

State of Colorado  
Oil and Gas Conservation Commission

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



FOR OGCC USE ONLY

**SITE INVESTIGATION AND REMEDIATION WORKPLAN**

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

OGCC Employee:

☐ Spill ☐ Complaint  
☐ Inspection ☐ NOAV

Tracking No:

**CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED**

☒ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☐ Other (describe):

**GENERAL INFORMATION**

<b>OGCC Operator Number:</b> 69175 <b>Name of Operator:</b> Petroleum Development Corporation <b>Address:</b> 1775 Sherman Street, Suite 3000 <b>City:</b> Denver <b>State:</b> CO <b>Zip:</b> 80203		<b>Contact Name and Telephone</b> <b>Name:</b> John Nussbaumer <b>No:</b> (303) 860-5800 <b>Fax:</b> (303) 860-5838	
<b>API/Facility No:</b> 05-123-20671 <b>Facility Name:</b> Anderson # 12-13 <b>Well Name:</b> Anderson		<b>County:</b> Weld <b>Facility Number:</b> <b>Well Number:</b> 12-13	
<b>Location (Qtr, Sec, Twp, Rng, Meridian):</b> SWNW Sec 13 T6N R65W 6th <b>Latitude:</b> <b>Longitude:</b>			

**TECHNICAL CONDITIONS**

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): Condensate and produced water

**Site Conditions:** Is location within a sensitive area (according to Rule 901e)? ☒ Y ☐ N If yes, attach evaluation. Groundwater < 20 feet bgs.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Irrigated cropland, irrigation pond

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Sandy clay

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Surface water is located approximately 15 feet east of the site, a building is located 1,710 feet west of the site, depth to the shallowest groundwater is 4 feet below ground surface (bgs)

**Description of Impact** (if previously provided, refer to that form or document):

Impacted Media (check):	Extent of Impact:	How Determined:
<input checked="" type="checkbox"/> Soils	4' E-W x 72' N-S x 4' bgs	Soil samples for field screening and laboratory analysis
<input type="checkbox"/> Vegetation		
<input checked="" type="checkbox"/> Groundwater	See attached data	Collected groundwater samples for laboratory analysis
<input type="checkbox"/> Surface water		

**REMEDIALATION WORKPLAN**

Describe initial action taken (if previously provided, refer to that form or document):

Form 19 provided on 9/8/2008.

Describe how source is to be removed:

During routine tank battery upgrade activities, a leak in the dump lines from the separator was observed to have released an unknown volume of produced water and oil to the subsurface. Approximately 489 cubic yards of petroleum hydrocarbon impacted soil above Colorado Oil and Gas Conservation (COGCC) sensitive area allowable levels was removed from the excavation along the dump line area. Laboratory results indicate that total petroleum hydrocarbons (TPH) concentrations (C6-C36) at the extents of the excavation are below the COGCC 1,000 milligram per kilogram (mg/kg) sensitive area allowable level. Groundwater entering the excavation was analyzed for benzene, toluene, ethyl benzene, and xylenes (BTEX). Laboratory results indicate benzene concentrations exceed the Colorado Groundwater Quality Standard (CGWQS) of 5 micrograms per liter (µg/l). Before backfilling the excavation, BOS 200® (activated carbon) was applied to the groundwater and exposed smear zone soils. A Material Safety Data Sheet (MSDS) for BOS 200® is provided as an attachment. Excavation and groundwater sample locations are shown on the Figure 2, Site Map provided. Soil analytical and groundwater analytical results are provided in Tables 1 and 2, respectively.

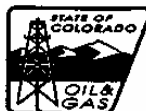
Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

The impacted soils above sensitive area standards were transported to the Waste Management landfill in Ault, CO for disposal.

Submit Page 2 with Page 1.

**State of Colorado**  
**Oil and Gas Conservation Commission**

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



**REMEDIATION WORKPLAN (CONT.)**

OGCC Employee: \_\_\_\_\_

Tracking Number: \_\_\_\_\_  
Name of Operator: Petroleum Development Corporation  
OGCC Operator No: 69175  
Received Date: \_\_\_\_\_  
Well Name & No: Anderson 12-13  
Facility Name & No.: Anderson 12-13

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

Four monitoring wells (MW01 through MW04) were installed at the site on August 24, 2008. Each of the wells were developed, sampled and submitted for laboratory analysis of BTEX on August 25, 2008. Laboratory results indicate benzene levels in monitoring well MW01 exceed the CGWQS of 5µg/l. Groundwater analytical results are provided in Table 2 as an attachment. Monitoring wells MW05 and MW06 were installed at the site on October 20, 2008 in order to define possible groundwater impacts to the south and southwest of the release point. Laboratory results indicate benzene levels in monitoring wells MW05 and MW06 were below CGWQS standards.

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

The site was restored to its pre-release grade. PDC's production facility remains at the site.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☒ Y ☐ N If yes, describe:

Downgradient monitoring well MW05 is a (POC) well; therefore, no additional wells are need to define the extent groundwater impacts. Groundwater monitoring wells will continue to be sampled until four consecutive quarters of analytical laboratory results are below CGWQS.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

The impacted soils above sensitive area standards were transported to the Waste Management Landfill in Ault, CO for disposal.

**IMPLEMENTATION SCHEDULE**

Date Site Investigation Began: <u>9/3/08</u>	Date Site Investigation Completed: <u>Active</u>	Remediation Plan Submitted: _____
Remediation Start Date: <u>9/3/08</u>	Anticipated Completion Date: <u>9/3/09</u>	Actual Completion Date: _____

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: John Peterson, LT Environmental, as agent for PDC

