

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

1120 Lincoln Street, Suite 801, Denver, Colorado 80205 Phone: (303) 894-2100 Fax: (303) 894-2109



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7/11/2013			
Document Number: 2145534			

SUNDRY NOTICE

Submit a signed original. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full in Comments or provide as an attachment. Identify Well by API Number; identify Oil and Gas Location by Location ID Number; identify other Facility by Facility ID Number.

OGCC Operator Number: _____ Contact Name _____
 Name of Operator: _____ Phone: () _____
 Address: _____ Fax: () _____
 City: _____ State: _____ Zip: _____ Email: _____

Complete the Attachment
Checklist

OP OGCC

API Number : 05- _____ OGCC Facility ID Number: _____
 Well/Facility Name: _____ Well/Facility Number: _____
 Location QtrQtr: _____ Section: _____ Township: _____ Range: _____ Meridian: _____
 County: _____ Field Name: _____
 Federal, Indian or State Lease Number: _____

Survey Plat		
Directional Survey		
Srvc Eqpmt Diagram		
Technical Info Page		
Other		

CHANGE OF LOCATION OR AS BUILT GPS REPORT

- Change of Location * As-Built GPS Location Report As-Built GPS Location Report with Survey

* Well location change requires new plat. A substantive surface location change may require new Form 2A.

SURFACE LOCATION GPS DATA Data must be provided for Change of Surface Location and As Built Reports.

Latitude _____ PDOP Reading _____ Date of Measurement _____
 Longitude _____ GPS Instrument Operator's Name _____

LOCATION CHANGE (all measurements in Feet)

Well will be: _____ (Vertical, Directional, Horizontal)

Change of **Surface** Footage **From** Exterior Section Lines:

Change of **Surface** Footage **To** Exterior Section Lines:

Current **Surface** Location **From** QtrQtr [] Sec [] Twp [] Range [] Meridian []

New **Surface** Location **To** QtrQtr [] Sec [] Twp [] Range [] Meridian []

Change of **Top of Productive Zone** Footage **From** Exterior Section Lines:

Change of **Top of Productive Zone** Footage **To** Exterior Section Lines: **

Current **Top of Productive Zone** Location **From** Sec [] Twp [] Range []

New **Top of Productive Zone** Location **To** Sec [] Twp [] Range []

Change of **Bottomhole** Footage **From** Exterior Section Lines:

Change of **Bottomhole** Footage **To** Exterior Section Lines: **

Current **Bottomhole** Location Sec [] Twp [] Range [] ** attach deviated drilling plan

New **Bottomhole** Location Sec [] Twp [] Range []

Is location in High Density Area? _____

Distance, in feet, to nearest building _____, public road: _____, above ground utility: _____, railroad: _____,

property line: _____, lease line: _____, well in same formation: _____

Ground Elevation _____ feet Surface owner consultation date _____

Comments:

ENGINEERING AND ENVIRONMENTAL WORK

NOTICE OF CONTINUED TEMPORARILY ABANDONED STATUS

Indicate why the well is temporarily abandoned and describe future plans for utilization in the COMMENTS box below or provide as an attachment, as required by Rule 319.b.(3).

Date well temporarily abandoned _____ Has Production Equipment been removed from site? _____

Mechanical Integrity Test (MIT) required if shut in longer than 2 years. Date of last MIT _____

SPUD DATE: _____

TECHNICAL ENGINEERING AND ENVIRONMENTAL WORK

Details of work must be described in full in the COMMENTS below or provided as an attachment.

NOTICE OF INTENT Approximate Start Date _____

REPORT OF WORK DONE Date Work Completed _____

<input type="checkbox"/> Intent to Recomplete (Form 2 also required)	<input type="checkbox"/> Request to Vent or Flare	<input type="checkbox"/> E&P Waste Mangement Plan
<input type="checkbox"/> Change Drilling Plan	<input type="checkbox"/> Repair Well	<input type="checkbox"/> Beneficial Reuse of E&P Waste
<input type="checkbox"/> Gross Interval Change	<input type="checkbox"/> Rule 502 variance requested. Must provide detailed info regarding request.	
<input type="checkbox"/> Other _____	<input type="checkbox"/> Status Update/Change of Remediation Plans for Spills and Releases	

COMMENTS:

CASING AND CEMENTING CHANGES

Casing Type	Size	Of	/	Hole	Size	Of	/	Casing	Wt/Ft	Csg/LinTop	Setting Depth	Sacks of Cement	Cement Bottom	Cement Top

H2S REPORTING

Data Fields in this section are intended to document Sample and Location Data associated with the collection of a Gas Sample that is submitted for Laboratory Analysis.

Gas Analysis Report must be attached.

H2S Concentration: _____ in ppm (parts per million) Date of Measurement or Sample Collection _____

Description of Sample Point:

Absolute Open Flow Potential _____ in CFPD (cubic feet per day)

Description of Release Potential and Duration (If flow is not open to the atmosphere, identify the duration in which the container or pipeline would likely be opened for servicing operations.):

Distance to nearest occupied residence, school, church, park, school bus stop, place of business, or other areas where the public could reasonably be expected to frequent: _____

Distance to nearest Federal, State, County, or municipal road or highway owned and principally maintained for public use: _____

COMMENTS:

BMP

<u>Type</u>	<u>Comment</u>

GROUND WATER SAMPLING

Uses of Ground Water Sampling Section

Request an Exception to Ground Water Sampling Requirements in Greater Wattenberg Area Rule 318A.e(4) or in Statewide Rule 609.c. Request a Previously Sampled Water Source in the COGIS database be used to meet sampling requirements as described in Rule 609.d.(3).

