



**Durham Homestead #1 Pit Closure
COGCC Remediation Number – 7990
Form 4 (Notification of Completion)**

GRMR Oil & Gas LLC, (GRMR) is submitting this Form 4 (Sundry Notice) to report assessment and soil remediation activities associated with the closure of production pit (Facility ID – 116584 and 116585) at the Durham Homestead #1 (Remediation Number 7990) in the Williams Fork area of operations in Moffat County, Colorado. A topographical Site Location Map is attached as Figure 1.

REPORT OF WORK COMPLETED

LT Environmental Inc. (LTE) was contracted by GRMR to excavate hydrocarbon impacted soil identified during the 2013 soil boring activities (Document # 400509425). Figure 2 illustrates the pit location and 2013 soil borings. Table 1 summarizes the soil sample laboratory analytical results from the 2013 soil borings. No groundwater was encountered during soil boring activities. The following activities were conducted to remove identified hydrocarbon impacts and verify compliance with Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1.

On August 25, 2015, soil was excavated down to 18 feet (ft) below ground surface (bgs) in the location of SB03. The soil within the excavation was characterized continuously throughout excavation by visually inspecting soil, and screened using a photo-ionization detector (PID) to monitor the soil headspace for the presence of volatile organic vapors. Field screening methods indicated the complete removal of hydrocarbon impacted soil within the pothole. The pothole location is depicted on the attached Figure 2. No groundwater was encountered during excavation activities.

Following these remediation efforts, the excavated area was backfilled with clean fill material to match existing grade. Approximately 65 cubic yards of excavated soil was hauled off and treated to within COGCC Table 910-1 concentration levels by soil shredding.

NOTIFICATION OF COMPLETION

This Sundry Notice is being submitted as the Notification of Completion for COGCC Remediation #7990. If the information provided is satisfactory, please provide regulatory documentation of project completion.

ATTACHMENTS

Figure 1 - Site Location Map
Figure 2 - Site Map
Table 1 – Soil Confirmation Borings
Laboratory Analytical Reports

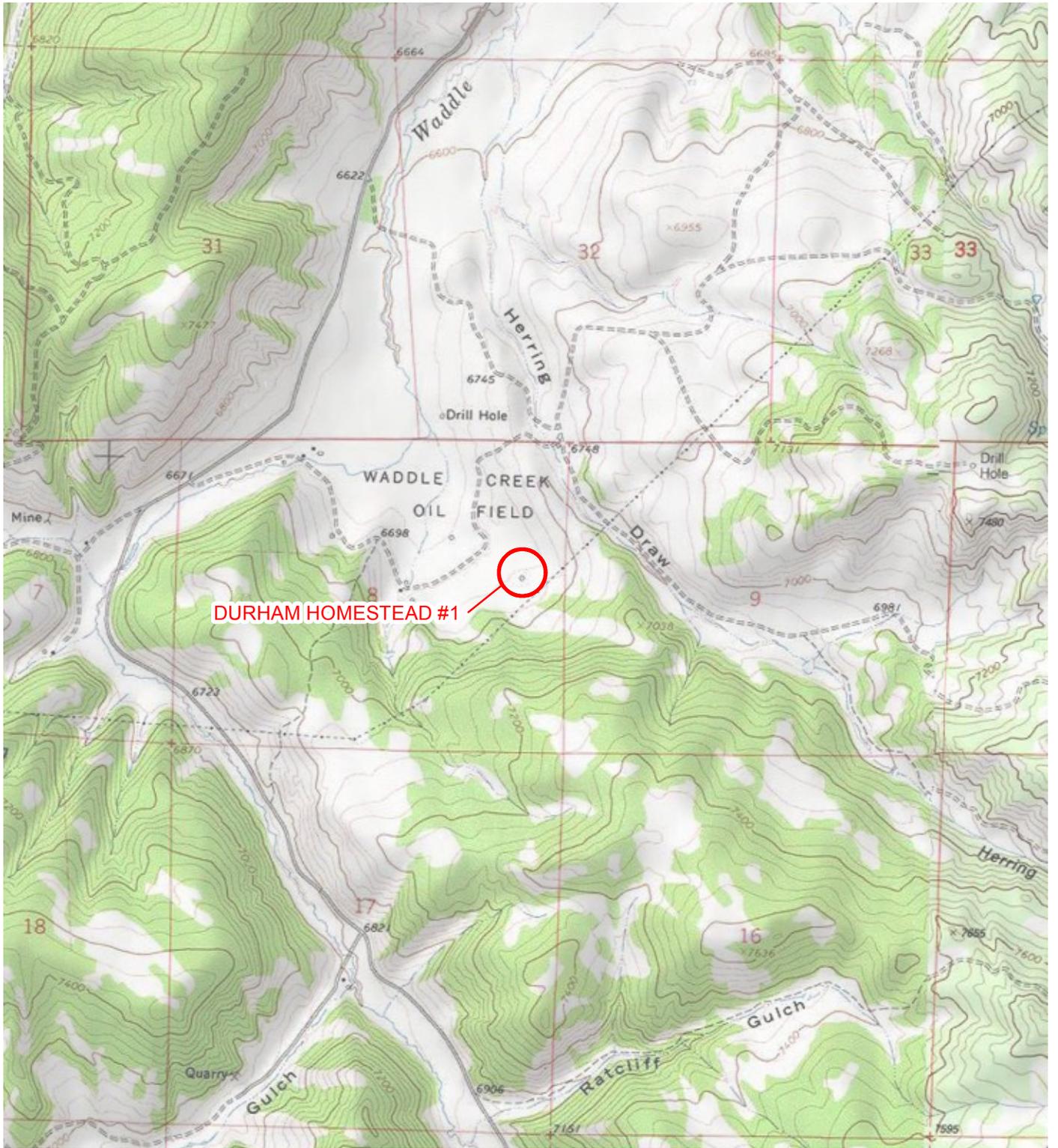


IMAGE COURTESY OF ESRI/USGS

LEGEND

 SITE LOCATION

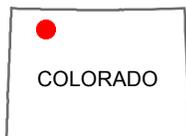
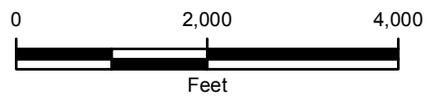
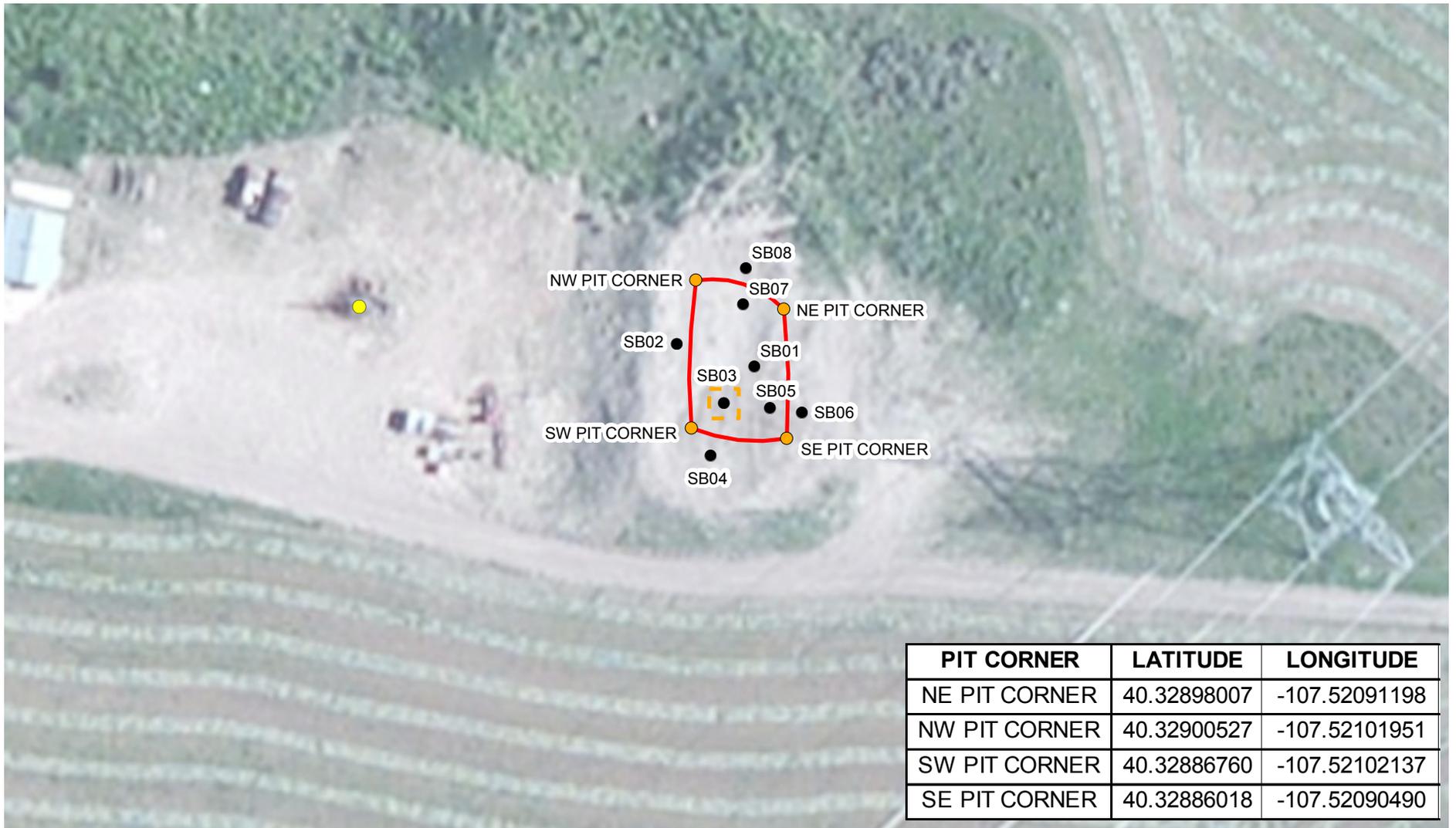


FIGURE 1
SITE LOCATION MAP
DURHAM HOMESTEAD #1
SENE SEC 8 T4N-R90W
MOFFAT COUNTY, COLORADO
GRMR OIL & GAS, LLC.





PIT CORNER	LATITUDE	LONGITUDE
NE PIT CORNER	40.32898007	-107.52091198
NW PIT CORNER	40.32900527	-107.52101951
SW PIT CORNER	40.32886760	-107.52102137
SE PIT CORNER	40.32886018	-107.52090490

IMAGE COURTESY OF ESRI

LEGEND

- DURHAM HOMESTEAD #1 WELLHEAD
- PIT CORNER
- SOIL BORING (9/25/2013)
- PIT BOUNDARY
- POTHOLE LOCATION

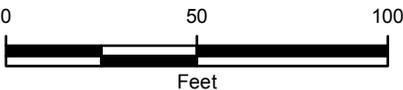


FIGURE 2
SITE MAP
 DURHAM HOMESTEAD #1
 SENE SEC 8 T4N-R90W
 MOFFAT COUNTY, COLORADO
GRMR OIL & GAS, LLC.



TABLE 1
PIT SOIL CONFIRMATION BORINGS
GRMR PRODUCTION PAD DURHAM HOMESTEAD #1
HAMILTON, COLORADO

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	Durham #1 SB01 @ 15-17	Durham #1 SB01 @ 30-32	Durham #1 SB02 @ 10-12	Durham #1 SB02 @ 26-27	Durham #1 SB03 @ 10-12	Durham #1 SB03 @ 20-22
Sample Date			9/23/2013	9/23/2013	9/25/2013	9/25/2013	9/25/2013	9/25/2013
Sample Type			Confirmation	Confirmation	Confirmation	Confirmation	Confirmation	Confirmation
Arsenic	0.39	mg/kg	0.837	0.421	0.794	0.471	0.913	0.616
Barium	15,000	mg/kg	104	80.1	338	79.9	224	97.2
Cadmium	70	mg/kg	0.418	0.471	0.348	0.576	0.617	0.347
Chromium (III)	120,000	mg/kg	15.8	15.0	12.2	13.4	16.1	12.1
Chromium (VI)	23	mg/kg	<1.09	<1.05	<1.11	<1.07	<1.21	<1.09
Copper	3,100	mg/kg	4.36	4.38	3.96	4.54	5.82	3.96
Lead	400	mg/kg	21.6	16.6	17.9	18.5	20.6	18.0
Mercury	23	mg/kg	0.0469	0.0421	<0.0400	0.0459	0.0522	0.0448
Nickel	1,600	mg/kg	25.2	22.2	23.0	25.1	28.5	22.3
Selenium	390	mg/kg	0.179	0.285	0.138	0.336	0.248	0.248
Silver	390	mg/kg	0.191	0.178	0.150	0.167	0.205	0.151
Zinc	23,000	mg/kg	82.9	73.5	72.7	78.2	90.6	73.5
EC	4.0	mmhos/cm	3.78	1.20	0.494	1.94	0.566	0.805
pH	6 - 9	SU	7.56	9.81	7.97	8.74	8.49	7.91
SAR	12	unitless	0.880	9.44	2.23	7.67	1.32	2.11
TPH-GRO		mg/kg	<0.50	6.0	<0.50	0.81	24	<0.50
TPH-DRO		mg/kg	<50	80	<50	83.0	650	200
TPH	500	mg/kg	<50.50	86.0	<50.50	83.81	674	200
Benzene	0.17	mg/kg	<0.0020	0.0088	<0.0020	<0.0020	0.0094	<0.0020
Toluene	85	mg/kg	<0.0050	0.043	<0.0050	0.018	<0.0050	<0.0050
Ethylbenzene	100	mg/kg	<0.0050	0.019	<0.0050	0.0070	0.031	<0.0050
Total Xylenes	175	mg/kg	<0.0050	0.095	<0.0050	0.040	<0.0050	<0.0050
Acenaphthene	1000	mg/kg	<0.005	0.0525	<0.005	0.0612	<0.005	<0.005
Anthracene	1000	mg/kg	0.0357	0.0958	<0.005	<0.005	0.0052	<0.005
Benzo(A)anthracene	0.22	mg/kg	<0.005	<0.005	<0.005	0.00769	<0.005	<0.005
Benzo(B)fluoranthene	0.22	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(K)fluoranthene	2.2	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(A)pyrene	0.022	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chrysene	22	mg/kg	<0.005	<0.005	<0.005	0.0118	<0.005	<0.005
Dibenzo(A,H)anthracene	0.022	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Fluoranthene	1000	mg/kg	0.00774	0.0131	<0.005	0.02	<0.005	<0.005
Fluorene	1000	mg/kg	<0.005	0.0587	<0.005	0.0647	0.045	<0.005
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Naphthalene	23	mg/kg	0.0578	0.517	<0.005	0.713	0.0105	0.00503
Pyrene	1000	mg/kg	<0.005	0.0328	<0.005	0.0445	<0.005	0.0089