Signed: [Signature] Title: Senior Geologist - LTE Date: 12/15/08

OGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

## LEGEND



## SITE LOCATION

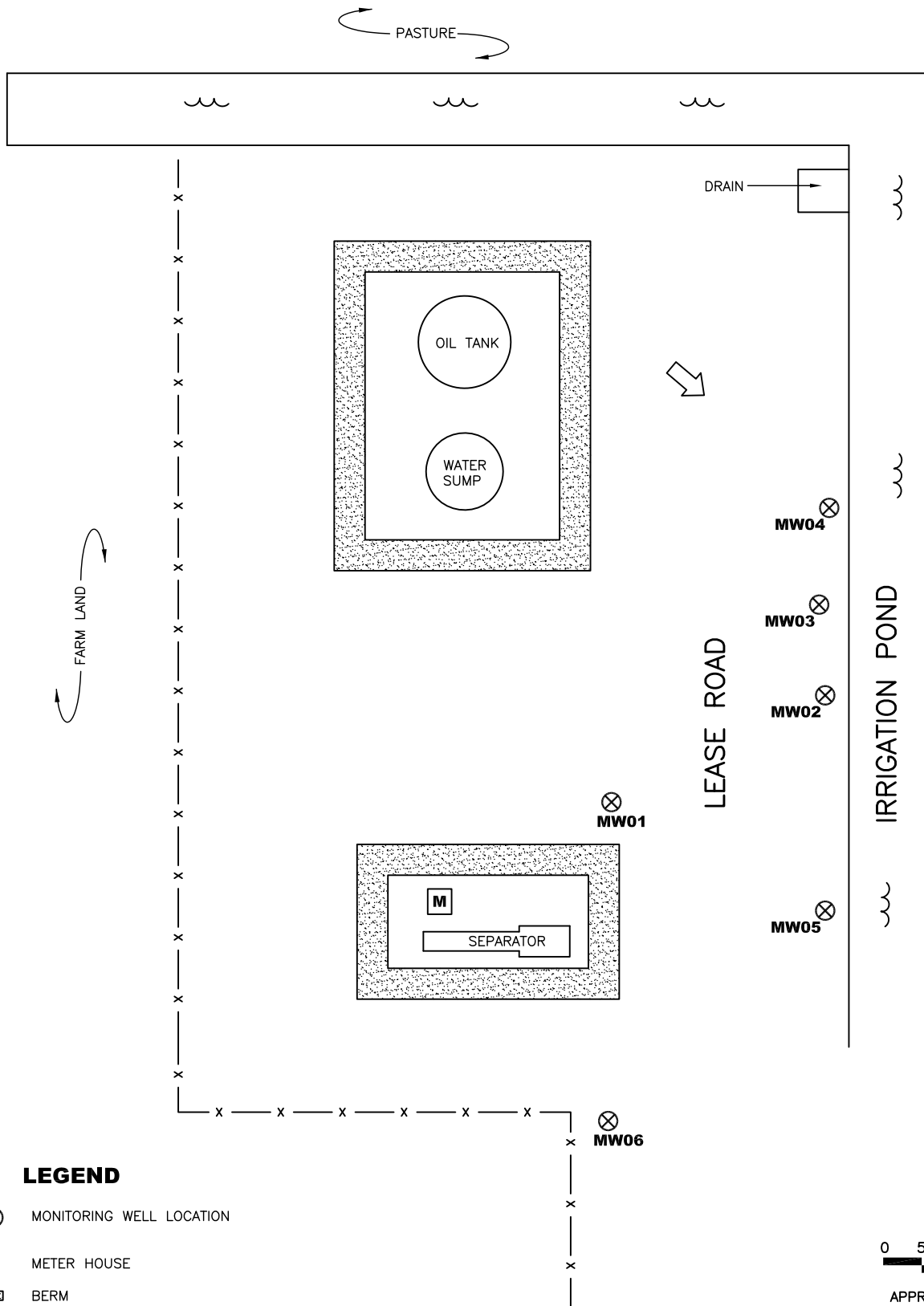


SOURCE: TOPOZONE.COM  
USGS 7.5' QUADRANGLE  
(NAD27)

