suite 1800  
Denver CO, 80202

Project: Helgoth Heirs #1  
Project Number: AFE #2086239.EHS  
Project Manager: Mike Dinkel

Reported:  
08/01/13 09:10

W01@10'  
R307271-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/29/13 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3072914	07/29/13	07/30/13	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 07/29/13 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		120 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/29/13 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3072913	07/29/13	07/30/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>0.56</b>	0.50	"	"	"	"	"	"	

Date Sampled: 07/29/13 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.4 %	21-167		"	"	"	"	

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Anadarko - Denver  
1099 18th St, Suite 1800  
Denver CO, 80202

Project: Helgoth Heirs #1  
Project Number: AFE #2086239.EHS  
Project Manager: Mike Dinkel

Reported:  
08/01/13 09:10

**B02@12'**  
**R307271-06 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 07/29/13 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3072914	07/29/13	07/30/13	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 07/29/13 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		121 %	30-150	"	"	"	"	"	

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

Date Sampled: 07/29/13 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3072913	07/29/13	07/30/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 07/29/13 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173	"	"	"	"	"	
Surrogate: Toluene-d8		99.5 %	20-170	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.8 %	21-167	"	"	"	"	"	

Summit Scientific

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Anadarko - Denver  
1099 18th St, Suite 1800  
Denver CO, 80202

Project: Helgoth Heirs #1

Project Number: AFE #2086239.EHS  
Project Manager: Mike Dinkel

Reported:  
08/01/13 09:10

TP1@4'  
R307271-07 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/29/13 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	1200	50	mg/kg	1	3072914	07/29/13	07/30/13	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 07/29/13 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		121 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/29/13 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	1.2	0.020	mg/kg	10	3072913	07/29/13	07/31/13	EPA 8260B	
Toluene	0.27	0.050	"	"	"	"	"	"	
Ethylbenzene	6.4	0.050	"	"	"	"	"	"	
Xylenes (total)	78	1.0	"	200	"	"	07/30/13	"	
Gasoline Range Hydrocarbons	1400	100	"	"	"	"	"	"	

Date Sampled: 07/29/13 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.6 %	23-173		"	"	07/31/13	"	
Surrogate: Toluene-d8		97.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		223 %	21-167		"	"	"	"	S-02

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.

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Anadarko - Denver  
1099 18th St, Suite 1800  
Denver CO, 80202

Project: Helgoth Heirs #1  
Project Number: AFE #2086239.EHS  
Project Manager: Mike Dinkel

Reported:  
08/01/13 09:10

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

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

**Batch 3072914 - EPA 3550A**

**Blank (3072914-BLK1)**

Prepared & Analyzed: 07/29/13

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

**LCS (3072914-BS1)**

Prepared & Analyzed: 07/29/13

C10-C28 (TEPH-DRO)	454	50	mg/kg	501	90.7	73-134				
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**LCS Dup (3072914-BSD1)**

Prepared & Analyzed: 07/29/13

C10-C28 (TEPH-DRO)	454	50	mg/kg	501	90.5	73-134	0.126	11		
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**Matrix Spike (3072914-MS1)**

Source: R307270-01

Prepared & Analyzed: 07/29/13

C10-C28 (TEPH-DRO)	499	50	mg/kg	501	ND	99.7	50-148			
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**Matrix Spike Dup (3072914-MSD1)**

Source: R307270-01

Prepared & Analyzed: 07/29/13

C10-C28 (TEPH-DRO)	499	50	mg/kg	501	ND	99.6	50-148	0.0365	13	
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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.*

S2

Anadarko - Denver  
1099 18th St, Suite 1800  
Denver CO, 80202

Project: Helgoth Heirs #1  
Project Number: AFE #2086239.EHS  
Project Manager: Mike Dinkel

Reported:  
08/01/13 09:10

**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 3072913 - EPA 5030 Soil MS**

**Blank (3072913-BLK1)**

Prepared & Analyzed: 07/29/13

Benzene	ND	0.0020	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	0.0384		"	0.0397	96.6	23-173				
Surrogate: Toluene-d8	0.0367		"	0.0400	91.8	20-170				
Surrogate: 4-Bromofluorobenzene	0.0407		"	0.0400	102	21-167				