NOTES:

- < - less than the stated reporting limit
- BOLD** - indicates result exceeds the COGCC concentration level
- COGCC - Colorado Oil and Gas Conservation Commission
- EC- electrical conductivity
- mg/kg - milligrams per kilogram
- mmhos/cm - millimhos per centimeter
- SAR- Sodium Adsorption Ratio
- SU - standard unit
- TPH-GRO - total petroleum hydrocarbons-gasoline range organics
- TPH-DRO - total petroleum hydrocarbons-diesel range organics
- TPH - combination of TPH-GRO and TPH-DRO



TABLE 1
PIT SOIL CONFIRMATION BORINGS
GRMR PRODUCTION PAD DURHAM HOMESTEAD #1
HAMILTON, COLORADO

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	Durham #1 SB04 @ 15-17	Durham #1 SB04 @ 25-27	Durham #1 SB05 @ 10-12	Durham #1 SB05 @ 25-27	Durham #1 SB06 @ 20-22
Sample Date			9/25/2013	9/25/2013	9/25/2013	9/25/2013	9/25/2013
Sample Type			Confirmation	Confirmation	Confirmation	Confirmation	Confirmation
Arsenic	0.39	mg/kg	0.828	0.639	0.879	0.550	0.743
Barium	15,000	mg/kg	145	95.8	30.3	91.2	82.5
Cadmium	70	mg/kg	0.616	0.237	0.298	0.523	0.293
Chromium (III)	120,000	mg/kg	12.3	12.2	4.65	5.00	6.41
Chromium (VI)	23	mg/kg	<1.12	<1.05	<1.12	<1.06	<1.06
Copper	3,100	mg/kg	4.05	4.00	4.97	4.61	5.17
Lead	400	mg/kg	17.3	17.0	16.1	16.1	15.0
Mercury	23	mg/kg	0.0583	0.042	0.0531	0.0493	0.0478
Nickel	1,600	mg/kg	22.8	20.6	9.63	9.81	9.96
Selenium	390	mg/kg	0.201	0.211	0.179	0.300	0.319
Silver	390	mg/kg	0.174	0.142	0.149	0.159	0.137
Zinc	23,000	mg/kg	68.4	69.6	17.5	14.9	18.4
EC	4.0	mmhos/cm	1.85	0.898	2.13	1.09	1.59
pH	6 - 9	SU	7.33	9.42	8.14	9.38	8.26
SAR	12	unitless	1.02	5.68	3.84	5.67	4.36
TPH-GRO		mg/kg	<0.50	1.3	7.1	4.9	1.6
TPH-DRO		mg/kg	<50	<50	490	53	71
TPH	500	mg/kg	<50.50	1.3	497.1	57.9	72.6
Benzene	0.17	mg/kg	<0.0020	0.0052	<0.0020	0.0065	<0.0020
Toluene	85	mg/kg	<0.0050	0.0052	<0.0050	0.067	0.026
Ethylbenzene	100	mg/kg	<0.0050	<0.0050	<0.0050	0.027	0.014
Total Xylenes	175	mg/kg	<0.0050	<0.0050	<0.0050	0.13	0.063
Acenaphthene	1000	mg/kg	<0.005	0.0297	<0.005	0.0283	0.0123
Anthracene	1000	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(A)anthracene	0.22	mg/kg	<0.005	0.00544	<0.005	0.00505	<0.005
Benzo(B)fluoranthene	0.22	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(K)fluoranthene	2.2	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(A)pyrene	0.022	mg/kg	<0.005	0.00503	<0.005	<0.005	<0.005
Chrysene	22	mg/kg	<0.005	0.0066	<0.005	0.00613	<0.005
Dibenzo(A,H)anthracene	0.022	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005
Fluoranthene	1000	mg/kg	<0.005	0.0103	<0.005	0.00891	0.00623
Fluorene	1000	mg/kg	<0.005	0.0283	0.0223	0.0321	0.0151
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005
Naphthalene	23	mg/kg	<0.005	0.0779	<0.005	0.339	0.375
Pyrene	1000	mg/kg	<0.005	0.0171	<0.005	0.0144	0.012

NOTES:

< - less than the stated reporting limit

BOLD - indicates result exceeds the COGCC concentration level

COGCC - Colorado Oil and Gas Conservation Commission

EC- electrical conductivity

mg/kg - milligrams per kilogram

mmhos/cm - millimhos per centimeter

SAR- Sodium Adsorption Ratio

SU - standard unit

TPH-GRO - total petroleum hydrocarbons-gasoline range organics

TPH-DRO - total petroleum hydrocarbons-diesel range organics

TPH - combination of TPH-GRO and TPH-DRO



TABLE 1
PIT SOIL CONFIRMATION BORINGS
GRMR PRODUCTION PAD DURHAM HOMESTEAD #1
HAMILTON, COLORADO

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	Durham #1 SB06 @ 25-27	Durham #1 SB07 @ 10-12	Durham #1 SB07 @ 25-27	Durham #1 SB08 @ 10-12	Durham #1 SB08 @ 25-27
Sample Date			9/25/2013	9/25/2013	9/25/2013	9/25/2013	9/25/2013
Sample Type			Confirmation	Confirmation	Confirmation	Confirmation	Confirmation
Arsenic	0.39	mg/kg	0.685	0.814	0.591	0.597	1.03
Barium	15,000	mg/kg	88.7	38.4	62.0	112	30.1
Cadmium	70	mg/kg	0.276	0.489	0.361	0.328	0.679
Chromium (III)	120,000	mg/kg	5.38	5.28	4.85	4.67	5.00
Chromium (VI)	23	mg/kg	<1.05	<1.11	<1.06	<1.11	<1.10
Copper	3,100	mg/kg	4.61	4.86	5.10	3.04	5.17
Lead	400	mg/kg	15.5	16.3	16.9	15.3	17.2
Mercury	23	mg/kg	0.0537	0.0547	<0.0531	0.0511	<0.0496
Nickel	1,600	mg/kg	10.0	11.2	10.4	9.07	13.6
Selenium	390	mg/kg	0.251	0.154	0.348	0.224	0.266
Silver	390	mg/kg	0.128	0.175	0.149	0.147	0.165
Zinc	23,000	mg/kg	16.8	16.4	15.1	8.58	23.0
EC	4.0	mmhos/cm	1.03	1.98	1.62	1.21	4.21
pH	6 - 9	SU	9.58	7.89	8.42	7.92	7.33
SAR	12	unitless	7.68	3.11	6.59	2.45	1.28
TPH-GRO		mg/kg	10	5.2	0.61	<0.45	<0.50
TPH-DRO		mg/kg	52	200	59	<50	<50
TPH	500	mg/kg	62	205.2	59.61	<50.45	<50.50
Benzene	0.17	mg/kg	0.036	0.0020	0.0020	<0.0018	<0.0020
Toluene	85	mg/kg	0.27	0.0050	0.026	<0.0045	<0.0050
Ethylbenzene	100	mg/kg	0.074	0.0050	0.0090	<0.0045	<0.0050
Total Xylenes	175	mg/kg	0.35	0.0050	0.029	<0.0045	<0.0050
Acenaphthene	1000	mg/kg	0.0278	<0.005	0.0321	<0.005	<0.005
Anthracene	1000	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(A)anthracene	0.22	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(B)fluoranthene	0.22	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(K)fluoranthene	2.2	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(A)pyrene	0.022	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005
Chrysene	22	mg/kg	0.00612	<0.005	0.00694	<0.005	<0.005
Dibenzo(A,H)anthracene	0.022	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005
Fluoranthene	1000	mg/kg	0.00745	<0.005	0.0147	<0.005	<0.005
Fluorene	1000	mg/kg	0.0355	<0.005	0.0218	<0.005	<0.005
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005
Naphthalene	23	mg/kg	0.791	<0.005	0.424	<0.005	0.0135
Pyrene	1000	mg/kg	0.0173	<0.005	0.0188	<0.005	0.00521

NOTES:

< - less than the stated reporting limit

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COGCC - Colorado Oil and Gas Conservation Commission

EC- electrical conductivity

mg/kg - milligrams per kilogram

mmhos/cm - millimhos per centimeter

SAR- Sodium Adsorption Ratio

SU - standard unit

TPH-GRO - total petroleum hydrocarbons-gasoline range organics

TPH-DRO - total petroleum hydrocarbons-diesel range organics

TPH - combination of TPH-GRO and TPH-DRO



Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 01, 2013

Rob Fishburn

LT Environmental, Inc.

4600 West 60th Avenue

Arvada, CO 80003

RE: SHE - Waddle Creek Pit Assessment

Enclosed are the results of analyses for samples received by Summit Scientific on 09/26/13 10:40. 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' or similar initials, with a long, sweeping horizontal line extending to the right.

Ben Shrewsbury For Joseph J Egry IV
Laboratory Director



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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Durham #1 SB03@10-12	R309203-01	Soil	09/25/13 09:15	09/26/13 10:40
Durham #1 SB03@20-22	R309203-02	Soil	09/25/13 09:35	09/26/13 10:40
Durham #1 SB02@10-12	R309203-03	Soil	09/25/13 08:05	09/26/13 10:40
Durham #1 SB02@26-27	R309203-04	Soil	09/25/13 08:35	09/26/13 10:40
Durham #1 SB04@15-17	R309203-05	Soil	09/25/13 10:50	09/26/13 10:40
Durham #1 SB04@25-27	R309203-06	Soil	09/25/13 11:10	09/26/13 10:40

Summit Scientific

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



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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Durham #1 SB03@10-12
R309203-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	650	50	mg/kg	1	3092617	09/26/13	09/27/13	8015M	

Date Sampled: **09/25/13 09:15**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0094	0.0020	mg/kg	1	3092616	09/26/13	09/27/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.031	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	24	0.50	"	"	"	"	"	"	

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		110 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.0 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		136 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3092704	09/27/13	09/29/13	EPA 8270D SIM	
Anthracene	5.20	5.00	"	"	"	"	"	"	

Summit Scientific

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



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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

**Durham #1 SB03@10-12
R309203-01 (Soil)**

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	5.00	ug/kg	1	3092704	09/27/13	09/29/13	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	ND	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"	
Fluoranthene	ND	5.00	"	"	"	"	"	"	
Fluorene	45.0	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"	
Naphthalene	10.5	5.00	"	"	"	"	"	"	
Pyrene	ND	5.00	"	"	"	"	"	"	

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		93.6 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		70.3 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.913	0.0923	mg/kg dry	1	3092614	09/26/13	09/28/13	EPA 6020A	
Barium	224	0.0923	"	"	"	"	"	"	
Cadmium	0.617	0.0923	"	"	"	"	"	"	
Chromium	17.3	0.462	"	"	"	"	"	"	
Copper	5.82	0.462	"	"	"	"	"	"	
Lead	20.6	0.0923	"	"	"	"	"	"	
Nickel	28.5	0.0923	"	"	"	"	"	"	
Selenium	0.248	0.0462	"	"	"	"	"	"	
Silver	0.205	0.0923	"	"	"	"	"	"	
Zinc	90.6	9.23	"	"	"	"	"	"	

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Durham #1 SB03@10-12
R309203-01 (Soil)

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.0522	0.0442	mg/kg dry	1	3092702	09/27/13	09/27/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.21	mg/kg dry	1	3092703	09/27/13	09/30/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	16.1	1.00	mg/kg	1	3100119	10/01/13	10/01/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	434	9.72	mg/kg dry	1	3092615	09/27/13	09/28/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	188	4.86	"	"	"	"	"	"	
Sodium	131	4.86	"	"	"	"	"	"	

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.32		units	"	3093001	09/30/13	09/30/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/01/13 19:32

**Durham #1 SB03@10-12
 R309203-01 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.566	0.0100	mmhos/cm	1	3092612	09/26/13	09/26/13	SM 2510B	

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.49	0.100	pH Units	"	3092613	09/26/13	09/26/13	EPA 9045	

Date Sampled: **09/25/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.4		%	"	3092611	09/26/13	09/27/13	% calculation	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Durham #1 SB03@20-22
R309203-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	200	50	mg/kg	1	3092617	09/26/13	09/27/13	8015M	

Date Sampled: **09/25/13 09:35**

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: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3092616	09/26/13	09/27/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.7 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3092704	09/27/13	09/29/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Durham #1 SB03@20-22
R309203-02 (Soil)

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	5.00	ug/kg	1	3092704	09/27/13	09/29/13	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	ND	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"	
Fluoranthene	ND	5.00	"	"	"	"	"	"	
Fluorene	ND	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"	
Naphthalene	5.03	5.00	"	"	"	"	"	"	
Pyrene	8.90	5.00	"	"	"	"	"	"	