FIGURE 1  
SITE LOCATION MAP  
ANDERSON #12-13  
SWNW 13 6N 65W  
WELD COUNTY, CO  
PETROLEUM DEVELOPMENT CORPORATION

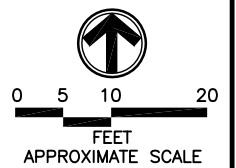


PDC0815801\_SL 9/08



# **LEGEND**

- MW01 ⊗ MONITORING WELL LOCATION
- M METER HOUSE
- BERM
- ~~~~~ CORRUGATED STEEL FIREWALL
- x RELEASE LOCATION
- EXTENT OF EXCAVATION
- x — FENCE
- ➡ ESTIMATED GROUNDWATER FLOW DIRECTION



**FIGURE 2**  
**SITE MAP**  
 ANDERSON #12-13  
 SWNW 13 6N 65W  
 WELD COUNTY, CO  
 PETROLEUM DEVELOPMENT CORPORATION



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL DATA**  
**ANDERSON #12-13**  
**PETROLEUM DEVELOPMENT CORPORATION**

<b>SAMPLE ID</b>	<b>DATE</b>	<b>DEPTH (feet bgs)</b>	<b>TPH (mg/kg)</b>
S01 @2'	9/3/2008	2	<50
E01 @2'	9/3/2008	2	<50
W01 @2'	9/3/2008	2	<50
B01 @4'	9/10/2008	4	<50
N01 @2'	9/4/2008	2	<50
W02 @2'	9/4/2008	2	<50
W03 @2'	9/4/2008	2	<50
SB01 @4'	9/4/2008	4	<50
SB02 @4'	9/4/2008	4	<50
E03 @2'	9/4/2008	2	61
E02 @2'	9/4/2008	2	<50
B02 @4'	9/4/2008	4	<50
W04 @2'	9/9/2008	2	<50
E04 @2'	9/9/2008	2	<50
N01 @2'	9/9/2008	2	<50
B03 @5'	9/9/2008	5	<50

< - Less than stated laboratory reporting limit

TPH - Total Petroleum Hydrocarbons

mg/kg - Milligrams per kilogram

bgs - Below ground surface



TABLE 2  
GROUNDWATER SAMPLE ANALYTICAL DATA  
ANDERSON #12-13  
PETROLEUM DEVELOPMENT CORPORATION

SAMPLE ID	SAMPLE DATE	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYLBENZENE (ug/L)	XYLENES (ug/L)
GW01	9/4/2008	<b>1500</b>	210	1.8	420
GW02	9/4/2008	<1.0	<1.0	<1.0	<1.0
MW01	9/25/2008	<b>700</b>	<1.0	<1.0	<1.0
MW02	9/25/2008	<1.0	<1.0	<1.0	<1.0
MW03	9/25/2008	<1.0	<1.0	<1.0	1.1
MW04	9/25/2008	<1.0	<1.0	<1.0	<1.0
MW05	11/18/2008	<1.0	<1.0	<1.0	<1.0
MW06	11/18/2008	<1.0	<1.0	<1.0	<1.0

ug/L - Micrograms per liter

< - Less than stated laboratory reporting limits

Results noted in bold exceed CGWQS



# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.374.5933 - fax

September 04, 2008

John Peterson  
LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada, CO 80003  
RE: PDC - Anderson 12-13

Enclosed are the results of analyses for samples received by Summit Scientific on 09/03/08 17:45. 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 'Shrewsbury', with a long, sweeping horizontal line extending to the right.

Ben Shrewsbury  
Vice President / Laboratory Director



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

Project: PDC - Anderson 12-13

Project Number: PDC08158  
Project Manager: John Peterson

**Reported:**  
09/04/08 07:14

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S01@2'	R809015-01	Soil	09/03/08 16:10	09/03/08 17:45
E01@2'	R809015-02	Soil	09/03/08 16:13	09/03/08 17:45
W01@2'	R809015-03	Soil	09/03/08 16:16	09/03/08 17:45
B01@4'	R809015-04	Soil	09/03/08 16:20	09/03/08 17:45

Summit Scientific

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







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

Project: PDC - Anderson 12-13

Project Number: PDC08158  
Project Manager: John Peterson

**Reported:**  
09/04/08 07:14

**S01@2'**  
**R809015-01 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/03/08 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C6-C10 (GRO)</b>	<b>180</b>	50	mg/kg	1	8090306	09/03/08	09/03/08	8015 Full Carbon Chain	
<b>C10-C28 (DRO)</b>	<b>280</b>	50	"	"	"	"	"	"	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	
<b>C6-C36 TPH</b>	<b>460</b>	50	"	"	"	"	"	"	

Date Sampled: **09/03/08 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		120 %	77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		101 %	73.9-116		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC08158  
Project Manager: John Peterson

Reported:  
09/04/08 07:14

**E01@2'**  
**R809015-02 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/03/08 16:13**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C6-C10 (GRO)	ND	50	mg/kg	1	8090306	09/03/08	09/03/08	8015 Full Carbon Chain	
C10-C28 (DRO)	ND	50	"	"	"	"	"	"	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	
C6-C36 TPH	ND	50	"	"	"	"	"	"	

Date Sampled: **09/03/08 16:13**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		104 %	77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		100 %	73.9-116		"	"	"	"	

Summit Scientific

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

Project: PDC - Anderson 12-13

Project Number: PDC08158  
Project Manager: John Peterson

**Reported:**  
09/04/08 07:14

**W01@2'**  
**R809015-03 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/03/08 16:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C6-C10 (GRO)	ND	50		mg/kg	1	8090306	09/03/08	09/03/08	8015 Full Carbon Chain	
<b>C10-C28 (DRO)</b>	<b>120</b>	50		"	"	"	"	"	"	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	
<b>C6-C36 TPH</b>	<b>120</b>	50		"	"	"	"	"	"	

Date Sampled: **09/03/08 16:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		122 %		77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		102 %		73.9-116		"	"	"	"	

Summit Scientific

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

Project: PDC - Anderson 12-13

Project Number: PDC08158  
Project Manager: John Peterson

Reported:  
09/04/08 07:14

**B01@4'**  
**R809015-04 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/03/08 16:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C6-C10 (GRO)	ND	50	mg/kg	1	8090306	09/03/08	09/03/08	8015 Full Carbon Chain	
C10-C28 (DRO)	ND	50	"	"	"	"	"	"	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	
C6-C36 TPH	ND	50	"	"	"	"	"	"	

Date Sampled: **09/03/08 16:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		104 %	77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		101 %	73.9-116		"	"	"	"	

Summit Scientific

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

Project: PDC - Anderson 12-13

Project Number: PDC08158  
Project Manager: John Peterson

**Reported:**  
09/04/08 07:14

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

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

**Batch 8090306 - EPA 3550A**

**Blank (8090306-BLK1)**

Prepared: 09/03/08 Analyzed: 09/04/08

C6-C10 (GRO)	ND	50	mg/kg
C10-C28 (DRO)	ND	50	"
C28-C36 (ORO)	ND	50	"
C6-C36 TPH	ND	50	"

**LCS (8090306-BS1)**

Prepared: 09/03/08 Analyzed: 09/04/08

C10-C28 (DRO)	593	50	mg/kg	500	119	83.3-127
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**Matrix Spike (8090306-MS1)**

**Source: R809013-02**

Prepared: 09/03/08 Analyzed: 09/04/08

C10-C28 (DRO)	502	50	mg/kg	500	ND	100	75.8-126
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**Matrix Spike Dup (8090306-MSD1)**

**Source: R809013-02**

Prepared: 09/03/08 Analyzed: 09/04/08

C10-C28 (DRO)	453	50	mg/kg	500	ND	90.6	75.8-126	10.3	13.6
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: PDC - Anderson 12-13

Project Number: PDC08158  
Project Manager: John Peterson

**Reported:**  
09/04/08 07:14

### Notes and Definitions

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

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

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

September 08, 2008

John Peterson  
LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada, CO 80003  
RE: PDC - Anderson 12-13