NOTE: If this Sundry Notice is being submitted to request a Ground Water Sampling Exception it cannot be used for any other purpose except requesting the use of a Previously Sampled Water Source in the COGIS database.

- Request an Exception to Ground Water Sampling Requirements per Greater Wattenberg Area Rule 318A.e(4): There are no Available Water Sources located within the governmental quarter section or within a previously unsampled governmental quarter section within a ½-mile radius of this proposed Oil and Gas Well, Multi-Well Site, or Dedicated Injection Well.

- Request an Exception to Ground Water Sampling Requirements per Statewide Rule 609.c.
 - _____ Number of Water Sources located within one-half (1/2) mile of a proposed Oil and Gas Well, Multi-Well Site, or Dedicated Injection Well.
 - _____ Number of Water Source Exceptions requested per Rule 609.c.
 - _____ Number of Water Sources determined to be unsuitable. **The condition of these Water Sources MUST be documented in the comments below or in an attachment.**
 - _____ Number of Water Sources suitable for testing whose owners refused to grant access despite an operator's reasonable good faith efforts to obtain consent to conduct sampling. **The reasonable good faith efforts used to obtain access from the owners of these Water Sources MUST be documented in the comments below or in an attachment.**

- Request a Previously Sampled Water Source in the COGIS database be used to meet sampling requirements as described in Rule 609.d(3)

_____ Type of Sample Substitution Request

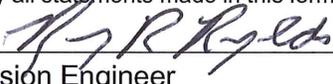
Enter Sample ID Number from COGIS Maps for each Previous Water Sample:

Sample ID	Facility ID	Sample Date	Sample Purpose

COMMENTS

Operator Comments:

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

Signed:  Print Name: Rodney Reynolds
 Title: Division Engineer Email: Reynoldsr@berexco.com Date: 7/9/13

Based on the information provided herein, this Sundry Notice (Form 4) complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: _____ Date: _____



July 11, 2013

Mr. John Axelson
Northeast Region Environmental Protection Specialist
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado 80203

**RE: Stockpile Profile Sampling
Beren Corporation
Wright Tank Battery
Facility ID: 256227
Remediation # 7368
SWSW Sec. 31 T3S R53W, 6th Principal Meridian
Washington County, Colorado**

Dear Mr. Axelson:

In the conditions of approval letter submitted to Beren Corporation (Beren) on January 30, 2013, you provided the option to characterize the “worst case” samples from the stockpiled soil at the Wright Pit Complex (Site). The letter stated: *Beren Corporation has the option to profile worst case samples from the stockpiled material prior to treatment. A minimum of two (2) worst-case, discrete grab samples would be collected and analyzed for all contaminants of concern in soil listed on Table 910-1. Samples should be collected based on observation of oil staining, hydrocarbon odor and/or other field screening methods. If results for the two samples indicate specific contaminants of concern are already below Table 910-1 levels, those individual contaminants can be removed from the analytical requirements for the duration of treatment. If completed, submit profile sampling results prior to commencement of land treatment.*

On June 7, 2013, LTE personnel collected two discreet samples (SP-01 and SP-02) from the onsite stockpiles to characterize the soil for all constituents listed in Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1. The soil stockpile locations are depicted on Figure 1. One discreet sample was collected from each stockpile.

Analytical results indicated COGCC Table 910-1 metals were compliant for all samples with the exception of arsenic. Arsenic concentrations for the stockpiled soil at the Site ranged from 1.71 milligrams per kilogram (mg/kg) to 2.95 mg/kg (Table 1). These concentrations of arsenic are considered to be within an acceptable range of naturally occurring arsenic for the region. Arsenic was not a major byproduct of the production process at the Site and is not expected to have accumulated above the natural background variation. Levels of electrical conductivity, pH, and sodium adsorption ratio were compliant with COGCC Table 910-1 Concentration Levels for both soil samples, with the exception of the pH level in sample SP-02. The level of pH in sample SP-02 only slightly exceeded the COGCC Table 910-1 Concentration Level at 9.06. It is expected that during soil remediation the pH level will decrease and become compliant with the COGCC Table 910-1 Concentration Level. As the soil will be used for berm and lease road maintenance, the pH level will not affect reclamation as vegetation is not grown in these areas.



Analytical results indicated benzene, toluene, ethylbenzene, and total xylenes were not detected above the laboratory reporting limits and were compliant with COGCC Table 910-1 Concentration Levels. The polynuclear aromatic hydrocarbons (PAH) listed in COGCC Table 910-1 were also below the laboratory reporting limits or compliant with COGCC Table 910-1, with the exception of two PAH compounds (Benzo(A)pyrene and Dibenzo(A,H)Anthracene). Benzo(A)Pyrene and Dibenzo(A,H)Anthracene were below the laboratory reporting limits in both soil samples; however, due to the elevated concentrations of total petroleum hydrocarbons-diesel range organics (TPH-DRO) in the soil samples, the laboratory reporting limit exceeded the COGCC Table 910-1 Concentration Level. While it is possible that both PAH compounds are present below the laboratory reporting limit, LTE believes the impending remediation will mitigate these PAHs to compliant levels. The amount of land treatment necessary to remediate the elevated TPH-DRO concentrations to the required 500 mg/kg concentration level, will likely mitigate any PAH concentration that is below the current laboratory reporting limit and potentially exceeds the COGCC Table 910-1 Concentration Levels.