**LCS (3072913-BS1)**

Prepared & Analyzed: 07/29/13

Benzene	0.108	0.0020	mg/kg	0.100	108	58-130				
Toluene	0.104	0.0050	"	0.100	104	61-134				
Ethylbenzene	0.127	0.0050	"	0.100	127	74-139				
m,p-Xylene	0.241	0.010	"	0.200	121	73-137				
o-Xylene	0.120	0.0050	"	0.100	120	73-141				
Surrogate: 1,2-Dichloroethane-d4	0.0393		"	0.0397	98.9	23-173				
Surrogate: Toluene-d8	0.0403		"	0.0400	101	20-170				
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400	100	21-167				

**LCS Dup (3072913-BSD1)**

Prepared & Analyzed: 07/29/13

Benzene	0.0960	0.0020	mg/kg	0.100	96.0	58-130	12.1	13		
Toluene	0.112	0.0050	"	0.100	112	61-134	6.70	16		
Ethylbenzene	0.127	0.0050	"	0.100	127	74-139	0.259	12		
m,p-Xylene	0.240	0.010	"	0.200	120	73-137	0.411	14		
o-Xylene	0.119	0.0050	"	0.100	119	73-141	0.806	12		
Surrogate: 1,2-Dichloroethane-d4	0.0418		"	0.0397	105	23-173				
Surrogate: Toluene-d8	0.0426		"	0.0400	106	20-170				
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400	99.4	21-167				

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.

S<sub>2</sub>

Anadarko - Denver  
1099 18th St, Suite 1800  
Denver CO, 80202

Project: Helgoth Heirs #1  
Project Number: AFE #2086239.EHS  
Project Manager: Mike Dinkel

Reported:  
08/01/13 09:10

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

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

**Batch 3072913 - EPA 5030 Soil MS**

<b>Matrix Spike (3072913-MS1)</b>		<b>Source: R307270-01</b>			<b>Prepared &amp; Analyzed: 07/29/13</b>					
Benzene	0.101	0.0020	mg/kg	0.100	ND	101	30-131			
Toluene	0.117	0.0050	"	0.100	ND	117	30-134			
Ethylbenzene	0.126	0.0050	"	0.100	ND	126	22-153			
m,p-Xylene	0.241	0.010	"	0.200	ND	120	10-159			
o-Xylene	0.120	0.0050	"	0.100	ND	120	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0449</i>		<i>"</i>	<i>0.0397</i>		<i>113</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0434</i>		<i>"</i>	<i>0.0400</i>		<i>108</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>		<i>98.5</i>	<i>21-167</i>			

<b>Matrix Spike Dup (3072913-MSD1)</b>		<b>Source: R307270-01</b>			<b>Prepared &amp; Analyzed: 07/29/13</b>					
Benzene	0.0982	0.0020	mg/kg	0.100	ND	98.2	30-131	2.41	34	
Toluene	0.114	0.0050	"	0.100	ND	114	30-134	3.07	30	
Ethylbenzene	0.126	0.0050	"	0.100	ND	126	22-153	0.0475	24	
m,p-Xylene	0.243	0.010	"	0.200	ND	122	10-159	0.980	68	
o-Xylene	0.120	0.0050	"	0.100	ND	120	31-151	0.425	38	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0432</i>		<i>"</i>	<i>0.0397</i>		<i>109</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0426</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0390</i>		<i>"</i>	<i>0.0400</i>		<i>97.5</i>	<i>21-167</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.*

S<sub>2</sub>

Anadarko - Denver  
1099 18th St, Suite 1800  
Denver CO, 80202

Project: Helgoth Heirs #1  
Project Number: AFE #2086239.EHS  
Project Manager: Mike Dinkel

**Reported:**  
08/01/13 09:10

### Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- 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



# Test Report

## eANALYTICS LABORATORY

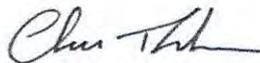
December 11, 2013

Client: Tasman Geosciences / Anadarko  
Project: Helgoth Hiers #1  
Lab ID: 393  
Date Samples Received: 12/11/2013  
Number of Samples: 5  
Sample Condition: Samples arrived intact and in appropriate sample containers  
Sample Temperature: Within acceptable range of 2-6° C, or as specified in EPA Method

The quality control procedures associated with the requested analyses were satisfactorily passed before the samples were run.