Enclosed are the results of analyses for samples received by Summit Scientific on 09/05/08 08:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'PS' followed by a long, sweeping horizontal line.

Paul Shrewsbury For Ben Shrewsbury  
Vice President / Laboratory Director





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

Project: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
09/08/08 09:21

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01@2'	R809023-01	Soil	09/04/08 14:41	09/05/08 08:25
W02@2'	R809023-02	Soil	09/04/08 12:53	09/05/08 08:25
W03@2'	R809023-03	Soil	09/04/08 15:00	09/05/08 08:25
SB01@4'	R809023-04	Soil	09/04/08 13:30	09/05/08 08:25
SB02@4'	R809023-05	Soil	09/04/08 14:00	09/05/08 08:25
E03@2'	R809023-06	Soil	09/04/08 14:50	09/05/08 08:25
E02@2'	R809023-07	Soil	09/04/08 11:37	09/05/08 08:25
GW01	R809023-08	Water	09/04/08 12:30	09/05/08 08:25
GW02	R809023-09	Water	09/04/08 12:25	09/05/08 08:25
B02@4'	R809023-10	Soil	09/04/08 15:12	09/05/08 08:25

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

Project: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/08/08 09:21

Summit Scientific 2809023

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

Page of

Client: LT Environmental, Inc.  
Address: 4600 West 60th Avenue  
City/State/Zip: Arvada, CO 80003  
Phone: (303) 433-9788  
Fax: (303) 433-1432  
Project Name: Anderson 12-13  
Project Number: PDC08158  
Project Manager: John Peterson  
E-Mail: jpeterson@ltenv.com

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative					Matrix				Analyze For:		Special Instructions
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	Total Carbon Chain	BTEX		
N0102'	9/4/08	14:41	1			X			X						
W0302'		12:53	1						X						
W0302'		15:00	1						X						
S0104'		13:30	1						X						
S0204'		14:00	1						X						
E0302'		14:50	1						X						
E0302'		11:37	1						X						
G0001		12:30	2						X						
G0003		12:25	1						X						
S0104'		15:14	1						X						
Relinquished by: [Signature] Date/Time: 9/15/08 8:35				Received by: [Signature] Date/Time: 9/15/08 8:35				Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Standard <input type="checkbox"/>				Notes: Added 1/4 Pump PDC08158			
Relinquished by: [Signature] Date/Time: 9/15/08 8:35				Received by: [Signature] Date/Time: 9/15/08 8:35				Sample Integrity: Temperature Upon Receipt: 4.1 Intact: <input checked="" type="checkbox"/> No <input type="checkbox"/>							

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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.

[Signature]



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

Project: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/08/08 09:21

**N01@2'**  
**R809023-01 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/04/08 14:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C6-C10 (GRO)	ND	50	mg/kg	1	8090504	09/05/08	09/05/08	8015 Full Carbon Chain	
C10-C28 (DRO)	ND	50	"	"	"	"	"	"	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	
C6-C36 TPH	ND	50	"	"	"	"	"	"	

Date Sampled: **09/04/08 14:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		104 %	77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		95.1 %	73.9-116		"	"	"	"	

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

Project: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/08/08 09:21

**W02@2'**  
**R809023-02 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/04/08 12:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C6-C10 (GRO)	ND	50		mg/kg	1	8090504	09/05/08	09/05/08	8015 Full Carbon Chain	
C10-C28 (DRO)	ND	50		"	"	"	"	"	"	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	
C6-C36 TPH	ND	50		"	"	"	"	"	"	

Date Sampled: **09/04/08 12:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		104 %		77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		94.8 %		73.9-116		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/08/08 09:21

**W03@2'**  
**R809023-03 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/04/08 15:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C6-C10 (GRO)	ND	50		mg/kg	1	8090504	09/05/08	09/05/08	8015 Full Carbon Chain	
C10-C28 (DRO)	ND	50		"	"	"	"	"	"	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	
C6-C36 TPH	ND	50		"	"	"	"	"	"	

Date Sampled: **09/04/08 15:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		105 %		77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		96.3 %		73.9-116		"	"	"	"	

Summit Scientific

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

Project: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/08/08 09:21

**SB01@4'**  
**R809023-04 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/04/08 13:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C6-C10 (GRO)	ND	50		mg/kg	1	8090504	09/05/08	09/05/08	8015 Full Carbon Chain	
C10-C28 (DRO)	ND	50		"	"	"	"	"	"	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	
C6-C36 TPH	ND	50		"	"	"	"	"	"	

Date Sampled: **09/04/08 13:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		104 %		77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		95.0 %		73.9-116		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
09/08/08 09:21

**SB02@4'**  
**R809023-05 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/04/08 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C6-C10 (GRO)	ND	50		mg/kg	1	8090504	09/05/08	09/05/08	8015 Full Carbon Chain	
C10-C28 (DRO)	ND	50		"	"	"	"	"	"	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	
C6-C36 TPH	ND	50		"	"	"	"	"	"	

Date Sampled: **09/04/08 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		104 %		77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		94.7 %		73.9-116		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
09/08/08 09:21

**E03@2'**  
**R809023-06 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/04/08 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C6-C10 (GRO)	ND	50	mg/kg	1	8090504	09/05/08	09/05/08	8015 Full Carbon Chain	
<b>C10-C28 (DRO)</b>	<b>61</b>	50	"	"	"	"	"	"	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	
<b>C6-C36 TPH</b>	<b>61</b>	50	"	"	"	"	"	"	

Date Sampled: **09/04/08 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		110 %	77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		95.0 %	73.9-116		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/08/08 09:21

**E02@2'**  
**R809023-07 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/04/08 11:37**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C6-C10 (GRO)	ND	50		mg/kg	1	8090504	09/05/08	09/05/08	8015 Full Carbon Chain	
C10-C28 (DRO)	ND	50		"	"	"	"	"	"	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	
C6-C36 TPH	ND	50		"	"	"	"	"	"	

Date Sampled: **09/04/08 11:37**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		104 %		77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		94.7 %		73.9-116		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/08/08 09:21

**GW01**  
**R809023-08 (Water)**

**Summit Scientific**

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

Date Sampled: **09/04/08 12:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>1500</b>	10		ug/l	10	8090503	09/05/08	09/05/08	EPA 8260B	
<b>Toluene</b>	<b>210</b>	1.0		"	1	"	"	09/05/08	"	
