



September 12, 2011

Mr. Scott Ghan  
Bill Barrett Corporation  
112 Red Feather Trail  
Silt, Colorado 81652

**RE: Site Investigation Report and Sample Results for  
BBC Pad Upper Pit Release  
SENE 23 T6S R92W**

Dear Mr. Ghan:

LT Environmental, Inc. (LTE) was contracted by Bill Barrett Corporation (BBC) to conduct a site investigation at the above-referenced site. The purpose of this investigation was to determine the extent of impact to soil and/or groundwater from a release of exploration and production (E&P) waste from the upper pit at the BBC pad location. A Form 27 Site Investigation and Remediation Workplan outlining the proposed site investigation (Remediation #5093) was submitted to the Colorado Oil and Gas Conservation Commission (COGCC) on April 21, 2011. A second Form 27 update was submitted on June 18, 2011 to revise site investigation activities.

### **Pothole Advancement**

LTE advanced 13 potholes at the site from May 4 to May 5, 2011, using a trac-mounted excavator. Six potholes were advanced at various depths in the bottom of the upper pit (PH01 through PH06) and in the bottom of the lower pit (PH07 through PH12). One additional pothole (PH13) was advanced on the pad surface downgradient of the lower pit. A site location and site map are provided as Figures 1 and 2. An LTE environmental scientist inspected the soil for the presence or absence of petroleum hydrocarbon odor and/or staining. The soil was characterized by visually inspecting the soil samples collected from the bottom of the potholes and field screening the soil headspace using a photo-ionization detector to monitor for the presence of volatile organic vapors. The potholes were advanced to depths between 22 feet and 29 feet below the pad surface. Groundwater was not encountered during excavation of the potholes.

### **Soil Sampling**

Soil samples were collected from the bottom of each pothole at various depths and were transferred into laboratory-prepared 4-ounce, wide-mouth glass jars, placed on ice, and delivered with a completed chain-of-custody form to Accutest Mountain States Laboratory in Wheat Ridge, Colorado.

Each sample was analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), total petroleum hydrocarbons—gasoline range organics (TPH-GRO), TPH—diesel range organics



(TPH-DRO), polycyclic aromatic hydrocarbons (PAHs), electrical conductivity (EC), pH, sodium adsorption ratio (SAR), and COGCC Table 910-1 metals.

### **Upper Pit Soil Analytical Results**

Analytical results for soil samples PH01 through PH06 indicated BTEX, TPH-GRO, TPH-DRO, PAHs, EC, and SAR were in compliance with Table 910-1 concentration levels. The arsenic concentrations for the soil samples collected from PH01, PH02, and PH03 were compliant with the Table 910-1 concentration level or within the range of background concentrations (3.19 milligrams per kilogram (mg/kg) to 8.2 mg/kg) for the site. Four background soil samples were collected from the pad surface on December 13, 2010. The analytical results for samples BG01 through BG04 are summarized in Table 1 and provided in the attached analytical reports.

The arsenic concentrations for soil samples collected from PH05 and PH06 exceeded the Table 910-1 concentration level and 1.2 times the background concentrations at the site. The arsenic concentrations for the soil samples collected from PH05 and PH06 ranged from 13.01 mg/kg to 17.86 mg/kg at various depths below ground surface (bgs). The initial seep from the upper pit was sampled (SE-1) for COGCC Table 910-1 metals on May 24, 2010. Analytical results indicated the arsenic concentration for the seep water was 8.61 micrograms per liter. This dissolved arsenic concentration cannot be directly compared to total arsenic concentration in soil; however, the low arsenic concentration in the seep water gives an indication of the amount of water that would have to be released to increase total arsenic levels by 200%. In addition, the elevated arsenic concentrations at PH05 and PH06 are not accompanied by any other elevated analytes indicative of a release, such as EC, SAR, or hydrocarbons. If a sufficient amount of produced/flowback water was released from the failed liner to increase soil arsenic levels by over 200%, then surely the aforementioned indicator analytes would exceed the Table 910-1 concentration levels at the same location. LTE believes the elevated arsenic concentrations are likely representative of existing background variation, especially due to the multiple lithologic units sampled at the site. The levels of arsenic detected in soil at depths of 22 to 29 feet bgs pose no threat to human health or the environment as the soil will be buried well below the surface and LTE has observed naturally occurring arsenic concentrations at or above these concentrations in the area. The analytical results for sample SE-1 are provided in the attached analytical reports. Laboratory analytical results for both the upper and lower pit are summarized in Table 1 and provided in the attached laboratory reports.

The pH levels for soil samples collected from PH02 and PH03 exceeded the COGCC Table 910-1 concentration level. Frequently Asked Question Number 31 on the COGCC website indicates that the COGCC will only apply the Table 910-1 concentration levels for EC, pH, and SAR to soil that is within three feet of the ground surface. As such, the COGCC requires that materials with elevated EC, pH, or SAR concentrations be buried under a minimum of three feet of backfill cover. Although EC, pH, and SAR are parameters used to ensure proper reclamation of disturbed areas, limited exceedances of these parameters below the required three feet of cover will not affect reclamation, as the pit bottom will be buried well below the vegetative root zone.



### **Lower Pit Soil Analytical Results**

Analytical results for soil samples PH07 through PH13 indicated BTEX, TPH-GRO, TPH-DRO, PAHs, EC and COGCC Table 910-1 metals were either within background concentrations or in compliance with Table 910-1 concentration levels.

The SAR level for sample PH09-23' exceeded the Table 910-1 concentration level. However, an additional sample was collected from the same pothole at 26 feet bgs and analytical results indicated SAR was in compliance with the COGCC Table 910-1 concentration level. This indicates that SAR impact has been defined and only a small amount of SAR impacted soil will be left in place.

The pH levels for soil samples collected from PH07 through PH12 exceeded the COGCC Table 910-1 concentration level. The pH level for soil sample PH13-24', a pothole excavated downgradient of the lower pit location, was in compliance with the COGCC Table 910-1 concentration level. Although EC, pH, and SAR are parameters used to ensure proper reclamation of disturbed areas, limited exceedances of these parameters below the required three feet of cover will not affect reclamation, as the pit bottom will be buried well below the vegetative root zone.

### **Historical Drainage Research**

LTE reviewed aerial photographs to determine the flow path of a historical drainage channel at the site. An aerial photograph of the site from 2009 indicated the potential drainage channel remaining between the upper and lower pits appears to be a break in the previous bedrock swale that crosses the site from west to east. Upon further review of an aerial photograph dated September 19, 1993, there appears to be an area that drained directly north below this break in the bedrock. A site map depicting the historical drainage channel in relation to PH13 is provided as Figure 3.

To determine whether the historical drainage channel was a preferential pathway for the release from the upper pit, LTE advanced PH13 to the north of the lower pit. LTE used a global positioning system in the field to log the location of PH13 then placed this location on the aerial photograph. Based on the reconstructed aerial photograph, PH13 was advanced on the west edge of the historical drainage channel that drained north from the break in the bedrock. As the analytical results for soil sample PH13-24' indicated all COGCC Table 910-1 analytes were in compliance, LTE does not believe the historical drainage channel was a preferential pathway for the initial release.

### **Summary and Conclusions**

A total of 13 potholes (PH01 through PH13) were advanced at the site. Petroleum hydrocarbon impact was not detected in any pothole samples in excess of applicable COGCC standards. Analytical results indicated BTEX, TPH-GRO, TPH-DRO, PAHs, Table 910-1 metals, EC, and SAR were in compliance with COGCC Table 910-1 concentration levels or were representative



of background concentrations. The pH levels for soil samples collected from PH02, PH03, PH07, PH08, PH09, PH10, PH11, and PH12 exceeded the COGCC Table 910-1 concentration level. However, pH is a parameter used to ensure proper reclamation of disturbed surface areas; limited exceedances of this parameter below the required three feet of cover will not affect reclamation. BBC has indicated the pit bottoms will be buried in excess of 25 feet bgs, which is well below the vegetative root zone.

LTE reviewed historical aerial photographs to determine whether the historical drainage channel through the site could have been a preferential pathway for the initial release. The lower pit appears to have completely severed the flow pathway of the historical drainage channel. Analytical results for the soil sample collected from the bottom of PH13 indicate the historical drainage channel was not a preferential flow pathway for the release from the upper pit.

Based on the analytical results, LTE recommends BBC request a No Further Action determination for this facility from the COGCC.

Please call us at (970) 285-9985 if you have any questions regarding this letter report or require additional information. Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read 'Asher'.

Asher Weinberg  
Staff Environmental Scientist

A handwritten signature in black ink, appearing to read 'Brian Dodek'.

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

Attachments:

- Figure 1 - Site Location Map
- Figure 2 - Site Map
- Figure 3 - Historical Drainage Channel Map
- Table 1 - Soil Analytical Results
- Attachment - Laboratory Analytical Reports



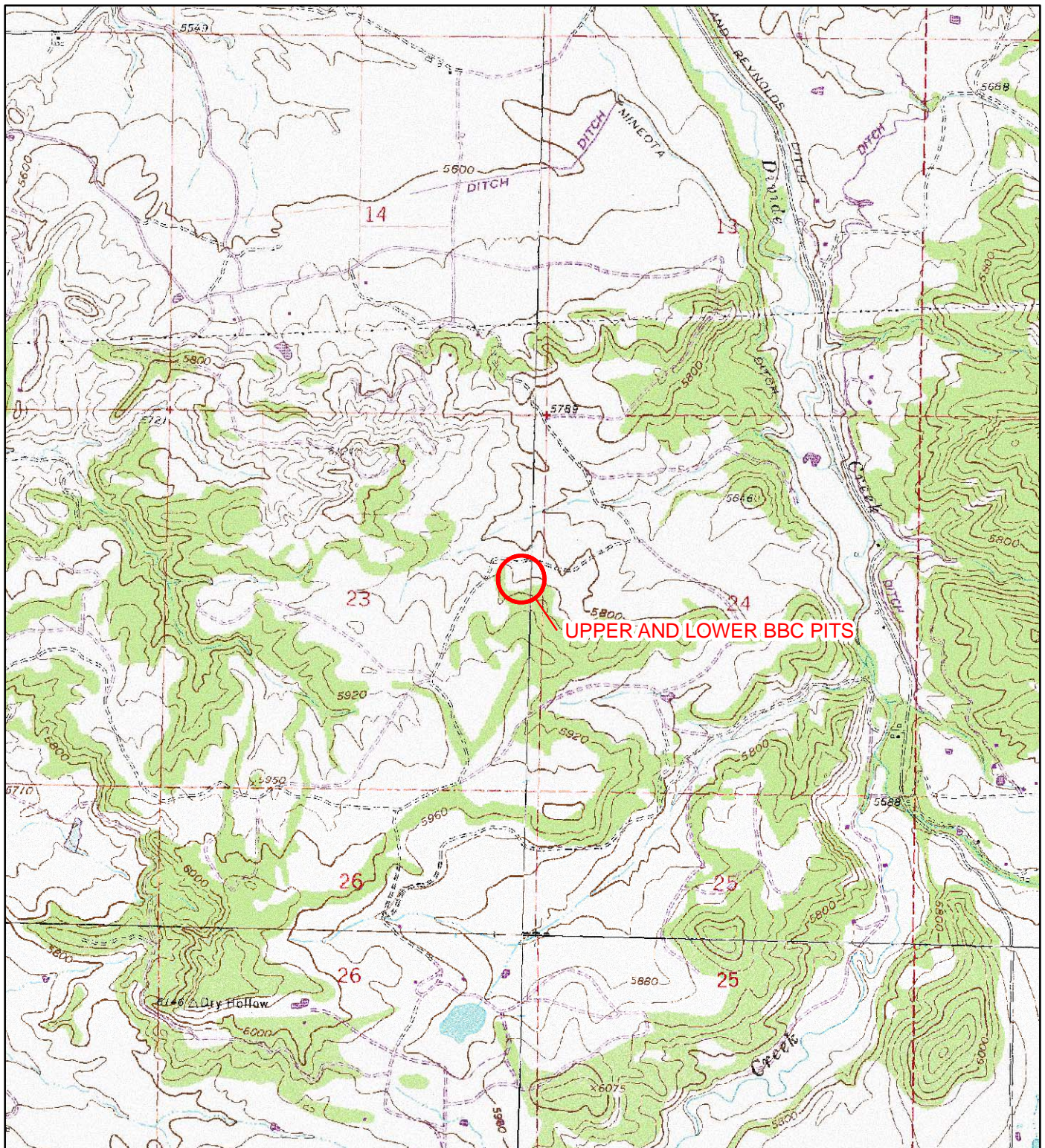


IMAGE COURTESY OF USDA/NRCS, VARIOUS DATES

# LEGEND

 SITE LOCATION

0 2,000 4,000  
Feet



**FIGURE 1**  
**SITE LOCATION MAP**  
**UPPER AND LOWER BBC PITS**  
**SENE SEC 23 T6S R92W**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**



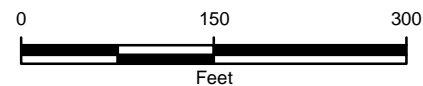




IMAGE COURTESY OF USDA/NRCS, 2009

## LEGEND

- POTHOLE
- ▲ SURFACE SOIL SAMPLE
- WATER SAMPLE
- CURRENT BREAK IN BEDROCK SWALE
- ⬮ SEEP LOCATION



**FIGURE 2**  
**SITE MAP**  
 UPPER AND LOWER BBC PITS  
 SENE SEC 23 T6S R92W  
 GARFIELD COUNTY, COLORADO  
**BILL BARRETT CORPORATION**

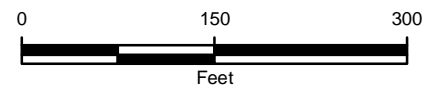




IMAGE COURTESY OF MSRMAPS.COM, 09/20/1993

# LEGEND

- POTHOLE
- HISTORICAL DRAINAGE CHANNEL
- - - - CURRENT BREAK IN BEDROCK SWALE



**FIGURE 3**  
**HISTORICAL DRAINAGE CHANNEL MAP**  
**UPPER AND LOWER BBC PITS**  
**SENE SEC 23 T6S R92W**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**



**TABLE 1**  
**SOIL ANALYTICAL RESULTS**  
**UPPER AND LOWER BBC PIT**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**

Parameter	Standard	BG01	BG02	BG03	BG04
Depth (feet)		0	0	0	0
Sample Date		12/13/2010	12/13/2010	12/13/2010	12/13/2010

**Inorganics**

Electrical Conductivity (mmhos/cm)	4
SAR (units)	12
pH, Lab (pH Units)	6 to 9

**Metals**

Arsenic (mg/kg)	0.39	<b>3.19</b>	<b>8.2</b>	<b>4.52</b>	<b>7.15</b>
Barium (mg/kg)	15000				
Cadmium (mg/kg)	70				
Chromium (mg/kg)					
Chromium+3 Calculated (mg/kg)	120000				
Chromium, Hexavalent (mg/kg)	23				
Copper (mg/kg)	3100				
Lead (mg/kg)	400				
Mercury (mg/kg)	23				
Nickel (mg/kg)	1600				
Selenium (mg/kg)	390				
Silver (mg/kg)	390				
Zinc (mg/kg)	23000				

**Organic Compounds**

TPH-DRO (mg/kg)	
TPH-GRO (mg/kg)	
TPH-Total (mg/kg)	500
Benzene (mg/kg)	0.17
Toluene (mg/kg)	85
Ethylbenzene (mg/kg)	100
Xylenes, Total (mg/kg)	175
Acenaphthene (mg/kg)	1000
Anthracene (mg/kg)	1000
Benzo (a) anthracene (mg/kg)	0.22
Benzo (b) fluoranthene (mg/kg)	0.22
Benzo (k) fluoranthene (mg/kg)	2.2
Benzo (a) pyrene (mg/kg)	0.022
Chrysene (mg/kg)	22
Dibenz (a,h) anthracene (mg/kg)	0.022
Fluoranthene (mg/kg)	1000
Fluorene (mg/kg)	1000
Indeno (1,2,3-cd) pyrene (mg/kg)	0.22
Naphthalene (mg/kg)	23
Pyrene (mg/kg)	1000





**TABLE 1 (Continued)**  
**SOIL ANALYTICAL RESULTS**  
**UPPER AND LOWER BBC PIT**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**

Parameter	Standard	PH01	PH02	PH03	PH04
Depth (feet)		23	23	23	23
Sample Date		5/4/2011	5/4/2011	5/4/2011	5/4/2011

**Inorganics**

Electrical Conductivity (mmhos/cm)	4	1.31	0.807	0.538	1.34
SAR (units)	12	5.6	6.3	9.7	3.8
pH, Lab (pH Units)	6 to 9	8.6	<b>9.4</b>	<b>9.4</b>	8.3

**Metals**

Arsenic (mg/kg)	0.39	<b>2.04</b>	0.26	<b>4.32</b>	<b>8.36</b>
Barium (mg/kg)	15000	103.6	133.7	100.9	128.8
Cadmium (mg/kg)	70	0.2	0.4	0.3	0.8
Chromium (mg/kg)		8.9	6.6	8.1	10.3
Chromium+3 Calculated (mg/kg)	120000	8.5	6.2	7.7	9.5
Chromium, Hexavalent (mg/kg)	23	<0.47	<0.43	<0.44	0.51
Copper (mg/kg)	3100	17.6	13.8	19.6	19.5
Lead (mg/kg)	400	19.4	17.5	21.7	25.7
Mercury (mg/kg)	23	0.09	<0.05	0.12	0.19
Nickel (mg/kg)	1600	15.5	12.6	17.5	19.5
Selenium (mg/kg)	390	<0.05	<0.05	0.14	1.87
Silver (mg/kg)	390	<0.1	<0.1	<0.1	<0.1
Zinc (mg/kg)	23000	71.96	58.36	77.85	77.05