Date Sampled: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		78.5 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		87.3 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.616	0.0801	mg/kg dry	1	3092614	09/26/13	09/28/13	EPA 6020A	
Barium	97.2	0.0801	"	"	"	"	"	"	
Cadmium	0.347	0.0801	"	"	"	"	"	"	
Chromium	13.2	0.400	"	"	"	"	"	"	
Copper	3.96	0.400	"	"	"	"	"	"	
Lead	18.0	0.0801	"	"	"	"	"	"	
Nickel	22.3	0.0801	"	"	"	"	"	"	
Selenium	0.248	0.0400	"	"	"	"	"	"	
Silver	0.151	0.0801	"	"	"	"	"	"	
Zinc	73.5	8.01	"	"	"	"	"	"	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Durham #1 SB03@20-22
R309203-02 (Soil)

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.0448	0.0398	mg/kg dry	1	3092702	09/27/13	09/27/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.09	mg/kg dry	1	3092703	09/27/13	09/30/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	12.1	1.00	mg/kg	1	3100119	10/01/13	10/01/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	339	8.92	mg/kg dry	1	3092615	09/27/13	09/28/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	184	4.46	"	"	"	"	"	"	
Sodium	194	4.46	"	"	"	"	"	"	

Date Sampled: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.11		units	"	3093001	09/30/13	09/30/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/01/13 19:32

**Durham #1 SB03@20-22
 R309203-02 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.805	0.0100	mmhos/cm	1	3092612	09/26/13	09/26/13	SM 2510B	

Date Sampled: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.91	0.100	pH Units	"	3092613	09/26/13	09/26/13	EPA 9045	

Date Sampled: **09/25/13 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.6		%	"	3092611	09/26/13	09/27/13	% calculation	

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Durham #1 SB02@10-12
R309203-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 08:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3092617	09/26/13	09/27/13	8015M	

Date Sampled: **09/25/13 08:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		97.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/25/13 08:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3092616	09/26/13	09/27/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/25/13 08:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane- <i>d</i> 4		113 %	23-173		"	"	"	"	
Surrogate: Toluene- <i>d</i> 8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.4 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 08:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3092704	09/27/13	09/29/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

**Durham #1 SB02@10-12
R309203-03 (Soil)**

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	5.00	ug/kg	1	3092704	09/27/13	09/29/13	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	ND	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"	
Fluoranthene	ND	5.00	"	"	"	"	"	"	
Fluorene	ND	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"	
Naphthalene	ND	5.00	"	"	"	"	"	"	
Pyrene	ND	5.00	"	"	"	"	"	"	

Date Sampled: 09/25/13 08:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		80.7 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		89.8 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 09/25/13 08:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.794	0.0829	mg/kg dry	1	3092614	09/26/13	09/28/13	EPA 6020A	
Barium	338	0.0829	"	"	"	"	"	"	
Cadmium	0.348	0.0829	"	"	"	"	"	"	
Chromium	13.3	0.415	"	"	"	"	"	"	
Copper	3.96	0.415	"	"	"	"	"	"	
Lead	17.9	0.0829	"	"	"	"	"	"	
Nickel	23.0	0.0829	"	"	"	"	"	"	
Selenium	0.138	0.0415	"	"	"	"	"	"	
Silver	0.150	0.0829	"	"	"	"	"	"	
Zinc	72.7	8.29	"	"	"	"	"	"	

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4600 West 60th Avenue
Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

**Durham #1 SB02@10-12
R309203-03 (Soil)**

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 08:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.0400	mg/kg dry	1	3092702	09/27/13	09/27/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 08:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.11	mg/kg dry	1	3092703	09/27/13	09/30/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 08:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	12.2	1.00	mg/kg	1	3100119	10/01/13	10/01/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 08:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	135	9.42	mg/kg dry	1	3092615	09/27/13	09/28/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	92.1	4.71	"	"	"	"	"	"	
Sodium	137	4.71	"	"	"	"	"	"	

Date Sampled: **09/25/13 08:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.23		units	"	3093001	09/30/13	09/30/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

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 Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/01/13 19:32

**Durham #1 SB02@10-12
 R309203-03 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 08:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.494	0.0100	mmhos/cm	1	3092612	09/26/13	09/26/13	SM 2510B	

Date Sampled: **09/25/13 08:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.97	0.100	pH Units	"	3092613	09/26/13	09/26/13	EPA 9045	

Date Sampled: **09/25/13 08:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.9		%	"	3092611	09/26/13	09/27/13	% calculation	

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Durham #1 SB02@26-27
R309203-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	83	50	mg/kg	1	3092617	09/26/13	09/27/13	8015M	

Date Sampled: **09/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		97.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3092616	09/26/13	09/27/13	EPA 8260B	
Toluene	0.018	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0070	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.040	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.81	0.50	"	"	"	"	"	"	

Date Sampled: **09/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		116 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.7 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.5 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	61.2	5.00	ug/kg	1	3092704	09/27/13	09/29/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Durham #1 SB02@26-27
R309203-04 (Soil)

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Benzo (a) anthracene	7.69	5.00	ug/kg	1	3092704	09/27/13	09/29/13	EPA 8270D SIM
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"
Chrysene	11.8	5.00	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"
Fluoranthene	20.0	5.00	"	"	"	"	"	"
Fluorene	64.7	5.00	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"
Naphthalene	713	50.0	"	10	"	"	"	"
Pyrene	44.5	5.00	"	1	"	"	"	"

Date Sampled: 09/25/13 08:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		85.9 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		86.1 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 09/25/13 08:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.471	0.0915	mg/kg dry	1	3092614	09/26/13	09/28/13	EPA 6020A	
Barium	79.9	0.0915	"	"	"	"	"	"	
Cadmium	0.576	0.0915	"	"	"	"	"	"	
Chromium	14.5	0.457	"	"	"	"	"	"	
Copper	4.54	0.457	"	"	"	"	"	"	
Lead	18.5	0.0915	"	"	"	"	"	"	
Nickel	25.1	0.0915	"	"	"	"	"	"	
Selenium	0.336	0.0457	"	"	"	"	"	"	
Silver	0.167	0.0915	"	"	"	"	"	"	
Zinc	78.2	9.15	"	"	"	"	"	"	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

**Durham #1 SB02@26-27
R309203-04 (Soil)**

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.0459	0.0396	mg/kg dry	1	3092702	09/27/13	09/27/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.07	mg/kg dry	1	3092703	09/27/13	09/30/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	13.4	1.00	mg/kg	1	3100119	10/01/13	10/01/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	213	9.60	mg/kg dry	1	3092615	09/27/13	09/28/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	203	4.80	"	"	"	"	"	"	
Sodium	652	4.80	"	"	"	"	"	"	

Date Sampled: **09/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.67		units	"	3093001	09/30/13	09/30/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/01/13 19:32

**Durham #1 SB02@26-27
 R309203-04 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.94	0.0100	mmhos/cm	1	3092612	09/26/13	09/26/13	SM 2510B	

Date Sampled: **09/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.74	0.100	pH Units	"	3092613	09/26/13	09/26/13	EPA 9045	

Date Sampled: **09/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.1		%	"	3092611	09/26/13	09/27/13	% calculation	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Durham #1 SB04@15-17
R309203-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3092617	09/26/13	09/27/13	8015M	

Date Sampled: **09/25/13 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		96.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/25/13 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3092616	09/26/13	09/27/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/25/13 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.7 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3092704	09/27/13	09/29/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

**Durham #1 SB04@15-17
R309203-05 (Soil)**

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	5.00	ug/kg	1	3092704	09/27/13	09/29/13	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	ND	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"	
Fluoranthene	ND	5.00	"	"	"	"	"	"	
Fluorene	ND	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"	
Naphthalene	ND	5.00	"	"	"	"	"	"	
Pyrene	ND	5.00	"	"	"	"	"	"	

Date Sampled: 09/25/13 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		89.5 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		88.1 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 09/25/13 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.828	0.0872	mg/kg dry	1	3092614	09/26/13	09/28/13	EPA 6020A	
Barium	145	0.0872	"	"	"	"	"	"	
Cadmium	0.616	0.0872	"	"	"	"	"	"	
Chromium	13.4	0.436	"	"	"	"	"	"	
Copper	4.05	0.436	"	"	"	"	"	"	
Lead	17.3	0.0872	"	"	"	"	"	"	
Nickel	22.8	0.0872	"	"	"	"	"	"	
Selenium	0.201	0.0436	"	"	"	"	"	"	
Silver	0.174	0.0872	"	"	"	"	"	"	
Zinc	68.4	8.72	"	"	"	"	"	"	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Durham #1 SB04@15-17
R309203-05 (Soil)

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.0583	0.0415	mg/kg dry	1	3092702	09/27/13	09/27/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.12	mg/kg dry	1	3092703	09/27/13	09/30/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	12.3	1.00	mg/kg	1	3100119	10/01/13	10/01/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1420	11.2	mg/kg dry	1	3092615	09/27/13	09/28/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	347	5.59	"	"	"	"	"	"	
Sodium	165	5.59	"	"	"	"	"	"	

Date Sampled: **09/25/13 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.02		units	"	3093001	09/30/13	09/30/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/01/13 19:32

**Durham #1 SB04@15-17
 R309203-05 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.85	0.0100	mmhos/cm	1	3092612	09/26/13	09/26/13	SM 2510B	

Date Sampled: **09/25/13 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.33	0.100	pH Units	"	3092613	09/26/13	09/26/13	EPA 9045	

Date Sampled: **09/25/13 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.5		%	"	3092611	09/26/13	09/27/13	% calculation	

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Durham #1 SB04@25-27
R309203-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3092617	09/26/13	09/27/13	8015M	

Date Sampled: **09/25/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		96.8 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/25/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0052	0.0020	mg/kg	1	3092616	09/26/13	09/27/13	EPA 8260B	
Toluene	0.0052	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.3	0.50	"	"	"	"	"	"	

Date Sampled: **09/25/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		120 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		89.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		66.4 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	29.7	5.00	ug/kg	1	3092704	09/27/13	09/29/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

**Durham #1 SB04@25-27
R309203-06 (Soil)**

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Benzo (a) anthracene	5.44	5.00	ug/kg	1	3092704	09/27/13	09/29/13	EPA 8270D SIM
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"
Benzo (a) pyrene	5.03	5.00	"	"	"	"	"	"
Chrysene	6.60	5.00	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"
Fluoranthene	10.3	5.00	"	"	"	"	"	"
Fluorene	28.3	5.00	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"
Naphthalene	77.9	5.00	"	"	"	"	"	"
Pyrene	17.1	5.00	"	"	"	"	"	"

Date Sampled: 09/25/13 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		88.6 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		98.9 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 09/25/13 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.639	0.0873	mg/kg dry	1	3092614	09/26/13	09/28/13	EPA 6020A	
Barium	95.8	0.0873	"	"	"	"	"	"	
Cadmium	0.237	0.0873	"	"	"	"	"	"	
Chromium	13.2	0.437	"	"	"	"	"	"	
Copper	4.00	0.437	"	"	"	"	"	"	
Lead	17.0	0.0873	"	"	"	"	"	"	
Nickel	20.6	0.0873	"	"	"	"	"	"	
Selenium	0.211	0.0437	"	"	"	"	"	"	
Silver	0.142	0.0873	"	"	"	"	"	"	
Zinc	69.6	8.73	"	"	"	"	"	"	

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4600 West 60th Avenue
Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

**Durham #1 SB04@25-27
R309203-06 (Soil)**

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.0420	0.0393	mg/kg dry	1	3092702	09/27/13	09/27/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.05	mg/kg dry	1	3092703	09/27/13	09/30/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	12.2	1.00	mg/kg	1	3100119	10/01/13	10/01/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	284	9.27	mg/kg dry	1	3092615	09/27/13	09/28/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	144	4.64	"	"	"	"	"	"	
Sodium	471	4.64	"	"	"	"	"	"	

Date Sampled: **09/25/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.68		units	"	3093001	09/30/13	09/30/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

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 Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/01/13 19:32

**Durham #1 SB04@25-27
 R309203-06 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.898	0.0100	mmhos/cm	1	3092612	09/26/13	09/26/13	SM 2510B	

Date Sampled: **09/25/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.42	0.100	pH Units	"	3092613	09/26/13	09/26/13	EPA 9045	

Date Sampled: **09/25/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.6		%	"	3092611	09/26/13	09/27/13	% calculation	

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

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 3092617 - EPA 3550A

Blank (3092617-BLK1)

Prepared: 09/26/13 Analyzed: 09/27/13

C10-C28 (DRO) ND 50 mg/kg

LCS (3092617-BS1)

Prepared: 09/26/13 Analyzed: 09/27/13

C10-C28 (DRO) 507 50 mg/kg 501 101 73-134

LCS Dup (3092617-BSD1)

Prepared: 09/26/13 Analyzed: 09/27/13

C10-C28 (DRO) 534 50 mg/kg 501 107 73-134 5.13 11

Matrix Spike (3092617-MS1)

Source: R309202-04

Prepared: 09/26/13 Analyzed: 09/27/13

C10-C28 (DRO) 442 50 mg/kg 501 ND 88.2 50-148

Matrix Spike Dup (3092617-MSD1)

Source: R309202-04

Prepared: 09/26/13 Analyzed: 09/27/13

C10-C28 (DRO) 438 50 mg/kg 501 ND 87.5 50-148 0.842 13

Summit Scientific

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

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 3092616 - EPA 5030 Soil MS

Blank (3092616-BLK1)

Prepared: 09/26/13 Analyzed: 09/27/13

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	0.0436		"	0.0397	110	23-173				
Surrogate: Toluene-d8	0.0403		"	0.0400	101	20-170				
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400	95.0	21-167				

LCS (3092616-BS1)