<b>Ethylbenzene</b>	<b>1.8</b>	1.0		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>420</b>	1.0		"	"	"	"	"	"	

Date Sampled: **09/04/08 12:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>		94.0 %		77.3-121		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		101 %		91.4-107		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		85.3-109		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
09/08/08 09:21

**GW02**  
**R809023-09 (Water)**

**Summit Scientific**

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

Date Sampled: **09/04/08 12:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	8090503	09/05/08	09/05/08	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/04/08 12:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		95.5 %	77.3-121		"	"	"	"	
Surrogate: Toluene-d8		97.7 %	91.4-107		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	85.3-109		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/08/08 09:21

**B02@4'**  
**R809023-10 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/04/08 15:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C6-C10 (GRO)	ND	50	mg/kg	1	8090504	09/05/08	09/05/08	8015 Full Carbon Chain	
C10-C28 (DRO)	ND	50	"	"	"	"	"	"	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	
C6-C36 TPH	ND	50	"	"	"	"	"	"	

Date Sampled: **09/04/08 15:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		105 %	77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		95.8 %	73.9-116		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/08/08 09:21

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

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

**Batch 8090504 - EPA 3550A**

**Blank (8090504-BLK1)**

Prepared & Analyzed: 09/05/08

C6-C10 (GRO)	ND	50	mg/kg
C10-C28 (DRO)	ND	50	"
C28-C36 (ORO)	ND	50	"
C6-C36 TPH	ND	50	"

**LCS (8090504-BS1)**

Prepared & Analyzed: 09/05/08

C10-C28 (DRO)	388	50	mg/kg	500	77.6	83.3-127
---------------	-----	----	-------	-----	------	----------

**LCS Dup (8090504-BSD1)**

Prepared & Analyzed: 09/05/08

C10-C28 (DRO)	462	50	mg/kg	500	92.4	83.3-127	17.4	15
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**Matrix Spike (8090504-MS1)**

Source: R809023-01

Prepared & Analyzed: 09/05/08

C10-C28 (DRO)	442	50	mg/kg	500	ND	88.4	75.8-126
---------------	-----	----	-------	-----	----	------	----------

**Matrix Spike Dup (8090504-MSD1)**

Source: R809023-01

Prepared & Analyzed: 09/05/08

C10-C28 (DRO)	439	50	mg/kg	500	ND	87.8	75.8-126	0.681	13.6
---------------	-----	----	-------	-----	----	------	----------	-------	------

Summit Scientific

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

Project: PDC - Anderson 12-13  
Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/08/08 09:21

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

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

**Batch 8090503 - EPA 5030 Water MS**

**Blank (8090503-BLK1)**

Prepared & Analyzed: 09/05/08

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.1		"	13.3		98.5	77.3-121			
Surrogate: Toluene-d8	16.9		"	13.3		127	91.4-107			
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.7	85.3-109			

**LCS (8090503-BS1)**

Prepared & Analyzed: 09/05/08

Benzene	31.0	1.0	ug/l	33.3		93.1	70-114			
Toluene	31.2	1.0	"	33.3		93.7	72.7-116			
Surrogate: 1,2-Dichloroethane-d4	12.9		"	13.3		97.0	77.3-121			
Surrogate: Toluene-d8	12.8		"	13.3		96.2	91.4-107			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		99.2	85.3-109			

**LCS Dup (8090503-BSD1)**

Prepared & Analyzed: 09/05/08

Benzene	31.9	1.0	ug/l	33.3		95.8	70-114	2.86	8.14	
Toluene	31.8	1.0	"	33.3		95.5	72.7-116	1.90	7.88	
Surrogate: 1,2-Dichloroethane-d4	13.0		"	13.3		97.7	77.3-121			
Surrogate: Toluene-d8	12.9		"	13.3		97.0	91.4-107			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		99.2	85.3-109			

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
09/08/08 09:21

### Notes and Definitions

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

---

Summit Scientific

A handwritten signature in black ink, appearing to be 'JM' followed by a long horizontal stroke.

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

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.374.5933 - fax

September 11, 2008

John Peterson  
LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada, CO 80003  
RE: PDC - Anderson 12-13

Enclosed are the results of analyses for samples received by Summit Scientific on 09/09/08 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Ben Shrewsbury  
Vice President / Laboratory Director





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

Project: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
09/11/08 07:09

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W04@2'	R809048-01	Soil	09/09/08 11:40	09/09/08 17:00
E04@2'	R809048-02	Soil	09/09/08 11:43	09/09/08 17:00
N01@2'	R809048-03	Soil	09/09/08 11:48	09/09/08 17:00
B03@5'	R809048-04	Soil	09/09/08 11:52	09/09/08 17:00

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/11/08 07:09

Summit Scientific *S2* 289048

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

Page / of /

Client: LT Environmental, Inc.  
Address: 4600 West 60th Avenue  
City/State/Zip: Arvada, CO 80003  
Phone: (303) 433-9788  
Sampler Name: M. Harrison  
Project Manager: John Peterson  
E-Mail: jpeterson@ltenv.com  
Project Name: Anderson 12-13  
Project Number: PDC08158

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix				Analyze For:	Special Instructions	
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)			Total Carbon Chain
W0402	9-9-08	1140	1											
E0402		1143	1											
A0102		1148	1											
B0305		1152	1											
M.H.														
Notes:														
Relinquished by:	Date/Time:	9-9-08 11:40	Received by:	Date/Time:	Turn Around Time (Check)					Notes:				
Relinquished by:	Date/Time:		Received by:	Date/Time:	Same Day <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Standard <input type="checkbox"/>									
Relinquished by:	Date/Time:		Received in Lab by:	Date/Time:	Sample Integrity: 46									
					Temperature Upon Receipt: 17.00									
					Intact: <input checked="" type="checkbox"/> No <input type="checkbox"/>									

www.s2scientific.com

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/11/08 07:09

**W04@2'**  
**R809048-01 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/09/08 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C6-C10 (GRO)	ND	50	mg/kg	1	8090907	09/09/08	09/09/08	8015 Full Carbon Chain	
C10-C28 (DRO)	ND	50	"	"	"	"	"	"	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	
C6-C36 TPH	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/08 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		111 %	77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		101 %	73.9-116		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/11/08 07:09

**E04@2'**  
**R809048-02 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/09/08 11:43**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C6-C10 (GRO)	ND	50	mg/kg	1	8090907	09/09/08	09/09/08	8015 Full Carbon Chain	
C10-C28 (DRO)	ND	50	"	"	"	"	"	"	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	