**Organic Compounds**

TPH-DRO (mg/kg)		<50	<50	<50	<50
TPH-GRO (mg/kg)		<0.50	<0.50	<0.50	<0.50
TPH-Total (mg/kg)	500	<50.5	<50.5	<50.5	<50.5
Benzene (mg/kg)	0.17	<0.0050	<0.0050	<0.0050	<0.0050
Toluene (mg/kg)	85	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene (mg/kg)	100	<0.0050	<0.0050	<0.0050	<0.0050
Xylenes, Total (mg/kg)	175	<0.0050	<0.0050	<0.0050	<0.0050
Acenaphthene (mg/kg)	1000	<0.005	<0.005	<0.005	<0.005
Anthracene (mg/kg)	1000	<0.005	<0.005	<0.005	<0.005
Benzo (a) anthracene (mg/kg)	0.22	<0.005	<0.005	<0.005	<0.005
Benzo (b) fluoranthene (mg/kg)	0.22	<0.005	<0.005	<0.005	<0.005
Benzo (k) fluoranthene (mg/kg)	2.2	<0.005	<0.005	<0.005	<0.005
Benzo (a) pyrene (mg/kg)	0.022	<0.005	<0.005	<0.005	<0.005
Chrysene (mg/kg)	22	<0.005	<0.005	<0.005	<0.005
Dibenz (a,h) anthracene (mg/kg)	0.022	<0.01	<0.01	<0.01	<0.01
Fluoranthene (mg/kg)	1000	<0.005	<0.005	<0.005	<0.005
Fluorene (mg/kg)	1000	<0.005	<0.005	<0.005	<0.005
Indeno (1,2,3-cd) pyrene (mg/kg)	0.22	<0.01	<0.01	<0.01	<0.01
Naphthalene (mg/kg)	23	<0.005	<0.005	0.0276	<0.005
Pyrene (mg/kg)	1000	<0.005	<0.005	<0.005	<0.005



**TABLE 1 (Continued)**  
**SOIL ANALYTICAL RESULTS**  
**UPPER AND LOWER BBC PIT**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**

Parameter	Standard	PH05	PH05	PH06	PH06
Depth (feet)		22	25	23	26
Sample Date		5/4/2011	5/4/2011	5/4/2011	5/4/2011
<b>Inorganics</b>					
Electrical Conductivity (mmhos/cm)	4	2.04		1.26	
SAR (units)	12	2.1		1.9	
pH, Lab (pH Units)	6 to 9	8.1		8.6	
<b>Metals</b>					
Arsenic (mg/kg)	0.39	<b>17.86</b>	<b>14.23</b>	<b>15.52</b>	<b>13.01</b>
Barium (mg/kg)	15000	94.2		47.4	
Cadmium (mg/kg)	70	1.2		0.2	
Chromium (mg/kg)		9.7		8.5	
Chromium+3 Calculated (mg/kg)	120000	9.3		8.1	
Chromium, Hexavalent (mg/kg)	23	<0.46		<0.46	
Copper (mg/kg)	3100	25.8		17.2	
Lead (mg/kg)	400	54.2		19.7	
Mercury (mg/kg)	23	0.15		0.11	
Nickel (mg/kg)	1600	23		16.6	
Selenium (mg/kg)	390	0.8		0.45	
Silver (mg/kg)	390	<0.1		<0.1	
Zinc (mg/kg)	23000	92.27		70.12	
<b>Organic Compounds</b>					
TPH-DRO (mg/kg)		<50		<50	
TPH-GRO (mg/kg)		<0.50		<0.50	
TPH-Total (mg/kg)	500	<50.5		<50.5	
Benzene (mg/kg)	0.17	<0.0050		<0.0050	
Toluene (mg/kg)	85	<0.0050		<0.0050	
Ethylbenzene (mg/kg)	100	<0.0050		<0.0050	
Xylenes, Total (mg/kg)	175	<0.0050		<0.0050	
Acenaphthene (mg/kg)	1000	<0.005		<0.005	
Anthracene (mg/kg)	1000	<0.005		<0.005	
Benzo (a) anthracene (mg/kg)	0.22	<0.005		<0.005	
Benzo (b) fluoranthene (mg/kg)	0.22	<0.005		<0.005	
Benzo (k) fluoranthene (mg/kg)	2.2	<0.005		<0.005	
Benzo (a) pyrene (mg/kg)	0.022	<0.005		<0.005	
Chrysene (mg/kg)	22	<0.005		<0.005	
Dibenz (a,h) anthracene (mg/kg)	0.022	<0.01		<0.01	
Fluoranthene (mg/kg)	1000	<0.005		<0.005	
Fluorene (mg/kg)	1000	<0.005		<0.005	
Indeno (1,2,3-cd) pyrene (mg/kg)	0.22	<0.01		<0.01	
Naphthalene (mg/kg)	23	<0.005		<0.005	
Pyrene (mg/kg)	1000	<0.005		<0.005	



**TABLE 1 (Continued)**  
**SOIL ANALYTICAL RESULTS**  
**UPPER AND LOWER BBC PIT**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**

Parameter	Standard	PH06	PH07	PH08	PH09
Depth (feet)		29	23	23	23
Sample Date		5/4/2011	5/4/2011	5/4/2011	5/4/2011
<b>Inorganics</b>					
Electrical Conductivity (mmhos/cm)	4		0.801	0.517	1.14
SAR (units)	12		10.7	9.6	<b>16</b>
pH, Lab (pH Units)	6 to 9		<b>9.8</b>	<b>9.7</b>	<b>9.0</b>
<b>Metals</b>					
Arsenic (mg/kg)	0.39	<b>17.41</b>	<b>1.49</b>	<b>0.66</b>	<b>1.79</b>
Barium (mg/kg)	15000		329.4	90.4	151.6
Cadmium (mg/kg)	70		0.2	0.2	0.5
Chromium (mg/kg)			6.2	9.3	8.2
Chromium+3 Calculated (mg/kg)	120000		6	8.8	7.8
Chromium, Hexavalent (mg/kg)	23		<0.42	<0.61	<0.48
Copper (mg/kg)	3100		13.3	10	18.3
Lead (mg/kg)	400		11.7	9.2	13.3
Mercury (mg/kg)	23		<0.05	<0.05	0.08
Nickel (mg/kg)	1600		13.8	12.3	15.4
Selenium (mg/kg)	390		<0.05	<0.05	0.45
Silver (mg/kg)	390		<0.1	<0.1	<0.1
Zinc (mg/kg)	23000		61.71	52.87	67.2
<b>Organic Compounds</b>					
TPH-DRO (mg/kg)			<50	<50	<50
TPH-GRO (mg/kg)			<0.50	<0.50	<0.50
TPH-Total (mg/kg)	500		<50.5	<50.5	<50.5
Benzene (mg/kg)	0.17		<0.0050	<0.0050	<0.0050
Toluene (mg/kg)	85		<0.0050	<0.0050	<0.0050
Ethylbenzene (mg/kg)	100		<0.0050	<0.0050	<0.0050
Xylenes, Total (mg/kg)	175		<0.0050	<0.0050	<0.0050
Acenaphthene (mg/kg)	1000		<0.005	<0.005	<0.005
Anthracene (mg/kg)	1000		<0.005	<0.005	<0.005
Benzo (a) anthracene (mg/kg)	0.22		<0.005	<0.005	<0.005
Benzo (b) fluoranthene (mg/kg)	0.22		<0.005	<0.005	<0.005
Benzo (k) fluoranthene (mg/kg)	2.2		<0.005	<0.005	<0.005
Benzo (a) pyrene (mg/kg)	0.022		<0.005	<0.005	<0.005
Chrysene (mg/kg)	22		<0.005	<0.005	<0.005
Dibenz (a,h) anthracene (mg/kg)	0.022		<0.01	<0.01	<0.01
Fluoranthene (mg/kg)	1000		<0.005	<0.005	<0.005
Fluorene (mg/kg)	1000		<0.005	<0.005	<0.005
Indeno (1,2,3-cd) pyrene (mg/kg)	0.22		<0.01	<0.01	<0.01
Naphthalene (mg/kg)	23		<0.005	<0.005	<0.005
Pyrene (mg/kg)	1000		<0.005	<0.005	<0.005





**TABLE 1 (Continued)**  
**SOIL ANALYTICAL RESULTS**  
**UPPER AND LOWER BBC PIT**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**

Parameter	Standard	PH09	PH10	PH11	PH12
Depth (feet)		26	23	23	23
Sample Date		5/4/2011	5/5/2011	5/5/2011	5/5/2011

**Inorganics**

Electrical Conductivity (mmhos/cm)	4		0.591	0.541	0.533
SAR (units)	12	2.1	8.5	7.6	5.5
pH, Lab (pH Units)	6 to 9		<b>9.7</b>	<b>9.4</b>	<b>9.4</b>

**Metals**

Arsenic (mg/kg)	0.39		<b>0.92</b>	<b>0.89</b>	<b>0.78</b>
Barium (mg/kg)	15000		117	108.4	128.7
Cadmium (mg/kg)	70		0.2	0.2	0.3
Chromium (mg/kg)			6.1	8.7	8.2
Chromium+3 Calculated (mg/kg)	120000		5.8	8.4	7.9
Chromium, Hexavalent (mg/kg)	23		<0.42	<0.42	<0.41
Copper (mg/kg)	3100		12.1	17.8	13.9
Lead (mg/kg)	400		13.3	11.1	17.8
Mercury (mg/kg)	23		<0.05	0.05	<0.05
Nickel (mg/kg)	1600		12.7	17.4	13.9
Selenium (mg/kg)	390		0.3	0.17	0.08
Silver (mg/kg)	390		<0.1	<0.1	<0.1
Zinc (mg/kg)	23000		52.44	76.38	62.47

**Organic Compounds**

TPH-DRO (mg/kg)		310	320	320
TPH-GRO (mg/kg)		<0.50	<0.50	<0.50
TPH-Total (mg/kg)	500	310	320	320
Benzene (mg/kg)	0.17	<0.0050	<0.0050	<0.0050
Toluene (mg/kg)	85	<0.0050	<0.0050	<0.0050
Ethylbenzene (mg/kg)	100	<0.0050	<0.0050	<0.0050
Xylenes, Total (mg/kg)	175	<0.0050	<0.0050	<0.0050
Acenaphthene (mg/kg)	1000	<0.005	<0.005	<0.005
Anthracene (mg/kg)	1000	<0.005	<0.005	<0.005
Benzo (a) anthracene (mg/kg)	0.22	<0.005	<0.005	<0.005
Benzo (b) fluoranthene (mg/kg)	0.22	<0.005	<0.005	<0.005
Benzo (k) fluoranthene (mg/kg)	2.2	<0.005	<0.005	<0.005
Benzo (a) pyrene (mg/kg)	0.022	<0.005	<0.005	<0.005
Chrysene (mg/kg)	22	<0.005	<0.005	<0.005
Dibenz (a,h) anthracene (mg/kg)	0.022	<0.01	<0.01	<0.01
Fluoranthene (mg/kg)	1000	<0.005	<0.005	<0.005
Fluorene (mg/kg)	1000	<0.005	<0.005	<0.005
Indeno (1,2,3-cd) pyrene (mg/kg)	0.22	<0.01	<0.01	<0.01
Naphthalene (mg/kg)	23	<0.005	<0.005	<0.005
Pyrene (mg/kg)	1000	<0.005	<0.005	<0.005



**TABLE 1 (Continued)**  
**SOIL ANALYTICAL RESULTS**  
**UPPER AND LOWER BBC PIT**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**

Parameter	Standard	PH13
Depth (feet)		24
Sample Date		5/5/2011

**Inorganics**

Electrical Conductivity (mmhos/cm)	4	1.77
SAR (units)	12	3.7
pH, Lab (pH Units)	6 to 9	8.4

**Metals**

Arsenic (mg/kg)	0.39	<b>1.77</b>
Barium (mg/kg)	15000	
Cadmium (mg/kg)	70	
Chromium (mg/kg)		
Chromium+3 Calculated (mg/kg)	120000	
Chromium, Hexavalent (mg/kg)	23	
Copper (mg/kg)	3100	
Lead (mg/kg)	400	
Mercury (mg/kg)	23	
Nickel (mg/kg)	1600	
Selenium (mg/kg)	390	
Silver (mg/kg)	390	
Zinc (mg/kg)	23000	

**Organic Compounds**

TPH-DRO (mg/kg)		<50
TPH-GRO (mg/kg)		<0.50
TPH-Total (mg/kg)	500	<50.5
Benzene (mg/kg)	0.17	<0.0050
Toluene (mg/kg)	85	<0.0050
Ethylbenzene (mg/kg)	100	<0.0050
Xylenes, Total (mg/kg)	175	<0.0050
Acenaphthene (mg/kg)	1000	
Anthracene (mg/kg)	1000	
Benzo (a) anthracene (mg/kg)	0.22	
Benzo (b) fluoranthene (mg/kg)	0.22	
Benzo (k) fluoranthene (mg/kg)	2.2	
Benzo (a) pyrene (mg/kg)	0.022	
Chrysene (mg/kg)	22	
Dibenz (a,h) anthracene (mg/kg)	0.022	
Fluoranthene (mg/kg)	1000	
Fluorene (mg/kg)	1000	
Indeno (1,2,3-cd) pyrene (mg/kg)	0.22	
Naphthalene (mg/kg)	23	
Pyrene (mg/kg)	1000	



**TABLE 1 (Continued)**  
**SOIL ANALYTICAL RESULTS**  
**UPPER AND LOWER BBC PIT**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**

Parameter	Standard	PH13
Depth (feet)		24
Sample Date		5/5/2011

**Notes:**

< - less than stated laboratory reporting limit

Bold numbers indicate result equalled or exceeded standard.

Basic Standards for Soil are taken from 2 CCR 404-1, Table 910-1, effective April 2009.

GRO - Gasoline Range Organics

TPH-Total - sum of TPH-GRO and TPH-DRO

mg/kg - milligrams per kilogram

mmhos/cm - millimhos per centimeter

TPH - Total Petroleum Hydrocarbons (C6-C28)

DRO - Diesel Range Organics

SAR - Sodium Adsorption Ratio





# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

December 28, 2010

Stephen Sivigliano  
LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada, CO 80003  
RE: BBC - Pad

Enclosed are the results of analyses for samples received by Summit Scientific on 12/14/10 13:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Paul Shrewsbury For Ben Shrewsbury  
President / Laboratory Director



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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG01	R012102-01	Soil	12/13/10 10:20	12/14/10 13:00
BG02	R012102-02	Soil	12/13/10 10:25	12/14/10 13:00
BG03	R012102-03	Soil	12/13/10 10:30	12/14/10 13:00
BG04	R012102-04	Soil	12/13/10 10:35	12/14/10 13:00
B01	R012102-05	Soil	12/13/10 10:45	12/14/10 13:00
B02	R012102-06	Soil	12/13/10 10:50	12/14/10 13:00
B03	R012102-07	Soil	12/13/10 10:55	12/14/10 13:00
c01	R012102-08	Soil	12/13/10 11:00	12/14/10 13:00

Summit Scientific

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

Reported:  
12/28/10 14:53

CHAIN OF CUSTODY

10165 Harwin, Suite 150  
Houston, TX 77036  
713-271-4700 fax: 713-271-4770



10165 Harwin, Suite 150  
Houston, TX 77036  
713-271-4700 fax: 713-271-4770

Client Information				Facility Information				Analytical Information																	
Name				Project Name				Total Metals 6010 per COGCC Table 910-1		Total Arsenic 6020		Conductivity		PH		SAR		TPH-GRO/DRO Only		PAHS		BTEX			
LT Environmental				BBC Pad																					
Address				Location																					
820 Megan Ave, Unit B																									
City				State				Zip		Project No.															
Rifle				CO				81650		BBC1001															
Report to:				Email:				Collection		Sampled By		Matrix		# of bottles		Preservation									
Phone #:				970-285-9985				bodek@ltenv.com		Date		Time		SS		S&L		HNO <sub>3</sub>		H <sub>2</sub> SO <sub>4</sub>		None			
Field ID / Point of Collection				B601				12/10		1020		SS		S&L		2		X							
B602								1025		SS		1		2		X									
B603								1030		SS		1		2		X									
B604								1035		SS		1		2		X									
B01								1045		SS		1		4		Y		X		X		X		X	
B02								1050		SS		1		4		Y		X		X		X		X	
B03								1055		SS		1		4		Y		X		X		X		X	
C01								1100		SS		1		4		Y		X		X		X		X	

Turnaround Information				Data Deliverable Information				Comments / Remarks			
Approved By:				Metals: Barium, Cadmium, Chromium (III), Chromium (VI), Copper, Lead, Mercury, Nickel, Selenium, Silver, Zinc.							
<input checked="" type="checkbox"/> 21 Day Standard <input type="checkbox"/> 14 Day <input type="checkbox"/> 7 Days EMERGENCY <input type="checkbox"/> Other (Days) RUSH TAT is for FAX data unless previously approved.				<input type="checkbox"/> NJ Reduced <input type="checkbox"/> NJ Full <input type="checkbox"/> FULL CLP <input type="checkbox"/> ASP Category B <input type="checkbox"/> State Forms <input checked="" type="checkbox"/> Other (Specify)							
Relinquished by Sample:				Relinquished By:				Date Time:			
1				2				12-14 1100			
Relinquished by Sample:				Relinquished By:				Date Time:			
3				4				4			
Relinquished by Sample:				Relinquished By:				Date Time:			
5				5				4.5			

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sample:		Relinquished By:		Date Time:	
1	Stephen Sivigliano	2		12-14	1100
3		4		4	
5		5		4.5	





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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**BG01**  
**R012102-01 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **12/13/10 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.19	0.05	mg/kg	1	0122701	12/17/10	12/27/10	EPA 200.8	

Summit Scientific

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**BG02**  
**R012102-02 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: 12/13/10 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	8.2	0.05	mg/kg	1	0122701	12/17/10	12/27/10	EPA 200.8	

Summit Scientific

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**BG03**  
**R012102-03 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: 12/13/10 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.52	0.05	mg/kg	1	0122701	12/17/10	12/27/10	EPA 200.8	

Summit Scientific

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**BG04**  
**R012102-04 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: 12/13/10 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	7.15	0.05	mg/kg	1	0122701	12/17/10	12/27/10	EPA 200.8	

Summit Scientific

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**B01**  
**R012102-05 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	0121704	12/17/10	12/21/10	EPA 8270D SIM	
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	"	"	"	"	"	"	

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		33.5 %	30-120		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		48.0 %	30-120		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		73.6 %	30-120		"	"	"	"	
Surrogate: Terphenyl-d14		78.6 %	30-120		"	"	"	"	

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	0121508	12/15/10	12/15/10	8015 DRO	

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**B01**  
**R012102-05 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Surrogate: <i>o</i> -Terphenyl	103 %	88.8-124	0121508	12/15/10	12/15/10	8015 DRO
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	0121406	12/14/10	12/15/10	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>0.69</b>	0.50	"	"	"	"	"	"	