Thank you for allowing eAnalytics Laboratory to provide laboratory services for you.

Sincerely,



Christopher Dieken  
Quality Assurance Manager



Todd Rhea  
Laboratory Manager



Proudly certified by A2LA & The  
United States Department of Defense  
(DoD ELAP)

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538






 The logo for eANALYTICS LABORATORY features a stylized lowercase 'e' in green, followed by 'ANALYTICS' in a light green, sans-serif font. Below this, the word 'LABORATORY' is written in a dark green, spaced-out, sans-serif font.

Client: Tasman Geosciences / Anadarko

Lab ID: 393

Project: Helgoth Hiers #1

Method: EPA8260

Sample Name	Dibromo- fluoromethane % Recovery	1,2 Dichloro- ethane-D4 % Recovery	Toluene-D8 % Recovery	Bromo- fluorobenzene % Recovery	Date Sampled	Date Analyzed	Lab ID
E01 @ 10'	101	94	105	99	12/11/13	12/11/13	393 1
N01 @ 10'	97	103	103	100	12/11/13	12/11/13	393 2
S01 @ 10'	101	87	99	90	12/11/13	12/11/13	393 3
TPS @ 9'	91	89	105	88	12/11/13	12/11/13	393 4
TPN @ 9'	92	88	100	101	12/11/13	12/11/13	393 5

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538

**eANALYTICS**  
LABORATORY

Client: Tasman Geosciences / Anadarko Lab ID: 393  
 Project: Helgoth Hiers #1  
 Analysis: Volatile Organics Method: EPA8260  
 TPH-GRO / DRO / ORO EPA8260/8015

Sample Name	Benzene % Rec	Toluene % Rec	Ethyl- benzene % Rec	Total Xylenes % Rec	TPH GRO C6-C10 % Rec	TPH DRO C10-C28 % Rec	TPH ORO C28-C36 % Rec	Date Analyzed	Lab ID
Laboratory Control (70-130%)	96	92	95	97	103	95	92	12/11/13	LCS 393 1
Calibration Verification (80-120%)	92	101	94	95	99	98	91	12/11/13	CCV 393 1
Method Blank	< 0.01 mg/kg	< 0.01 mg/kg	< 0.01 mg/kg	< 0.01 mg/kg	< 50 mg/kg	< 50 mg/kg	< 50 mg/kg	12/11/13	MB 393 1

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538

# Test Report

## eANALYTICS LABORATORY

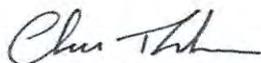
December 15, 2013

Client: Tasman Geosciences / Anadarko  
Project: Helgoth Heirs #1  
Lab ID: 407  
Date Samples Received: 12/13/2013  
Number of Samples: 4  
Sample Condition: Samples arrived intact and in appropriate sample containers  
Sample Temperature: Within acceptable range of 2-6° C, or as specified in EPA Method

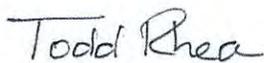
The quality control procedures associated with the requested analyses were satisfactorily passed before the samples were run.

Thank you for allowing eAnalytics Laboratory to provide laboratory services for you.

Sincerely,



Christopher Dieken  
Quality Assurance Manager



Todd Rhea  
Laboratory Manager



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(DoD ELAP)