Analytical results indicated both stockpile samples exceeded the COGCC Table 910-1 Concentration Level for TPH, ranging between 1,209.6 mg/kg to 1,401.4 mg/kg. The gasoline range organics (GRO) fraction of the TPH results was minimal. The highest detection of TPH-GRO was 9.6 mg/kg (Table 1). Therefore, TPH-GRO is not considered a compound of concern at the Site. The DRO fraction of the TPH concentration represents nearly the entire detected concentration amount for each soil sample. Analytical results are summarized in Table 1. The laboratory analytical report is attached to this letter.

As Beren has completed the optional soil profiling sampling as proposed in the January 30, 2013 COGCC letter, the analytical results indicate that the compound of concern that exceeds the COGCC Table 910-1 Concentration Level is TPH-DRO. Moving forward, LTE proposes analyzing each landfarm soil sample for TPH-DRO to characterize the magnitude of remaining soil impact, overall remediation progress, and confirm compliance of the soil prior to using the soil for berm and lease road maintenance.

Please call LTE at 303-433-9788 if you have any questions or comments regarding this report.

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink that reads 'Brian Dodek'. The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Brian Dodek, P.G.
Client Manager/Senior Geologist

Attachments:
Figure 1 - Site Map
Table 1 - Soil Analytical Results
Attachment A - Laboratory Analytical Report

FIGURE





IMAGE COURTESY OF ESRI/BING MAPS

LEGEND

-  OIL SKIM PIT
-  STOCK PILE

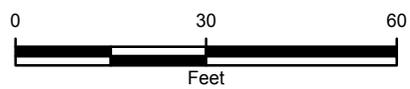


FIGURE 1
SITE MAP
WRIGHT TANK BATTERY
WASHINGTON COUNTY, COLORADO

BEREN CORPORATION



TABLE



TABLE 1
SOIL ANALYTICAL RESULTS
WRIGHT PIT COMPLEX
WASHINGTON COUNTY, COLORADO
BEREN CORPORATION

PARAMETER	COGCC Table 910-1 Concentration Levels	UNITS	Sample ID: SP-01	Sample ID: SP-02
Sample Date			6/7/2013	6/7/2013
Sample Type			Stockpile Profile	Stockpile Profile
Arsenic	0.39	mg/kg	1.71	2.95
Barium	15,000	mg/kg	199	257
Cadmium	70	mg/kg	0.176	0.209
Chromium (III)	120,000	mg/kg	8.74	10.2
Chromium (VI)	23	mg/kg	<1.22	<1.20
Copper	3,100	mg/kg	6.52	6.95
Lead	400	mg/kg	9.28	10.6
Mercury	23	mg/kg	<0.0499	<0.0469
Nickel	1,600	mg/kg	13.4	12.1
Selenium	390	mg/kg	<0.104	<0.102
Silver	390	mg/kg	<0.104	<0.102
Zinc	23,000	mg/kg	63.0	47.8
EC	4.0	mmhos/cm	2.07	1.06
pH	6 - 9	SU	7.90	9.06
Calcium		mg/kg	1,380	1,210
Magnesium		mg/kg	143	160
Sodium		mg/kg	645	861
SAR	12	unitless	4.42	6.18
Benzene	0.17	mg/kg	<0.0050	<0.0045
Toluene	85	mg/kg	<0.0050	<0.0045
Ethylbenzene	100	mg/kg	<0.0050	<0.0045
Total Xylenes	175	mg/kg	<0.0050	<0.0045
TPH-GRO		mg/kg	9.6	1.4
TPH-DRO		mg/kg	1,200	1,400
Total TPH	500	mg/kg	1,209.6	1,401.4
Acenaphthene	1,000	mg/kg	<0.0500	<0.0500
Anthracene	1,000	mg/kg	0.109	<0.0500
Benzo(A)anthracene	0.22	mg/kg	<0.0500	0.0906
Benzo(B)fluoranthene	0.22	mg/kg	<0.0500	<0.0500
Benzo(K)fluoranthene	2.2	mg/kg	<0.0500	<0.0500
Benzo(A)pyrene	0.022	mg/kg	<0.0500	<0.0500
Chrysene	22	mg/kg	0.275	0.401
Dibenzo(A,H)anthracene	0.022	mg/kg	<0.100	<0.100
Fluoranthene	1,000	mg/kg	<0.0500	<0.0500
Fluorene	1,000	mg/kg	<0.0500	<0.0500
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	<0.100	<0.100
Naphthalene	23	mg/kg	0.0747	<0.0500
Pyrene	1,000	mg/kg	0.464	0.562