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	95.8 %	67.4-143			"	"	"	"	
Surrogate: Toluene-d8	94.6 %	77.3-114			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	99.3 %	78.4-125			"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>2.15</b>	0.00100	mmhos/cm	1	0121502	12/15/10	12/20/10	SM 2510b/mod	

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>9.1</b>		pH Units	"	0121503	12/15/10	12/20/10	EPA 9045B	

**Colorado Analytical Laboratories**

Summit Scientific

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**B01**  
**R012102-05 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1.3	0.1	meq/L	1	0122701	12/22/10	12/27/10	USDA60 6 (20b)	

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	2.2	0.1	"	"	"	"	"	"	

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	30.7	0.1	"	"	"	"	"	"	

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.86	0.05	mg/kg	"	"	12/17/10	"	SW6020	
Barium	402.9	0.1	"	"	"	"	"	"	
Cadmium	0.3	0.1	"	"	"	"	"	"	
Copper	19.6	0.1	"	"	"	"	"	"	
Lead	14.9	0.1	"	"	"	"	"	"	
Nickel	18.4	0.1	"	"	"	"	"	"	
Selenium	ND	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	70.84	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	23.4	0.1	units	1	0122701	12/22/10	12/27/10	Calculation	

Summit Scientific

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**B01**  
**R012102-05 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.05	mg/kg	1	0122701	12/21/10	12/27/10	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	10.2	1.1	mg/kg	1	0122802	12/15/10	12/28/10	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.46	mg/kg	1	0122802	"	12/28/10	SW6010B Cr6	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: 12/13/10 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	9.9	1.6	mg/kg	1	0122802	"	12/28/10	CalcCr+3	

Summit Scientific

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**B02**  
**R012102-06 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	0121704	12/17/10	12/21/10	EPA 8270D SIM	
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	"	"	"	"	"	"	
<b>Chrysene</b>	<b>11.3</b>	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	10.0	"	"	"	"	"	"	
Fluoranthene	ND	5.00	"	"	"	"	"	"	
<b>Fluorene</b>	<b>130</b>	25.0	"	5	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.0	"	1	"	"	"	"	
<b>Naphthalene</b>	<b>1400</b>	250	"	50	"	"	"	"	
<b>Pyrene</b>	<b>15.5</b>	5.00	"	1	"	"	"	"	

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		57.5 %	30-120		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		50.1 %	30-120		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		59.7 %	30-120		"	"	"	"	
Surrogate: Terphenyl-d14		89.3 %	30-120		"	"	"	"	

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>110</b>	50	mg/kg	1	0121508	12/15/10	12/16/10	8015 DRO	

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**B02**  
**R012102-06 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Surrogate: <i>o</i> -Terphenyl	108 %	88.8-124	0121508	12/15/10	12/16/10	8015 DRO
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.21</b>	0.0050	mg/kg	1	0121406	12/14/10	12/15/10	EPA 8260B	
<b>Toluene</b>	<b>0.023</b>	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.22</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>1.5</b>	0.0050	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>110</b>	5.0	"	10	"	"	"	"	

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	91.7 %	67.4-143			"	"	"	"	
Surrogate: Toluene-d8	80.0 %	77.3-114			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	80.0 %	78.4-125			"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>2.39</b>	0.00100	mmhos/cm	1	0121502	12/15/10	12/20/10	SM 2510b/mod	

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>9.7</b>		pH Units	"	0121503	12/15/10	12/20/10	EPA 9045B	

**Colorado Analytical Laboratories**

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**B02**  
**R012102-06 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	0.4	0.1	meq/L	1	0122701	12/22/10	12/27/10	USDA60 6 (20b)	

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	2.5	0.1	"	"	"	"	"	"	

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	39.7	0.1	"	"	"	"	"	"	

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.4	0.05	mg/kg	"	"	12/17/10	"	SW6020	
Barium	858	0.1	"	"	"	"	"	"	
Cadmium	0.3	0.1	"	"	"	"	"	"	
Copper	20.6	0.1	"	"	"	"	"	"	
Lead	14.8	0.1	"	"	"	"	"	"	
Nickel	18.9	0.1	"	"	"	"	"	"	
Selenium	ND	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	73.09	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	33	0.1	units	1	0122701	12/22/10	12/27/10	Calculation	

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**B02**  
**R012102-06 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.05	mg/kg	1	0122701	12/21/10	12/27/10	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	10.7	1.1	mg/kg	1	0122802	12/15/10	12/28/10	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.46	mg/kg	1	0122802	"	12/28/10	SW6010B Cr6	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: 12/13/10 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	10.3	1.6	mg/kg	1	0122802	"	12/28/10	CalcCr+3	

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Arvada CO, 80003

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**B03**  
**R012102-07 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	0121704	12/17/10	12/21/10	EPA 8270D SIM	
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	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>5.37</b>	5.00	"	"	"	"	"	"	
Pyrene	ND	5.00	"	"	"	"	"	"	

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		36.2 %	30-120		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		55.0 %	30-120		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		90.8 %	30-120		"	"	"	"	
Surrogate: Terphenyl-d14		75.3 %	30-120		"	"	"	"	

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	0121508	12/15/10	12/16/10	8015 DRO	

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**B03**  
**R012102-07 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Surrogate: o-Terphenyl	107 %	88.8-124	0121508	12/15/10	12/16/10	8015 DRO
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.056	0.0050	mg/kg	1	0121406	12/14/10	12/15/10	EPA 8260B	
Toluene	0.083	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.015	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.20	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	3.0	0.50	"	"	"	"	"	"	

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	99.1 %	67.4-143			"	"	"	"	
Surrogate: Toluene-d8	88.4 %	77.3-114			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	78.4-125			"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.88	0.00100	mmhos/cm	1	0121502	12/15/10	12/20/10	SM 2510b/mod	

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.3		pH Units	"	0121503	12/15/10	12/20/10	EPA 9045B	

**Colorado Analytical Laboratories**

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**B03**  
**R012102-07 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1.7	0.1	meq/L	1	0122701	12/22/10	12/27/10	USDA60 6 (20b)	

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	7.2	0.1	"	"	"	"	"	"	

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	48.7	0.1	"	"	"	"	"	"	

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.94	0.05	mg/kg	"	"	12/17/10	"	SW6020	
Barium	269	0.1	"	"	"	"	"	"	
Cadmium	0.5	0.1	"	"	"	"	"	"	
Copper	23.7	0.1	"	"	"	"	"	"	
Lead	13	0.1	"	"	"	"	"	"	
Nickel	18.9	0.1	"	"	"	"	"	"	
Selenium	ND	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	71.94	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	23.1	0.1	units	1	0122701	12/22/10	12/27/10	Calculation	

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Arvada CO, 80003

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**B03**  
**R012102-07 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.05	mg/kg	1	0122701	12/21/10	12/27/10	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	10.3	1	mg/kg	1	0122802	12/15/10	12/28/10	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.47	mg/kg	1	0122802	"	12/28/10	SW6010B Cr6	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: 12/13/10 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	10	1.5	mg/kg	1	0122802	"	12/28/10	CalcCr+3	

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**c01**  
**R012102-08 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	0121704	12/17/10	12/21/10	EPA 8270D SIM	
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	"	"	"	"	"	"	

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		50.2 %	30-120		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		72.6 %	30-120		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		100 %	30-120		"	"	"	"	
Surrogate: Terphenyl-d14		83.3 %	30-120		"	"	"	"	

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	0121508	12/15/10	12/16/10	8015 DRO	

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: BBC - Pad  
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Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**c01**  
**R012102-08 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Surrogate: o-Terphenyl 104 % 88.8-124 0121508 12/15/10 12/16/10 8015 DRO

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

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	0121406	12/14/10	12/15/10	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	99.6 %	67.4-143			"	"	"	"	
Surrogate: Toluene-d8	96.4 %	77.3-114			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	78.4-125			"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.43	0.00100	mmhos/cm	1	0121502	12/15/10	12/20/10	SM 2510b/mod	

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.4		pH Units	"	0121503	12/15/10	12/20/10	EPA 9045B	

**Colorado Analytical Laboratories**

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Project: BBC - Pad  
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Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**c01**  
**R012102-08 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	4	0.1	meq/L	1	0122701	12/22/10	12/27/10	USDA60 6 (20b)	

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	3.3	0.1	"	"	"	"	"	"	

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	14.9	0.1	"	"	"	"	"	"	

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.65	0.05	mg/kg	"	"	12/17/10	"	SW6020	
Barium	231.4	0.1	"	"	"	"	"	"	
Cadmium	0.3	0.1	"	"	"	"	"	"	
Copper	18.1	0.1	"	"	"	"	"	"	
Lead	16.7	0.1	"	"	"	"	"	"	
Nickel	16.7	0.1	"	"	"	"	"	"	
Selenium	ND	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	68.18	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.8	0.1	units	1	0122701	12/22/10	12/27/10	Calculation	

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Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**c01**  
**R012102-08 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.05	0.05	mg/kg	1	0122701	12/21/10	12/27/10	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	10.4	1.1	mg/kg	1	0122802	12/15/10	12/28/10	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.44	mg/kg	1	0122802	"	12/28/10	SW6010B Cr6	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: 12/13/10 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	10.4	1.5	mg/kg	1	0122802	"	12/28/10	CalcCr+3	

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4600 West 60th Avenue  
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Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

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

**Summit Scientific**

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

**Batch 0121704 - EPA 3550A**

**Blank (0121704-BLK1)**

Prepared: 12/17/10 Analyzed: 12/20/10

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	"							
Surrogate: Nitrobenzene-d5	8.08		"	33.3	24.2	30-120				
Surrogate: 2-Fluorobiphenyl	11.2		"	33.3	33.7	30-120				
Surrogate: 2,4,6-Tribromophenol	21.7		"	33.3	65.2	30-120				
Surrogate: Terphenyl-dl4	24.2		"	33.3	72.5	30-120				

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Project: BBC - Pad  
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**Reported:**  
12/28/10 14:53

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

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

**Batch 0121704 - EPA 3550A**

**LCS (0121704-BS1)**

Prepared: 12/17/10 Analyzed: 12/20/10

Acenaphthene	8.22	5.00	ug/kg	33.3		24.7	30-120		30	
Anthracene	13.6	5.00	"	33.3		40.9	30-120		30	
Benzo (a) anthracene	21.0	5.00	"	33.3		63.0	30-120		30	
Benzo (b) fluoranthene	22.2	5.00	"	33.3		66.7	30-120		30	
Benzo (k) fluoranthene	19.4	5.00	"	33.3		58.3	30-120		30	
Benzo (a) pyrene	23.4	5.00	"	33.3		70.2	30-120		30	
Chrysene	19.5	5.00	"	33.3		58.6	30-120		30	
Dibenz (a,h) anthracene	21.8	10.0	"	33.3		65.4	30-120		30	
Fluoranthene	20.8	5.00	"	33.3		62.3	30-120		30	
Fluorene	10.3	5.00	"	33.3		31.0	30-120		30	
Indeno (1,2,3-cd) pyrene	22.3	10.0	"	33.3		67.0	30-120		30	
Naphthalene	6.56	5.00	"	33.3		19.7	30-120		30	
Pyrene	18.7	5.00	"	33.3		56.1	30-120		30	
Surrogate: Nitrobenzene-d5	6.03		"	33.3		18.1	30-120			
Surrogate: 2-Fluorobiphenyl	9.32		"	33.3		27.9	30-120			
Surrogate: 2,4,6-Tribromophenol	17.8		"	33.3		53.3	30-120			
Surrogate: Terphenyl-d14	22.7		"	33.3		68.2	30-120			

Summit Scientific

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



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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

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

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

**Batch 0121704 - EPA 3550A**

<b>Matrix Spike (0121704-MS1)</b>		<b>Source: R012103-02</b>			Prepared: 12/17/10		Analyzed: 12/20/10			
Acenaphthene	18.0	5.00	ug/kg	33.3	ND	54.1	30-120		30	
Anthracene	18.5	5.00	"	33.3	ND	55.6	30-120		30	
Benzo (a) anthracene	23.4	5.00	"	33.3	ND	70.1	30-120		30	
Benzo (b) fluoranthene	23.7	5.00	"	33.3	ND	71.1	30-120		30	
Benzo (k) fluoranthene	21.2	5.00	"	33.3	ND	63.7	30-120		30	
Benzo (a) pyrene	26.7	5.00	"	33.3	ND	80.2	30-120		30	
Chrysene	21.6	5.00	"	33.3	ND	64.7	30-120		30	
Dibenz (a,h) anthracene	23.9	10.0	"	33.3	ND	71.7	30-120		30	
Fluoranthene	24.8	5.00	"	33.3	ND	74.4	30-120		30	
Fluorene	18.9	5.00	"	33.3	ND	56.8	30-120		30	
Indeno (1,2,3-cd) pyrene	24.8	10.0	"	33.3	ND	74.4	30-120		30	
Naphthalene	17.2	5.00	"	33.3	1.59	46.9	30-120		30	
Pyrene	21.6	5.00	"	33.3	ND	64.9	30-120		30	
Surrogate: Nitrobenzene-d5	14.6		"	33.3		43.8	30-120			
Surrogate: 2-Fluorobiphenyl	22.7		"	33.3		68.1	30-120			
Surrogate: 2,4,6-Tribromophenol	29.6		"	33.3		88.7	30-120			
Surrogate: Terphenyl-d14	25.9		"	33.3		77.8	30-120			

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

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

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

**Batch 0121704 - EPA 3550A**

Matrix Spike Dup (0121704-MSD1)		Source: R012103-02			Prepared: 12/17/10		Analyzed: 12/21/10			
Acenaphthene	16.6	5.00	ug/kg	33.3	ND	49.7	30-120	8.36	30	
Anthracene	18.5	5.00	"	33.3	ND	55.5	30-120	0.216	30	
Benzo (a) anthracene	25.8	5.00	"	33.3	ND	77.4	30-120	9.82	30	
Benzo (b) fluoranthene	26.8	5.00	"	33.3	ND	80.4	30-120	12.3	30	
Benzo (k) fluoranthene	23.9	5.00	"	33.3	ND	71.6	30-120	11.7	30	
Benzo (a) pyrene	28.8	5.00	"	33.3	ND	86.5	30-120	7.56	30	
Chrysene	24.1	5.00	"	33.3	ND	72.2	30-120	11.0	30	
Dibenz (a,h) anthracene	26.4	10.0	"	33.3	ND	79.2	30-120	9.92	30	
Fluoranthene	25.7	5.00	"	33.3	ND	77.2	30-120	3.70	30	
Fluorene	17.3	5.00	"	33.3	ND	51.8	30-120	9.33	30	
Indeno (1,2,3-cd) pyrene	27.2	10.0	"	33.3	ND	81.5	30-120	9.07	30	
Naphthalene	15.0	5.00	"	33.3	1.59	40.1	30-120	14.1	30	
Pyrene	24.1	5.00	"	33.3	ND	72.2	30-120	10.7	30	
Surrogate: Nitrobenzene-d5	11.3		"	33.3		33.9	30-120			
Surrogate: 2-Fluorobiphenyl	18.8		"	33.3		56.4	30-120			
Surrogate: 2,4,6-Tribromophenol	24.2		"	33.3		72.6	30-120			
Surrogate: Terphenyl-d14	27.0		"	33.3		81.0	30-120			

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

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

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

**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 0121508 - EPA 3550A**

**Blank (0121508-BLK1)**

Prepared & Analyzed: 12/15/10

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 13.0 " 12.5 104 88.8-124

**LCS (0121508-BS1)**

Prepared & Analyzed: 12/15/10

C10-C28 (DRO) 527 50 mg/kg 501 105 81.4-129 9.26

**LCS Dup (0121508-BSD1)**

Prepared & Analyzed: 12/15/10

C10-C28 (DRO) 528 50 mg/kg 501 105 81.4-129 0.214 9.26

**Matrix Spike (0121508-MS1)**

Source: R012113-01

Prepared & Analyzed: 12/15/10

C10-C28 (DRO) 541 50 mg/kg 501 38.8 100 77.8-133 8.48

**Matrix Spike Dup (0121508-MSD1)**

Source: R012113-01

Prepared & Analyzed: 12/15/10

C10-C28 (DRO) 535 50 mg/kg 501 38.8 99.1 77.8-133 1.07 8.48

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**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 0121406 - EPA 5030 Soil MS**

**Blank (0121406-BLK1)**

Prepared: 12/14/10 Analyzed: 12/15/10

Benzene	ND	0.0050	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0338		"	0.0400		84.5	67.4-143			
Surrogate: Toluene-d8	0.0377		"	0.0400		94.2	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		97.0	78.4-125			

**LCS (0121406-BS1)**

Prepared: 12/14/10 Analyzed: 12/15/10

Benzene	0.0733	0.0050	mg/kg	0.100		73.3	61-139		11.1	
Toluene	0.0709	0.0050	"	0.100		70.9	64-132		10.9	
Ethylbenzene	0.0758	0.0050	"	0.100		75.8	68.7-135		20	
m,p-Xylene	0.144	0.010	"	0.200		72.0	70.4-129		20	
o-Xylene	0.0725	0.0050	"	0.100		72.5	66.9-126		20	
Surrogate: 1,2-Dichloroethane-d4	0.0362		"	0.0400		90.4	67.4-143			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.4	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0368		"	0.0400		91.9	78.4-125			

**LCS Dup (0121406-BSD1)**

Prepared: 12/14/10 Analyzed: 12/15/10

Benzene	0.0705	0.0050	mg/kg	0.100		70.5	61-139	3.84	11.1	
Toluene	0.0686	0.0050	"	0.100		68.6	64-132	3.36	10.9	
Ethylbenzene	0.0749	0.0050	"	0.100		74.9	68.7-135	1.08	20	
m,p-Xylene	0.141	0.010	"	0.200		70.4	70.4-129	2.23	20	
o-Xylene	0.0698	0.0050	"	0.100		69.8	66.9-126	3.84	20	
Surrogate: 1,2-Dichloroethane-d4	0.0346		"	0.0400		86.4	67.4-143			
Surrogate: Toluene-d8	0.0385		"	0.0400		96.3	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0368		"	0.0400		92.0	78.4-125			

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

**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 0121406 - EPA 5030 Soil MS**

<b>Matrix Spike (0121406-MS1)</b>		<b>Source: R012102-05</b>			Prepared: 12/14/10		Analyzed: 12/15/10			
Benzene	0.0747	0.0050	mg/kg	0.100	0.00399	70.7	42.9-137		17.9	
Toluene	0.0673	0.0050	"	0.100	ND	67.3	42.6-130		11.9	
Ethylbenzene	0.0728	0.0050	"	0.100	ND	72.8	39-133		20	
m,p-Xylene	0.134	0.010	"	0.200	0.00315	65.4	34.7-134		20	
o-Xylene	0.0671	0.0050	"	0.100	ND	67.1	41.3-126		20	
Surrogate: 1,2-Dichloroethane-d4	0.0383		"	0.0400		95.8	67.4-143			
Surrogate: Toluene-d8	0.0392		"	0.0400		97.9	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0378		"	0.0400		94.6	78.4-125			
<b>Matrix Spike Dup (0121406-MSD1)</b>		<b>Source: R012102-05</b>			Prepared: 12/14/10		Analyzed: 12/15/10			
Benzene	0.0791	0.0050	mg/kg	0.100	0.00399	75.1	42.9-137	5.74	17.9	
Toluene	0.0722	0.0050	"	0.100	ND	72.2	42.6-130	7.01	11.9	
Ethylbenzene	0.0777	0.0050	"	0.100	ND	77.7	39-133	6.54	20	
m,p-Xylene	0.146	0.010	"	0.200	0.00315	71.4	34.7-134	8.62	20	
o-Xylene	0.0726	0.0050	"	0.100	ND	72.6	41.3-126	7.77	20	
Surrogate: 1,2-Dichloroethane-d4	0.0386		"	0.0400		96.5	67.4-143			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.4	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0378		"	0.0400		94.5	78.4-125			

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

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

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

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

**Batch 0121502 - General Preparation**

**Duplicate (0121502-DUP1)**      **Source: R012103-01**      Prepared: 12/15/10      Analyzed: 12/20/10

Specific Conductance (EC)	4.52	0.00100	mmhos/cm	2.70	50.5	20
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**Batch 0121503 - General Preparation**

**Duplicate (0121503-DUP1)**      **Source: R012103-01**      Prepared: 12/15/10      Analyzed: 12/20/10

pH	9.9		pH Units	9.9	0.405	20
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Pad  
Project Number: BBC 1001  
Project Manager: Stephen Sivigliano

**Reported:**  
12/28/10 14:53

### 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 'SM' 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

June 10, 2011

Brian Dodek

LT Environmental, Inc.