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538

Chain of Custody

# eANALYTICS LABORATORY

Chain of Custody Form

eANALYTICS LABORATORY			eANALYTICS LABORATORY																		
1767 Rocky Mountain Avenue Loveland CO 80538			Phone: (970) 667-6975			Fax: (970) 669-0941			www.eAnalyticsLab.com												
CLIENT INFORMATION <small>(*New Clients please fill out completely)</small>			ANALYSIS INFORMATION <small>(Select analysis by checking box on corresponding sample line)</small>																		
Company: Tasman Geosciences / Anadarko			Number of Containers	Matrix: (S) Soil (W) Water (V) Vapor (O) Other	BTEX (EPA 8260)	BTEX/GRO (EPA 8260)	DRO/ORO (EPA 8015)	TPH-GRO/DRO/ORO (EPA 8260/8015)	SAR (US Dept of Ag Method 20B)	EC (US Dept of Ag Method 3)	pH (EPA 9045D)	Other Analysis									
Project: Helgoththeirs #1																					
Project Manager: Paul Schneider																					
Sampler: Jenna Barker																					
Phone/Email: 720-987-9717 / JBarker@Tasman-Geo.com																					
Address: 6899 Pecos Street, Unit C Denver, CO 80221																					
Lab ID	Sample Name	Sampling Date/Time																			
01	S02@17'	12/13/13 AM/PM	1	S		X	X														
02	W02@17'	↓ AM/PM	1	S		X	X														
03	B01@19'	↓ AM/PM	1	S		X	X														
04	B02@19'	↓ AM/PM	1	S		X	X														
Comments: By Tam 12/16/13 please																					
<b>Turnaround Time (Business Days)</b> TAT begins when sample is received by eANALYTICS <input type="radio"/> Normal (5-10 Days) <input type="radio"/> 3 Day (1.25x) <input type="radio"/> 1 Day (2x) <input type="radio"/> Same Day (3x) <input checked="" type="radio"/> Next Bus. Morning (APC Pricing)						<b>Record of Custody</b> Relinquished by: <i>[Signature]</i> Date: 12/13/13 Company: Tasman Time: AM/PM Received by: _____ Date: _____ Company: _____ Time: _____ AM/PM Relinquished by: _____ Date: _____ Company: _____ Time: _____ AM/PM Received by: <i>[Signature]</i> Date: 12/13/13 Company: eANALYTICS Time: 4:30 AM/PM															
<b>For eANALYTICS Use</b> Samples Received Intact <input checked="" type="radio"/> Yes / No Received Within Temperature Range (2-6°C) <input checked="" type="radio"/> Yes / No Sample Preservative Ice None Acid Other																					

WO # AFE 2086239.E15 405 eANALYTICS: Environmental testing made Easy Page 1 of 1

**eAnalytics Laboratory**  
1767 Rocky Mountain Avenue Loveland CO 80538



Soil  
Quality Control - Surrogate Recoveries

**e**ANALYTICS  
LABORATORY

Client: Tasman Geosciences / Anadarko

Lab ID: 407

Project: Helgoth Heirs #1

Method: EPA8260

Sample Name	Dibromo- fluoromethane % Recovery	1,2 Dichloro- ethane-D4 % Recovery	Toluene-D8 % Recovery	Bromo- fluorobenzene % Recovery	Date Sampled	Date Analyzed	Lab ID
S02 @ 17'	101	97	89	105	12/13/13	12/13/13	407 1
W02 @ 17'	91	93	89	92	12/13/13	12/13/13	407 2
B01 @ 19'	89	92	87	105	12/13/13	12/13/13	407 3
B02 @ 19'	102	102	91	99	12/13/13	12/13/13	407 4

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538



Client: Tasman Geosciences / Anadarko

Lab ID: 407

Project: Helgoth Heirs #1

Analysis: Volatile Organics  
TPH-GRO / DRO / ORO

Method: EPA8260  
EPA8260/8015

Sample Name	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPH GRO C6-C10	TPH DRO C10-C28	TPH ORO C28-C36	Date Analyzed	Lab ID	
	% Rec	% Rec	% Rec	% Rec	% Rec	% Rec	% Rec			
Laboratory Control (70-130%)	90	103	102	96	89	100	91	12/13/13	LCS	407 1
Calibration Verification (80-120%)	99	90	92	99	93	102	91	12/13/13	CCV	407 1
Method Blank	< 0.01 mg/kg	< 0.01 mg/kg	< 0.01 mg/kg	< 0.01 mg/kg	< 50 mg/kg	< 50 mg/kg	< 50 mg/kg	12/13/13	MB	407 1

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538

# Test Report

## eANALYTICS LABORATORY

December 17, 2013

Client: Tasman Geosciences / Anadarko  
Project: Helgoth Heirs #1  
Lab ID: 415  
Date Samples Received: 12/16/2013  
Number of Samples: 5  
Sample Condition: Samples arrived intact and in appropriate sample containers  
Sample Temperature: Within acceptable range of 2-6° C, or as specified in EPA Method

The quality control procedures associated with the requested analyses were satisfactorily passed before the samples were run.