NOTES:

mg/kg - milligrams per kilogram

mmhos/cm - millimhos per centimeter in saturated paste extract

EC - electrical conductivity

SU - standard unit on saturated paste

SAR - sodium adsorption ratio

TPH-DRO - total petroleum hydrocarbons-diesel range organics

TPH-GRO - total petroleum hydrocarbons-gasoline range organics

Total TPH - combination of TPH-DRO and TPH-GRO

< - less than the stated reporting limit

-- - not analyzed

BOLD - indicates result exceeds the Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1



ATTACHMENT A
LABORATORY ANALYTICAL REPORT



Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

June 24, 2013

Brian Dodek
LT Environmental, Inc.
4600 West 60th Avenue
Arvada, CO 80003
RE: BNC - Wright

Enclosed are the results of analyses for samples received by Summit Scientific on 06/11/13 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Joseph J Egry IV
Laboratory Director

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

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



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

Project: BNC - Wright

Project Number: 0415-12004

Project Manager: Brian Dodek

Reported:
06/24/13 15:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP-01	R306068-01	Soil	06/07/13 13:30	06/11/13 17:00
SP-02	R306068-02	Soil	06/07/13 13:15	06/11/13 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: BNC - Wright

Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

SP-01
R306068-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	1200	50	mg/kg	1	3061217	06/13/13	06/13/13	8015M	

Date Sampled: **06/07/13 13:30**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3061216	06/13/13	06/14/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	9.6	0.50	"	"	"	"	"	"	

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		95.3 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		93.5 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		117 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	50.0	ug/kg	1	3061708	06/17/13	06/21/13	EPA 8270D SIM	
Anthracene	109	50.0	"	"	"	"	"	"	

Summit Scientific

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

Project: BNC - Wright

Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

SP-01
R306068-01 (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	50.0	ug/kg	1	3061708	06/17/13	06/21/13	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	50.0	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	50.0	"	"	"	"	"	"	
Benzo (a) pyrene	ND	50.0	"	"	"	"	"	"	
Chrysene	275	50.0	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	100	"	"	"	"	"	"	
Fluoranthene	ND	50.0	"	"	"	"	"	"	
Fluorene	ND	50.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	100	"	"	"	"	"	"	
Naphthalene	74.7	50.0	"	"	"	"	"	"	
Pyrene	464	50.0	"	"	"	"	"	"	

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		66.2 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		52.7 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.71	0.104	mg/kg dry	1	3061401	06/14/13	06/14/13	EPA 6020A	
Barium	199	0.104	"	"	"	"	"	"	
Cadmium	0.176	0.104	"	"	"	"	"	"	
Chromium	9.96	0.104	"	"	"	"	"	"	
Copper	6.52	0.518	"	"	"	"	"	"	
Lead	9.28	0.104	"	"	"	"	"	"	
Nickel	13.4	0.104	"	"	"	"	"	"	
Selenium	ND	0.104	"	"	"	"	"	"	
Silver	ND	0.104	"	"	"	"	"	"	
Zinc	63.0	10.4	"	"	"	"	"	"	

Summit Scientific

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

Project: BNC - Wright

Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

SP-01
R306068-01 (Soil)

Summit Scientific

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Mercury	ND	0.0499	mg/kg dry	1	3061402	06/14/13	06/14/13	EPA 7471	

Hexavalent Chromium by EPA 7199

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	1.22	mg/kg dry	1	3061403	06/14/13	06/17/13	EPA 7199	

Calculated Analytes

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium+3 Calculated	8.74	1.00	mg/kg	1	3061817	06/18/13	06/18/13	Calculation	

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

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	1380	3.05	mg/kg dry	1	3061303	06/13/13	06/13/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	143	1.22	"	"	"	"	"	"	
Sodium	645	6.11	"	"	"	"	"	"	

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	4.42		units	"	3061310	06/13/13	06/18/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: BNC - Wright

Project Number: 0415-12004
 Project Manager: Brian Dodek

Reported:
 06/24/13 15:47

SP-01
R306068-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.07	0.00100	mmhos/cm	1	3061809	06/18/13	06/18/13	SM 2510B	

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.90	0.100	pH Units	"	3061808	06/18/13	06/18/13	EPA 9045	

Date Sampled: **06/07/13 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.9		%	"	3061711	06/17/13	06/18/13	% calculation	

Summit Scientific

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

Project: BNC - Wright

Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

SP-02
R306068-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	1400	50	mg/kg	1	3061217	06/13/13	06/13/13	8015M	

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		86.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0045	mg/kg	1	3061216	06/13/13	06/14/13	EPA 8260B	
Toluene	ND	0.0045	"	"	"	"	"	"	
Ethylbenzene	ND	0.0045	"	"	"	"	"	"	
Xylenes (total)	ND	0.0045	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.4	0.45	"	"	"	"	"	"	

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		102 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		93.1 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	50.0	ug/kg	1	3061708	06/17/13	06/21/13	EPA 8270D SIM	
Anthracene	ND	50.0	"	"	"	"	"	"	

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4600 West 60th Avenue
Arvada CO, 80003

Project: BNC - Wright

Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

SP-02
R306068-02 (Soil)