Prepared: 09/26/13 Analyzed: 09/27/13

Benzene	0.0919	0.0020	mg/kg	0.100	91.9	58-130				
Toluene	0.106	0.0050	"	0.100	106	61-134				
Ethylbenzene	0.114	0.0050	"	0.100	114	74-139				
m,p-Xylene	0.224	0.010	"	0.200	112	73-137				
o-Xylene	0.115	0.0050	"	0.100	115	73-141				
Surrogate: 1,2-Dichloroethane-d4	0.0417		"	0.0397	105	23-173				
Surrogate: Toluene-d8	0.0400		"	0.0400	100	20-170				
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400	96.7	21-167				

LCS Dup (3092616-BSD1)

Prepared: 09/26/13 Analyzed: 09/27/13

Benzene	0.0926	0.0020	mg/kg	0.100	92.6	58-130	0.748	13		
Toluene	0.101	0.0050	"	0.100	101	61-134	4.35	16		
Ethylbenzene	0.109	0.0050	"	0.100	109	74-139	4.34	12		
m,p-Xylene	0.215	0.010	"	0.200	107	73-137	4.48	14		
o-Xylene	0.111	0.0050	"	0.100	111	73-141	3.49	12		
Surrogate: 1,2-Dichloroethane-d4	0.0455		"	0.0397	115	23-173				
Surrogate: Toluene-d8	0.0395		"	0.0400	98.8	20-170				
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400	96.0	21-167				

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

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 3092616 - EPA 5030 Soil MS

Matrix Spike (3092616-MS1)

Source: R309202-05 Prepared: 09/26/13 Analyzed: 09/27/13

Benzene	0.0879	0.0020	mg/kg	0.100	ND	87.9	30-131			
Toluene	0.0966	0.0050	"	0.100	ND	96.6	30-134			
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	22-153			
m,p-Xylene	0.209	0.010	"	0.200	ND	105	10-159			
o-Xylene	0.109	0.0050	"	0.100	ND	109	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0439		"	0.0397		111	23-173			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.8	21-167			

Matrix Spike Dup (3092616-MSD1)

Source: R309202-05 Prepared: 09/26/13 Analyzed: 09/27/13

Benzene	0.0935	0.0020	mg/kg	0.100	ND	93.5	30-131	6.12	34	
Toluene	0.102	0.0050	"	0.100	ND	102	30-134	5.08	30	
Ethylbenzene	0.111	0.0050	"	0.100	ND	111	22-153	4.08	24	
m,p-Xylene	0.218	0.010	"	0.200	ND	109	10-159	3.93	68	
o-Xylene	0.114	0.0050	"	0.100	ND	114	31-151	4.12	38	
Surrogate: 1,2-Dichloroethane-d4	0.0454		"	0.0397		114	23-173			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	21-167			

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Semivolatile Organic Compounds by EPA Method 8270D SIM - Quality Control
Summit Scientific

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

Batch 3092704 - EPA 5030 Soil MS

Blank (3092704-BLK1)

Prepared: 09/27/13 Analyzed: 09/28/13

Acenaphthene	ND	5.00	ug/kg							
Anthracene	ND	5.00	"							
Benzo (a) anthracene	ND	5.00	"							
Benzo (b) fluoranthene	ND	5.00	"							
Benzo (k) fluoranthene	ND	5.00	"							
Benzo (a) pyrene	ND	5.00	"							
Chrysene	ND	5.00	"							
Dibenz (a,h) anthracene	ND	5.00	"							
Fluoranthene	ND	5.00	"							
Fluorene	ND	5.00	"							
Indeno (1,2,3-cd) pyrene	ND	5.00	"							
Naphthalene	ND	5.00	"							
Pyrene	ND	5.00	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	30.8		"	34.8		88.5	50-150			
<i>Surrogate: Fluoranthene-d10</i>	35.2		"	34.5		102	50-150			

LCS (3092704-BS1)

Prepared: 09/27/13 Analyzed: 09/28/13

Acenaphthene	26.5	5.00	ug/kg	33.3		79.4	48-131			
Anthracene	24.9	5.00	"	33.3		74.8	48-135			
Benzo (a) anthracene	26.2	5.00	"	33.3		78.5	37-142			
Benzo (b) fluoranthene	27.3	5.00	"	33.3		82.0	35-139			
Benzo (k) fluoranthene	25.7	5.00	"	33.3		77.0	30-139			
Benzo (a) pyrene	24.6	5.00	"	33.3		73.8	41-132			
Chrysene	25.2	5.00	"	33.3		75.7	30-136			
Dibenz (a,h) anthracene	27.5	5.00	"	33.3		82.5	24-127			
Fluoranthene	29.9	5.00	"	33.3		89.6	50-139			
Fluorene	26.7	5.00	"	33.3		80.0	50-130			
Indeno (1,2,3-cd) pyrene	26.5	5.00	"	33.3		79.5	26-139			
Naphthalene	25.6	5.00	"	33.3		76.7	40-135			
Pyrene	33.0	5.00	"	33.3		99.0	39-141			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	26.9		"	34.8		77.3	50-150			
<i>Surrogate: Fluoranthene-d10</i>	32.7		"	34.5		94.9	50-150			

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Semivolatile Organic Compounds by EPA Method 8270D SIM - Quality Control
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Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 3092704 - EPA 5030 Soil MS

LCS Dup (3092704-BSD1)

Prepared: 09/27/13 Analyzed: 09/28/13

Acenaphthene	26.6	5.00	ug/kg	33.3		79.8	48-131	0.439	23	
Anthracene	24.2	5.00	"	33.3		72.6	48-135	3.01	28	
Benzo (a) anthracene	26.8	5.00	"	33.3		80.4	37-142	2.36	32	
Benzo (b) fluoranthene	26.4	5.00	"	33.3		79.1	35-139	3.67	30	
Benzo (k) fluoranthene	25.5	5.00	"	33.3		76.4	30-139	0.901	27	
Benzo (a) pyrene	27.0	5.00	"	33.3		81.1	41-132	9.44	25	
Chrysene	25.1	5.00	"	33.3		75.2	30-136	0.656	27	
Dibenz (a,h) anthracene	27.2	5.00	"	33.3		81.7	24-127	0.972	29	
Fluoranthene	25.4	5.00	"	33.3		76.2	50-139	16.2	26	
Fluorene	26.7	5.00	"	33.3		80.2	50-130	0.236	24	
Indeno (1,2,3-cd) pyrene	26.6	5.00	"	33.3		79.7	26-139	0.266	30	
Naphthalene	25.6	5.00	"	33.3		76.7	40-135	0.00391	21	
Pyrene	21.9	5.00	"	33.3		65.8	39-141	40.2	26	
Surrogate: 2-Methylnaphthalene-d10	26.4		"	34.8		75.9	50-150			
Surrogate: Fluoranthene-d10	25.4		"	34.5		73.6	50-150			

Duplicate (3092704-DUP1)

Source: R309175-05

Prepared: 09/27/13 Analyzed: 09/28/13

Acenaphthene	ND	5.00	ug/kg		ND				200	
Anthracene	ND	5.00	"		0.527				200	
Benzo (a) anthracene	ND	5.00	"		0.659				200	
Benzo (b) fluoranthene	ND	5.00	"		ND				200	
Benzo (k) fluoranthene	ND	5.00	"		ND				200	
Benzo (a) pyrene	ND	5.00	"		ND				200	
Chrysene	2.76	5.00	"		5.30			63.1	200	
Dibenz (a,h) anthracene	ND	5.00	"		ND				200	
Fluoranthene	ND	5.00	"		ND				200	
Fluorene	ND	5.00	"		ND				200	
Indeno (1,2,3-cd) pyrene	ND	5.00	"		ND				200	
Naphthalene	1.40	5.00	"		ND				200	
Pyrene	1.15	5.00	"		2.25			64.4	200	
Surrogate: 2-Methylnaphthalene-d10	29.0		"	34.8		83.3	50-150			
Surrogate: Fluoranthene-d10	27.9		"	34.5		81.0	50-150			

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Semivolatile Organic Compounds by EPA Method 8270D SIM - Quality Control
Summit Scientific

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

Batch 3092704 - EPA 5030 Soil MS

Matrix Spike (3092704-MS1)	Source: R309202-01			Prepared: 09/27/13		Analyzed: 09/28/13	
Acenaphthene	49.1	5.00	ug/kg	33.3	21.4	83.3	27-140
Anthracene	28.3	5.00	"	33.3	8.99	58.0	23-144
Benzo (a) anthracene	31.2	5.00	"	33.3	ND	93.6	12-168
Benzo (b) fluoranthene	35.3	5.00	"	33.3	ND	106	10-170
Benzo (k) fluoranthene	38.3	5.00	"	33.3	ND	115	11-150
Benzo (a) pyrene	33.9	5.00	"	33.3	ND	102	11-162
Chrysene	28.7	5.00	"	33.3	ND	86.2	10-167
Dibenz (a,h) anthracene	17.7	5.00	"	33.3	ND	53.2	10-128
Fluoranthene	25.4	5.00	"	33.3	ND	76.1	18-157
Fluorene	106	5.00	"	33.3	77.7	84.2	37-133
Indeno (1,2,3-cd) pyrene	18.5	5.00	"	33.3	ND	55.5	10-161
Naphthalene	59.3	5.00	"	33.3	41.9	52.3	10-157
Pyrene	48.3	5.00	"	33.3	12.6	107	10-166
<i>Surrogate: 2-Methylnaphthalene-d10</i>	28.5		"	34.8		81.9	50-150
<i>Surrogate: Fluoranthene-d10</i>	26.8		"	34.5		77.8	50-150

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4600 West 60th Avenue
Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Total Metals by EPA Method 6020 - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 3092614 - EPA 3050B

Blank (3092614-BLK1)

Prepared: 09/26/13 Analyzed: 09/30/13

Arsenic	ND	0.100	mg/kg wet							
Barium	ND	0.100	"							
Cadmium	ND	0.100	"							
Chromium	ND	0.500	"							
Copper	ND	0.500	"							
Lead	ND	0.100	"							
Nickel	ND	0.100	"							
Selenium	ND	0.0500	"							
Silver	ND	0.100	"							
Zinc	ND	10.0	"							

LCS (3092614-BS1)

Prepared: 09/26/13 Analyzed: 09/30/13

Arsenic	2.65	0.100	mg/kg wet	2.50	106	80-120				
Barium	191	0.100	"	225	85.2	80-120				
Cadmium	1.06	0.100	"	1.00	106	80-120				
Chromium	11.6	0.500	"	10.0	116	80-120				
Copper	21.1	0.500	"	20.0	105	80-120				
Lead	7.49	0.100	"	7.51	99.7	80-120				
Nickel	17.4	0.100	"	15.0	116	80-120				
Selenium	1.33	0.0500	"	1.25	106	80-120				
Silver	0.249	0.100	"	0.250	99.6	80-120				
Zinc	8.03	10.0	"	7.51	107	80-120				

LCS Dup (3092614-BSD1)

Prepared: 09/26/13 Analyzed: 09/30/13

Arsenic	2.44	0.100	mg/kg wet	2.51	97.2	80-120	8.45	20		
Barium	189	0.100	"	226	83.9	80-120	1.09	20		
Cadmium	1.07	0.100	"	1.01	106	80-120	1.03	20		
Chromium	11.3	0.500	"	10.1	112	80-120	2.82	20		
Copper	20.6	0.500	"	20.1	103	80-120	2.18	20		
Lead	7.75	0.100	"	7.54	103	80-120	3.39	20		
Nickel	17.1	0.100	"	15.1	113	80-120	2.03	20		
Selenium	1.27	0.0500	"	1.26	101	80-120	3.94	20		
Silver	0.266	0.100	"	0.251	106	80-120	6.50	20		
Zinc	8.99	10.0	"	7.54	119	80-120	11.2	20		

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Total Metals by EPA Method 6020 - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 3092614 - EPA 3050B

Matrix Spike (3092614-MS1)	Source: R309202-01			Prepared: 09/26/13		Analyzed: 09/30/13					
Arsenic	1.54	0.0846	mg/kg dry	2.11	0.851	32.5	75-125				QM-07
Barium	298	0.0846	"	190	70.3	120	75-125				
Cadmium	0.957	0.0846	"	0.847	0.0775	104	75-125				
Chromium	10.9	0.423	"	8.47	12.4	NR	75-125				QM-07
Copper	5.82	0.423	"	16.9	2.85	17.6	75-125				QM-07
Lead	16.6	0.0846	"	6.35	12.6	62.4	75-125				QM-07
Nickel	15.9	0.0846	"	12.7	15.5	3.36	75-125				QM-07
Selenium	0.151	0.0423	"	1.06	ND	14.3	75-125				QM-07
Silver	0.260	0.0846	"	0.211	0.0695	90.0	75-125				
Zinc	62.2	8.46	"	6.35	53.8	133	75-125				QM-07

Matrix Spike Dup (3092614-MSD1)	Source: R309202-01			Prepared: 09/26/13		Analyzed: 09/30/13					
Arsenic	1.90	0.0847	mg/kg dry	2.13	0.851	49.1	75-125	20.9	25		QM-07
Barium	292	0.0847	"	192	70.3	116	75-125	1.98	25		
Cadmium	0.968	0.0847	"	0.854	0.0775	104	75-125	1.19	25		
Chromium	10.6	0.424	"	8.54	12.4	NR	75-125	2.78	25		QM-07
Copper	6.34	0.424	"	17.0	2.85	20.5	75-125	8.56	25		QM-07
Lead	18.7	0.0847	"	6.40	12.6	94.6	75-125	11.8	25		
Nickel	15.3	0.0847	"	12.8	15.5	NR	75-125	3.47	25		QM-07
Selenium	0.139	0.0424	"	1.07	ND	13.1	75-125	8.11	25		QM-07
Silver	0.254	0.0847	"	0.213	0.0695	86.9	75-125	1.98	25		
Zinc	68.3	8.47	"	6.40	53.8	227	75-125	9.25	25		QM-07