4600 West 60th Avenue

Arvada, CO 80003

RE: BBC - Upper and Lower Pad

Enclosed are the results of analyses for samples received by Summit Scientific on 05/07/11 09:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury For Ben Shrewsbury  
President / Laboratory Director



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

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PH01@23'	R105043-01	Soil	05/04/11 09:40	05/07/11 09:30
PH02@23'	R105043-03	Soil	05/04/11 11:30	05/07/11 09:30
PH05@22'	R105043-05	Soil	05/04/11 12:15	05/07/11 09:30
PH05@25'	R105043-06	Soil	05/04/11 12:30	05/07/11 09:30
PH06@23'	R105043-07	Soil	05/04/11 12:45	05/07/11 09:30
PH06@26'	R105043-08	Soil	05/04/11 12:55	05/07/11 09:30
PH06@29'	R105043-09	Soil	05/04/11 13:05	05/07/11 09:30
PH04@23'	R105043-10	Soil	05/04/11 13:10	05/07/11 09:30
PH03@23'	R105043-12	Soil	05/04/11 13:30	05/07/11 09:30
PH07@23'	R105043-14	Soil	05/04/11 14:45	05/07/11 09:30
PH08@23'	R105043-16	Soil	05/04/11 15:15	05/07/11 09:30
PH09@23'	R105043-18	Soil	05/04/11 15:42	05/07/11 09:30
PH09@26'	R105043-19	Soil	05/04/11 16:00	05/07/11 09:30
PH10@23'	R105043-20	Soil	05/05/11 09:50	05/07/11 09:30
PH12@23'	R105043-22	Soil	05/05/11 10:25	05/07/11 09:30
PH11@23'	R105043-24	Soil	05/05/11 11:15	05/07/11 09:30
PH13@24'	R105043-26	Soil	05/05/11 12:55	05/07/11 09:30

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

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

R105043.2

## Summit Scientific

7741 Corporate Circle Suite I ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-277-9531 Fax

Page 2 of 23

Client: LT Environmental

Address: 820 Megan Ave Unit B

City/State/Zip: Zile, CO 81650

Phone: 970.285.9985 Fax: 970.285.9985

Sampler Name: Chris McGee

Address: 820 Megan Ave Unit B

City/State/Zip: Zile, IL 61165

City/State/Zip: \_\_\_\_\_  
 Phone: 970-785-9995 Fax: 970-785-2467

Sample Name: Chris McKesson

Address: 820 Megan Ave Unit B  
Project Manager:

City/State/Zip: 225 N. 2nd St. N. N. 225  
E-Mail: 225 N. 2nd St. N. N. 225

City/State/Zip: 970 785 9985 Fax: 970 785 2467  
Project Name: 888

Project Number: \_\_\_\_\_  
Sampler Name: Nick McKenna

Address: 820 Oregon Ave Unit B  
Project Manager: Bryan Dadek

City/State/Zip: Wilmington NC 28405  
E-Mail: bladek@hawaii

City/State/Zip: \_\_\_\_\_  
 Phone: 970 785 9985 Fax: 970 785 2467  
 Project Name: ~~888~~ Moore and Lower

Project Number: 0273

Address: 870 Megan Ave Unit B  
Project Manager: Bryan Dadek

City/State/Zip: \_\_\_\_\_ Title: MD 8/1650  
E-Mail: bdadek@henv.com

Phone: 970 785 9985 Fax: 970 785 2407  
Project Name: Upper and Lower Pad

Project Number: 02731001

Address: 820 Megan Ave Unit B  
Project Manager: Bryan Duck

City/State/Zip: 216. 10 811050  
E-Mail: baddeley@kenv.com

City and Zip: 57110 100 01000  
 Phone: 970-785-9985 Fax: 970-785-2407  
 Project Name: 88 Upper and Lower Park

Sampler Name: ALONG MCKESSON  
Project Number: 02731001

Address: 820 Megan Ave Unit B  
Project Manager: Brian Dudek

City/State/Zip: 71515  
E-Mail: bdadek@henv.com

City/State/Zip: 5110 W 9100  
 Phone: 970-785-9985 Fax: 970-295-2407  
 Project Name: ~~Box~~ Upper and Lower Pad

Name: Alvin Melanson  
 Project Number: 02731001

Sample Description				Preservative				Matrix				Analyze For:				Special Instructions			
Date Sampled	Time Sampled	Number of Containers		HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)								
PH04 @ 23'	5.4.11 1310	3				X			X			TPH-DRO	X	X	X	X	- Hold		
PH04 @ 26'	5.4.11 1320	3				X			X			TPH-DRO	X	X	X	X	- Hold		
PH03 @ 23'	5.4.11 1336	3				X			X			TPH-DRO	X	X	X	X	- Hold		
PH03 @ 26'	5.4.11 1355	3				X			X			TPH-DRO	X	X	X	X	- Hold		
PH07 @ 23'	5.4.11 1445	3				X			X			TPH-DRO	X	X	X	X	- Hold		
PH07 @ 26'	5.4.11 1500	3				X			X			TPH-DRO	X	X	X	X	- Hold		
PH08 @ 23'	5.4.11 1515	3				X			X			TPH-DRO	X	X	X	X	- Hold		
PH08 @ 26'	5.4.11 1530	3				X			X			TPH-DRO	X	X	X	X	- Hold		
PH09 @ 23'	5.4.11 1542	3				X			X			TPH-DRO	X	X	X	X	- Hold		
PH09 @ 26'	5.4.11 1600	3				X			X			TPH-DRO	X	X	X	X	- Hold		

Requisitioned by: Steve Simpson

Requisitioned by: Steve Simpson

Date/Time: 5/16/2011 1300

Date/Time: 5-2-11

Received by: [Signature]

Received by: [Signature]

Date/Time: 5-2-11

Date/Time: 5-2-11

Turn Around Time (Check): 72 Hours

Same Day Standard

24 Hours 48 Hours

Notes: Metals: Cu, Cd, Cr III, Cu II, Pb, Hg, Ni, Se, Ag, Zn

Sample Integrity: 49

Temperature Upon Receipt: 49

Intact: Yes ☒ No ☐

[www.s2scientific.com](http://www.s2scientific.com)

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

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001

Project Manager: Brian Dodek

**Reported:**

06/10/11 15:34

R105043.3

## Summit Scientific

741 Corporate Circle Suite I ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-277-9531 Fax

303-277-9310 ♦ 303-277-9531 Fax

Page 3 of 3

LT Environmental

Client: LT

Address: 920 Megan Ave Unit B

City/State/Zip: Richmond, VA 23160

Phone: 970.285.9985 Fax: 970.

Sampler Name: Chris McKesson

Project Manager:

E-Mail:

Project Name: \_\_\_\_\_

Project Number:

Project Manager: Brian Dadek

E-Mail: bdodek@keny.com

Project Name: BBC Upper and Lower

Project Number: 027311001

Sample Description				Date Sampled	Time Sampled	Number of Containers	HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	TPH-DRO	BTEX & TPH-CARD	PHTS	EC-PH-SAR	Total Arsenic	Special Instructions	
PH10 @ 23'	950	5:51	3					X				X			X	X	X	X	X		- Hold
PH10 @ 26'	1000	5:51	3					X				X			X	X	X	X	X		- Hold
PH12 @ 23'	1025	5:51	3					X				X			X	X	X	X	X		- Hold
PH12 @ 26'	1000	5:51	3					X				X			X	X	X	X	X		- Hold
PH11 @ 23'	1115	5:51	3					X				X			X	X	X	X	X		- Hold
PH11 @ 25'	1145	5:51	3					X				X			X	X	X	X	X		- Hold
PH13 @ 24'	1255	5:51	3					X				X			X	X	X	X	X		- Hold

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

*Steve Singmaster* 5/6/2017-1300

Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Notes: Turn Around Time (Check) Same Day 72 Hours Standard 24 Hours 48 Hours

Sample Integrity: Temperature Upon Receipt: 49 Inact: Yes No

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

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

Reported:  
06/10/11 15:34

**PH01@23'**  
**R105043-01 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	1051201	05/13/11	05/24/11	EPA 8270D SIM	
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	"	"	"	"	"	"	

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		49.1 %	30-120		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		44.8 %	30-120		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		21.2 %	30-120		"	"	"	"	A-01
Surrogate: Terphenyl-d14		52.1 %	30-120		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1051004	05/10/11	05/11/11	8015 Full Carbon Chain	

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH01@23'**  
**R105043-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		107 %	88.8-124		1051004	05/10/11	05/11/11	8015 Full Carbon Chain	

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

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1051003	05/10/11	05/11/11	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	67.4-143		"	"	"	"	
Surrogate: Toluene-d8		98.5 %	77.3-114		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.5 %	78.4-125		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.31	0.00100	mmhos/cm	1	1050902	05/09/11	05/10/11	SM 2510B	

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.6		pH Units	"	1050903	05/09/11	05/10/11	EPA 9045B	

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH01@23'**  
**R105043-01 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3.1	0.1	meq/L	1	1051806	05/17/11	05/18/11	USDA60 6 (20b)	

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	4.1	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	10.6	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.04	0.05	mg/kg	"	"	05/14/11	"	SW6020	
Barium	103.6	0.1	"	"	"	"	"	"	
Cadmium	0.2	0.1	"	"	"	"	"	"	
Copper	17.6	0.1	"	"	"	"	"	"	
Lead	19.4	0.1	"	"	"	"	"	"	
Nickel	15.5	0.1	"	"	"	"	"	"	
Selenium	ND	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	71.96	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.6	0.1	units	1	1051806	05/17/11	05/18/11	Calculation	

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH01@23'**  
**R105043-01 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	<b>0.09</b>	0.05	mg/kg	1	1051806	05/18/11	05/18/11	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	<b>8.9</b>	1.1	mg/kg	1	1052003	"	05/20/11	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.47	mg/kg	1	1052003	"	05/20/11	3060A/7196 A	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: **05/04/11 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	<b>8.5</b>	1.6	mg/kg	1	1052003	"	05/20/11	CalcCr+3	

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

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH02@23'**  
**R105043-03 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	1051201	05/13/11	05/24/11	EPA 8270D SIM	
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	"	"	"	"	"	"	

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		20.8 %	30-120		"	"	"	"	A-01
Surrogate: 2-Fluorobiphenyl		17.8 %	30-120		"	"	"	"	A-01
Surrogate: 2,4,6-Tribromophenol		11.6 %	30-120		"	"	"	"	A-01
Surrogate: Terphenyl-d14		19.1 %	30-120		"	"	"	"	A-01

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1051004	05/10/11	05/11/11	8015 Full Carbon Chain	

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH02@23'**  
**R105043-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Surrogate: <i>o</i> -Terphenyl	105 %	88.8-124	1051004	05/10/11	05/11/11	8015 Full Carbon Chain
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1051003	05/10/11	05/11/11	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>1,2</i> -Dichloroethane- <i>d</i> 4		100 %	67.4-143		"	"	"	"	
Surrogate: <i>Toluene-d</i> 8		99.2 %	77.3-114		"	"	"	"	
Surrogate: <i>4</i> -Bromofluorobenzene		95.8 %	78.4-125		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>0.807</b>	0.00100	mmhos/cm	1	1050902	05/09/11	05/10/11	SM 2510B	

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>9.4</b>		pH Units	"	1050903	05/09/11	05/10/11	EPA 9045B	

**Colorado Analytical Laboratories**

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH02@23'**  
**R105043-03 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1.4	0.1	meq/L	1	1051806	05/17/11	05/18/11	USDA60 6 (20b)	

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	2.3	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	8.6	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.26	0.05	mg/kg	"	"	05/14/11	"	SW6020	
Barium	133.7	0.1	"	"	"	"	"	"	
Cadmium	0.4	0.1	"	"	"	"	"	"	
Copper	13.8	0.1	"	"	"	"	"	"	
Lead	17.5	0.1	"	"	"	"	"	"	
Nickel	12.6	0.1	"	"	"	"	"	"	
Selenium	ND	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	58.36	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.3	0.1	units	1	1051806	05/17/11	05/18/11	Calculation	

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

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LT Environmental, Inc.  
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Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH02@23'**  
**R105043-03 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.05	mg/kg	1	1051806	05/18/11	05/18/11	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	6.6	0.99	mg/kg	1	1052003	"	05/20/11	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.43	mg/kg	1	1052003	"	05/20/11	3060A/7196 A	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: **05/04/11 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	6.2	1.4	mg/kg	1	1052003	"	05/20/11	CalcCr+3	

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Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH05@22'**  
**R105043-05 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	1051201	05/13/11	05/24/11	EPA 8270D SIM	
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	"	"	"	"	"	"	

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		40.9 %	30-120		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		36.2 %	30-120		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		18.2 %	30-120		"	"	"	"	A-01
Surrogate: Terphenyl-d14		36.5 %	30-120		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1051004	05/10/11	05/11/11	8015 Full Carbon Chain	

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH05@22'**  
**R105043-05 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Surrogate: <i>o</i> -Terphenyl	103 %	88.8-124	1051004	05/10/11	05/11/11	8015 Full Carbon Chain
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1051003	05/10/11	05/11/11	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		92.6 %	67.4-143		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	77.3-114		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	78.4-125		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>2.04</b>	0.00100	mmhos/cm	1	1050902	05/09/11	05/10/11	SM 2510B	

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>8.1</b>		pH Units	"	1050903	05/09/11	05/10/11	EPA 9045B	

**Colorado Analytical Laboratories**

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

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH05@22'**  
**R105043-05 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	53.1	0.1	meq/L	1	1051806	05/17/11	05/18/11	USDA60 6 (20b)	

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	22.3	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	12.6	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	17.86	0.05	mg/kg	"	"	05/14/11	"	SW6020	
Barium	94.2	0.1	"	"	"	"	"	"	
Cadmium	1.2	0.1	"	"	"	"	"	"	
Copper	25.8	0.1	"	"	"	"	"	"	
Lead	54.2	0.1	"	"	"	"	"	"	
Nickel	23	0.1	"	"	"	"	"	"	
Selenium	0.8	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	92.27	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.1	0.1	units	1	1051806	05/17/11	05/18/11	Calculation	

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH05@22'**  
**R105043-05 (Soil)**

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**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	<b>0.15</b>	0.05	mg/kg	1	1051806	05/18/11	05/18/11	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	<b>9.7</b>	5.7	mg/kg	1	1052003	"	05/20/11	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.46	mg/kg	1	1052003	"	05/20/11	3060A/7196 A	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: **05/04/11 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	<b>9.3</b>	6.2	mg/kg	1	1052003	"	05/20/11	CalcCr+3	

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

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH05@25'**  
**R105043-06 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/04/11 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	14.23	0.05	mg/kg	1	1060602	06/02/11	06/06/11	EPA 6020	

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

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH06@23'**  
**R105043-07 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	1051201	05/13/11	05/24/11	EPA 8270D SIM	
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	"	"	"	"	"	"	

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		27.8 %	30-120		"	"	"	"	A-01
Surrogate: 2-Fluorobiphenyl		24.4 %	30-120		"	"	"	"	A-01
Surrogate: 2,4,6-Tribromophenol		13.4 %	30-120		"	"	"	"	A-01
Surrogate: Terphenyl-d14		28.4 %	30-120		"	"	"	"	A-01

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1051004	05/10/11	05/11/11	8015 Full Carbon Chain	

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH06@23'**  
**R105043-07 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Surrogate: <i>o</i> -Terphenyl	103 %	88.8-124	1051004	05/10/11	05/11/11	8015 Full Carbon Chain
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1051003	05/10/11	05/11/11	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>1,2</i> -Dichloroethane- <i>d</i> 4		99.8 %	67.4-143		"	"	"	"	
Surrogate: <i>Toluene-d</i> 8		97.6 %	77.3-114		"	"	"	"	
Surrogate: <i>4</i> -Bromofluorobenzene		99.2 %	78.4-125		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>1.26</b>	0.00100	mmhos/cm	1	1050902	05/09/11	05/10/11	SM 2510B	

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>8.6</b>		pH Units	"	1050903	05/09/11	05/10/11	EPA 9045B	