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	90.6	50.0	ug/kg	1	3061708	06/17/13	06/21/13	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	50.0	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	50.0	"	"	"	"	"	"	
Benzo (a) pyrene	ND	50.0	"	"	"	"	"	"	
Chrysene	401	50.0	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	100	"	"	"	"	"	"	
Fluoranthene	ND	50.0	"	"	"	"	"	"	
Fluorene	ND	50.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	50.0	"	"	"	"	"	"	
Pyrene	562	50.0	"	"	"	"	"	"	

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		85.7 %	50-150		"	"	"	"	
Surrogate: Fluoranthene-d10		53.1 %	50-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.95	0.102	mg/kg dry	1	3061401	06/14/13	06/14/13	EPA 6020A	
Barium	257	0.102	"	"	"	"	"	"	
Cadmium	0.209	0.102	"	"	"	"	"	"	
Chromium	11.4	0.102	"	"	"	"	"	"	
Copper	6.95	0.509	"	"	"	"	"	"	
Lead	10.6	0.102	"	"	"	"	"	"	
Nickel	12.1	0.102	"	"	"	"	"	"	
Selenium	ND	0.102	"	"	"	"	"	"	
Silver	ND	0.102	"	"	"	"	"	"	
Zinc	47.8	10.2	"	"	"	"	"	"	

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Arvada CO, 80003

Project: BNC - Wright
Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

SP-02
R306068-02 (Soil)

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Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.0469	mg/kg dry	1	3061402	06/14/13	06/14/13	EPA 7471	

Hexavalent Chromium by EPA 7199

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1.20	mg/kg dry	1	3061403	06/14/13	06/17/13	EPA 7199	

Calculated Analytes

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	10.2	1.00	mg/kg	1	3061817	06/18/13	06/18/13	Calculation	

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

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1210	3.00	mg/kg dry	1	3061303	06/13/13	06/13/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	160	1.20	"	"	"	"	"	"	
Sodium	861	6.00	"	"	"	"	"	"	

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.18		units	"	3061310	06/13/13	06/18/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

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 4600 West 60th Avenue
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Project: BNC - Wright

Project Number: 0415-12004
 Project Manager: Brian Dodek

Reported:
 06/24/13 15:47

SP-02
R306068-02 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.06	0.00100	mmhos/cm	1	3061809	06/18/13	06/18/13	SM 2510B	

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.06	0.100	pH Units	"	3061808	06/18/13	06/18/13	EPA 9045	

Date Sampled: **06/07/13 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.4		%	"	3061711	06/17/13	06/18/13	% calculation	

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Project: BNC - Wright
Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 3061217 - EPA 3550A

Blank (3061217-BLK1)				Prepared: 06/13/13 Analyzed: 06/14/13						
C10-C28 (DRO)	ND	50	mg/kg							
LCS (3061217-BS1)				Prepared: 06/13/13 Analyzed: 06/14/13						
C10-C28 (DRO)	457	50	mg/kg	501		91.1	73-134			
LCS Dup (3061217-BSD1)				Prepared: 06/13/13 Analyzed: 06/14/13						
C10-C28 (DRO)	461	50	mg/kg	501		92.0	73-134	0.924	11	
Matrix Spike (3061217-MS1)				Source: R306067-01 Prepared: 06/13/13 Analyzed: 06/14/13						
C10-C28 (DRO)	2700	50	mg/kg	479	3580	NR	50-148			QM-4X
Matrix Spike Dup (3061217-MSD1)				Source: R306067-01 Prepared: 06/13/13 Analyzed: 06/14/13						
C10-C28 (DRO)	2810	50	mg/kg	427	3580	NR	50-148	4.08	13	QM-4X

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Arvada CO, 80003

Project: BNC - Wright
Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

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		

Batch 3061216 - EPA 5030 Soil MS

Blank (3061216-BLK1)

Prepared & Analyzed: 06/13/13

Benzene	ND	0.0050	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0421</i>		<i>"</i>	<i>0.0397</i>	<i>106</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0391</i>		<i>"</i>	<i>0.0400</i>	<i>97.7</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>	<i>98.4</i>	<i>21-167</i>				

LCS (3061216-BS1)

Prepared & Analyzed: 06/13/13

Benzene	0.152	0.0050	mg/kg	0.150	101	58-130				
Toluene	0.148	0.0050	"	0.150	98.6	61-134				
Ethylbenzene	0.148	0.0050	"	0.150	98.8	74-139				
m,p-Xylene	0.294	0.010	"	0.300	98.1	73-137				
o-Xylene	0.150	0.0050	"	0.150	100	73-141				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0447</i>		<i>"</i>	<i>0.0397</i>	<i>113</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>	<i>99.4</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>	<i>101</i>	<i>21-167</i>				

LCS Dup (3061216-BSD1)

Prepared & Analyzed: 06/13/13

Benzene	0.149	0.0050	mg/kg	0.150	99.1	58-130	2.24	13		
Toluene	0.146	0.0050	"	0.150	97.3	61-134	1.33	16		
Ethylbenzene	0.144	0.0050	"	0.150	96.1	74-139	2.85	12		
m,p-Xylene	0.291	0.010	"	0.300	97.1	73-137	0.994	14		
o-Xylene	0.147	0.0050	"	0.150	98.0	73-141	2.28	12		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0443</i>		<i>"</i>	<i>0.0397</i>	<i>112</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0405</i>		<i>"</i>	<i>0.0400</i>	<i>101</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>	<i>101</i>	<i>21-167</i>				