C6-C36 TPH	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/08 11:43**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		111 %	77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		100 %	73.9-116		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/11/08 07:09

**N01@2'**  
**R809048-03 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/09/08 11:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C6-C10 (GRO)	ND	50	mg/kg	1	8090907	09/09/08	09/09/08	8015 Full Carbon Chain	
C10-C28 (DRO)	ND	50	"	"	"	"	"	"	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	
C6-C36 TPH	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/08 11:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		111 %	77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		100 %	73.9-116		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/11/08 07:09

**B03@5'**  
**R809048-04 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **09/09/08 11:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C6-C10 (GRO)	ND	50		mg/kg	1	8090907	09/09/08	09/09/08	8015 Full Carbon Chain	
C10-C28 (DRO)	ND	50		"	"	"	"	"	"	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	
C6-C36 TPH	ND	50		"	"	"	"	"	"	

Date Sampled: **09/09/08 11:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		111 %		77.7-123		"	"	"	"	
Surrogate: Trifluorotoluene		100 %		73.9-116		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
09/11/08 07:09

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

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

**Batch 8090907 - EPA 3550A**

**Blank (8090907-BLK1)**

Prepared: 09/09/08 Analyzed: 09/10/08

C6-C10 (GRO)	ND	50	mg/kg
C10-C28 (DRO)	ND	50	"
C28-C36 (ORO)	ND	50	"
C6-C36 TPH	ND	50	"

**Blank (8090907-BLK2)**

Prepared: 09/09/08 Analyzed: 09/11/08

C6-C10 (GRO)	ND	50	mg/kg
C10-C28 (DRO)	ND	50	"
C28-C36 (ORO)	ND	50	"
C6-C36 TPH	ND	50	"

**LCS (8090907-BS1)**

Prepared: 09/09/08 Analyzed: 09/10/08

C10-C28 (DRO)	602	50	mg/kg	500	120	83.3-127
---------------	-----	----	-------	-----	-----	----------

**LCS (8090907-BS2)**

Prepared: 09/09/08 Analyzed: 09/10/08

C10-C28 (DRO)	567	50	mg/kg	500	113	83.3-127
---------------	-----	----	-------	-----	-----	----------

**LCS Dup (8090907-BSD1)**

Prepared: 09/09/08 Analyzed: 09/10/08

C10-C28 (DRO)	564	50	mg/kg	500	113	83.3-127	6.52	15
---------------	-----	----	-------	-----	-----	----------	------	----

**LCS Dup (8090907-BSD2)**

Prepared: 09/09/08 Analyzed: 09/10/08

C10-C28 (DRO)	566	50	mg/kg	500	113	83.3-127	0.177	15
---------------	-----	----	-------	-----	-----	----------	-------	----

**Matrix Spike (8090907-MS1)**

Source: R809048-01

Prepared: 09/09/08 Analyzed: 09/11/08

C10-C28 (DRO)	578	50	mg/kg	500	ND	116	75.8-126
---------------	-----	----	-------	-----	----	-----	----------

**Matrix Spike (8090907-MS2)**

Source: R809048-01

Prepared: 09/09/08 Analyzed: 09/11/08

C10-C28 (DRO)	579	50	mg/kg	500	ND	116	75.8-126
---------------	-----	----	-------	-----	----	-----	----------

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
09/11/08 07:09

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

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

**Batch 8090907 - EPA 3550A**

<b>Matrix Spike Dup (8090907-MSD1)</b>		<b>Source: R809048-01</b>			Prepared: 09/09/08		Analyzed: 09/11/08				
C10-C28 (DRO)	582	50	mg/kg	500	ND	116	75.8-126	0.690	13.6		
<b>Matrix Spike Dup (8090907-MSD2)</b>		<b>Source: R809048-01</b>			Prepared: 09/09/08		Analyzed: 09/11/08				
C10-C28 (DRO)	574	50	mg/kg	500	ND	115	75.8-126	0.867	13.6		

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
09/11/08 07:09

### Notes and Definitions

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

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

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 03, 2008

John Peterson  
LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada, CO 80003  
RE: PDC - Anderson 12-13

Enclosed are the results of analyses for samples received by Summit Scientific on 09/25/08 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'PS' followed by a long horizontal stroke.

Paul Shrewsbury For Ben Shrewsbury  
Vice President / Laboratory Director



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

Project: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
10/03/08 17:32

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01	R809142-01	Water	09/25/08 11:55	09/25/08 17:30
MW02	R809142-02	Water	09/25/08 12:10	09/25/08 17:30
MW03	R809142-03	Water	09/25/08 12:15	09/25/08 17:30
MW04	R809142-04	Water	09/25/08 12:35	09/25/08 17:30

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
10/03/08 17:32

**MW01**  
**R809142-01 (Water)**

**Summit Scientific**

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

Date Sampled: **09/25/08 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>700</b>	10	ug/l	10	8093002	09/30/08	09/30/08	EPA 8260B	
Toluene	ND	1.0	"	1	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/25/08 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		97.7 %	77.3-121		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		102 %	91.4-107		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %	85.3-109		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
10/03/08 17:32

**MW02**  
**R809142-02 (Water)**

**Summit Scientific**

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

Date Sampled: **09/25/08 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	8093002	09/30/08	10/01/08	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	1.0		"	"	"	"	"	"	

Date Sampled: **09/25/08 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		87.2 %		77.3-121		"	"	"	"	
Surrogate: Toluene-d8		98.5 %		91.4-107		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %		85.3-109		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
10/03/08 17:32

**MW03**  
**R809142-03 (Water)**

**Summit Scientific**

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

Date Sampled: **09/25/08 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	8093002	09/30/08	10/01/08	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>1.1</b>	1.0		"	"	"	"	"	"	

Date Sampled: **09/25/08 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		94.0 %		77.3-121		"	"	"	"	
Surrogate: Toluene-d8		98.5 %		91.4-107		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.5 %		85.3-109		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
10/03/08 17:32

**MW04**  
**R809142-04 (Water)**

**Summit Scientific**

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

Date Sampled: **09/25/08 12:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	8093002	09/30/08	10/01/08	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	1.0		"	"	"	"	"	"	

Date Sampled: **09/25/08 12:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		92.5 %		77.3-121		"	"	"	"	
Surrogate: Toluene-d8		99.2 %		91.4-107		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %		85.3-109		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
10/03/08 17:32

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

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