Thank you for allowing eAnalytics Laboratory to provide laboratory services for you.

Sincerely,



Christopher Dieken  
Quality Assurance Manager



Todd Rhea  
Laboratory Manager



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United States Department of Defense  
(DoD ELAP)

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538





Client: Tasman Geosciences / Anadarko Lab ID: 415  
 Project: Helgoth Heirs #1  
 Analysis: Volatile Organics Method: EPA8260  
 TPH-GRO / DRO / ORO EPA8260/8015

Sample Name	Benzene mg/kg	Toluene mg/kg	Ethyl- benzene mg/kg	Total Xylenes mg/kg	TPH GRO C6-C10 mg/kg	TPH DRO C10-C28 mg/kg	TPH ORO C28-C36 mg/kg	Date	Date	Lab ID
								Sampled	Analyzed	
N02 @ 17'	< 0.01	< 0.01	< 0.01	< 0.01	< 50	< 50	< 50	12/16/13	12/16/13	415 1
B03 @ 19'	<b>0.021</b>	< 0.01	<b>0.994</b>	<b>16.3</b>	<b>115</b>	<b>121</b>	< 50	12/16/13	12/16/13	415 2
B04 @ 19'	< 0.01	<b>0.013</b>	<b>3.32</b>	<b>29.6</b>	<b>471</b>	<b>206</b>	< 50	12/16/13	12/16/13	415 3
W03 @ 17'	< 0.01	< 0.01	< 0.01	< 0.01	< 50	< 50	< 50	12/16/13	12/16/13	415 4
W04 @ 17'	< 0.01	< 0.01	< 0.01	<b>0.062</b>	< 50	< 50	< 50	12/16/13	12/16/13	415 5

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538

Soil  
Quality Control - Surrogate Recoveries



Client: Tasman Geosciences / Anadarko

Lab ID: 415

Project: Helgoth Heirs #1

Method: EPA8260

Sample Name	Dibromo- fluoromethane % Recovery	1,2 Dichloro- ethane-D4 % Recovery	Toluene-D8 % Recovery	Bromo- fluorobenzene % Recovery	Date Sampled	Date Analyzed	Lab ID
N02 @ 17'	92	105	88	93	12/16/13	12/16/13	415 1
B03 @ 19'	100	93	98	94	12/16/13	12/16/13	415 2
B04 @ 19'	86	94	95	102	12/16/13	12/16/13	415 3
W03 @ 17'	91	87	105	86	12/16/13	12/16/13	415 4
W04 @ 17'	101	100	90	97	12/16/13	12/16/13	415 5

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538



# Test Report

## eANALYTICS LABORATORY

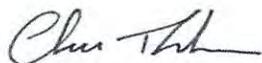
December 17, 2013

Client: Tasman Geosciences / Anadarko  
Project: Helgoth Heirs #1  
Lab ID: 419  
Date Samples Received: 12/17/2013  
Number of Samples: 1  
Sample Condition: Samples arrived intact and in appropriate sample containers  
Sample Temperature: Within acceptable range of 2-6° C, or as specified in EPA Method

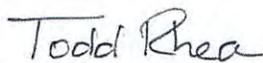
The quality control procedures associated with the requested analyses were satisfactorily passed before the samples were run.

Thank you for allowing eAnalytics Laboratory to provide laboratory services for you.