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Project: BNC - Wright
Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

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 3061216 - EPA 5030 Soil MS

Matrix Spike (3061216-MS1)	Source: R306086-01			Prepared & Analyzed: 06/13/13						
Benzene	0.109	0.0050	mg/kg	0.143	ND	76.1	30-131			
Toluene	0.108	0.0050	"	0.143	ND	75.6	30-134			
Ethylbenzene	0.103	0.0050	"	0.143	ND	72.1	22-153			
m,p-Xylene	0.205	0.010	"	0.286	ND	71.7	10-159			
o-Xylene	0.104	0.0050	"	0.143	ND	72.8	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0410</i>		<i>"</i>	<i>0.0379</i>		<i>108</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0388</i>		<i>"</i>	<i>0.0382</i>		<i>102</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0380</i>		<i>"</i>	<i>0.0382</i>		<i>99.7</i>	<i>21-167</i>			

Matrix Spike Dup (3061216-MSD1)	Source: R306086-01			Prepared & Analyzed: 06/13/13						
Benzene	0.117	0.0050	mg/kg	0.144	ND	81.1	30-131	7.12	34	
Toluene	0.115	0.0050	"	0.144	ND	80.0	30-134	6.40	30	
Ethylbenzene	0.115	0.0050	"	0.144	ND	80.0	22-153	11.2	24	
m,p-Xylene	0.230	0.010	"	0.288	ND	79.8	10-159	11.5	68	
o-Xylene	0.117	0.0050	"	0.144	ND	81.1	31-151	11.5	38	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0427</i>		<i>"</i>	<i>0.0382</i>		<i>112</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0384</i>		<i>"</i>	<i>0.0385</i>		<i>99.8</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0403</i>		<i>"</i>	<i>0.0385</i>		<i>105</i>	<i>21-167</i>			

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LT Environmental, Inc.
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Arvada CO, 80003

Project: BNC - Wright
Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

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		

Batch 3061708 - EPA 5030 Soil MS

Blank (3061708-BLK1)

Prepared: 06/17/13 Analyzed: 06/21/13

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	10.0	"							
Fluoranthene	ND	5.00	"							
Fluorene	ND	5.00	"							
Indeno (1,2,3-cd) pyrene	ND	10.0	"							
Naphthalene	ND	5.00	"							
Pyrene	ND	5.00	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	34.8		"	34.8	100	50-150				
<i>Surrogate: Fluoranthene-d10</i>	27.6		"	34.5	80.1	50-150				

LCS (3061708-BS1)

Prepared: 06/17/13 Analyzed: 06/21/13

Acenaphthene	32.5	5.00	ug/kg	33.3	97.6	48-131				
Anthracene	33.3	5.00	"	33.3	99.8	48-135				
Benzo (a) anthracene	23.1	5.00	"	33.3	69.4	37-142				
Benzo (b) fluoranthene	28.0	5.00	"	33.3	84.1	35-139				
Benzo (k) fluoranthene	38.4	5.00	"	33.3	115	30-139				
Benzo (a) pyrene	36.8	5.00	"	33.3	110	41-132				
Chrysene	39.6	5.00	"	33.3	119	30-136				
Dibenz (a,h) anthracene	30.0	10.0	"	33.3	89.9	24-127				
Fluoranthene	27.3	5.00	"	33.3	82.0	50-139				
Fluorene	26.6	5.00	"	33.3	79.8	50-130				
Indeno (1,2,3-cd) pyrene	28.2	10.0	"	33.3	84.6	26-139				
Naphthalene	31.8	5.00	"	33.3	95.5	40-135				
Pyrene	37.3	5.00	"	33.3	112	39-141				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	29.2		"	34.8	83.9	50-150				
<i>Surrogate: Fluoranthene-d10</i>	29.8		"	34.5	86.4	50-150				

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Project: BNC - Wright
Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

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		

Batch 3061708 - EPA 5030 Soil MS

LCS Dup (3061708-BSD1)

Prepared: 06/17/13 Analyzed: 06/21/13

Acenaphthene	30.3	5.00	ug/kg	33.3		90.8	48-131	7.20	23
Anthracene	36.5	5.00	"	33.3		109	48-135	9.13	28
Benzo (a) anthracene	24.5	5.00	"	33.3		73.6	37-142	5.91	32
Benzo (b) fluoranthene	32.2	5.00	"	33.3		96.5	35-139	13.6	30
Benzo (k) fluoranthene	40.4	5.00	"	33.3		121	30-139	5.18	27
Benzo (a) pyrene	38.6	5.00	"	33.3		116	41-132	4.62	25
Chrysene	37.7	5.00	"	33.3		113	30-136	4.79	27
Dibenz (a,h) anthracene	27.5	10.0	"	33.3		82.5	24-127	8.56	29
Fluoranthene	38.0	5.00	"	33.3		114	50-139	32.7	26
Fluorene	28.3	5.00	"	33.3		84.9	50-130	6.26	24
Indeno (1,2,3-cd) pyrene	30.4	10.0	"	33.3		91.2	26-139	7.50	30
Naphthalene	33.7	5.00	"	33.3		101	40-135	5.82	21
Pyrene	34.3	5.00	"	33.3		103	39-141	8.38	26
Surrogate: 2-Methylnaphthalene-d10	29.6		"	34.8		85.2	50-150		
Surrogate: Fluoranthene-d10	30.5		"	34.5		88.6	50-150		