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/01/13 19:32

Total Mercury by EPA Method 7471/7470/245.1 - Quality Control
Summit Scientific

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

Batch 3092702 - EPA 7471A

Blank (3092702-BLK1)		Prepared & Analyzed: 09/27/13									
Mercury	ND	0.0500	mg/kg wet								
LCS (3092702-BS1)		Prepared & Analyzed: 09/27/13									
Mercury	0.386	0.0500	mg/kg wet	0.400		96.4	80-120				
LCS Dup (3092702-BSD1)		Prepared & Analyzed: 09/27/13									
Mercury	0.392	0.0500	mg/kg wet	0.400		97.9	80-120	1.57	20		
Matrix Spike (3092702-MS1)		Source: R309202-01		Prepared & Analyzed: 09/27/13							
Mercury	0.371	0.0420	mg/kg dry	0.336	0.0113	107	80-120				
Matrix Spike Dup (3092702-MSD1)		Source: R309202-01		Prepared & Analyzed: 09/27/13							
Mercury	0.360	0.0421	mg/kg dry	0.337	0.0113	103	80-120	3.21	20		

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Hexavalent Chromium by EPA 7196 - Quality Control
Summit Scientific

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

Batch 3092703 - General Preparation

Blank (3092703-BLK1)			Prepared: 09/27/13 Analyzed: 09/30/13							
Chromium, Hexavalent	ND	1.00	mg/kg wet							
LCS (3092703-BS1)			Prepared: 09/27/13 Analyzed: 09/30/13							
Chromium, Hexavalent	116	1.25	mg/kg wet	118		97.9	85-115			
LCS Dup (3092703-BSD1)			Prepared: 09/27/13 Analyzed: 09/30/13							
Chromium, Hexavalent	115	1.25	mg/kg wet	118		97.4	85-115	1.09	20	
Duplicate (3092703-DUP1)			Source: R309202-01 Prepared: 09/27/13 Analyzed: 09/30/13							
Chromium, Hexavalent	0.221	1.10	mg/kg dry		0.176			22.3	20	RPD-2
Matrix Spike (3092703-MS1)			Source: R309202-01 Prepared: 09/27/13 Analyzed: 09/30/13							
Chromium, Hexavalent	32.5	1.10	mg/kg dry	44.1	0.176	73.5	85-115			QM-05

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 3092615 - General Preparation

Blank (3092615-BLK1)

Prepared: 09/27/13 Analyzed: 09/28/13

Calcium	ND	10.0	mg/kg wet						
Magnesium	ND	5.00	"						
Sodium	ND	5.00	"						

LCS (3092615-BS1)

Prepared: 09/27/13 Analyzed: 09/28/13

Calcium	332	10.0	mg/kg wet	383		86.8	80-120		
Magnesium	154	5.00	"	192		80.2	80-120		
Sodium	442	5.00	"	479		92.2	80-120		

LCS Dup (3092615-BSD1)

Prepared: 09/27/13 Analyzed: 09/28/13

Calcium	366	10.0	mg/kg wet	383		95.7	80-120	9.79	20
Magnesium	157	5.00	"	192		82.0	80-120	2.18	20
Sodium	444	5.00	"	479		92.8	80-120	0.630	20

Matrix Spike (3092615-MS1)

Source: R309202-01

Prepared: 09/27/13 Analyzed: 09/28/13

Calcium	504	9.06	mg/kg dry	347	109	114	75-125		
Magnesium	213	4.53	"	174	44.3	96.7	75-125		
Sodium	514	4.53	"	434	27.3	112	75-125		

Matrix Spike Dup (3092615-MSD1)

Source: R309202-01

Prepared: 09/27/13 Analyzed: 09/28/13

Calcium	414	9.10	mg/kg dry	348	109	87.8	75-125	19.4	25
Magnesium	177	4.55	"	175	44.3	76.0	75-125	18.3	25
Sodium	428	4.55	"	436	27.3	92.0	75-125	18.1	25

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 3092611 - General Preparation

Duplicate (3092611-DUP1)	Source: R309202-01			Prepared: 09/26/13 Analyzed: 09/27/13							
% Solids	91.1		%		90.7			0.440		20	

Batch 3092612 - General Preparation

Blank (3092612-BLK1)				Prepared & Analyzed: 09/26/13							
Specific Conductance (EC)	ND	0.0100	mmhos/cm								
Duplicate (3092612-DUP1)	Source: R309202-01			Prepared & Analyzed: 09/26/13							
Specific Conductance (EC)	0.134	0.0100	mmhos/cm		0.135			0.186		20	

Batch 3092613 - General Preparation

LCS (3092613-BS1)				Prepared & Analyzed: 09/26/13							
pH	8.03	0.100	pH Units	8.00		100	0-200				
Duplicate (3092613-DUP1)	Source: R309202-01			Prepared & Analyzed: 09/26/13							
pH	8.24	0.100	pH Units		8.14			1.22		20	

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/01/13 19:32

Notes and Definitions

- RPD-2 The RPD failure for the sample duplicate analysis is due analyte concentrations below 5x RL
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- 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

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 08, 2013

Rob Fishburn

LT Environmental, Inc.

4600 West 60th Avenue

Arvada, CO 80003

RE: SHE - Waddle Creek Pit Assessment

Enclosed are the results of analyses for samples received by Summit Scientific on 09/28/13 08:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'BS' or similar initials, with a long, sweeping horizontal line extending to the right.

Ben Shrewsbury For Joseph J Egry IV
Laboratory Director



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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Durham #1 SB05@10-12	R309260-01	Soil	09/25/13 11:50	09/28/13 08:45
Durham #1 SB05@25-27	R309260-02	Soil	09/25/13 12:20	09/28/13 08:45
Durham #1 SB06@20-22	R309260-03	Soil	09/25/13 13:50	09/28/13 08:45
Durham #1 SB06@25-27	R309260-04	Soil	09/25/13 14:00	09/28/13 08:45
Durham #1 SB07@10-12	R309260-05	Soil	09/25/13 14:30	09/28/13 08:45
Durham #1 SB07@25-27	R309260-06	Soil	09/25/13 15:00	09/28/13 08:45
Durham #1 SB08@10-12	R309260-07	Soil	09/25/13 15:30	09/28/13 08:45
Durham #1 SB08@25-27	R309260-08	Soil	09/25/13 16:00	09/28/13 08:45

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Summit Scientific
7309260

741 Corporate Circle Suite 1 • Golden, Colorado 80401
303-277-9310 • 303-374-5933 Fax

Client: LJ Environmental
Address: 820 Megan Avenue, Unit B
City/State/Zip: Rifle, CO, 81650
Phone: 970-285-9965
Sampler Name: John Hays

Project Manager: Rob Fishburn
E-Mail: rfishburn@ltenv.com
Project Name: Waddle Creek Pit Assessment
Phone: 970-285-2467
Project Number: 0343-12009

Page 1 of 1

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix				Analyze For:				Special Instructions	Notes	
				HCl	HNO ₃	H ₂ O ₂	Zone	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	GR/DRO	PH, EC, SAR	Trace Metals			Trace Organics
Duplicate 158162 10-7-13	10/7/13	11:50	3	X	X	X	X							X	X	X		
Duplicate 158163 10-7-13	10/7/13	12:00	2	X	X	X	X							X	X	X		
Duplicate 158164 10-7-13	10/7/13	13:00	2	X	X	X	X							X	X	X		
Duplicate 158165 10-7-13	10/7/13	14:00	2	X	X	X	X							X	X	X		
Duplicate 158166 10-7-13	10/7/13	14:50	3	X	X	X	X							X	X	X		
Duplicate 158167 10-7-13	10/7/13	15:00	3	X	X	X	X							X	X	X		
Duplicate 158168 10-7-13	10/7/13	15:36	5	X	X	X	X							X	X	X		
Duplicate 158169 10-7-13	10/7/13	16:00	3	X	X	X	X							X	X	X		
Duplicate 158170 10-7-13	10/7/13	16:15	3	X	X	X	X							X	X	X		
Duplicate 158171 10-7-13	10/7/13	16:15	3	X	X	X	X							X	X	X		
Duplicate 158172 10-7-13	10/7/13	16:15	3	X	X	X	X							X	X	X		
Relinquished by: <u>John Hays</u>	Date/Time: <u>9/20/13 10:20</u>	Received by: <u>MM</u>	Date/Time: <u>9/20/13</u>	Turn Around Time (Check)				Notes				72 Hours Standard <input checked="" type="checkbox"/>						
Relinquished by: <u>MM</u>	Date/Time: <u>9/27/13</u>	Received by: <u>MM</u>	Date/Time: <u>9/27/13</u>	Turn Around Time (Check)				Notes				72 Hours Standard <input type="checkbox"/>						
Relinquished by: <u>MM</u>	Date/Time: <u>9/27/13</u>	Received by: <u>MM</u>	Date/Time: <u>9/27/13</u>	Turn Around Time (Check)				Notes				72 Hours Standard <input type="checkbox"/>						
Relinquished by: <u>MM</u>	Date/Time: <u>9/27/13</u>	Received by: <u>MM</u>	Date/Time: <u>9/27/13</u>	Turn Around Time (Check)				Notes				72 Hours Standard <input type="checkbox"/>						

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Durham #1 SB05@10-12
R309260-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	490	50	mg/kg	1	3093015	09/30/13	10/03/13	8015M	

Date Sampled: **09/25/13 11:50**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3093014	09/30/13	10/02/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	7.1	0.50	"	"	"	"	"	"	

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		118 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.6 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		116 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3093017	09/30/13	10/01/13	EPA 8270D SIM	

Summit Scientific

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LT Environmental, Inc.
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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Durham #1 SB05@10-12
R309260-01 (Soil)

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Anthracene	ND	5.00	ug/kg	1	3093017	09/30/13	10/01/13	EPA 8270D SIM	
Benzo (a) anthracene	ND	5.00	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	ND	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"	
Fluoranthene	ND	5.00	"	"	"	"	"	"	
Fluorene	22.3	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"	
Naphthalene	ND	5.00	"	"	"	"	"	"	
Pyrene	ND	5.00	"	"	"	"	"	"	

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		92.4 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		72.9 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.879	0.0843	mg/kg dry	1	3093018	09/30/13	10/02/13	EPA 6020A	
Barium	30.3	0.0843	"	"	"	"	"	"	
Cadmium	0.298	0.0843	"	"	"	"	"	"	
Chromium	5.77	0.422	"	"	"	"	"	"	
Copper	4.97	0.422	"	"	"	"	"	"	
Lead	16.1	0.0843	"	"	"	"	"	"	
Nickel	9.63	0.0843	"	"	"	"	"	"	
Selenium	0.179	0.0422	"	"	"	"	"	"	
Silver	0.149	0.0843	"	"	"	"	"	"	
Zinc	17.5	8.43	"	"	"	"	"	"	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB05@10-12
R309260-01 (Soil)**

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.0531	0.0509	mg/kg dry	1	3100202	10/02/13	10/02/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.12	mg/kg dry	1	3093013	09/30/13	10/03/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	4.65	1.00	mg/kg	1	3100406	10/04/13	10/04/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	313	8.97	mg/kg dry	1	3093019	09/30/13	10/02/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	282	4.48	"	"	"	"	"	"	
Sodium	389	4.48	"	"	"	"	"	"	

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.84		units	"	3093020	"	10/03/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB05@10-12
R309260-01 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.13	0.0100	mmhos/cm	1	3100104	10/01/13	10/01/13	SM 2510B	

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.14	0.100	pH Units	"	3100107	10/01/13	10/02/13	EPA 9045	

Date Sampled: **09/25/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.3		%	"	3100213	10/02/13	10/03/13	% calculation	

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4600 West 60th Avenue
Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Durham #1 SB05@25-27
R309260-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	53	50	mg/kg	1	3093015	09/30/13	10/03/13	8015M	

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		94.5 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0065	0.0020	mg/kg	1	3093014	09/30/13	10/01/13	EPA 8260B	
Toluene	0.067	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.027	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.13	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	4.9	0.50	"	"	"	"	"	"	

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		128 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		87.7 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		71.8 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	28.3	5.00	ug/kg	1	3093017	09/30/13	10/01/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	

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4600 West 60th Avenue
Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
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Reported:
10/08/13 16:15

Durham #1 SB05@25-27
R309260-02 (Soil)

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	5.05	5.00	ug/kg	1	3093017	09/30/13	10/01/13	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	6.13	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"	
Fluoranthene	8.91	5.00	"	"	"	"	"	"	
Fluorene	32.1	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"	
Naphthalene	339	50.0	"	10	"	"	"	"	
Pyrene	14.4	5.00	"	1	"	"	"	"	

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		86.8 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		97.6 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.550	0.0790	mg/kg dry	1	3093018	09/30/13	10/02/13	EPA 6020A	
Barium	91.2	0.0790	"	"	"	"	"	"	
Cadmium	0.523	0.0790	"	"	"	"	"	"	
Chromium	6.06	0.395	"	"	"	"	"	"	
Copper	4.61	0.395	"	"	"	"	"	"	
Lead	16.1	0.0790	"	"	"	"	"	"	
Nickel	9.81	0.0790	"	"	"	"	"	"	
Selenium	0.300	0.0395	"	"	"	"	"	"	
Silver	0.159	0.0790	"	"	"	"	"	"	
Zinc	14.9	7.90	"	"	"	"	"	"	

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Durham #1 SB05@25-27
R309260-02 (Soil)