#### Batch 8093002 - EPA 5030 Water MS

##### Blank (8093002-BLK1)

Prepared & Analyzed: 09/30/08

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.2		"	13.3	91.7	77.3-121				
Surrogate: Toluene-d8	13.2		"	13.3	99.2	91.4-107				
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3	98.5	85.3-109				

##### LCS (8093002-BS1)

Prepared & Analyzed: 09/30/08

Benzene	30.4	1.0	ug/l	33.3	91.3	70-114				
Toluene	30.9	1.0	"	33.3	92.8	72.7-116				
Surrogate: 1,2-Dichloroethane-d4	12.4		"	13.3	93.2	77.3-121				
Surrogate: Toluene-d8	13.1		"	13.3	98.5	91.4-107				
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3	97.7	85.3-109				

##### LCS Dup (8093002-BSD1)

Prepared & Analyzed: 09/30/08

Benzene	29.9	1.0	ug/l	33.3	89.8	70-114	1.66	8.14		
Toluene	30.6	1.0	"	33.3	91.9	72.7-116	0.976	7.88		
Surrogate: 1,2-Dichloroethane-d4	12.4		"	13.3	93.2	77.3-121				
Surrogate: Toluene-d8	13.1		"	13.3	98.5	91.4-107				
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3	100	85.3-109				

##### Matrix Spike (8093002-MS1)

Source: R809155-01

Prepared & Analyzed: 09/30/08

Benzene	29.6	1.0	ug/l	33.3	ND	88.9	66.8-117			
Toluene	30.5	1.0	"	33.3	ND	91.6	71.5-117			
Surrogate: 1,2-Dichloroethane-d4	12.9		"	13.3		97.0	77.3-121			
Surrogate: Toluene-d8	13.0		"	13.3		97.7	91.4-107			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		99.2	85.3-109			

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
10/03/08 17:32

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

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

**Batch 8093002 - EPA 5030 Water MS**

Matrix Spike Dup (8093002-MSD1)		Source: R809155-01			Prepared & Analyzed: 09/30/08					
Benzene	28.4	1.0	ug/l	33.3	ND	85.3	66.8-117	4.14	17.8	
Toluene	28.8	1.0	"	33.3	ND	86.5	71.5-117	5.73	14.4	
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.3		106	77.3-121			
Surrogate: Toluene-d8	13.1		"	13.3		98.5	91.4-107			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		102	85.3-109			

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
10/03/08 17:32

### Notes and Definitions

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

---

Summit Scientific

A handwritten signature in black ink, appearing to be 'JM' followed by a long horizontal stroke.

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

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

November 19, 2008

John Peterson  
LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada, CO 80003  
RE: PDC - Anderson 12-13

Enclosed are the results of analyses for samples received by Summit Scientific on 11/12/08 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'PS' followed by a long, sweeping horizontal line.

Paul Shrewsbury For Ben Shrewsbury  
Vice President / Laboratory Director



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

Project: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
11/19/08 11:04

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW05	R811082-01	Water	11/11/08 12:18	11/12/08 17:00
MW06	R811082-02	Water	11/11/08 12:40	11/12/08 17:00

Summit Scientific

A handwritten signature in black ink, appearing to be 'JM' followed by a long horizontal stroke.

*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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
11/19/08 11:04

Summit Scientific  
2811082

S<sub>2</sub>  
741 Corporate Circle Suite I ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-277-9531 Fax

Page of

Client: LT Environmental, Inc.

Address: 4600 West 60th Avenue

City/State/Zip: Arvada, CO 80003

Phone: (303) 433-9788

Sampler Name: Sho

2000

**Project Manager:** John Peterson

E-Mail: [j.peterson@ltenv.com](mailto:j.peterson@ltenv.com)Project Name: Adams 12-13

Project Number: 800 19158

\_\_\_\_\_

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative						Matrix		Analyze For:	
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)		
MW05	11/16/83	12:43	2	X				X			Total Carbon Chain BTX		
MW06	11/16/83	12:40	3	X				X					
Inquired by:	Date Time:	11/16/83	17:00	Received By:	[Signature]	Date Time:	11/27/83	Turn Around Time (Check) <input type="checkbox"/> Same Day <input checked="" type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> Standard	Notes:				
Inquired by:	Date Time:			Received by:		Date Time:		Sample Integrity: Temperature Upon Receipt: 4.2 Intact: <input checked="" type="radio"/> Yes No					
Inquired by:	Date Time:			Received in Lab by:		Date Time:							

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Summit Scientific

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



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

Project: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
11/19/08 11:04

**MW05**  
**R811082-01 (Water)**

**Summit Scientific**

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

Date Sampled: 11/11/08 12:18

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	8111803	11/18/08	11/19/08	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	1.0		"	"	"	"	"	"	

Date Sampled: 11/11/08 12:18

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		96.2 %		77.3-121		"	"	"	"	
Surrogate: Toluene-d8		104 %		91.4-107		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %		85.3-109		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

**Reported:**  
11/19/08 11:04

**MW06**  
**R811082-02 (Water)**

**Summit Scientific**

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

Date Sampled: 11/11/08 12:40

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	8111803	11/18/08	11/19/08	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 11/11/08 12:40

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		94.0 %	77.3-121		"	"	"	"	
Surrogate: Toluene-d8		105 %	91.4-107		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	85.3-109		"	"	"	"	

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
11/19/08 11:04

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

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

#### Batch 8111803 - EPA 5030 Water MS

##### Blank (8111803-BLK1)

Prepared: 11/18/08 Analyzed: 11/19/08

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	11.6		"	13.3	87.2	77.3-121				
Surrogate: Toluene-d8	13.4		"	13.3	101	91.4-107				
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3	104	85.3-109				

##### LCS (8111803-BS1)

Prepared: 11/18/08 Analyzed: 11/19/08

Benzene	29.5	1.0	ug/l	33.3	88.6	70-114				
Toluene	28.4	1.0	"	33.3	85.3	72.7-116				
Surrogate: 1,2-Dichloroethane-d4	12.3		"	13.3	92.5	77.3-121				
Surrogate: Toluene-d8	13.7		"	13.3	103	91.4-107				
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3	104	85.3-109				

##### LCS Dup (8111803-BSD1)

Prepared: 11/18/08 Analyzed: 11/19/08

Benzene	29.6	1.0	ug/l	33.3	88.9	70-114	0.338	8.14		
Toluene	28.9	1.0	"	33.3	86.8	72.7-116	1.75	7.88		
Surrogate: 1,2-Dichloroethane-d4	12.5		"	13.3	94.0	77.3-121				
Surrogate: Toluene-d8	13.6		"	13.3	102	91.4-107				
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3	104	85.3-109				

##### Matrix Spike (8111803-MS1)

Source: R811072-01

Prepared: 11/18/08 Analyzed: 11/19/08

Benzene	30.1	1.0	ug/l	33.3	ND	90.4	66.8-117			
Toluene	28.8	1.0	"	33.3	ND	86.5	71.5-117			