Sincerely,



Christopher Dieken  
Quality Assurance Manager



Todd Rhea  
Laboratory Manager



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(DoD ELAP)

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538





Client: Tasman Geosciences / Anadarko Lab ID: 419  
 Project: Helgoth Heirs #1  
 Analysis: Volatile Organics Method: EPA8260  
 TPH-GRO / DRO / ORO EPA8260/8015

Sample Name	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPH GRO C6-C10	TPH DRO C10-C28	TPH ORO C28-C36	Date Sampled	Date Analyzed	Lab ID
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
W05 @ 17'	< 0.01	< 0.01	< 0.01	< 0.01	< 50	< 50	< 50	12/17/13	12/17/13	419 1

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538

Soil  
Quality Control - Surrogate Recoveries



Client: Tasman Geosciences / Anadarko

Lab ID: 419

Project: Helgoth Heirs #1

Method: EPA8260

Sample Name	Dibromo- fluoromethane % Recovery	1,2 Dichloro- ethane-D4 % Recovery	Toluene-D8 % Recovery	Bromo- fluorobenzene % Recovery	Date Sampled	Date Analyzed	Lab ID
W05 @ 17'	90	89	97	94	12/17/13	12/17/13	419 1

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538



Client: Tasman Geosciences / Anadarko Lab ID: 419  
 Project: Helgoth Heirs #1  
 Analysis: Volatile Organics Method: EPA8260  
 TPH-GRO / DRO / ORO EPA8260/8015

Sample Name	Benzene % Rec	Toluene % Rec	Ethyl- benzene % Rec	Total Xylenes % Rec	TPH GRO C6-C10 % Rec	TPH DRO C10-C28 % Rec	TPH ORO C28-C36 % Rec	Date Analyzed	Lab ID	
Laboratory Control (70-130%)	93	91	99	90	98	102	99	12/17/13	LCS	419 1
Calibration Verification (80-120%)	102	99	95	98	93	91	101	12/17/13	CCV	419 1
Method Blank	< 0.01 mg/kg	< 0.01 mg/kg	< 0.01 mg/kg	< 0.01 mg/kg	< 50 mg/kg	< 50 mg/kg	< 50 mg/kg	12/17/13	MB	419 1

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538

# Test Report

## eANALYTICS LABORATORY

December 20, 2013

Client: Tasman Geosciences / Anadarko  
Project: Helgoth Heirs  
Lab ID: 439  
Date Samples Received: 12/19/2013  
Number of Samples: 3  
Sample Condition: Samples arrived intact and in appropriate sample containers  
Sample Temperature: Within acceptable range of 2-6° C, or as specified in EPA Method

The quality control procedures associated with the requested analyses were satisfactorily passed before the samples were run.

Thank you for allowing eAnalytics Laboratory to provide laboratory services for you.

Sincerely,



Christopher Dieken  
Quality Assurance Manager



Todd Rhea  
Laboratory Manager



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(DoD ELAP)

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538

Chain of Custody

# eANALYTICS

## LABORATORY

Chain of Custody Form

eANALYTICS LABORATORY			eANALYTICS LABORATORY																	
1767 Rocky Mountain Avenue Loveland CO 80538			Phone: (970) 667-6975			Fax: (970) 669-0941			www.eAnalyticsLab.com											
CLIENT INFORMATION				ANALYSIS INFORMATION																
(*New Clients please fill out completely)				(*Select analysis by checking box on corresponding sample line)																
Company: Tasman Geosciences / Anadarko				Number of Containers	Matrix: (S) Soil (W) Water (V) Vapor (O) Other	BTEX (EPA 8260)	BTEX/GRO (EPA 8260)	DRO/ORO (EPA 8015)	TPH-GRO/DRO/ORO (EPA 8260/8015)	SAR (US Dept of Ag Method 20B)	EC (US Dept of Ag Method 3)	pH (EPA 9045D)	Other Analysis							
Project: Helgoth Heirs																				
Project Manager: Paul Schneider																				
Sampler: Jenna Barker																				
Phone/Email: 720-987-9717 / JBarker@Tasman-Geo.com																				
Address: 6899 Pecos Street, Unit C Denver, CO 80221																				
Lab ID	Sample Name	Sampling Date/Time																		
1	EO1@17'	12/19/13 AM/PM	15			X	X													
2	EO2@17'	↓ AM/PM	15			X	X													
3	EO3@17'	↓ AM/PM	15			X	X													
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		
Comments: By Tam 12/20/13																				
<b>Turnaround Time (Business Days)</b> TAT begins when sample is received by eANALYTICS <input type="radio"/> Normal (5-10 Days) <input type="radio"/> 3 Day (1.25x) <input type="radio"/> 1 Day (2x) <input checked="" type="radio"/> Same Day (3x) <input type="radio"/> Next Bus. Morning (APC Pricing)				<b>Record of Custody</b> Relinquished by: [Signature] Date: 12/19/13 Company: Tasman Time: AM/PM Received by: [Signature] Date: _____ Company: _____ Time: AM/PM Relinquished by: [Signature] Date: _____ Company: _____ Time: AM/PM Received by: [Signature] Date: 12/19/13 Company: eANALYTICS Time: 4:10 AM/PM																
<b>For eANALYTICS Use</b> Samples Received Intact Yes/No Received Within Temperature Range (2-6°C) Yes/No Sample Preservative Ice/Acid/None/Other																				