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.0493	0.0464	mg/kg dry	1	3100202	10/02/13	10/02/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.06	mg/kg dry	1	3093013	09/30/13	10/03/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	5.00	1.00	mg/kg	1	3100406	10/04/13	10/04/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	201	8.57	mg/kg dry	1	3093019	09/30/13	10/02/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	106	4.29	"	"	"	"	"	"	
Sodium	399	4.29	"	"	"	"	"	"	

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.67		units	"	3093020	"	10/03/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/08/13 16:15

**Durham #1 SB05@25-27
 R309260-02 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.09	0.0100	mmhos/cm	1	3100104	10/01/13	10/01/13	SM 2510B	

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.38	0.100	pH Units	"	3100107	10/01/13	10/02/13	EPA 9045	

Date Sampled: **09/25/13 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.6		%	"	3100213	10/02/13	10/03/13	% calculation	

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Durham #1 SB06@20-22
R309260-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	71	50	mg/kg	1	3093015	09/30/13	10/03/13	8015M	

Date Sampled: **09/25/13 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		94.3 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/25/13 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3093014	09/30/13	10/01/13	EPA 8260B	
Toluene	0.026	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.014	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.063	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.6	0.50	"	"	"	"	"	"	

Date Sampled: **09/25/13 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		116 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.8 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		73.2 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	12.3	5.00	ug/kg	1	3093017	09/30/13	10/01/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB06@20-22
R309260-03 (Soil)**

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	5.00	ug/kg	1	3093017	09/30/13	10/01/13	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	ND	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"	
Fluoranthene	6.23	5.00	"	"	"	"	"	"	
Fluorene	15.1	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"	
Naphthalene	375	50.0	"	10	"	"	"	"	
Pyrene	12.0	5.00	"	1	"	"	"	"	

Date Sampled: 09/25/13 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		83.5 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		89.3 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 09/25/13 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.743	0.0800	mg/kg dry	1	3093018	09/30/13	10/02/13	EPA 6020A	
Barium	82.5	0.0800	"	"	"	"	"	"	
Cadmium	0.293	0.0800	"	"	"	"	"	"	
Chromium	7.47	0.400	"	"	"	"	"	"	
Copper	5.17	0.400	"	"	"	"	"	"	
Lead	15.0	0.0800	"	"	"	"	"	"	
Nickel	9.96	0.0800	"	"	"	"	"	"	
Selenium	0.319	0.0400	"	"	"	"	"	"	
Silver	0.137	0.0800	"	"	"	"	"	"	
Zinc	18.4	8.00	"	"	"	"	"	"	

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Durham #1 SB06@20-22
R309260-03 (Soil)

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.0478	0.0473	mg/kg dry	1	3100202	10/02/13	10/02/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.06	mg/kg dry	1	3093013	09/30/13	10/03/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	6.41	1.00	mg/kg	1	3100406	10/04/13	10/04/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	283	8.72	mg/kg dry	1	3093019	09/30/13	10/02/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	158	4.36	"	"	"	"	"	"	
Sodium	369	4.36	"	"	"	"	"	"	

Date Sampled: **09/25/13 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.36		units	"	3093020	"	10/03/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/08/13 16:15

**Durham #1 SB06@20-22
 R309260-03 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.59	0.0100	mmhos/cm	1	3100104	10/01/13	10/01/13	SM 2510B	

Date Sampled: **09/25/13 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.26	0.100	pH Units	"	3100107	10/01/13	10/02/13	EPA 9045	

Date Sampled: **09/25/13 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.9		%	"	3100213	10/02/13	10/03/13	% calculation	

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Durham #1 SB06@25-27
R309260-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	52	50	mg/kg	1	3093015	09/30/13	10/03/13	8015M	

Date Sampled: **09/25/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		92.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/25/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.036	0.0020	mg/kg	1	3093014	09/30/13	10/01/13	EPA 8260B	
Toluene	0.27	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.074	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.35	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	10	0.50	"	"	"	"	"	"	

Date Sampled: **09/25/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		119 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		87.4 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		63.0 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	27.8	5.00	ug/kg	1	3093017	09/30/13	10/01/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB06@25-27
R309260-04 (Soil)**

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	5.00	ug/kg	1	3093017	09/30/13	10/01/13	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	6.12	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"	
Fluoranthene	7.45	5.00	"	"	"	"	"	"	
Fluorene	35.5	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"	
Naphthalene	791	50.0	"	10	"	"	"	"	
Pyrene	17.3	5.00	"	1	"	"	"	"	

Date Sampled: 09/25/13 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		87.1 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		82.2 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 09/25/13 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.685	0.0794	mg/kg dry	1	3093018	09/30/13	10/02/13	EPA 6020A	
Barium	88.7	0.0794	"	"	"	"	"	"	
Cadmium	0.276	0.0794	"	"	"	"	"	"	
Chromium	6.43	0.397	"	"	"	"	"	"	
Copper	4.61	0.397	"	"	"	"	"	"	
Lead	15.5	0.0794	"	"	"	"	"	"	
Nickel	10.0	0.0794	"	"	"	"	"	"	
Selenium	0.251	0.0397	"	"	"	"	"	"	
Silver	0.128	0.0794	"	"	"	"	"	"	
Zinc	16.8	7.94	"	"	"	"	"	"	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB06@25-27
R309260-04 (Soil)**

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.0537	0.0438	mg/kg dry	1	3100202	10/02/13	10/02/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.05	mg/kg dry	1	3093013	09/30/13	10/03/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	5.38	1.00	mg/kg	1	3100406	10/04/13	10/04/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	322	8.48	mg/kg dry	1	3093019	09/30/13	10/02/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	162	4.24	"	"	"	"	"	"	
Sodium	677	4.24	"	"	"	"	"	"	

Date Sampled: **09/25/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.68		units	"	3093020	"	10/03/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/08/13 16:15

**Durham #1 SB06@25-27
 R309260-04 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.03	0.0100	mmhos/cm	1	3100104	10/01/13	10/01/13	SM 2510B	

Date Sampled: **09/25/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.58	0.100	pH Units	"	3100107	10/01/13	10/02/13	EPA 9045	

Date Sampled: **09/25/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.3		%	"	3100213	10/02/13	10/03/13	% calculation	

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Durham #1 SB07@10-12
R309260-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	200	50	mg/kg	1	3093015	09/30/13	10/03/13	8015M	

Date Sampled: **09/25/13 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		93.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/25/13 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3093014	09/30/13	10/02/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	5.2	0.50	"	"	"	"	"	"	

Date Sampled: **09/25/13 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		116 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		101 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		111 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3093017	09/30/13	10/01/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	

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4600 West 60th Avenue
Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB07@10-12
R309260-05 (Soil)**

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	5.00	ug/kg	1	3093017	09/30/13	10/01/13	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	ND	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"	
Fluoranthene	ND	5.00	"	"	"	"	"	"	
Fluorene	ND	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"	
Naphthalene	ND	5.00	"	"	"	"	"	"	
Pyrene	ND	5.00	"	"	"	"	"	"	

Date Sampled: 09/25/13 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		99.2 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		78.9 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 09/25/13 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.814	0.0828	mg/kg dry	1	3093018	09/30/13	10/02/13	EPA 6020A	
Barium	38.4	0.0828	"	"	"	"	"	"	
Cadmium	0.489	0.0828	"	"	"	"	"	"	
Chromium	6.39	0.414	"	"	"	"	"	"	
Copper	4.86	0.414	"	"	"	"	"	"	
Lead	16.3	0.0828	"	"	"	"	"	"	
Nickel	11.2	0.0828	"	"	"	"	"	"	
Selenium	0.154	0.0414	"	"	"	"	"	"	
Silver	0.175	0.0828	"	"	"	"	"	"	
Zinc	16.4	8.28	"	"	"	"	"	"	

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB07@10-12
R309260-05 (Soil)**

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.0547	0.0457	mg/kg dry	1	3100202	10/02/13	10/02/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.11	mg/kg dry	1	3093013	09/30/13	10/03/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	5.28	1.00	mg/kg	1	3100406	10/04/13	10/04/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	175	8.78	mg/kg dry	1	3093019	09/30/13	10/02/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	232	4.39	"	"	"	"	"	"	
Sodium	267	4.39	"	"	"	"	"	"	

Date Sampled: **09/25/13 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.11		units	"	3093020	"	10/03/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/08/13 16:15

**Durham #1 SB07@10-12
 R309260-05 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.98	0.0100	mmhos/cm	1	3100104	10/01/13	10/01/13	SM 2510B	

Date Sampled: **09/25/13 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.89	0.100	pH Units	"	3100107	10/01/13	10/02/13	EPA 9045	

Date Sampled: **09/25/13 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.4		%	"	3100213	10/02/13	10/03/13	% calculation	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Durham #1 SB07@25-27
R309260-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	59	50	mg/kg	1	3093015	09/30/13	10/03/13	8015M	

Date Sampled: **09/25/13 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		96.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/25/13 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3093014	09/30/13	10/01/13	EPA 8260B	
Toluene	0.026	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0090	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.029	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.61	0.50	"	"	"	"	"	"	

Date Sampled: **09/25/13 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		121 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.7 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		86.2 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	32.1	5.00	ug/kg	1	3093017	09/30/13	10/01/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB07@25-27
R309260-06 (Soil)**

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	5.00	ug/kg	1	3093017	09/30/13	10/01/13	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	6.94	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"	
Fluoranthene	14.7	5.00	"	"	"	"	"	"	
Fluorene	21.8	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"	
Naphthalene	424	50.0	"	10	"	"	"	"	
Pyrene	18.8	5.00	"	1	"	"	"	"	

Date Sampled: 09/25/13 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		95.0 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		91.5 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 09/25/13 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.591	0.0790	mg/kg dry	1	3093018	09/30/13	10/02/13	EPA 6020A	
Barium	62.0	0.0790	"	"	"	"	"	"	
Cadmium	0.361	0.0790	"	"	"	"	"	"	
Chromium	5.91	0.395	"	"	"	"	"	"	
Copper	5.10	0.395	"	"	"	"	"	"	
Lead	16.9	0.0790	"	"	"	"	"	"	
Nickel	10.4	0.0790	"	"	"	"	"	"	
Selenium	0.348	0.0395	"	"	"	"	"	"	
Silver	0.149	0.0790	"	"	"	"	"	"	
Zinc	15.1	7.90	"	"	"	"	"	"	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB07@25-27
R309260-06 (Soil)**

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.0531	mg/kg dry	1	3100202	10/02/13	10/02/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.06	mg/kg dry	1	3093013	09/30/13	10/03/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	4.85	1.00	mg/kg	1	3100406	10/04/13	10/04/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	154	8.45	mg/kg dry	1	3093019	09/30/13	10/02/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	163	4.22	"	"	"	"	"	"	
Sodium	492	4.22	"	"	"	"	"	"	

Date Sampled: **09/25/13 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.59		units	"	3093020	"	10/03/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/08/13 16:15

**Durham #1 SB07@25-27
 R309260-06 (Soil)**

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.62	0.0100	mmhos/cm	1	3100104	10/01/13	10/01/13	SM 2510B	

Date Sampled: **09/25/13 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.42	0.100	pH Units	"	3100107	10/01/13	10/02/13	EPA 9045	

Date Sampled: **09/25/13 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.1		%	"	3100213	10/02/13	10/03/13	% calculation	

Summit Scientific

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Durham #1 SB08@10-12
R309260-07 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3093015	09/30/13	10/03/13	8015M	

Date Sampled: **09/25/13 15:30**

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: **09/25/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0018	mg/kg	1	3093014	09/30/13	10/01/13	EPA 8260B	
Toluene	ND	0.0045	"	"	"	"	"	"	
Ethylbenzene	ND	0.0045	"	"	"	"	"	"	
Xylenes (total)	ND	0.0045	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.45	"	"	"	"	"	"	

Date Sampled: **09/25/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane- <i>d</i> 4		116 %	23-173		"	"	"	"	
Surrogate: Toluene- <i>d</i> 8		99.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.4 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3093017	09/30/13	10/02/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB08@10-12
R309260-07 (Soil)**

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	5.00	ug/kg	1	3093017	09/30/13	10/02/13	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	"
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	"
Chrysene	ND	5.00	"	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"	"
Fluoranthene	ND	5.00	"	"	"	"	"	"	"
Fluorene	ND	5.00	"	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"	"
Naphthalene	ND	5.00	"	"	"	"	"	"	"
Pyrene	ND	5.00	"	"	"	"	"	"	"

Date Sampled: 09/25/13 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		115 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		106 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 09/25/13 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.597	0.0819	mg/kg dry	1	3093018	09/30/13	10/02/13	EPA 6020A	
Barium	112	0.0819	"	"	"	"	"	"	
Cadmium	0.328	0.0819	"	"	"	"	"	"	
Chromium	5.78	0.409	"	"	"	"	"	"	
Copper	3.04	0.409	"	"	"	"	"	"	
Lead	15.3	0.0819	"	"	"	"	"	"	
Nickel	9.07	0.0819	"	"	"	"	"	"	
Selenium	0.224	0.0409	"	"	"	"	"	"	
Silver	0.147	0.0819	"	"	"	"	"	"	
Zinc	8.58	8.19	"	"	"	"	"	"	

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4600 West 60th Avenue
Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB08@10-12
R309260-07 (Soil)**

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.0511	0.0457	mg/kg dry	1	3100202	10/02/13	10/02/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.11	mg/kg dry	1	3093013	09/30/13	10/03/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	4.67	1.00	mg/kg	1	3100406	10/04/13	10/04/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	111	8.68	mg/kg dry	1	3093019	09/30/13	10/02/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	147	4.34	"	"	"	"	"	"	
Sodium	167	4.34	"	"	"	"	"	"	

Date Sampled: **09/25/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.45		units	"	3093020	"	10/03/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

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 Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/08/13 16:15