**Colorado Analytical Laboratories**

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

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH06@23'**  
**R105043-07 (Soil)**

**Summit Scientific**

#### Colorado Analytical Laboratories

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19	0.1	meq/L	1	1051806	05/17/11	05/18/11	USDA60 6 (20b)	

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	11.6	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	7.5	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	15.52	0.05	mg/kg	"	"	05/14/11	"	SW6020	
Barium	47.4	0.1	"	"	"	"	"	"	
Cadmium	0.2	0.1	"	"	"	"	"	"	
Copper	17.2	0.1	"	"	"	"	"	"	
Lead	19.7	0.1	"	"	"	"	"	"	
Nickel	16.6	0.1	"	"	"	"	"	"	
Selenium	0.45	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	70.12	0.05	"	"	"	"	"	"	

#### Colorado Analytical Laboratories - Calculated Analytes

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.9	0.1	units	1	1051806	05/17/11	05/18/11	Calculation	

#### Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH06@23'**  
**R105043-07 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.11	0.05	mg/kg	1	1051806	05/18/11	05/18/11	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	8.5	1.1	mg/kg	1	1052003	"	05/20/11	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.46	mg/kg	1	1052003	"	05/20/11	3060A/7196 A	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: **05/04/11 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	8.1	1.6	mg/kg	1	1052003	"	05/20/11	CalcCr+3	

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

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH06@26'**  
**R105043-08 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/04/11 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	<b>13.01</b>	0.05	mg/kg	1	1060602	06/02/11	06/06/11	EPA 6020	

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Arvada CO, 80003

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH06@29'**  
**R105043-09 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/04/11 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	17.41	0.05	mg/kg	1	1060602	06/02/11	06/06/11	EPA 6020	

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Arvada CO, 80003

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH04@23'**  
**R105043-10 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	1051201	05/13/11	05/24/11	EPA 8270D SIM	
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	"	"	"	"	"	"	

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		31.6 %	30-120		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		34.5 %	30-120		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		14.5 %	30-120		"	"	"	"	A-01
Surrogate: Terphenyl-d14		40.7 %	30-120		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1051004	05/10/11	05/11/11	8015 Full Carbon Chain	

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH04@23'**  
**R105043-10 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Surrogate: <i>o</i> -Terphenyl	105 %	88.8-124	1051004	05/10/11	05/11/11	8015 Full Carbon Chain
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1051003	05/10/11	05/11/11	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	67.4-143		"	"	"	"	
Surrogate: Toluene-d8		100 %	77.3-114		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	78.4-125		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.34	0.00100	mmhos/cm	1	1050902	05/09/11	05/10/11	SM 2510B	

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.3		pH Units	"	1050903	05/09/11	05/10/11	EPA 9045B	

**Colorado Analytical Laboratories**

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Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH04@23'**  
**R105043-10 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	5	0.1	meq/L	1	1051806	05/17/11	05/18/11	USDA60 6 (20b)	

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	3	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	7.5	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	8.36	0.05	mg/kg	"	"	05/14/11	"	SW6020	
Barium	128.8	0.1	"	"	"	"	"	"	
Cadmium	0.8	0.1	"	"	"	"	"	"	
Copper	19.5	0.1	"	"	"	"	"	"	
Lead	25.7	0.1	"	"	"	"	"	"	
Nickel	19.5	0.1	"	"	"	"	"	"	
Selenium	1.87	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	77.05	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.8	0.1	units	1	1051806	05/17/11	05/18/11	Calculation	

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

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LT Environmental, Inc.  
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Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH04@23'**  
**R105043-10 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	<b>0.19</b>	0.05	mg/kg	1	1051806	05/18/11	05/18/11	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	<b>10.3</b>	6	mg/kg	1	1052003	"	05/20/11	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	<b>0.51</b>	0.49	mg/kg	1	1052003	"	05/20/11	3060A/7196 A	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: **05/04/11 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	<b>9.5</b>	6.5	mg/kg	1	1052003	"	05/20/11	CalcCr+3	

Summit Scientific

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

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH03@23'**  
**R105043-12 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	1051201	05/13/11	05/24/11	EPA 8270D SIM	
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	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>27.6</b>	5.00	"	"	"	"	"	"	
Pyrene	ND	5.00	"	"	"	"	"	"	

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		33.7 %	30-120		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		31.7 %	30-120		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		14.3 %	30-120		"	"	"	"	A-01
Surrogate: Terphenyl-d14		33.6 %	30-120		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1051004	05/10/11	05/11/11	8015 Full Carbon Chain	

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH03@23'**  
**R105043-12 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Surrogate: <i>o</i> -Terphenyl	104 %	88.8-124	1051004	05/10/11	05/11/11	8015 Full Carbon Chain
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1051003	05/10/11	05/11/11	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	67.4-143		"	"	"	"	
Surrogate: Toluene-d8		95.6 %	77.3-114		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.7 %	78.4-125		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>0.538</b>	0.00100	mmhos/cm	1	1050902	05/09/11	05/10/11	SM 2510B	

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>9.4</b>		pH Units	"	1050903	05/09/11	05/10/11	EPA 9045B	

**Colorado Analytical Laboratories**

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

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH03@23'**  
**R105043-12 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1.7	0.1	meq/L	1	1051806	05/17/11	05/18/11	USDA60 6 (20b)	

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	1	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	11.3	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.32	0.05	mg/kg	"	"	05/14/11	"	SW6020	
Barium	100.9	0.1	"	"	"	"	"	"	
Cadmium	0.3	0.1	"	"	"	"	"	"	
Copper	19.6	0.1	"	"	"	"	"	"	
Lead	21.7	0.1	"	"	"	"	"	"	
Nickel	17.5	0.1	"	"	"	"	"	"	
Selenium	0.14	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	77.85	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.7	0.1	units	1	1051806	05/17/11	05/18/11	Calculation	

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH03@23'**  
**R105043-12 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	<b>0.12</b>	0.05	mg/kg	1	1051806	05/18/11	05/18/11	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	<b>8.1</b>	1.1	mg/kg	1	1052003	"	05/20/11	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.44	mg/kg	1	1052003	"	05/20/11	3060A/7196 A	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: **05/04/11 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	<b>7.7</b>	1.5	mg/kg	1	1052003	"	05/20/11	CalcCr+3	

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH07@23'**  
**R105043-14 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	1051201	05/13/11	05/24/11	EPA 8270D SIM	
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	"	"	"	"	"	"	

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		0.230 %	30-120		"	"	"	"	A-01
Surrogate: 2-Fluorobiphenyl		0.923 %	30-120		"	"	"	"	A-01
Surrogate: 2,4,6-Tribromophenol		16.6 %	30-120		"	"	"	"	A-01
Surrogate: Terphenyl-d14		55.0 %	30-120		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1051004	05/10/11	05/11/11	8015 Full Carbon Chain	

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH07@23'**  
**R105043-14 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Surrogate: <i>o</i> -Terphenyl	107 %	88.8-124	1051004	05/10/11	05/11/11	8015 Full Carbon Chain
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1051003	05/10/11	05/11/11	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>1,2</i> -Dichloroethane- <i>d</i> 4		93.5 %	67.4-143		"	"	"	"	
Surrogate: <i>Toluene-d</i> 8		97.7 %	77.3-114		"	"	"	"	
Surrogate: <i>4</i> -Bromofluorobenzene		98.3 %	78.4-125		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>0.801</b>	0.00100	mmhos/cm	1	1050902	05/09/11	05/10/11	SM 2510B	

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>9.8</b>		pH Units	"	1050903	05/09/11	05/10/11	EPA 9045B	

**Colorado Analytical Laboratories**

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

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH07@23'**  
**R105043-14 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3.3	0.1	meq/L	1	1051806	05/17/11	05/18/11	USDA60 6 (20b)	

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	2.8	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	18.6	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.49	0.05	mg/kg	"	"	05/14/11	"	SW6020	
Barium	329.4	0.1	"	"	"	"	"	"	
Cadmium	0.2	0.1	"	"	"	"	"	"	
Copper	13.3	0.1	"	"	"	"	"	"	
Lead	11.7	0.1	"	"	"	"	"	"	
Nickel	13.8	0.1	"	"	"	"	"	"	
Selenium	ND	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	61.71	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	10.7	0.1	units	1	1051806	05/17/11	05/18/11	Calculation	

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH07@23'**  
**R105043-14 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.05	mg/kg	1	1051806	05/18/11	05/18/11	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	6.2	0.94	mg/kg	1	1052003	"	05/20/11	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.42	mg/kg	1	1052003	"	05/20/11	3060A/7196 A	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: **05/04/11 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	6	1.4	mg/kg	1	1052003	"	05/20/11	CalcCr+3	

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH08@23'**  
**R105043-16 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	1051201	05/13/11	05/24/11	EPA 8270D SIM	
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	"	"	"	"	"	"	

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		1.98 %	30-120		"	"	"	"	A-01
Surrogate: 2-Fluorobiphenyl		3.06 %	30-120		"	"	"	"	A-01
Surrogate: 2,4,6-Tribromophenol		18.3 %	30-120		"	"	"	"	A-01
Surrogate: Terphenyl-d14		52.5 %	30-120		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1051004	05/10/11	05/11/11	8015 Full Carbon Chain	

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH08@23'**  
**R105043-16 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Surrogate: <i>o</i> -Terphenyl	107 %	88.8-124	1051004	05/10/11	05/11/11	8015 Full Carbon Chain
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1051003	05/10/11	05/11/11	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	67.4-143		"	"	"	"	
Surrogate: Toluene-d8		103 %	77.3-114		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.3 %	78.4-125		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.517</b>	0.00100	mmhos/cm	1	1050902	05/09/11	05/10/11	SM 2510B	

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>9.7</b>		pH Units	"	1050903	05/09/11	05/10/11	EPA 9045B	

**Colorado Analytical Laboratories**

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH08@23'**  
**R105043-16 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1.4	0.1	meq/L	1	1051806	05/17/11	05/18/11	USDA60 6 (20b)	

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	1.6	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	11.8	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.66	0.05	mg/kg	"	"	05/14/11	"	SW6020	
Barium	90.4	0.1	"	"	"	"	"	"	
Cadmium	0.2	0.1	"	"	"	"	"	"	
Copper	10	0.1	"	"	"	"	"	"	
Lead	9.2	0.1	"	"	"	"	"	"	
Nickel	12.3	0.1	"	"	"	"	"	"	
Selenium	ND	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	52.87	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.6	0.1	units	1	1051806	05/17/11	05/18/11	Calculation	

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH08@23'**  
**R105043-16 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.05	mg/kg	1	1051806	05/18/11	05/18/11	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	9.3	1.4	mg/kg	1	1052003	"	05/20/11	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.61	mg/kg	1	1052003	"	05/20/11	3060A/7196 A	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: **05/04/11 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	8.8	2	mg/kg	1	1052003	"	05/20/11	CalcCr+3	

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH09@23'**  
**R105043-18 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	1051201	05/13/11	05/24/11	EPA 8270D SIM	
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	"	"	"	"	"	"	

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		2.48 %	30-120		"	"	"	"	A-01
Surrogate: 2-Fluorobiphenyl		2.36 %	30-120		"	"	"	"	A-01
Surrogate: 2,4,6-Tribromophenol		11.9 %	30-120		"	"	"	"	A-01
Surrogate: Terphenyl-d14		29.5 %	30-120		"	"	"	"	A-01

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1051004	05/10/11	05/11/11	8015 Full Carbon Chain	

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH09@23'**  
**R105043-18 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Surrogate: <i>o</i> -Terphenyl	104 %	88.8-124	1051004	05/10/11	05/11/11	8015 Full Carbon Chain
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1051003	05/10/11	05/11/11	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	67.4-143		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	77.3-114		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.2 %	78.4-125		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>1.14</b>	0.00100	mmhos/cm	1	1050902	05/09/11	05/10/11	SM 2510B	

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>9.0</b>		pH Units	"	1050903	05/09/11	05/10/11	EPA 9045B	

**Colorado Analytical Laboratories**

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH09@23'**  
**R105043-18 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1.4	0.1	meq/L	1	1051806	05/17/11	05/18/11	USDA60 6 (20b)	

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	1.9	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	20.4	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.79	0.05	mg/kg	"	"	05/14/11	"	SW6020	
Barium	151.6	0.1	"	"	"	"	"	"	
Cadmium	0.5	0.1	"	"	"	"	"	"	
Copper	18.3	0.1	"	"	"	"	"	"	
Lead	13.3	0.1	"	"	"	"	"	"	
Nickel	15.4	0.1	"	"	"	"	"	"	
Selenium	0.45	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	67.2	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	16	0.1	units	1	1051806	05/17/11	05/18/11	Calculation	

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH09@23'**  
**R105043-18 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	<b>0.08</b>	0.05	mg/kg	1	1051806	05/18/11	05/18/11	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	<b>8.2</b>	1	mg/kg	1	1052003	"	05/20/11	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.48	mg/kg	1	1052003	"	05/20/11	3060A/7196 A	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: **05/04/11 15:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	<b>7.8</b>	1.5	mg/kg	1	1052003	"	05/20/11	CalcCr+3	

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH09@26'**  
**R105043-19 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/04/11 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	7.3	0.1	meq/L	1	1061007	06/09/11	06/10/11	USDA60 6 (20b)	

Date Sampled: **05/04/11 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	4.4	0.1	"	"	"	"	"	"	

Date Sampled: **05/04/11 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	5	0.1	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: **05/04/11 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.1	0.1	units	1	1061007	"	06/10/11	Calculation	

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4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH10@23'**  
**R105043-20 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	1051201	05/13/11	05/24/11	EPA 8270D SIM	
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	"	"	"	"	"	"	

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		2.63 %	30-120		"	"	"	"	A-01
Surrogate: 2-Fluorobiphenyl		2.33 %	30-120		"	"	"	"	A-01
Surrogate: 2,4,6-Tribromophenol		14.5 %	30-120		"	"	"	"	A-01
Surrogate: Terphenyl-d14		53.1 %	30-120		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>310</b>	50	mg/kg	1	1051004	05/10/11	05/11/11	8015 Full Carbon Chain	

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH10@23'**  
**R105043-20 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Surrogate: <i>o</i> -Terphenyl	102 %	88.8-124	1051004	05/10/11	05/11/11	8015 Full Carbon Chain
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1051003	05/10/11	05/11/11	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	67.4-143		"	"	"	"	
Surrogate: Toluene-d8		101 %	77.3-114		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	78.4-125		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.591</b>	0.00100	mmhos/cm	1	1050902	05/09/11	05/10/11	SM 2510B	

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>9.7</b>		pH Units	"	1050903	05/09/11	05/10/11	EPA 9045B	

**Colorado Analytical Laboratories**

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LT Environmental, Inc.  
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Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH10@23'**  
**R105043-20 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1.1	0.1	meq/L	1	1051806	05/17/11	05/18/11	USDA60 6 (20b)	

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	0.9	0.1	"	"	"	"	"	"	

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	8.3	0.1	"	"	"	"	"	"	

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.92	0.05	mg/kg	"	"	05/14/11	"	SW6020	
Barium	117	0.1	"	"	"	"	"	"	
Cadmium	0.2	0.1	"	"	"	"	"	"	
Copper	12.1	0.1	"	"	"	"	"	"	
Lead	13.3	0.1	"	"	"	"	"	"	
Nickel	12.7	0.1	"	"	"	"	"	"	
Selenium	0.3	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	52.44	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.5	0.1	units	1	1051806	05/17/11	05/18/11	Calculation	

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

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Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH10@23'**  
**R105043-20 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.05	mg/kg	1	1051806	05/18/11	05/18/11	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	6.1	0.91	mg/kg	1	1052003	"	05/20/11	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.42	mg/kg	1	1052003	"	05/20/11	3060A/7196 A	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: **05/05/11 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	5.8	1.3	mg/kg	1	1052003	"	05/20/11	CalcCr+3	

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LT Environmental, Inc.  
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Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH12@23'**  
**R105043-22 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	1051201	05/13/11	05/24/11	EPA 8270D SIM	
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	"	"	"	"	"	"	

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		3.08 %	30-120		"	"	"	"	A-01
Surrogate: 2-Fluorobiphenyl		6.28 %	30-120		"	"	"	"	A-01
Surrogate: 2,4,6-Tribromophenol		14.8 %	30-120		"	"	"	"	A-01
Surrogate: Terphenyl-d14		56.4 %	30-120		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>320</b>	50	mg/kg	1	1051004	05/10/11	05/11/11	8015 Full Carbon Chain	

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH12@23'**  
**R105043-22 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Surrogate: <i>o</i> -Terphenyl	103 %	88.8-124	1051004	05/10/11	05/11/11	8015 Full Carbon Chain
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1051003	05/10/11	05/11/11	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	109 %	67.4-143			"	"	"	"	
Surrogate: Toluene-d8	99.8 %	77.3-114			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	98.7 %	78.4-125			"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>0.533</b>	0.00100	mmhos/cm	1	1050902	05/09/11	05/10/11	SM 2510B	

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>9.4</b>		pH Units	"	1050903	05/09/11	05/10/11	EPA 9045B	

**Colorado Analytical Laboratories**

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4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH12@23'**  
**R105043-22 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1.7	0.1	meq/L	1	1051806	05/17/11	05/18/11	USDA60 6 (20b)	

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	1.6	0.1	"	"	"	"	"	"	

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	7.1	0.1	"	"	"	"	"	"	

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.78	0.05	mg/kg	"	"	05/14/11	"	SW6020	
Barium	128.7	0.1	"	"	"	"	"	"	
Cadmium	0.3	0.1	"	"	"	"	"	"	
Copper	13.9	0.1	"	"	"	"	"	"	
Lead	17.8	0.1	"	"	"	"	"	"	
Nickel	13.9	0.1	"	"	"	"	"	"	
Selenium	0.08	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	62.47	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.5	0.1	units	1	1051806	05/17/11	05/18/11	Calculation	

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH12@23'**  
**R105043-22 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.05	mg/kg	1	1051806	05/18/11	05/18/11	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	8.2	1	mg/kg	1	1052003	"	05/20/11	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.41	mg/kg	1	1052003	"	05/20/11	3060A/7196 A	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: **05/05/11 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	7.9	1.4	mg/kg	1	1052003	"	05/20/11	CalcCr+3	

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH11@23'**  
**R105043-24 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	1051201	05/13/11	05/24/11	EPA 8270D SIM	
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	"	"	"	"	"	"	