WO # 439

eANALYTICS: Environmental testing made Easy

Page 1 of 1

eAnalytics Laboratory

1767 Rocky Mountain Avenue Loveland CO 80538

The results contained within this report relate only to the items analyzed





Client: Tasman Geosciences / Anadarko

Lab ID: 439

Project: Helgoth Heirs

Method: EPA8260

Sample Name	Dibromo- fluoromethane % Recovery	1,2 Dichloro- ethane-D4 % Recovery	Toluene-D8 % Recovery	Bromo- fluorobenzene % Recovery	Date Sampled	Date Analyzed	Lab ID
E01 @ 17'	97	101	90	87	12/19/13	12/19/13	439 1
E02 @ 17'	103	88	96	92	12/19/13	12/19/13	439 2
E03 @ 17'	99	88	100	103	12/19/13	12/19/13	439 3

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538



# Test Report

## eANALYTICS LABORATORY

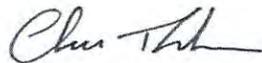
December 22, 2013

Client: Tasman Geosciences / Anadarko  
Project: Helgoth Heirs  
Lab ID: 450  
Date Samples Received: 12/20/2013  
Number of Samples: 3  
Sample Condition: Samples arrived intact and in appropriate sample containers  
Sample Temperature: Within acceptable range of 2-6° C, or as specified in EPA Method

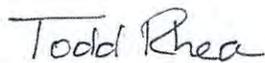
The quality control procedures associated with the requested analyses were satisfactorily passed before the samples were run.

Thank you for allowing eAnalytics Laboratory to provide laboratory services for you.

Sincerely,



Christopher Dieken  
Quality Assurance Manager



Todd Rhea  
Laboratory Manager



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(DoD ELAP)

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Chain of Custody

# eANALYTICS LABORATORY

Chain of Custody Form

eANALYTICS LABORATORY			eANALYTICS LABORATORY																		
1767 Rocky Mountain Avenue Loveland CO 80538			Phone: (970) 667-6975		Fax: (970) 669-0941		www.eAnalyticsLab.com														
CLIENT INFORMATION <small>(*New Clients please fill out completely)</small>			ANALYSIS INFORMATION <small>(Select analysis by checking box on corresponding sample line)</small>																		
Company: Tasman Geosciences / Anadarko			Number of Containers	Matrix (S) Soil (W) Water (V) Vapor (O) Other	BTEX (EPA 8260)	BTEX/GRO (EPA 8260)	DRO/GRO (EPA 8015)	TPH-GRO/DRO/GRO (EPA 8260/8015)	SAR (US Dept of Ag Method 20B)	EC (US Dept of Ag Method 3)	pH (EPA 9045D)	Other Analysis									
Project: Helgeth Heirs																					
Project Manager: Paul Schneider																					
Sampler: Jenna Barker																					
Phone/Email: 720-987-9717 / JBarker@Tasman-Geo.com																					
Address: 6899 Pecos Street, Unit C Denver, CO 80221																					
Lab ID	Sample Name	Sampling Date/Time																			
01	E04@17	12/20/13 AM/PM	1	S		X	X														
02	E05@17	AM/PM	1	S		X	X														
03	N03@17	↓ AM/PM	1	S		X	X														
		AM/PM																			
		AM/PM																			
		AM/PM																			
		AM/PM																			
		AM/PM																			
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		AM/PM																			
		AM/PM																			
Comments: By 7am 12/23/13 Please																					
<b>Turnaround Time (Business Days)</b> TAT begins when sample is received by eANALYTICS <input type="radio"/> Normal (5-10 Days) <input type="radio"/> 3 Day (1.25x) <input type="radio"/> 1 Day (2x) <input checked="" type="radio"/> Same Day (3x) <input type="radio"/> Next Bus. Morning (APC Pricing)						<b>Record of Custody</b> Requisitioned by: <i>[Signature]</i> Date: 12/20/13 Company: Tasman Time: 1:15 PM Received by: _____ Date: _____ Company: _____ Time: _____ AM/PM Requisitioned by: _____ Date: _____ Company: _____ Time: _____ AM/PM Received by: <i>Todd Kly</i> Date: 12-20-13 Company: eANALYTICS Time: 12:15 AM															
<b>For eANALYTICS Use</b> Samples Received Intact <input checked="" type="radio"/> Yes <input type="radio"/> No Received Within Temperature Range (2-6°C) <input checked="" type="radio"/> Yes <input type="radio"/> No Sample Preservative: None <input checked="" type="radio"/> Acid <input type="radio"/> Other																					