Matrix Spike (3061708-MS1)

Source: R306059-01

Prepared: 06/17/13 Analyzed: 06/21/13

Acenaphthene	27.8	5.00	ug/kg	33.3	ND	83.5	27-140		
Anthracene	31.0	5.00	"	33.3	ND	92.9	23-144		
Benzo (a) anthracene	36.3	5.00	"	33.3	ND	109	12-168		
Benzo (b) fluoranthene	29.8	5.00	"	33.3	ND	89.4	10-170		
Benzo (k) fluoranthene	36.2	5.00	"	33.3	ND	109	11-150		
Benzo (a) pyrene	33.9	5.00	"	33.3	ND	102	11-162		
Chrysene	38.5	5.00	"	33.3	ND	115	10-167		
Dibenz (a,h) anthracene	24.3	10.0	"	33.3	ND	72.9	10-128		
Fluoranthene	44.2	5.00	"	33.3	ND	133	18-157		
Fluorene	30.5	5.00	"	33.3	ND	91.5	37-133		
Indeno (1,2,3-cd) pyrene	33.6	10.0	"	33.3	ND	101	10-161		
Naphthalene	28.2	5.00	"	33.3	ND	84.6	10-157		
Pyrene	53.1	5.00	"	33.3	ND	159	10-166		
Surrogate: 2-Methylnaphthalene-d10	24.2		"	34.8		69.6	50-150		
Surrogate: Fluoranthene-d10	30.2		"	34.5		87.7	50-150		

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

Project: BNC - Wright
Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

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 3061401 - EPA 3050B

Blank (3061401-BLK1)

Prepared & Analyzed: 06/14/13

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

LCS (3061401-BS1)

Prepared & Analyzed: 06/14/13

Arsenic	2.43	0.100	mg/kg wet	2.50	97.2	80-120				
Barium	243	0.100	"	225	108	80-120				
Cadmium	1.03	0.100	"	1.00	103	80-120				
Chromium	10.8	0.100	"	10.0	108	80-120				
Copper	20.8	0.500	"	20.0	104	80-120				
Lead	7.57	0.100	"	7.52	101	80-120				
Nickel	16.2	0.100	"	15.0	107	80-120				
Selenium	1.17	0.100	"	1.25	93.3	80-120				
Silver	0.255	0.100	"	0.250	102	80-120				
Zinc	12.2	10.0	"	7.52	162	80-120				QLCS-02

LCS Dup (3061401-BSD1)

Prepared & Analyzed: 06/14/13

Arsenic	2.36	0.100	mg/kg wet	2.51	94.2	80-120	2.88	20		
Barium	236	0.100	"	226	104	80-120	3.15	20		
Cadmium	0.909	0.100	"	1.01	90.4	80-120	12.4	20		
Chromium	10.4	0.100	"	10.1	103	80-120	3.99	20		
Copper	20.4	0.500	"	20.1	101	80-120	2.18	20		
Lead	6.74	0.100	"	7.55	89.3	80-120	11.6	20		
Nickel	15.6	0.100	"	15.1	103	80-120	3.75	20		
Selenium	1.13	0.100	"	1.26	90.2	80-120	3.04	20		
Silver	0.233	0.100	"	0.251	92.7	80-120	9.15	20		
Zinc	11.9	10.0	"	7.55	157	80-120	2.42	20		QLCS-02

Summit Scientific

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

Project: BNC - Wright

Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

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 3061401 - EPA 3050B

Matrix Spike (3061401-MS1)	Source: R306067-01			Prepared & Analyzed: 06/14/13							
Arsenic	3.34	0.101	mg/kg dry	2.53	1.39	77.4	75-125				
Barium	379	0.101	"	228	122	113	75-125				
Cadmium	1.02	0.101	"	1.01	0.110	90.0	75-125				
Chromium	16.8	0.101	"	10.1	7.28	94.3	75-125				
Copper	22.4	0.505	"	20.2	8.54	68.3	75-125				QM-07
Lead	23.7	0.101	"	7.60	14.6	119	75-125				
Nickel	32.2	0.101	"	15.2	17.5	96.4	75-125				
Selenium	0.866	0.101	"	1.27	0.0558	64.0	75-125				QM-07
Silver	0.245	0.101	"	0.253	0.0321	84.4	75-125				
Zinc	69.8	10.1	"	7.60	56.6	173	75-125				QLCS-02

Matrix Spike Dup (3061401-MSD1)	Source: R306067-01			Prepared & Analyzed: 06/14/13							
Arsenic	3.31	0.101	mg/kg dry	2.52	1.39	76.2	75-125	1.08	25		
Barium	352	0.101	"	227	122	101	75-125	7.42	25		
Cadmium	1.01	0.101	"	1.01	0.110	89.3	75-125	0.855	25		
Chromium	16.1	0.101	"	10.1	7.28	87.3	75-125	4.45	25		
Copper	22.4	0.504	"	20.2	8.54	68.5	75-125	0.0343	25		QM-07
Lead	23.9	0.101	"	7.58	14.6	122	75-125	0.936	25		
Nickel	30.5	0.101	"	15.2	17.5	85.6	75-125	5.35	25		
Selenium	0.915	0.101	"	1.26	0.0558	68.0	75-125	5.51	25		QM-07
Silver	0.236	0.101	"	0.252	0.0321	80.7	75-125	4.14	25		
Zinc	63.1	10.1	"	7.58	56.6	84.9	75-125	10.1	25		