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Nitrobenzene-d5		0.381 %	30-120		"	"	"	"	A-01
Surrogate: 2-Fluorobiphenyl		2.18 %	30-120		"	"	"	"	A-01
Surrogate: 2,4,6-Tribromophenol		16.2 %	30-120		"	"	"	"	A-01
Surrogate: Terphenyl-d14		42.8 %	30-120		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	320	50	mg/kg	1	1051004	05/10/11	05/11/11	8015 Full Carbon Chain	

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: BBC - Upper and Lower Pad

Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH11@23'**  
**R105043-24 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Surrogate: <i>o</i> -Terphenyl	108 %	88.8-124	1051004	05/10/11	05/11/11	8015 Full Carbon Chain
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**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1051003	05/10/11	05/11/11	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	104 %	67.4-143			"	"	"	"	
Surrogate: Toluene-d8	97.0 %	77.3-114			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	94.3 %	78.4-125			"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>0.541</b>	0.00100	mmhos/cm	1	1050902	05/09/11	05/10/11	SM 2510B	

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>9.4</b>		pH Units	"	1050903	05/09/11	05/10/11	EPA 9045B	

**Colorado Analytical Laboratories**

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Arvada CO, 80003

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Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH11@23'**  
**R105043-24 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories**

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	0.5	0.1	meq/L	1	1051806	05/17/11	05/18/11	USDA60 6 (20b)	

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	1.9	0.1	"	"	"	"	"	"	

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	8.3	0.1	"	"	"	"	"	"	

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.89	0.05	mg/kg	"	"	05/14/11	"	SW6020	
Barium	108.4	0.1	"	"	"	"	"	"	
Cadmium	0.2	0.1	"	"	"	"	"	"	
Copper	17.8	0.1	"	"	"	"	"	"	
Lead	11.1	0.1	"	"	"	"	"	"	
Nickel	17.4	0.1	"	"	"	"	"	"	
Selenium	0.17	0.05	"	"	"	"	"	"	
Silver	ND	0.1	"	"	"	"	"	"	
Zinc	76.38	0.05	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.6	0.1	units	1	1051806	05/17/11	05/18/11	Calculation	

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

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Arvada CO, 80003

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH11@23'**  
**R105043-24 (Soil)**

**Summit Scientific**

**Colorado Analytical Laboratories - Total Metals by APHA/EPA Methods**

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	<b>0.05</b>	0.05	mg/kg	1	1051806	05/18/11	05/18/11	EPA 7471A	

**Evergreen Analytical Laboratories**

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium	<b>8.7</b>	0.9	mg/kg	1	1052003	"	05/20/11	EPA 6010A	

**Evergreen Analytical - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)**

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.42	mg/kg	1	1052003	"	05/20/11	3060A/7196 A	

**Evergreen Analytical - Trivalent Chromium, Calculated, Soil Basis**

Date Sampled: **05/05/11 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	<b>8.4</b>	1.3	mg/kg	1	1052003	"	05/20/11	CalcCr+3	

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Arvada CO, 80003

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH13@24'**  
**R105043-26 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/05/11 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1053105	05/31/11	05/31/11	8015 Full Carbon Chain	

Date Sampled: **05/05/11 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		104 %	88.8-124		"	"	"	"	

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

Date Sampled: **05/05/11 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1053104	05/31/11	05/31/11	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/05/11 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	67.4-143		"	"	"	"	
Surrogate: Toluene-d8		97.6 %	77.3-114		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.2 %	78.4-125		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/05/11 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.77	0.00100	mmhos/cm	1	1053106	05/31/11	05/31/11	SM 2510B	

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Arvada CO, 80003

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**PH13@24'**  
**R105043-26 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/05/11 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.4		pH Units	1	1053107	05/31/11	05/31/11	EPA 9045B	

**Colorado Analytical Laboratories**

Date Sampled: **05/05/11 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.77	0.05	mg/kg	1	1060602	06/02/11	06/06/11	EPA 6020	

Date Sampled: **05/05/11 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	46.6	0.1	meq/L	"	"	06/01/11	"	USDA60 6 (20b)	

Date Sampled: **05/05/11 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	19.8	0.1	"	"	"	"	"	"	

Date Sampled: **05/05/11 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	21.2	0.1	"	"	"	"	"	"	

**Colorado Analytical Laboratories - Calculated Analytes**

Date Sampled: **05/05/11 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.7	0.1	units	1	1060602	"	06/06/11	Calculation	

Summit Scientific

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

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

### Summit Scientific

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

#### Batch 1051201 - EPA 3550A

##### Blank (1051201-BLK1)

Prepared: 05/12/11 Analyzed: 05/17/11

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	"							
Surrogate: Nitrobenzene-d5	8740		"	6670		131	30-120			
Surrogate: 2-Fluorobiphenyl	3950		"	6670		59.2	30-120			
Surrogate: 2,4,6-Tribromophenol	4400		"	6670		66.0	30-120			
Surrogate: Terphenyl-dl4	7160		"	6670		107	30-120			

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Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

Reported:  
06/10/11 15:34

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

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

**Batch 1051201 - EPA 3550A**

**LCS (1051201-BS1)**

Prepared: 05/12/11 Analyzed: 05/17/11

Acenaphthene	25.4	5.00	ug/kg	33.3		76.2	30-120		30	
Anthracene	27.5	5.00	"	33.3		82.5	30-120		30	
Benzo (a) anthracene	26.4	5.00	"	33.3		79.1	30-120		30	
Benzo (b) fluoranthene	26.0	5.00	"	33.3		78.1	30-120		30	
Benzo (k) fluoranthene	27.0	5.00	"	33.3		81.0	30-120		30	
Benzo (a) pyrene	27.1	5.00	"	33.3		81.4	30-120		30	
Chrysene	28.2	5.00	"	33.3		84.7	30-120		30	
Dibenz (a,h) anthracene	31.4	10.0	"	33.3		94.2	30-120		30	
Fluoranthene	27.7	5.00	"	33.3		83.0	30-120		30	
Fluorene	27.2	5.00	"	33.3		81.6	30-120		30	
Indeno (1,2,3-cd) pyrene	25.6	10.0	"	33.3		76.9	30-120		30	
Naphthalene	23.9	5.00	"	33.3		71.6	30-120		30	
Pyrene	25.5	5.00	"	33.3		76.5	30-120		30	
Surrogate: Nitrobenzene-d5	8590		"	6670		129	30-120			
Surrogate: 2-Fluorobiphenyl	3670		"	6670		55.1	30-120			
Surrogate: 2,4,6-Tribromophenol	3620		"	6670		54.3	30-120			
Surrogate: Terphenyl-d14	5250		"	6670		78.8	30-120			

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

Reported:  
06/10/11 15:34

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

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

**Batch 1051201 - EPA 3550A**

Matrix Spike (1051201-MS1)		Source: R105051-03			Prepared: 05/12/11		Analyzed: 05/17/11	
Acenaphthene	26.1	5.00	ug/kg	33.3	ND	78.2	30-120	30
Anthracene	26.3	5.00	"	33.3	ND	79.0	30-120	30
Benzo (a) anthracene	26.7	5.00	"	33.3	ND	80.0	30-120	30
Benzo (b) fluoranthene	31.8	5.00	"	33.3	ND	95.5	30-120	30
Benzo (k) fluoranthene	32.1	5.00	"	33.3	ND	96.2	30-120	30
Benzo (a) pyrene	28.0	5.00	"	33.3	ND	84.1	30-120	30
Chrysene	28.0	5.00	"	33.3	ND	84.1	30-120	30
Dibenz (a,h) anthracene	32.2	10.0	"	33.3	ND	96.7	30-120	30
Fluoranthene	29.5	5.00	"	33.3	ND	88.6	30-120	30
Fluorene	29.8	5.00	"	33.3	ND	89.5	30-120	30
Indeno (1,2,3-cd) pyrene	27.6	10.0	"	33.3	ND	82.9	30-120	30
Naphthalene	30.7	5.00	"	33.3	1.03	89.0	30-120	30
Pyrene	26.4	5.00	"	33.3	ND	79.2	30-120	30
Surrogate: Nitrobenzene-d5	7780		"	6670		117	30-120	
Surrogate: 2-Fluorobiphenyl	3660		"	6670		54.9	30-120	
Surrogate: 2,4,6-Tribromophenol	5570		"	6670		83.5	30-120	
Surrogate: Terphenyl-d14	5220		"	6670		78.3	30-120	

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

**Batch 1051201 - EPA 3550A**

Matrix Spike Dup (1051201-MSD1)		Source: R105051-03			Prepared: 05/12/11		Analyzed: 05/17/11			
Acenaphthene	22.2	5.00	ug/kg	33.3	ND	66.5	30-120	16.1	30	
Anthracene	22.6	5.00	"	33.3	ND	67.9	30-120	15.1	30	
Benzo (a) anthracene	23.6	5.00	"	33.3	ND	70.7	30-120	12.3	30	
Benzo (b) fluoranthene	29.6	5.00	"	33.3	ND	88.9	30-120	7.11	30	
Benzo (k) fluoranthene	30.6	5.00	"	33.3	ND	91.9	30-120	4.53	30	
Benzo (a) pyrene	22.2	5.00	"	33.3	ND	66.5	30-120	23.3	30	
Chrysene	24.4	5.00	"	33.3	ND	73.2	30-120	13.9	30	
Dibenz (a,h) anthracene	29.0	10.0	"	33.3	ND	86.9	30-120	10.7	30	
Fluoranthene	25.2	5.00	"	33.3	ND	75.7	30-120	15.7	30	
Fluorene	23.4	5.00	"	33.3	ND	70.2	30-120	24.2	30	
Indeno (1,2,3-cd) pyrene	25.0	10.0	"	33.3	ND	74.9	30-120	10.1	30	
Naphthalene	27.8	5.00	"	33.3	1.03	80.2	30-120	10.1	30	
Pyrene	23.7	5.00	"	33.3	ND	71.2	30-120	10.7	30	
Surrogate: Nitrobenzene-d5	7020		"	6670		105	30-120			
Surrogate: 2-Fluorobiphenyl	3330		"	6670		49.9	30-120			
Surrogate: 2,4,6-Tribromophenol	4480		"	6670		67.1	30-120			
Surrogate: Terphenyl-d14	4520		"	6670		67.8	30-120			

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

**Extractable 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 1051004 - EPA 3550A**

**Blank (1051004-BLK1)**

Prepared: 05/10/11 Analyzed: 05/11/11

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 13.5 " 12.5 108 88.8-124

**LCS (1051004-BS1)**

Prepared: 05/10/11 Analyzed: 05/11/11

C10-C28 (DRO) 512 50 mg/kg 501 102 81.4-129 9.26

**LCS Dup (1051004-BSD1)**

Prepared: 05/10/11 Analyzed: 05/11/11

C10-C28 (DRO) 525 50 mg/kg 501 105 81.4-129 2.43 9.26

**Matrix Spike (1051004-MS1)**

Source: R105043-01

Prepared: 05/10/11 Analyzed: 05/11/11

C10-C28 (DRO) 533 50 mg/kg 501 ND 106 77.8-133 8.48

**Matrix Spike Dup (1051004-MSD1)**

Source: R105043-01

Prepared: 05/10/11 Analyzed: 05/11/11

C10-C28 (DRO) 516 50 mg/kg 501 ND 103 77.8-133 3.36 8.48

**Batch 1053105 - EPA 3550A**

**Blank (1053105-BLK1)**

Prepared & Analyzed: 05/31/11

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 12.8 " 12.5 103 88.8-124

**LCS (1053105-BS1)**

Prepared & Analyzed: 05/31/11

C10-C28 (DRO) 473 50 mg/kg 501 94.3 81.4-129 9.26

**LCS Dup (1053105-BSD1)**

Prepared & Analyzed: 05/31/11

C10-C28 (DRO) 498 50 mg/kg 501 99.5 81.4-129 5.29 9.26

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Project Number: 0273-11001  
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**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
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Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch 1053105 - EPA 3550A**

**Matrix Spike (1053105-MS1)**

**Source: R105043-26**

Prepared & Analyzed: 05/31/11

C10-C28 (DRO)	493	50	mg/kg	501	27.3	93.0	77.8-133		8.48	
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**Matrix Spike Dup (1053105-MSD1)**

**Source: R105043-26**

Prepared & Analyzed: 05/31/11

C10-C28 (DRO)	513	50	mg/kg	501	27.3	96.9	77.8-133	3.95	8.48	
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Project Number: 0273-11001  
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**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 1051003 - EPA 5030 Soil MS**

**Blank (1051003-BLK1)**

Prepared & Analyzed: 05/10/11

Benzene	ND	0.0050	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0597		"	0.0400	149	67.4-143				
Surrogate: Toluene-d8	0.0420		"	0.0400	105	77.3-114				
Surrogate: 4-Bromofluorobenzene	0.0450		"	0.0400	113	78.4-125				

**LCS (1051003-BS1)**

Prepared & Analyzed: 05/10/11

Benzene	0.105	0.0050	mg/kg	0.100	105	61-139		11.1		
Toluene	0.103	0.0050	"	0.100	103	64-132		10.9		
Ethylbenzene	0.0959	0.0050	"	0.100	95.9	68.7-135		20		
m,p-Xylene	0.176	0.010	"	0.200	88.2	70.4-129		20		
o-Xylene	0.0890	0.0050	"	0.100	89.0	66.9-126		20		
Surrogate: 1,2-Dichloroethane-d4	0.0617		"	0.0400	154	67.4-143				
Surrogate: Toluene-d8	0.0424		"	0.0400	106	77.3-114				
Surrogate: 4-Bromofluorobenzene	0.0431		"	0.0400	108	78.4-125				

**LCS Dup (1051003-BSD1)**

Prepared & Analyzed: 05/10/11

Benzene	0.102	0.0050	mg/kg	0.100	102	61-139	3.39	11.1		
Toluene	0.101	0.0050	"	0.100	101	64-132	1.56	10.9		
Ethylbenzene	0.0962	0.0050	"	0.100	96.2	68.7-135	0.250	20		
m,p-Xylene	0.175	0.010	"	0.200	87.7	70.4-129	0.597	20		
o-Xylene	0.0884	0.0050	"	0.100	88.4	66.9-126	0.677	20		
Surrogate: 1,2-Dichloroethane-d4	0.0586		"	0.0400	147	67.4-143				
Surrogate: Toluene-d8	0.0417		"	0.0400	104	77.3-114				
Surrogate: 4-Bromofluorobenzene	0.0425		"	0.0400	106	78.4-125				

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Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**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 1051003 - EPA 5030 Soil MS**

Matrix Spike (1051003-MS1)		Source: R105043-01			Prepared & Analyzed: 05/10/11					
Benzene	0.105	0.0050	mg/kg	0.100	ND	105	42.9-137		17.9	
Toluene	0.103	0.0050	"	0.100	ND	103	42.6-130		11.9	
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	39-133		20	
m,p-Xylene	0.193	0.010	"	0.200	ND	96.5	34.7-134		20	
o-Xylene	0.0928	0.0050	"	0.100	ND	92.8	41.3-126		20	
Surrogate: 1,2-Dichloroethane-d4	0.0436		"	0.0400		109	67.4-143			
Surrogate: Toluene-d8	0.0414		"	0.0400		104	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	78.4-125			

Matrix Spike Dup (1051003-MSD1)		Source: R105043-01			Prepared & Analyzed: 05/10/11					
Benzene	0.101	0.0050	mg/kg	0.100	ND	101	42.9-137	2.97	17.9	
Toluene	0.101	0.0050	"	0.100	ND	101	42.6-130	1.97	11.9	
Ethylbenzene	0.109	0.0050	"	0.100	ND	109	39-133	1.83	20	
m,p-Xylene	0.199	0.010	"	0.200	ND	99.5	34.7-134	3.11	20	
o-Xylene	0.0941	0.0050	"	0.100	ND	94.1	41.3-126	1.44	20	
Surrogate: 1,2-Dichloroethane-d4	0.0415		"	0.0400		104	67.4-143			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		99.0	78.4-125			

**Batch 1053104 - EPA 5030 Soil MS**

Blank (1053104-BLK1)		Prepared & Analyzed: 05/31/11								
Benzene	ND	0.0050	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0417		"	0.0400		104	67.4-143			
Surrogate: Toluene-d8	0.0388		"	0.0400		96.9	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	78.4-125			

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

Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

**Reported:**  
06/10/11 15:34

**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 1053104 - EPA 5030 Soil MS**

**LCS (1053104-BS1)**

Prepared & Analyzed: 05/31/11

Benzene	0.0765	0.0050	mg/kg	0.100		76.5	61-139		11.1	
Toluene	0.0770	0.0050	"	0.100		77.0	64-132		10.9	
Ethylbenzene	0.0844	0.0050	"	0.100		84.4	68.7-135		20	
m,p-Xylene	0.181	0.010	"	0.200		90.5	70.4-129		20	
o-Xylene	0.0853	0.0050	"	0.100		85.3	66.9-126		20	
Surrogate: 1,2-Dichloroethane-d4	0.0408		"	0.0400		102	67.4-143			
Surrogate: Toluene-d8	0.0377		"	0.0400		94.4	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.0	78.4-125			

**LCS Dup (1053104-BSD1)**

Prepared & Analyzed: 05/31/11

Benzene	0.0776	0.0050	mg/kg	0.100		77.6	61-139	1.40	11.1	
Toluene	0.0809	0.0050	"	0.100		80.9	64-132	4.90	10.9	
Ethylbenzene	0.0832	0.0050	"	0.100		83.2	68.7-135	1.43	20	
m,p-Xylene	0.184	0.010	"	0.200		91.8	70.4-129	1.37	20	
o-Xylene	0.0893	0.0050	"	0.100		89.3	66.9-126	4.60	20	
Surrogate: 1,2-Dichloroethane-d4	0.0409		"	0.0400		102	67.4-143			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0417		"	0.0400		104	78.4-125			

**Matrix Spike (1053104-MS1)**

Source: R105043-26

Prepared & Analyzed: 05/31/11

Benzene	0.0733	0.0050	mg/kg	0.100	ND	73.3	42.9-137		17.9	
Toluene	0.0741	0.0050	"	0.100	ND	74.1	42.6-130		11.9	
Ethylbenzene	0.0818	0.0050	"	0.100	ND	81.8	39-133		20	
m,p-Xylene	0.172	0.010	"	0.200	ND	86.1	34.7-134		20	
o-Xylene	0.0847	0.0050	"	0.100	ND	84.7	41.3-126		20	
Surrogate: 1,2-Dichloroethane-d4	0.0424		"	0.0400		106	67.4-143			
Surrogate: Toluene-d8	0.0375		"	0.0400		93.7	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.4	78.4-125			

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**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 1053104 - EPA 5030 Soil MS**

Matrix Spike Dup (1053104-MSD1)		Source: R105043-26			Prepared & Analyzed: 05/31/11					
Benzene	0.0754	0.0050	mg/kg	0.100	ND	75.4	42.9-137	2.86	17.9	
Toluene	0.0777	0.0050	"	0.100	ND	77.7	42.6-130	4.82	11.9	
Ethylbenzene	0.0804	0.0050	"	0.100	ND	80.4	39-133	1.70	20	
m,p-Xylene	0.173	0.010	"	0.200	ND	86.5	34.7-134	0.435	20	
o-Xylene	0.0862	0.0050	"	0.100	ND	86.2	41.3-126	1.79	20	
Surrogate: 1,2-Dichloroethane-d4	0.0445		"	0.0400		111	67.4-143			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.0	77.3-114			
Surrogate: 4-Bromofluorobenzene	0.0421		"	0.0400		105	78.4-125			

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Project: BBC - Upper and Lower Pad  
Project Number: 0273-11001  
Project Manager: Brian Dodek

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

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

**Batch 1050902 - General Preparation**

**Duplicate (1050902-DUP1)**      **Source: R105032-01**      Prepared: 05/09/11      Analyzed: 05/10/11

Specific Conductance (EC)	1.65	0.00100	mmhos/cm	1.48	10.6	20
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**Batch 1050903 - General Preparation**

**Duplicate (1050903-DUP1)**      **Source: R105042-03**      Prepared: 05/09/11      Analyzed: 05/10/11

pH	8.6		pH Units	8.6	0.117	20
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**Batch 1053106 - General Preparation**

**Duplicate (1053106-DUP1)**      **Source: R105137-05**      Prepared & Analyzed: 05/31/11

Specific Conductance (EC)	0.320	0.00100	mmhos/cm	0.357	11.0	20
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**Batch 1053107 - General Preparation**

**Duplicate (1053107-DUP1)**      **Source: R105137-05**      Prepared & Analyzed: 05/31/11

pH	7.9		pH Units	8.0	1.89	20
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06/10/11 15:34

### Notes and Definitions

A-01 Surrogate recoveries are outside control limits indicating a potential low bias. Samples were not reextracted to verify matrix interference do to hold time expiration.