**Durham #1 SB08@10-12
 R309260-07 (Soil)**

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.21	0.0100	mmhos/cm	1	3100104	10/01/13	10/01/13	SM 2510B	

Date Sampled: **09/25/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.92	0.100	pH Units	"	3100107	10/01/13	10/02/13	EPA 9045	

Date Sampled: **09/25/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.1		%	"	3100213	10/02/13	10/03/13	% calculation	

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB08@25-27
R309260-08 (Soil)**

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/25/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3093015	09/30/13	10/03/13	8015M	

Date Sampled: **09/25/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		93.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/25/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	3093014	09/30/13	10/02/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/25/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane- <i>d</i> 4		119 %	23-173		"	"	"	"	
Surrogate: Toluene- <i>d</i> 8		99.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.9 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **09/25/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3093017	09/30/13	10/02/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB08@25-27
R309260-08 (Soil)**

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	5.00	ug/kg	1	3093017	09/30/13	10/02/13	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	ND	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.00	"	"	"	"	"	"	
Fluoranthene	ND	5.00	"	"	"	"	"	"	
Fluorene	ND	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.00	"	"	"	"	"	"	
Naphthalene	13.5	5.00	"	"	"	"	"	"	
Pyrene	5.21	5.00	"	"	"	"	"	"	

Date Sampled: 09/25/13 16:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		110 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		101 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 09/25/13 16:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.03	0.0831	mg/kg dry	1	3093018	09/30/13	10/02/13	EPA 6020A	
Barium	30.1	0.0831	"	"	"	"	"	"	
Cadmium	0.679	0.0831	"	"	"	"	"	"	
Chromium	6.10	0.416	"	"	"	"	"	"	
Copper	5.17	0.416	"	"	"	"	"	"	
Lead	17.2	0.0831	"	"	"	"	"	"	
Nickel	13.6	0.0831	"	"	"	"	"	"	
Selenium	0.266	0.0416	"	"	"	"	"	"	
Silver	0.165	0.0831	"	"	"	"	"	"	
Zinc	23.0	8.31	"	"	"	"	"	"	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

**Durham #1 SB08@25-27
R309260-08 (Soil)**

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **09/25/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.0496	mg/kg dry	1	3100202	10/02/13	10/02/13	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **09/25/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.10	mg/kg dry	1	3093013	09/30/13	10/03/13	EPA 7196	

Calculated Analytes

Date Sampled: **09/25/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	5.00	1.00	mg/kg	1	3100406	10/04/13	10/04/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **09/25/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2110	9.10	mg/kg dry	1	3093019	09/30/13	10/02/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	790	4.55	"	"	"	"	"	"	
Sodium	272	4.55	"	"	"	"	"	"	

Date Sampled: **09/25/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.28		units	"	3093020	"	10/03/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/08/13 16:15

**Durham #1 SB08@25-27
 R309260-08 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/25/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.21	0.0100	mmhos/cm	1	3100104	10/01/13	10/01/13	SM 2510B	

Date Sampled: **09/25/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.33	0.100	pH Units	"	3100107	10/01/13	10/02/13	EPA 9045	

Date Sampled: **09/25/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.8		%	"	3100213	10/02/13	10/03/13	% calculation	

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

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		

Batch 3093015 - EPA 3550A

Blank (3093015-BLK1)			Prepared: 09/30/13 Analyzed: 10/02/13								
C10-C28 (DRO)	ND	50	mg/kg								
LCS (3093015-BS1)			Prepared: 09/30/13 Analyzed: 10/02/13								
C10-C28 (DRO)	474	50	mg/kg	501	94.6	73-134					
LCS (3093015-BS2)			Prepared: 09/30/13 Analyzed: 10/02/13								
C10-C28 (DRO)	504	50	mg/kg	501	101	73-134					
LCS Dup (3093015-BSD1)			Prepared: 09/30/13 Analyzed: 10/02/13								
C10-C28 (DRO)	484	50	mg/kg	501	96.6	73-134	2.12		11		
LCS Dup (3093015-BSD2)			Prepared: 09/30/13 Analyzed: 10/02/13								
C10-C28 (DRO)	478	50	mg/kg	501	95.4	73-134	5.30		11		
Matrix Spike (3093015-MS1)			Source: R309251-02		Prepared: 09/30/13 Analyzed: 10/02/13						
C10-C28 (DRO)	580	50	mg/kg	498	ND	116	50-148				
Matrix Spike (3093015-MS2)			Source: R309251-03		Prepared: 09/30/13 Analyzed: 10/02/13						
C10-C28 (DRO)	465	50	mg/kg	430	ND	108	50-148				
Matrix Spike Dup (3093015-MSD1)			Source: R309251-02		Prepared: 09/30/13 Analyzed: 10/02/13						
C10-C28 (DRO)	544	50	mg/kg	474	ND	115	50-148	6.37		13	
Matrix Spike Dup (3093015-MSD2)			Source: R309251-03		Prepared: 09/30/13 Analyzed: 10/02/13						
C10-C28 (DRO)	524	50	mg/kg	487	ND	107	50-148	11.9		13	

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

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 3093014 - EPA 5030 Soil MS

Blank (3093014-BLK1)

Prepared: 09/30/13 Analyzed: 10/01/13

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	0.0445		"	0.0397	112	23-173					
Surrogate: Toluene-d8	0.0383		"	0.0400	95.8	20-170					
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400	103	21-167					

Blank (3093014-BLK2)

Prepared: 09/30/13 Analyzed: 10/01/13

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	0.0457		"	0.0397	115	23-173					
Surrogate: Toluene-d8	0.0388		"	0.0400	97.0	20-170					
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400	103	21-167					

LCS (3093014-BS1)

Prepared: 09/30/13 Analyzed: 10/01/13

Benzene	0.0742	0.0020	mg/kg	0.100	74.2	58-130					
Toluene	0.0885	0.0050	"	0.100	88.5	61-134					
Ethylbenzene	0.120	0.0050	"	0.100	120	74-139					
m,p-Xylene	0.229	0.010	"	0.200	114	73-137					
o-Xylene	0.118	0.0050	"	0.100	118	73-141					
Surrogate: 1,2-Dichloroethane-d4	0.0449		"	0.0397	113	23-173					
Surrogate: Toluene-d8	0.0387		"	0.0400	96.8	20-170					
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400	100	21-167					

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4600 West 60th Avenue
Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

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 3093014 - EPA 5030 Soil MS

LCS (3093014-BS2)

Prepared: 09/30/13 Analyzed: 10/01/13

Benzene	0.0738	0.0020	mg/kg	0.100		73.8	58-130			
Toluene	0.0873	0.0050	"	0.100		87.3	61-134			
Ethylbenzene	0.119	0.0050	"	0.100		119	74-139			
m,p-Xylene	0.228	0.010	"	0.200		114	73-137			
o-Xylene	0.119	0.0050	"	0.100		119	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0470		"	0.0397		118	23-173			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.3	21-167			

LCS Dup (3093014-BSD1)

Prepared: 09/30/13 Analyzed: 10/01/13

Benzene	0.0754	0.0020	mg/kg	0.100		75.4	58-130	1.52	13	
Toluene	0.0880	0.0050	"	0.100		88.0	61-134	0.476	16	
Ethylbenzene	0.119	0.0050	"	0.100		119	74-139	0.777	12	
m,p-Xylene	0.230	0.010	"	0.200		115	73-137	0.340	14	
o-Xylene	0.119	0.0050	"	0.100		119	73-141	0.455	12	
Surrogate: 1,2-Dichloroethane-d4	0.0453		"	0.0397		114	23-173			
Surrogate: Toluene-d8	0.0383		"	0.0400		95.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.8	21-167			

LCS Dup (3093014-BSD2)

Prepared: 09/30/13 Analyzed: 10/01/13

Benzene	0.0729	0.0020	mg/kg	0.100		72.9	58-130	1.19	13	
Toluene	0.0860	0.0050	"	0.100		86.0	61-134	1.52	16	
Ethylbenzene	0.121	0.0050	"	0.100		121	74-139	2.02	12	
m,p-Xylene	0.234	0.010	"	0.200		117	73-137	2.78	14	
o-Xylene	0.120	0.0050	"	0.100		120	73-141	0.552	12	
Surrogate: 1,2-Dichloroethane-d4	0.0458		"	0.0397		115	23-173			
Surrogate: Toluene-d8	0.0384		"	0.0400		95.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.5	21-167			

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

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 3093014 - EPA 5030 Soil MS

Matrix Spike (3093014-MS1)		Source: R309255-01			Prepared: 09/30/13		Analyzed: 10/02/13			
Benzene	0.0906	0.0020	mg/kg	0.0926	ND	97.9	30-131			
Toluene	0.0928	0.0050	"	0.0926	ND	100	30-134			
Ethylbenzene	0.102	0.0050	"	0.0926	ND	111	22-153			
m,p-Xylene	0.203	0.010	"	0.185	ND	109	10-159			
o-Xylene	0.101	0.0050	"	0.0926	ND	109	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0395		"	0.0368		107	23-173			
Surrogate: Toluene-d8	0.0349		"	0.0370		94.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0375		"	0.0370		101	21-167			

Matrix Spike (3093014-MS2)		Source: R309255-02			Prepared: 09/30/13		Analyzed: 10/02/13			
Benzene	0.0920	0.0018	mg/kg	0.0909	ND	101	30-131			
Toluene	0.103	0.0045	"	0.0909	ND	113	30-134			
Ethylbenzene	0.105	0.0045	"	0.0909	ND	115	22-153			
m,p-Xylene	0.205	0.0091	"	0.182	ND	113	10-159			
o-Xylene	0.105	0.0045	"	0.0909	ND	115	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0261		"	0.0361		72.4	23-173			
Surrogate: Toluene-d8	0.0373		"	0.0364		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0338		"	0.0364		93.1	21-167			

Matrix Spike Dup (3093014-MSD1)		Source: R309255-01			Prepared: 09/30/13		Analyzed: 10/02/13			
Benzene	0.0868	0.0017	mg/kg	0.0870	ND	99.8	30-131	4.37	34	
Toluene	0.0940	0.0043	"	0.0870	ND	108	30-134	1.27	30	
Ethylbenzene	0.0979	0.0043	"	0.0870	ND	113	22-153	4.61	24	
m,p-Xylene	0.194	0.0087	"	0.174	ND	112	10-159	4.20	68	
o-Xylene	0.0978	0.0043	"	0.0870	ND	112	31-151	2.75	38	
Surrogate: 1,2-Dichloroethane-d4	0.0368		"	0.0345		107	23-173			
Surrogate: Toluene-d8	0.0346		"	0.0348		99.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0332		"	0.0348		95.3	21-167			

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

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 3093014 - EPA 5030 Soil MS

Matrix Spike Dup (3093014-MSD2)	Source: R309255-02			Prepared: 09/30/13	Analyzed: 10/02/13					
Benzene	0.0895	0.0018	mg/kg	0.0907	ND	98.6	30-131	2.73	34	
Toluene	0.0957	0.0045	"	0.0907	ND	105	30-134	7.29	30	
Ethylbenzene	0.0988	0.0045	"	0.0907	ND	109	22-153	5.83	24	
m,p-Xylene	0.195	0.0091	"	0.181	ND	107	10-159	5.19	68	
o-Xylene	0.0973	0.0045	"	0.0907	ND	107	31-151	7.41	38	
Surrogate: 1,2-Dichloroethane-d4	0.0411		"	0.0360		114	23-173			
Surrogate: Toluene-d8	0.0371		"	0.0363		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0365		"	0.0363		100	21-167			

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Semivolatile Organic Compounds by EPA Method 8270D SIM - Quality Control
Summit Scientific

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

Batch 3093017 - EPA 5030 Soil MS

Blank (3093017-BLK1)

Prepared: 09/30/13 Analyzed: 10/01/13

Acenaphthene	ND	5.00	ug/kg							
Anthracene	ND	5.00	"							
Benzo (a) anthracene	ND	5.00	"							
Benzo (b) fluoranthene	ND	5.00	"							
Benzo (k) fluoranthene	ND	5.00	"							
Benzo (a) pyrene	ND	5.00	"							
Chrysene	ND	5.00	"							
Dibenz (a,h) anthracene	ND	5.00	"							
Fluoranthene	ND	5.00	"							
Fluorene	ND	5.00	"							
Indeno (1,2,3-cd) pyrene	ND	5.00	"							
Naphthalene	ND	5.00	"							
Pyrene	ND	5.00	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	30.6		"	34.8		88.0	50-150			
<i>Surrogate: Fluoranthene-d10</i>	27.9		"	34.5		80.9	50-150			

LCS (3093017-BS1)

Prepared: 09/30/13 Analyzed: 10/01/13

Acenaphthene	32.2	5.00	ug/kg	33.3		96.5	48-131			
Anthracene	31.9	5.00	"	33.3		95.7	48-135			
Benzo (a) anthracene	35.1	5.00	"	33.3		105	37-142			
Benzo (b) fluoranthene	33.9	5.00	"	33.3		102	35-139			
Benzo (k) fluoranthene	27.7	5.00	"	33.3		83.2	30-139			
Benzo (a) pyrene	33.2	5.00	"	33.3		99.5	41-132			
Chrysene	29.8	5.00	"	33.3		89.5	30-136			
Dibenz (a,h) anthracene	36.2	5.00	"	33.3		109	24-127			
Fluoranthene	31.3	5.00	"	33.3		93.8	50-139			
Fluorene	35.8	5.00	"	33.3		107	50-130			
Indeno (1,2,3-cd) pyrene	36.3	5.00	"	33.3		109	26-139			
Naphthalene	31.6	5.00	"	33.3		94.8	40-135			
Pyrene	36.5	5.00	"	33.3		110	39-141			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	33.3		"	34.8		95.8	50-150			
<i>Surrogate: Fluoranthene-d10</i>	31.6		"	34.5		91.6	50-150			