Summit Scientific

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

Project: BNC - Wright

Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

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

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

Batch 3061402 - EPA 7471A

Blank (3061402-BLK1)			Prepared & Analyzed: 06/14/13							
Mercury	ND	0.0500	mg/kg wet							
LCS (3061402-BS1)			Prepared & Analyzed: 06/14/13							
Mercury	0.377	0.0500	mg/kg wet	0.400		94.3	80-120			
LCS Dup (3061402-BSD1)			Prepared & Analyzed: 06/14/13							
Mercury	0.415	0.0500	mg/kg wet	0.400		104	80-120	9.51	20	
Matrix Spike (3061402-MS1)			Source: R306067-01		Prepared & Analyzed: 06/14/13					
Mercury	0.410	0.0481	mg/kg dry	0.385	0.0617	90.6	80-120			
Matrix Spike Dup (3061402-MSD1)			Source: R306067-01		Prepared & Analyzed: 06/14/13					
Mercury	0.376	0.0484	mg/kg dry	0.387	0.0617	81.2	80-120	8.84	20	

Summit Scientific

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

Project: BNC - Wright

Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

Hexavalent Chromium by EPA 7199 - Quality Control
Summit Scientific

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

Batch 3061403 - General Preparation

Blank (3061403-BLK1)		Prepared: 06/14/13 Analyzed: 06/17/13								
Chromium, Hexavalent	ND	1.00	mg/kg wet							
LCS (3061403-BS1)		Prepared: 06/14/13 Analyzed: 06/17/13								
Chromium, Hexavalent	91.6	1.25	mg/kg wet	100		91.4	85-115			
LCS Dup (3061403-BSD1)		Prepared: 06/14/13 Analyzed: 06/17/13								
Chromium, Hexavalent	86.2	1.25	mg/kg wet	101		85.8	85-115	5.96	20	
Duplicate (3061403-DUP1)		Source: R306067-01			Prepared: 06/14/13 Analyzed: 06/17/13					
Chromium, Hexavalent	ND	1.19	mg/kg dry		ND				20	
Matrix Spike (3061403-MS1)		Source: R306067-01			Prepared: 06/14/13 Analyzed: 06/17/13					
Chromium, Hexavalent	ND	1.19	mg/kg dry	47.7	ND		85-115			QM-05

Summit Scientific

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

Project: BNC - Wright
Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

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 3061303 - General Preparation

Blank (3061303-BLK1)

Prepared & Analyzed: 06/13/13

Calcium	ND	2.50	mg/kg wet						
Magnesium	ND	1.00	"						
Sodium	ND	5.00	"						

LCS (3061303-BS1)

Prepared & Analyzed: 06/13/13

Calcium	326	2.50	mg/kg wet	383		85.2	77-118		
Magnesium	166	1.00	"	192		86.3	77-117		
Sodium	456	5.00	"	479		95.1	80-119		

Matrix Spike (3061303-MS1)

Source: R306077-01

Prepared & Analyzed: 06/13/13

Calcium	850	2.59	mg/kg dry	385	523	84.9	13-170		
Magnesium	293	1.04	"	193	117	91.2	34-152		
Sodium	716	5.18	"	482	248	97.0	43-155		

Matrix Spike Dup (3061303-MSD1)

Source: R306077-01

Prepared & Analyzed: 06/13/13

Calcium	782	2.59	mg/kg dry	384	523	67.6	13-170	8.29	37
Magnesium	264	1.04	"	192	117	76.1	34-152	10.7	33
Sodium	653	5.18	"	480	248	84.4	43-155	9.14	25

Summit Scientific

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

Project: BNC - Wright

Project Number: 0415-12004
 Project Manager: Brian Dodek

Reported:
 06/24/13 15:47

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		

Batch 3061711 - General Preparation

Duplicate (3061711-DUP1)	Source: R306067-01			Prepared: 06/17/13		Analyzed: 06/18/13				
% Solids	82.8		%		83.8			1.20	20	

Batch 3061808 - General Preparation

LCS (3061808-BS1)				Prepared & Analyzed: 06/18/13						
pH	8.01	0.100	pH Units	8.00		100	0-200			

Duplicate (3061808-DUP1)	Source: R306068-01			Prepared & Analyzed: 06/18/13						
pH	7.93	0.100	pH Units		7.90			0.379	20	

Batch 3061809 - General Preparation

Duplicate (3061809-DUP1)	Source: R306068-01			Prepared & Analyzed: 06/18/13						
Specific Conductance (EC)	2.10	0.00100	mmhos/cm		2.07			1.22	20	

Summit Scientific

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

Project: BNC - Wright

Project Number: 0415-12004
Project Manager: Brian Dodek

Reported:
06/24/13 15:47

Notes and Definitions

- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
- 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.
- QLCS-02 The spike recovery was outside acceptance limits for this analyte indicating a potential high bias.
- 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