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



6/18/2010

Olsson Associates

Ken Kreie

826 21 1/2 Road

Grand Junction

CO

81505

Project Name- BBC - Pad Seep

Project Number- 010-0974

Attached are your analytical results for BBC - Pad Seep received by Origins Laboratory, Inc. May 25, 2010 11:00 am. This project is associated with Origins project number X005161-01 .

The analytical results in the following report were analyzed under the guidelines of EPA Methods specified in SW-846. The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all,

Origins Laboratory, Inc.  
303.433.1322  
o-squad@oelabinc.com



Olsson Associates  
826 21 1/2 Road  
Grand Junction CO 81505

Ken Kreie  
Project Number: 010-0974  
Project: BBC - Pad Seep

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
SE-1	X005161-01	Water	5/24/2010 12:30:00PM	05/25/2010 11:00

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Noelle E Doyle, Laboratory Manager

**Noelle E Doyle, Laboratory Manager**

Olsson Associates  
826 21 1/2 Road  
Grand Junction CO 81505

Ken Kreie  
Project Number: 010-0974  
Project: BBC - Pad Seep

## SE-1

5/24/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## XENCO

X005161-01 (Water)

### Bicarbonate by SM2320B

Alkalinity, Bicarbonate (as CaCO <sub>3</sub> )	1110	1	mg/L	1	809541	06/07/2010	06/07/2010
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### Carbonate by SM2320B

Alkalinity, Carbonate (as CaCO <sub>3</sub> )	2.09	1	mg/L	1	809541	"	06/07/2010
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### Cations by EPA 300

Fluoride	8.67	2	mg/L	10	808354	05/26/2010	05/26/2010
Sulfate	766	5	"	"	"	"	"
Nitrate as N	ND	0.5	"	"	"	"	"
Chloride	3190	5	"	"	"	"	" L
Bromide	26.2	5	"	"	"	"	"
Nitrite as N	ND	0.5	"	"	"	"	"

### GRO (TVPH)/DRO (TEPH)by EPA 8015M

Gasoline (C6-C10)	ND	5.00	mg/L	1	0E26002	05/26/2010	05/27/2010
Diesel (C10-C28)	ND	5.00	"	"	"	"	"

Surrogate: o-Terphenyl	90.7 %	60-130	"	"	"
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### Hydroxide by SM2320B

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## SE-1

5/24/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## XENCO

X005161-01 (Water)

### Hydroxide by SM2320B

Alkalinity, Hydroxide	ND	1	mg/L	1	809541	06/07/2010	06/07/2010
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### Metals by SW6010B

Potassium	18500	1000	ug/L	1	809137	05/27/2010	06/04/2010
Lithium	653	100	"	"	"	"	"
Manganese	20600	15	"	"	"	"	"
Molybdenum	35.6	5	"	"	"	"	"
Nickel	54.4	10	"	"	"	"	"
Selenium	ND	30	"	"	"	"	"
Silica	ND	642	"	"	"	"	"
Silver	ND	20	"	"	"	"	"
Strontium	16100	15	"	"	"	"	"
Vanadium	ND	20	"	"	"	"	"
Cadmium	ND	5	"	"	"	"	"
Thallium	3.98	20	"	"	"	"	"
Iron	61.5	100	"	"	"	"	"
Copper	36.4	20	"	"	"	"	"
Cobalt	89.7	10	"	"	"	"	"
Zinc	10.3	25	"	"	"	"	"
Calcium	553000	200	"	"	"	"	"
Magnesium	447000	200	"	"	"	"	"
Boron	1480	25	"	"	"	"	"

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**SE-1****5/24/2010 12:30:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**XENCO****X005161-01 (Water)****Metals by SW6010B**

Beryllium	ND	4	ug/L	1	809137	05/27/2010	06/04/2010	
Barium	184	10	"	"	"	"	"	
Arsenic	8.61	10	"	"	"	"	"	I
Antimony	ND	20	"	"	"	"	"	
Chromium	5.06	5	"	"	"	"	"	
Lead	ND	10	"	"	"	"	"	

**Ortho-Phosphate as P by EPA 365.1**

Ortho-Phosphate as P	ND	0.02	mg/L	1	809463	05/26/2010	05/26/2010	
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**Semivolatile Organic Compounds (SVOCs) by SW8270C**

1,2,4-Trichlorobenzene	ND	4	ug/L	1	808792	05/28/2010	05/28/2010	
1,2-Dichlorobenzene	ND	4	"	"	"	"	"	
1,2-Diphenylhydrazine	ND	4	"	"	"	"	"	
1,3-Dichlorobenzene	ND	4	"	"	"	"	"	
2-Chlorophenol	ND	4	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	4	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	4	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1	"	"	"	"	"	
2,4-Dimethylphenol	3.29	4	"	"	"	"	"	I
2,4-Dinitrotoluene	ND	0.45	"	"	"	"	"	

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## SE-1

5/24/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## XENCO

X005161-01 (Water)

### Semivolatile Organic Compounds (SVOCs) by SW8270C

2,6-Dinitrotoluene	ND	0.39	ug/L	1	808792	05/28/2010	05/28/2010	
2-Chloronaphthalene	ND	4	"	"	"	"	"	
1,4-Dichlorobenzene	ND	4	"	"	"	"	"	
Hexachlorobutadiene	ND	4	"	"	"	"	"	
2,4-Dinitrophenol	ND	10	"	"	"	"	"	
Hexachloroethane	ND	2	"	"	"	"	"	
Isophorone	ND	4	"	"	"	"	"	
N-Nitrosodimethylamine	ND	4	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	4	"	"	"	"	"	
Nitrobenzene	ND	4	"	"	"	"	"	
Pentachlorophenol	ND	10	"	"	"	"	"	
Phenol	16.4	1	"	"	"	"	"	
Pyridine	ND	10	"	"	"	"	"	
Dimethyl Phthalate	ND	1	"	"	"	"	"	
Hexachlorobenzene	ND	1	"	"	"	"	"	
bis(2-ethylhexyl) phthalate	0.87	4	"	"	"	"	"	I, V
Benzidine	ND	10	"	"	"	"	"	
Benzyl Alcohol	0.96	4	"	"	"	"	"	I
2,4-Dichlorophenol	ND	0.53	"	"	"	"	"	
bis(2-chloroethoxy) methane	ND	4	"	"	"	"	"	
Aniline (Phenylamine, Aminobenzene)	ND	4	"	"	"	"	"	
bis(2-chloroisopropyl) ether	ND	4	"	"	"	"	"	

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## SE-1

5/24/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## XENCO

X005161-01 (Water)

### Semivolatile Organic Compounds (SVOCs) by SW8270C

Benzoic Acid	35.3	50	ug/L	1	808792	05/28/2010	05/28/2010	I
Carbazole	ND	4	"	"	"	"	"	
Cyclohexanone	ND		"	"	"	"	"	
di-n-Butyl Phthalate	0.55	4	"	"	"	"	"	I
di-n-Octyl Phthalate	ND	1	"	"	"	"	"	
Dibenzofuran	ND	10	"	"	"	"	"	
Diethyl Phthalate	ND	1	"	"	"	"	"	
bis(2-chloroethyl) ether	ND	4	"	"	"	"	"	
3,3-Dichlorobenzidine	ND	4	"	"	"	"	"	
2-Nitroaniline	ND	50	"	"	"	"	"	
Benzyl Butyl Phthalate	ND	10	"	"	"	"	"	
4-Nitrophenol	ND	10	"	"	"	"	"	
2-methylphenol	14.5	4	"	"	"	"	"	
3&4-Methylphenol	12.6	4	"	"	"	"	"	
2-Nitrophenol	ND	4	"	"	"	"	"	
3-Nitroaniline	ND	50	"	"	"	"	"	
4,6-dinitro-2-methyl phenol	ND	10	"	"	"	"	"	
4-Bromophenyl-phenylether	ND	4	"	"	"	"	"	
4-chloro-3-methylphenol	ND	4	"	"	"	"	"	
4-Chloroaniline	ND	4	"	"	"	"	"	
4-Chlorophenyl Phenyl Ether	ND	4	"	"	"	"	"	
4-Nitroaniline	ND	50	"	"	"	"	"	

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## SE-1

5/24/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## XENCO

X005161-01 (Water)

### Semivolatile Organic Compounds (SVOCs) by SW8270C

Surrogate: 2,4,6-Tribromophenol	78 %	48-132			808792	05/28/2010	05/28/2010
Surrogate: Nitrobenzene-d5	83 %	8-130			"	"	"
Surrogate: Phenol-d6	34 %	10-59			"	"	"
Surrogate: Terphenyl-D14	92 %	27-133			"	"	"
Surrogate: 2-Fluorobiphenyl	83 %	19-126			"	"	"
Surrogate: 2-Fluorophenol	41 %	28-62			"	"	"

### Semivolatile Organic Compounds (SVOCs) by SW8270D

Dibenz(a,h)anthracene	ND	0.2	ug/L	1	808786	05/28/2010	05/29/2010
Fluoranthene	0.037	1	"	"	"	"	"
Indeno(1,2,3-c,d)Pyrene	ND	0.1	"	"	"	"	"
Chrysene	ND	0.1	"	"	"	"	"
Phenanthrene	ND	1	"	"	"	"	"
Pyrene	ND	0.1	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.1	"	"	"	"	"
Fluorene	ND	1	"	"	"	"	"
Naphthalene	0.592	1	"	"	"	"	"
Benzo(g,h,i)perylene	ND	0.1	"	"	"	"	"
1-Methylnaphthalene	0.037	1	"	"	"	"	"
2-Methylnaphthalene	0.058	1	"	"	"	"	"
Acenaphthene	ND	1	"	"	"	"	"
Anthracene	ND	1	"	"	"	"	"

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## SE-1

5/24/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## XENCO

X005161-01 (Water)

### Semivolatile Organic Compounds (SVOCs) by SW8270D

Benzo(a)anthracene	ND	0.1	ug/L	1	808786	05/28/2010	05/29/2010
Benzo(a)pyrene	ND	0.1	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.1	"	"	"	"	"
Acenaphthylene	ND	1	"	"	"	"	"

Surrogate: Nitrobenzene-d5	70 %	10-112			"	"	"
Surrogate: Terphenyl-D14	65 %	20-128			"	"	"
Surrogate: 2-Fluorobiphenyl	75 %	10-116			"	"	"

### Total Alkalinity by SM2320B

Alkalinity, Total (as CaCO3)	1110	1	mg/L	1	809541	06/07/2010	06/07/2010
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### VOC by EPA 8260B

1,1,1,2-Tetrachloroethane	ND	0.0010	mg/L	1	0E27001	05/27/2010	05/27/2010
1,1,1-Trichloroethane	ND	0.0010	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.0010	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.0010	"	"	"	"	"
1,1-Dichloroethane	ND	0.0010	"	"	"	"	"
1,1-Dichloroethene	ND	0.0010	"	"	"	"	"
1,1-Dichloropropene	ND	0.0010	"	"	"	"	"

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## SE-1

5/24/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X005161-01 (Water)

### VOC by EPA 8260B

1,2,3-Trichlorobenzene	ND	0.0010	mg/L	1	OE27001	05/27/2010	05/27/2010
1,2,3-Trichloropropane	ND	0.0010	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.0010	"	"	"	"	"
1,2,4-Trimethylbenzene	0.0034	0.0010	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.0010	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.0010	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.0010	"	"	"	"	"
1,2-Dichloroethane	ND	0.0010	"	"	"	"	"
1,2-Dichloropropane	ND	0.0010	"	"	"	"	"
1,3,5-Trimethylbenzene	0.0071	0.0010	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.0010	"	"	"	"	"
1,3-Dichloropropane	ND	0.0010	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.0010	"	"	"	"	"
1-Butanol	ND	0.100	"	"	"	"	"
2,2-Dichloropropane	ND	0.0010	"	"	"	"	"
2-Butanone	0.0677	0.0050	"	"	"	"	"
2-Chloroethyl vinyl ether	ND	0.0050	"	"	"	"	"
2-Chlorotoluene	ND	0.0010	"	"	"	"	"
2-Hexanone	ND	0.0010	"	"	"	"	"
4-Chlorotoluene	ND	0.0010	"	"	"	"	"
4-Isopropyltoluene	ND	0.0010	"	"	"	"	"
4-Methyl-2-pentanone	0.0055	0.0050	"	"	"	"	"

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## SE-1

5/24/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X005161-01 (Water)

### VOC by EPA 8260B

Acetone	5.09	0.0800	mg/L	20	OE27001	05/27/2010	05/27/2010
Acetonitrile	ND	0.0250	"	1	"	"	05/27/2010
Benzene	0.318	0.0200	"	20	"	"	05/27/2010
Bromochloromethane	ND	0.0010	"	1	"	"	05/27/2010
Bromodichloromethane	ND	0.0010	"	"	"	"	"
Bromoform	ND	0.0010	"	"	"	"	"
Bromomethane	ND	0.0010	"	"	"	"	"
Carbon disulfide	ND	0.0010	"	"	"	"	"
Carbon tetrachloride	ND	0.0010	"	"	"	"	"
Chlorobenzene	ND	0.0010	"	"	"	"	"
Chloroethane	ND	0.0010	"	"	"	"	"
Chloromethane	ND	0.0010	"	"	"	"	"
Cyclohexane	ND	0.0010	"	"	"	"	"
Dibromomethane	ND	0.0010	"	"	"	"	"
cis-1,2-Dichloroethene	ND	0.0010	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.0010	"	"	"	"	"
Ethylbenzene	0.0066	0.0010	"	"	"	"	"
Dibromochloromethane	ND	0.0010	"	"	"	"	"
Hexachlorobutadiene	ND	0.0010	"	"	"	"	"
Iodomethane	ND	0.0010	"	"	"	"	"
Isopropylbenzene	ND	0.0010	"	"	"	"	"
m,p-Xylene	0.102	0.0020	"	"	"	"	"

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## SE-1

5/24/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X005161-01 (Water)

### VOC by EPA 8260B

Methyl Acetate	ND	0.0050	mg/L	1	OE27001	05/27/2010	05/27/2010	
Methyl tert-Butyl Ether	ND	0.0010	"	"	"	"	"	
Methylcyclohexane	ND	0.0010	"	"	"	"	"	
Naphthalene	0.0248	0.0010	"	"	"	"	"	
sec-Butylbenzene	ND	0.0010	"	"	"	"	"	
n-Butylbenzene	ND	0.0010	"	"	"	"	"	
n-Propylbenzene	ND	0.0010	"	"	"	"	"	
o-Xylene	0.0278	0.0010	"	"	"	"	"	
Styrene	ND	0.0010	"	"	"	"	"	
Tetrachloroethene	ND	0.0010	"	"	"	"	"	
Toluene	0.421	0.0200	"	20	"	"	05/27/2010	
trans-1,2-Dichloroethene	ND	0.0010	"	1	"	"	05/27/2010	
trans-1,3-Dichloropropene	ND	0.0010	"	"	"	"	"	
Trichloroethene	ND	0.0010	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0010	"	"	"	"	"	
Vinyl acetate	ND	0.0050	"	"	"	"	"	
Vinyl chloride	ND	0.0010	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	98.5 %	82.4-114	"	"	"
Surrogate: 4-Bromofluorobenzene	105 %	85.5-122	"	"	"
Surrogate: Toluene-d8	102 %	91.1-120	"	"	"