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Semivolatile Organic Compounds by EPA Method 8270D SIM - Quality Control
Summit Scientific

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

Batch 3093017 - EPA 5030 Soil MS

LCS Dup (3093017-BSD1)

Prepared: 09/30/13 Analyzed: 10/01/13

Acenaphthene	30.9	5.00	ug/kg	33.3		92.8	48-131	3.91	23	
Anthracene	30.5	5.00	"	33.3		91.5	48-135	4.50	28	
Benzo (a) anthracene	33.5	5.00	"	33.3		101	37-142	4.46	32	
Benzo (b) fluoranthene	33.6	5.00	"	33.3		101	35-139	1.01	30	
Benzo (k) fluoranthene	29.1	5.00	"	33.3		87.4	30-139	4.92	27	
Benzo (a) pyrene	31.0	5.00	"	33.3		93.0	41-132	6.81	25	
Chrysene	29.1	5.00	"	33.3		87.4	30-136	2.40	27	
Dibenz (a,h) anthracene	36.1	5.00	"	33.3		108	24-127	0.272	29	
Fluoranthene	29.8	5.00	"	33.3		89.4	50-139	4.82	26	
Fluorene	35.0	5.00	"	33.3		105	50-130	2.27	24	
Indeno (1,2,3-cd) pyrene	37.7	5.00	"	33.3		113	26-139	3.94	30	
Naphthalene	30.0	5.00	"	33.3		90.1	40-135	5.08	21	
Pyrene	37.8	5.00	"	33.3		114	39-141	3.47	26	
Surrogate: 2-Methylnaphthalene-d10	30.8		"	34.8		88.5	50-150			
Surrogate: Fluoranthene-d10	31.2		"	34.5		90.4	50-150			

Duplicate (3093017-DUP1)

Source: R309260-01

Prepared: 09/30/13 Analyzed: 10/01/13

Acenaphthene	ND	5.00	ug/kg		ND				200	
Anthracene	4.13	5.00	"		3.11			28.1	200	
Benzo (a) anthracene	ND	5.00	"		ND				200	
Benzo (b) fluoranthene	ND	5.00	"		ND				200	
Benzo (k) fluoranthene	ND	5.00	"		ND				200	
Benzo (a) pyrene	ND	5.00	"		ND				200	
Chrysene	ND	5.00	"		ND				200	
Dibenz (a,h) anthracene	ND	5.00	"		ND				200	
Fluoranthene	ND	5.00	"		ND				200	
Fluorene	29.6	5.00	"		22.3			28.2	200	
Indeno (1,2,3-cd) pyrene	ND	5.00	"		ND				200	
Naphthalene	ND	5.00	"		ND				200	
Pyrene	ND	5.00	"		ND				200	
Surrogate: 2-Methylnaphthalene-d10	33.4		"	34.8		96.0	50-150			
Surrogate: Fluoranthene-d10	26.3		"	34.5		76.2	50-150			

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Semivolatile Organic Compounds by EPA Method 8270D SIM - Quality Control
Summit Scientific

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

Batch 3093017 - EPA 5030 Soil MS

Matrix Spike (3093017-MS1)	Source: R309260-02			Prepared: 09/30/13		Analyzed: 10/01/13		
Acenaphthene	63.2	5.00	ug/kg	33.3	28.3	105	27-140	
Anthracene	30.2	5.00	"	33.3	1.07	87.3	23-144	
Benzo (a) anthracene	39.0	5.00	"	33.3	5.05	102	12-168	
Benzo (b) fluoranthene	39.8	5.00	"	33.3	ND	119	10-170	
Benzo (k) fluoranthene	33.8	5.00	"	33.3	ND	101	11-150	
Benzo (a) pyrene	32.6	5.00	"	33.3	2.91	89.2	11-162	
Chrysene	33.3	5.00	"	33.3	6.13	81.5	10-167	
Dibenz (a,h) anthracene	23.5	5.00	"	33.3	ND	70.5	10-128	
Fluoranthene	27.5	5.00	"	33.3	8.91	55.8	18-157	
Fluorene	69.2	5.00	"	33.3	32.1	111	37-133	
Indeno (1,2,3-cd) pyrene	25.2	5.00	"	33.3	ND	75.5	10-161	
Naphthalene	405	5.00	"	33.3	339	197	10-157	E
Pyrene	53.3	5.00	"	33.3	14.4	117	10-166	
Surrogate: 2-Methylnaphthalene-d10	31.6		"	34.8		90.8	50-150	
Surrogate: Fluoranthene-d10	21.7		"	34.5		63.0	50-150	

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

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Total Metals by EPA Method 6020 - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 3093018 - EPA 3050B

Blank (3093018-BLK1)

Prepared: 09/30/13 Analyzed: 10/02/13

Arsenic	ND	0.100	mg/kg wet						
Barium	ND	0.100	"						
Cadmium	ND	0.100	"						
Chromium	ND	0.500	"						
Copper	ND	0.500	"						
Lead	ND	0.100	"						
Nickel	ND	0.100	"						
Selenium	ND	0.0500	"						
Silver	ND	0.100	"						
Zinc	ND	10.0	"						

LCS (3093018-BS1)

Prepared: 09/30/13 Analyzed: 10/02/13

Arsenic	2.61	0.100	mg/kg wet	2.48	105	80-120		
Barium	205	0.100	"	223	92.1	80-120		
Cadmium	1.01	0.100	"	0.994	102	80-120		
Chromium	11.5	0.500	"	9.94	116	80-120		
Copper	22.4	0.500	"	19.8	113	80-120		
Lead	7.83	0.100	"	7.45	105	80-120		
Nickel	17.1	0.100	"	14.9	115	80-120		
Selenium	1.25	0.0500	"	1.24	101	80-120		
Silver	0.281	0.100	"	0.248	114	80-120		
Zinc	6.22	10.0	"	7.45	83.5	80-120		

LCS Dup (3093018-BSD1)

Prepared: 09/30/13 Analyzed: 10/02/13

Arsenic	2.67	0.100	mg/kg wet	2.50	107	80-120	2.52	20
Barium	208	0.100	"	225	92.2	80-120	1.07	20
Cadmium	0.983	0.100	"	1.00	98.0	80-120	2.89	20
Chromium	11.8	0.500	"	10.0	117	80-120	1.86	20
Copper	23.0	0.500	"	20.0	115	80-120	2.65	20
Lead	7.78	0.100	"	7.52	103	80-120	0.715	20
Nickel	17.3	0.100	"	15.0	115	80-120	1.39	20
Selenium	1.27	0.0500	"	1.25	101	80-120	1.40	20
Silver	0.268	0.100	"	0.250	107	80-120	4.79	20
Zinc	6.95	10.0	"	7.52	92.3	80-120	11.0	20

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Arvada CO, 80003

Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Total Metals by EPA Method 6020 - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 3093018 - EPA 3050B

Matrix Spike (3093018-MS1)	Source: R309260-01			Prepared: 09/30/13		Analyzed: 10/02/13					
Arsenic	1.39	0.0843	mg/kg dry	2.11	0.879	24.3	75-125				QM-06
Barium	254	0.0843	"	190	30.3	118	75-125				
Cadmium	1.11	0.0843	"	0.846	0.298	96.2	75-125				
Chromium	10.1	0.422	"	8.46	5.77	51.0	75-125				QM-06
Copper	8.83	0.422	"	16.9	4.97	22.8	75-125				QM-06
Lead	21.2	0.0843	"	6.35	16.1	80.1	75-125				
Nickel	15.1	0.0843	"	12.7	9.63	42.9	75-125				QM-06
Selenium	0.415	0.0422	"	1.06	0.179	22.3	75-125				QM-06
Silver	0.349	0.0843	"	0.211	0.149	95.1	75-125				
Zinc	18.9	8.43	"	6.35	17.5	21.3	75-125				QM-06

Matrix Spike Dup (3093018-MSD1)	Source: R309260-01			Prepared: 09/30/13		Analyzed: 10/02/13					
Arsenic	1.34	0.0843	mg/kg dry	2.11	0.879	21.9	75-125	3.77	25		QM-06
Barium	247	0.0843	"	190	30.3	114	75-125	2.69	25		
Cadmium	1.15	0.0843	"	0.845	0.298	101	75-125	3.67	25		
Chromium	9.74	0.421	"	8.45	5.77	47.0	75-125	3.50	25		QM-06
Copper	8.75	0.421	"	16.9	4.97	22.4	75-125	0.867	25		QM-06
Lead	21.9	0.0843	"	6.34	16.1	91.6	75-125	3.37	25		
Nickel	16.0	0.0843	"	12.7	9.63	50.6	75-125	6.24	25		QM-06
Selenium	0.422	0.0421	"	1.06	0.179	22.9	75-125	1.51	25		QM-06
Silver	0.328	0.0843	"	0.211	0.149	85.1	75-125	6.32	25		
Zinc	18.6	8.43	"	6.34	17.5	17.5	75-125	1.27	25		QM-06

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
 Project Manager: Rob Fishburn

Reported:
 10/08/13 16:15

Total Mercury by EPA Method 7471/7470/245.1 - Quality Control
Summit Scientific

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

Batch 3100202 - EPA 7471A

Blank (3100202-BLK1)		Prepared & Analyzed: 10/02/13									
Mercury	ND	0.0500	mg/kg wet								
LCS (3100202-BS1)		Prepared & Analyzed: 10/02/13									
Mercury	0.418	0.0500	mg/kg wet	0.400		105	80-120				
LCS Dup (3100202-BSD1)		Prepared & Analyzed: 10/02/13									
Mercury	0.426	0.0500	mg/kg wet	0.400		106	80-120	1.80	20		
Matrix Spike (3100202-MS1)		Source: R309229-02		Prepared & Analyzed: 10/02/13							
Mercury	0.372	0.0460	mg/kg dry	0.368	0.00369	100	80-120				
Matrix Spike Dup (3100202-MSD1)		Source: R309229-02		Prepared & Analyzed: 10/02/13							
Mercury	0.391	0.0468	mg/kg dry	0.374	0.00369	103	80-120	4.93	20		

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Hexavalent Chromium by EPA 7196 - Quality Control
Summit Scientific

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

Batch 3093013 - General Preparation

Blank (3093013-BLK1)		Prepared: 09/30/13 Analyzed: 10/03/13									
Chromium, Hexavalent	ND	1.00	mg/kg wet								
LCS (3093013-BS1)		Prepared: 09/30/13 Analyzed: 10/03/13									
Chromium, Hexavalent	107	1.25	mg/kg wet	118	90.7	85-115					
LCS Dup (3093013-BSD1)		Prepared: 09/30/13 Analyzed: 10/03/13									
Chromium, Hexavalent	109	1.25	mg/kg wet	118	92.6	85-115	2.45	20			
Duplicate (3093013-DUP1)		Source: R309260-01		Prepared: 09/30/13 Analyzed: 10/03/13							
Chromium, Hexavalent	ND	1.12	mg/kg dry		ND						20
Matrix Spike (3093013-MS1)		Source: R309260-01		Prepared: 09/30/13 Analyzed: 10/03/13							
Chromium, Hexavalent	30.8	1.12	mg/kg dry	44.4	ND	69.4	85-115				QM-05

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 3093019 - General Preparation

Blank (3093019-BLK1)

Prepared: 09/30/13 Analyzed: 10/02/13

Calcium	ND	10.0	mg/kg wet							
Magnesium	ND	5.00	"							
Sodium	ND	5.00	"							

LCS (3093019-BS1)

Prepared: 09/30/13 Analyzed: 10/02/13

Calcium	437	10.0	mg/kg wet	405		108	80-120			
Magnesium	197	5.00	"	203		97.2	80-120			
Sodium	604	5.00	"	506		119	80-120			

Matrix Spike (3093019-MS1)

Source: R309260-01

Prepared: 09/30/13 Analyzed: 10/02/13

Calcium	342	8.94	mg/kg dry	360	313	8.02	75-125			QM-06
Magnesium	218	4.47	"	180	282	NR	75-125			QM-06
Sodium	552	4.47	"	450	389	36.2	75-125			QM-06

Matrix Spike Dup (3093019-MSD1)

Source: R309260-01

Prepared: 09/30/13 Analyzed: 10/02/13

Calcium	591	8.98	mg/kg dry	358	313	77.6	75-125	53.4	25	QM-06
Magnesium	393	4.49	"	180	282	61.8	75-125	57.3	25	QM-06
Sodium	960	4.49	"	448	389	128	75-125	54.0	25	QM-06

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 3100104 - General Preparation

Blank (3100104-BLK1)			Prepared & Analyzed: 10/01/13								
Specific Conductance (EC)	ND	0.0100	mmhos/cm								
Duplicate (3100104-DUP1)			Source: R309233-03		Prepared & Analyzed: 10/01/13						
Specific Conductance (EC)	0.138	0.0100	mmhos/cm		0.140				1.62	20	

Batch 3100107 - General Preparation

LCS (3100107-BS1)			Prepared: 10/01/13 Analyzed: 10/02/13								
pH	8.04	0.100	pH Units	8.00		100	0-200				
Duplicate (3100107-DUP1)			Source: R309233-03		Prepared: 10/01/13 Analyzed: 10/02/13						
pH	5.72	0.100	pH Units		5.62				1.76	20	

Batch 3100213 - General Preparation

Duplicate (3100213-DUP1)			Source: R309260-01		Prepared: 10/02/13 Analyzed: 10/03/13						
% Solids	89.6		%		89.3				0.335	20	

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Project: SHE - Waddle Creek Pit Assessment

Project Number: 0343-12009
Project Manager: Rob Fishburn

Reported:
10/08/13 16:15

Notes and Definitions

- QM-06 Due to noted non-homogeneity of the QC sample matrix, the MS/MSD did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- 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