WO # 450

eANALYTICS: Environmental testing made Easy

Page 1 of 1

## eAnalytics Laboratory

1767 Rocky Mountain Avenue Loveland CO 80538



Client: Tasman Geosciences / Anadarko Lab ID: 450  
 Project: Helgoth Heirs  
 Analysis: Volatile Organics Method: EPA8260  
 TPH-GRO / DRO / ORO EPA8260/8015

Sample Name	Benzene mg/kg	Toluene mg/kg	Ethyl- benzene mg/kg	Total Xylenes mg/kg	TPH	TPH	TPH	Date Sampled	Date Analyzed	Lab ID
					GRO C6-C10 mg/kg	DRO C10-C28 mg/kg	ORO C28-C36 mg/kg			
E04 @ 17	0.012	< 0.01	0.062	0.564	< 50	< 50	< 50	12/20/13	12/20/13	450 1
E05 @ 17	< 0.01	< 0.01	< 0.01	< 0.01	< 50	< 50	< 50	12/20/13	12/20/13	450 2
N03 @ 17	< 0.01	< 0.01	< 0.01	< 0.01	< 50	< 50	< 50	12/20/13	12/20/13	450 3

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538

Soil  
Quality Control - Surrogate Recoveries

December 22, 2013

**e**ANALYTICS  
LABORATORY

Client: Tasman Geosciences / Anadarko

Lab ID: 450

Project: Helgoth Heirs

Method: EPA8260

Sample Name	Dibromo- fluoromethane % Recovery	1,2 Dichloro- ethane-D4 % Recovery	Toluene-D8 % Recovery	Bromo- fluorobenzene % Recovery	Date Sampled	Date Analyzed	Lab ID
E04 @ 17	89	103	91	99	12/20/13	12/20/13	450 1
E05 @ 17	105	98	104	92	12/20/13	12/20/13	450 2
N03 @ 17	95	86	87	100	12/20/13	12/20/13	450 3

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538



Client: Tasman Geosciences / Anadarko

Lab ID: 450

Project: Helgoth Heirs

Analysis: Volatile Organics  
TPH-GRO / DRO / ORO

Method: EPA8260  
EPA8260/8015

Sample Name	Benzene % Rec	Toluene % Rec	Ethyl- benzene % Rec	Total Xylenes % Rec	TPH GRO C6-C10 % Rec	TPH DRO C10-C28 % Rec	TPH ORO C28-C36 % Rec	Date Analyzed	Lab ID
Laboratory Control (70-130%)	100	99	89	91	90	96	96	12/20/13	LCS 450 1
Calibration Verification (80-120%)	92	103	96	102	91	99	92	12/20/13	CCV 450 1
Method Blank	< 0.01 mg/kg	< 0.01 mg/kg	< 0.01 mg/kg	< 0.01 mg/kg	< 50 mg/kg	< 50 mg/kg	< 50 mg/kg	12/20/13	MB 450 1

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538