Surrogate: 1,2-Dichloroethane-d4	12.5		"	13.3		94.0	77.3-121			
Surrogate: Toluene-d8	13.5		"	13.3		102	91.4-107			
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3		104	85.3-109			

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: PDC - Anderson 12-13

Project Number: PDC 08158  
Project Manager: John Peterson

Reported:  
11/19/08 11:04

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

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

**Batch 8111803 - EPA 5030 Water MS**

Matrix Spike Dup (8111803-MSD1)		Source: R811072-01		Prepared: 11/18/08		Analyzed: 11/19/08				
Benzene	30.3	1.0	ug/l	33.3	ND	91.0	66.8-117	0.662	17.8	
Toluene	28.6	1.0	"	33.3	ND	85.9	71.5-117	0.697	14.4	
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.3		106	77.3-121			
Surrogate: Toluene-d8	13.3		"	13.3		100	91.4-107			
Surrogate: 4-Bromofluorobenzene	13.9		"	13.3		105	85.3-109			

Summit Scientific

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Project: PDC - Anderson 12-13

Project Number: PDC 08158  
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**Reported:**  
11/19/08 11:04

### Notes and Definitions

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

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Summit Scientific

A handwritten signature in black ink, appearing to be 'JM' followed by a long horizontal stroke.

*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.*

# Material Safety Data Sheet

## Trap & Treat® BOS 200®



REMEDATION PRODUCTS, INC.

### Section I

Manufacturer's Name <i>Remediation Products Inc.</i>	Emergency Telephone Number <i>303.487.1000</i>
Address (Number, Street, City, State, and ZIP Code) <i>6390 Joyce Drive, Suite 150 W, Golden, CO 80403</i>	Telephone Number for Information <i>303-487-1000</i>
Prepared by <i>T. Mecum</i>	Date Prepared <i>12/2/02</i>
	Signature of Preparer (optional)

### Section II - Hazard Ingredients/Identity Information

Non-hazardous components are listed at 3 percent (%) or greater. This is not intended to be a complete compositional disclosure.

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	%(optional)
Carbon	5mg/M <sup>3</sup> (respirable)	10mg/M <sup>3</sup> (Total)	N/A	77
Calcium Sulfate (Gypsum)	"	"	N/A	19
N/A = Not Applicable PELs and TLVs are 8-hour TWAs unless otherwise noted.				

### Section III - Physical/Chemical Characteristics

Boiling Point	N/A	Specific Gravity (H <sub>2</sub> O = 1)	2.33 g/cc real density
Vapor Pressure (mm Hg.)	N/A	Melting Point	Decomposes at 1450°C
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A
Solubility in Water: Negligible			
Appearance and Odor: Black powder. No odor.			

### Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) Not combustible	Flammable Limits	LEL N/A	UEL N/A
Extinguishing Media Flood with plenty of water			
Special Fire Fighting Procedures None			
Unusual Fire and Explosion Hazards Contact with strong oxidizer, such as ozone, liquid oxygen, chlorine, permanganate, etc., may result in fire.			
NFPA Rating: Health=0; Reactivity=0; Flammability=1			

## Section V - Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	None
<b>Incompatibility (Materials to Avoid)</b>			
Strong oxidizers, such as ozone, liquid oxygen, chlorine, permanganate, etc., and acids.			
Hazardous Decomposition	May Occur	X	Conditions to Avoid Above 1450° - SO <sub>2</sub> & CaO
	Will Not Occur		

## Section VI - Health Hazard Data

Route(s) of Entry:	Inhalation? Yes	Skin? Yes	Ingestion? Yes
<b>Health Hazards (Acute and Chronic)</b>			
<p>The effects of long-term, low-level exposures to carbon have not been determined. Safe handling of this material on a long-term basis should emphasize the avoidance of all effects from repetitive acute exposures.</p> <p>Persons subjected to excessive dust will be forced to leave area because of nuisance; i.e., coughing, sneezing and nasal irritation.</p> <p><b>CAUTION!!!</b> This material, when wet, removes oxygen from air causing a severe hazard to workers inside carbon vessels and enclosed or confined spaces. Before entering such an area, sampling and work procedures for low oxygen levels should be taken to ensure ample oxygen availability, observing all local, state, and federal regulations.</p>			
Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	N/A	N/A	No
<b>Signs and Symptoms of Exposure</b>			
<p><b>Effects and Hazards of Eye Contact:</b> The physical nature of this product may produce eye irritation, if exposed to dusting conditions without protective eye equipment.</p> <p><b>Effects and Hazards of Skin Contact:</b> The product is not a primary skin irritant. The primary skin irritation (Rabbit) is 0.</p> <p><b>Effects and Hazards of Inhalation Breathing):</b> This product is practically non-toxic through inhalation. The acute inhalation LD<sub>50</sub> (Rat) is &gt;6.4 mg/l (nominal concentration). Could cause irritation to respiratory passages, if exposed to dusting conditions without protective respiratory equipment.</p> <p><b>Effects and Hazards of Ingestion (Swallowing):</b> Material is non-toxic through ingestion. The acute oral LD<sub>50</sub> (Rat) is &gt;10g/kg.</p>			
<b>Medical Conditions Generally Aggravated by Exposure</b>			
N/A			
<b>Emergency and First Aid Procedures</b>			
<p><u>Eyes:</u> Flush with plenty of water for at least 15 minutes. Call physician if irritation continues.</p> <p><u>Skin:</u> Wash with soap and water.</p> <p><u>Inhalation:</u> Move to fresh air.</p> <p><u>Ingestion:</u> N/A</p>			

## Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled
Sweep or vacuum material from spillages into a waste container for disposal or repackage. Avoid dusting conditions.
Waste Disposal Method
Dispose of unused product in waste container. Dispose of in accordance with local, state, and federal or national regulations.
Precautions to Be Taken in Handling and Storing
<b>CAUTION!!!</b> This product, when wet, removes oxygen from air causing a severe hazard to workers inside carbon vessels and enclosed or confined spaces. Before entering such an area, sampling and work procedures for low oxygen levels should be taken to ensure ample oxygen availability, observing all local, state, and federal or national regulations. Be sure proper ventilation and respiratory and eye protection are used under dusting conditions.
Other Precautions
Wash thoroughly after handling. Exercise caution in the storage and handling of all chemical substances.

## Section VIII - Control Measures

Respiratory Protection ( <i>Specify Type</i> ) Carbon-A NIOSH-approved particulate filter respirator is recommended, if excessive dust is generated.		
Ventilation	Local Exhaust Recommended, when used indoors or in confined spaces	Special Not Required
	Mechanical ( <i>General</i> ) Recommended, when used indoors or in confined spaces	Other Not required
Protective Gloves Recommended		Eye Protection Safety glasses or goggles recommended
Other Protective Clothing or Equipment Not required		
Work/Hygienic Practices Use of Tyvek® or Nomex® suits is suggested to protect skin from becoming excessively dirty and clothing from being ruined by contact with product.		