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Grand Junction CO 81505

Ken Kreie  
Project Number: 010-0974  
Project: BBC - Pad Seep

**Extractable Petroleum Hydrocarbons by 8015M - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch OE26002 - Default Prep GC-Semi</b>										
<b>Blank (OE26002-BLK1)</b>					Prepared: 05/26/2010 Analyzed: 05/27/2010					
Gasoline (C6-C10)	ND	5.00	mg/L							
Diesel (C10-C28)	ND	5.00	"							
Surrogate: o-Terphenyl	46.8		mL	50.0		93.6	60-130			
<b>Blank (OE26002-BLK2)</b>					Prepared: 05/26/2010 Analyzed: 05/27/2010					
Gasoline (C6-C10)	ND	5.00	mg/L							
Diesel (C10-C28)	ND	5.00	"							
Surrogate: o-Terphenyl	47.7		mL	50.0		95.4	60-130			
<b>LCS (OE26002-BS1)</b>					Prepared: 05/26/2010 Analyzed: 05/27/2010					
Gasoline (C6-C10)	11.4	5.00	mg/L				65-140			
Diesel (C10-C28)	41.7	5.00	"	50.0		83.3	60-140			
Surrogate: o-Terphenyl	48.8		mL	50.0		97.7	60-130			
<b>LCS (OE26002-BS2)</b>					Prepared: 05/26/2010 Analyzed: 05/27/2010					
Gasoline (C6-C10)	11.3	5.00	mg/L				65-140			
Diesel (C10-C28)	41.3	5.00	"	50.0		82.7	60-140			
Surrogate: o-Terphenyl	49.1		mL	50.0		98.1	60-130			
<b>Matrix Spike (OE26002-MS1)</b>					Source: X005134-01	Prepared: 05/26/2010 Analyzed: 05/27/2010				
Gasoline (C6-C10)	10.8	5.00	mg/L		ND		65-130			
Diesel (C10-C28)	38.8	5.00	"	50.0	ND	77.5	60-140			
Surrogate: o-Terphenyl	52.8		mL	50.0		106	60-130			
<b>Matrix Spike (OE26002-MS2)</b>					Source: X005134-02	Prepared: 05/26/2010 Analyzed: 05/27/2010				
Gasoline (C6-C10)	11.5	5.00	mg/L		ND		65-130			
Diesel (C10-C28)	41.5	5.00	"	50.0	ND	83.0	60-140			
Surrogate: o-Terphenyl	53.1		mL	50.0		106	60-130			

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Project Number: 010-0974  
Project: BBC - Pad Seep

## Extractable Petroleum Hydrocarbons by 8015M - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch OE26002 - Default Prep GC-Semi

Matrix Spike Dup (OE26002-MSD1)		Source: X005134-01			Prepared: 05/26/2010 Analyzed: 05/27/2010					
Gasoline (C6-C10)	12.3	5.00	mg/L		ND		65-130	12.8	20	
Diesel (C10-C28)	44.3	5.00	"	50.0	ND	88.7	60-140	13.4	25	
Surrogate: o-Terphenyl	53.3		mL	50.0		107	60-130			
Matrix Spike Dup (OE26002-MSD2)		Source: X005134-02			Prepared: 05/26/2010 Analyzed: 05/27/2010					
Gasoline (C6-C10)	12.4	5.00	mg/L		ND		65-130	7.14	20	
Diesel (C10-C28)	43.5	5.00	"	50.0	ND	87.0	60-140	4.63	25	
Surrogate: o-Terphenyl	53.0		mL	50.0		106	60-130			

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## Volatile Organic Compounds by EPA Method 8260B - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch OE27001 - EPA 5030B

Blank (OE27001-BLK1)

Prepared: 05/27/2010 Analyzed: 05/27/2010

1,1,1,2-Tetrachloroethane	ND	0.001	mg/L
1,1,1-Trichloroethane	ND	0.001	"
1,1,2,2-Tetrachloroethane	ND	0.001	"
1,1,2-Trichloroethane	ND	0.001	"
1,1-Dichloroethane	ND	0.001	"
1,1-Dichloroethene	ND	0.001	"
1,1-Dichloropropene	ND	0.001	"
1,2,3-Trichlorobenzene	ND	0.001	"
1,2,3-Trichloropropane	ND	0.001	"
1,2,4-Trichlorobenzene	ND	0.001	"
1,2,4-Trimethylbenzene	ND	0.001	"
1,2-Dibromo-3-chloropropane	ND	0.001	"
1,2-Dibromoethane (EDB)	ND	0.001	"
1,2-Dichlorobenzene	ND	0.001	"
1,2-Dichloroethane	ND	0.001	"
1,2-Dichloropropane	ND	0.001	"
1,3,5-Trimethylbenzene	ND	0.001	"
1,3-Dichlorobenzene	ND	0.001	"
1,3-Dichloropropane	ND	0.001	"
1,4-Dichlorobenzene	ND	0.001	"
1-Butanol	ND	0.1	"
2,2-Dichloropropane	ND	0.001	"
2-Butanone	ND	0.005	"
2-Chloroethyl vinyl ether	ND	0.005	"
2-Chlorotoluene	ND	0.001	"
2-Hexanone	ND	0.001	"

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## Volatile Organic Compounds by EPA Method 8260B - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch OE27001 - EPA 5030B

Blank (OE27001-BLK1)

Prepared: 05/27/2010 Analyzed: 05/27/2010

4-Chlorotoluene	ND	0.001	mg/L
4-Isopropyltoluene	ND	0.001	"
4-Methyl-2-pentanone	ND	0.005	"
Acetone	ND	0.004	"
Acetonitrile	ND	0.02	"
Benzene	ND	0.001	"
Bromochloromethane	ND	0.001	"
Bromodichloromethane	ND	0.001	"
Bromoform	ND	0.001	"
Bromomethane	ND	0.001	"
Carbon disulfide	ND	0.001	"
Carbon tetrachloride	ND	0.001	"
Chlorobenzene	ND	0.001	"
Chloroethane	ND	0.001	"
Chloromethane	ND	0.001	"
Cyclohexane	ND	0.001	"
Dibromomethane	ND	0.001	"
cis-1,2-Dichloroethene	ND	0.001	"
cis-1,3-Dichloropropene	ND	0.001	"
Ethylbenzene	ND	0.001	"
Dibromochloromethane	ND	0.001	"
Hexachlorobutadiene	ND	0.001	"
Iodomethane	ND	0.001	"
Isopropylbenzene	ND	0.001	"
m,p-Xylene	ND	0.002	"
Methyl Acetate	ND	0.005	"

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Project: BBC - Pad Seep

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch OE27001 - EPA 5030B**

**Blank (OE27001-BLK1)**

Prepared: 05/27/2010 Analyzed: 05/27/2010

Methyl tert-Butyl Ether	ND	0.001	mg/L
Methylcyclohexane	ND	0.001	"
Naphthalene	ND	0.001	"
sec-Butylbenzene	ND	0.001	"
n-Butylbenzene	ND	0.001	"
n-Propylbenzene	ND	0.001	"
o-Xylene	ND	0.001	"
Styrene	ND	0.001	"
Tetrachloroethene	ND	0.001	"
Toluene	ND	0.001	"
trans-1,2-Dichloroethene	ND	0.001	"
trans-1,3-Dichloropropene	ND	0.001	"
Trichloroethene	ND	0.001	"
Trichlorofluoromethane	ND	0.001	"
Vinyl acetate	ND	0.005	"
Vinyl chloride	ND	0.001	"

Surrogate: 1,2-Dichloroethane-d4	60.9	ug/L	62.5	97.4	82.4-114
Surrogate: 4-Bromofluorobenzene	59.5	"	62.5	95.2	85.5-122
Surrogate: Toluene-d8	59.6	"	62.5	95.3	91.1-120

**LCS (OE27001-BS1)**

Prepared: 05/27/2010 Analyzed: 05/27/2010

Benzene	0.06	0.001	mg/L	0.0500	114	80.1-129
Chlorobenzene	0.05	0.001	"	0.0500	102	84.1-121
Toluene	0.06	0.001	"	0.0500	110	71.2-128
Trichloroethene	0.06	0.001	"	0.0500	112	81.5-119

Surrogate: 1,2-Dichloroethane-d4	63.8	ug/L	62.5	102	82.4-114
Surrogate: 4-Bromofluorobenzene	62.6	"	62.5	100	85.5-122
Surrogate: Toluene-d8	62.0	"	62.5	99.2	91.1-120

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## Volatile Organic Compounds by EPA Method 8260B - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch OE27001 - EPA 5030B

Matrix Spike (OE27001-MS1)		Source: X005170-03			Prepared: 05/27/2010 Analyzed: 05/27/2010					
Benzene	0.1	0.001	mg/L	0.0500	0.06	106	71.3-131			
Chlorobenzene	0.05	0.001	"	0.0500	ND	98.6	77.9-130			
Toluene	0.05	0.001	"	0.0500	ND	106	70.1-131			
Trichloroethene	0.06	0.001	"	0.0500	ND	110	72.3-128			
Surrogate: 1,2-Dichloroethane-d4	62.2		ug/L	62.5		99.5	82.4-114			
Surrogate: 4-Bromofluorobenzene	63.8		"	62.5		102	85.5-122			
Surrogate: Toluene-d8	61.9		"	62.5		99.0	91.1-120			
Matrix Spike Dup (OE27001-MSD1)		Source: X005170-03			Prepared: 05/27/2010 Analyzed: 05/27/2010					
Benzene	0.1	0.001	mg/L	0.0500	0.06	107	71.3-131	0.239	25	
Chlorobenzene	0.05	0.001	"	0.0500	ND	103	77.9-130	4.36	25	
Toluene	0.05	0.001	"	0.0500	ND	109	70.1-131	3.22	25	
Trichloroethene	0.06	0.001	"	0.0500	ND	114	72.3-128	3.91	25	
Surrogate: 1,2-Dichloroethane-d4	62.5		ug/L	62.5		100	82.4-114			
Surrogate: 4-Bromofluorobenzene	63.6		"	62.5		102	85.5-122			
Surrogate: Toluene-d8	61.6		"	62.5		98.6	91.1-120			

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## Cations by EPA 300 - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 808354 - E300P</b>										
<b>MS (374238-001 S)</b>		<b>Source: 374238-001 S</b>			<b>Prepared: 05/26/2010 Analyzed: 05/26/2010</b>					
Fluoride	4.88	0.2	mg/L	5.00	0.186	94	90-110	0	20	
Nitrate as N	1.21	0.05	"	1.13	0.127	96	90-110	0	20	
Sulfate	63.4	0.5	"	5.00	65.3		90-110	0	20	
Bromide	4.91	0.5	"	5.00	40.500	98	90-110	0	20	
Nitrite as N	1.56	0.05	"	1.52	40.050	103	90-110	0	20	
<b>MSD (374238-001 SD)</b>		<b>Source: 374238-001 SD</b>			<b>Prepared: 05/26/2010 Analyzed: 05/26/2010</b>					
Nitrite as N	1.67	0.05	mg/L	1.52	40.050	110	90-110	7	20	
Nitrate as N	1.25	0.05	"	1.13	0.127	99	90-110	3	20	
Fluoride	4.99	0.2	"	5.00	0.186	96	90-110	2	20	
Bromide	5.4	0.5	"	5.00	40.500	108	90-110	10	20	
Sulfate	64	0.5	"	5.00	65.3		90-110		20	
<b>LCS (564342-1-BKS)</b>		<b>Source: 564342-1-BKS</b>			<b>Prepared: 05/26/2010 Analyzed: 05/26/2010</b>					
Nitrate as N	1.22	0.05	mg/L	1.13	40.007	108	90-110	0	20	
Bromide	5.18	0.5	"	5.00	40.052	104	90-110	0	20	
Sulfate	5.44	0.5	"	5.00	40.076	109	90-110	0	20	
Nitrite as N	1.67	0.05	"	1.52	40.005	110	90-110	0	20	
Fluoride	5.36	0.2	"	5.00	40.030	107	90-110	0	20	
<b>BLANK (564342-1-BLK)</b>		<b>Source: 564342-1-BLK</b>			<b>Prepared: 05/26/2010 Analyzed: 05/26/2010</b>					
Bromide	ND	0.5	mg/L	0.00			-	0	20	
Sulfate	ND	0.5	"	0.00			-	0	20	
Fluoride	ND	0.2	"	0.00			-	0	20	
Nitrate as N	ND	0.05	"	0.00			-	0	20	
Nitrite as N	ND	0.05	"	0.00			-	0	20	

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Project Number: 010-0974  
Project: BBC - Pad Seep

## Metals by SW6010B - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch 809137 - SW3010A

LCS (564300-1-BKS)		Source: 564300-1-BKS			Prepared: 05/27/2010 Analyzed: 06/03/2010					
Zinc	914	25	ug/L	1000	45.30	91	75-125	0	20	
Vanadium	932	20	"	1000	45.60	93	75-125	0	20	
Chromium	917	5	"	1000	41.10	92	75-125	0	20	
Thallium	951	20	"	1000	43.90	95	75-125	0	20	
Silica	ND	642	"	0.00	4109.0		75-125	0	30	
Strontium	941	15	"	1000	41.50	94	75-125	0	20	
Silver	487	20	"	500	41.60	97	75-125	0	20	
Iron	4550	100	"	5000	445.0	91	75-125	0	20	
Antimony	915	20	"	1000	43.80	92	75-125	0	20	
Arsenic	918	10	"	1000	44.60	92	75-125	0	20	
Barium	915	10	"	1000	42.00	92	75-125	0	20	
Beryllium	923	4	"	1000	40.670	92	75-125	0	20	
Boron	980	25	"	1000	43.40	98	75-125	0	20	
Cadmium	946	5	"	1000	40.570	95	75-125	0	20	
Copper	911	20	"	1000	49.60	91	75-125	0	20	
Calcium	22900	200	"	25000	459.0	92	75-125	0	20	
Selenium	940	30	"	1000	45.40	94	75-125	0	20	
Lead	956	10	"	1000	43.10	96	75-125	0	20	
Lithium	874	100	"	1000	411.0	87	75-125	0	20	
Magnesium	22900	200	"	25000	445.0	92	75-125	0	20	
Manganese	911	15	"	1000	44.40	91	75-125	0	20	
Molybdenum	922	5	"	1000	43.00	92	75-125	0	20	
Nickel	931	10	"	1000	45.20	93	75-125	0	20	
Potassium	9010	1000	"	10000	4350	90	75-125	0	20	
Cobalt	911	10	"	1000	40.720	91	75-125	0	20	

### BLANK (564300-1-BLK)

Source: 564300-1-BLK

Prepared: 05/27/2010 Analyzed: 06/03/2010

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Project: BBC - Pad Seep

## Metals by SW6010B - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch 809137 - SW3010A

BLANK (564300-1-BLK)		Source: 564300-1-BLK			Prepared: 05/27/2010 Analyzed: 06/03/2010					
Selenium	ND	30	ug/L	1000		-	0	20		
Barium	ND	10	"	1000		-	0	20		
Vanadium	ND	20	"	1000		-	0	20		
Magnesium	ND	200	"	25000		-	0	20		
Manganese	ND	15	"	1000		-	0	20		
Molybdenum	ND	5	"	1000		-	0	20		
Potassium	ND	1000	"	10000		-	0	20		
Silica	ND	642	"	0.00		-	0	30		
Silver	ND	20	"	500		-	0	20		
Strontium	ND	15	"	1000		-	0	20		
Thallium	ND	20	"	1000		-	0	20		
Chromium	ND	5	"	1000		-	0	20		
Antimony	ND	20	"	1000		-	0	20		
Zinc	ND	25	"	1000		-	0	20		
Cadmium	ND	5	"	1000		-	0	20		
Nickel	ND	10	"	1000		-	0	20		
Arsenic	ND	10	"	1000		-	0	20		
Cobalt	ND	10	"	1000		-	0	20		
Beryllium	ND	4	"	1000		-	0	20		
Boron	ND	25	"	1000		-	0	20		
Calcium	ND	200	"	25000		-	0	20		
Lead	ND	10	"	1000		-	0	20		
Iron	ND	100	"	5000		-	0	20		
Copper	ND	20	"	1000		-	0	20		
Lithium	ND	100	"	1000		-	0	20		

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## Ortho-Phosphate as P by EPA 365.1 - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 809463 - NONE</b>										
<b>MS (374457-001 S)</b>		Source: 374457-001 S			Prepared: 05/26/2010 Analyzed: 05/26/2010					
Ortho-Phosphate as P	0.475	0.02	mg/L	0.500	0.020	95	90-110	0	10	
<b>MSD (374457-001 SD)</b>		Source: 374457-001 SD			Prepared: 05/26/2010 Analyzed: 05/26/2010					
Ortho-Phosphate as P	0.476	0.02	mg/L	0.500	0.020	95	90-110	0	10	
<b>LCS (809463-1-BKS)</b>		Source: 809463-1-BKS			Prepared: 05/26/2010 Analyzed: 05/26/2010					
Ortho-Phosphate as P	0.482	0.02	mg/L	0.500	0.006	96	90-110	0	10	
<b>BLANK (809463-1-BLK)</b>		Source: 809463-1-BLK			Prepared: 05/26/2010 Analyzed: 05/26/2010					
Ortho-Phosphate as P	ND	0.02	mg/L	0.500			-	0	10	

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## Semivolatile Organic Compounds (SVOCs) by SW8270D - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch 808786 - SW3510C

MS (374693-001 S)		Source: 374693-001 S			Prepared: 05/28/2010 Analyzed: 05/29/2010					
Pyrene	3.11	0.1	ug/L	5.00	±0.100	62	36-123	0	20	
Dibenz(a,h)anthracene	2.8	0.2	"	5.00	±0.200	56	11-115	0	20	
Fluoranthene	2.99	1	"	5.00	±1.00	60	42-112	0	20	
Fluorene	2.78	1	"	5.00	±1.00	56	25-109	0	20	
Indeno(1,2,3-c,d)Pyrene	2.83	0.1	"	5.00	±0.100	57	16-120	0	20	
Naphthalene	2.49	1	"	5.00	±1.00	50	12-102	0	20	
Phenanthrene	2.9	1	"	5.00	±1.00	58	38-108	0	20	
Benzo(a)anthracene	3.23	0.1	"	5.00	±0.100	65	28-115	0	20	
Chrysene	3.17	0.1	"	5.00	±0.100	63	11-115	0	20	
Benzo(g,h,i)perylene	2.79	0.1	"	5.00	±0.100	56	29-120	0	20	
Benzo(a)pyrene	3.03	0.1	"	5.00	±0.100	61	27-119	0	20	
Anthracene	2.79	1	"	5.00	±1.00	56	39-111	0	20	
Acenaphthylene	2.73	1	"	5.00	±1.00	55	21-109	0	20	
Acenaphthene	2.69	1	"	5.00	±1.000	54	23-100	0	20	
2-Methylnaphthalene	2.51	1	"	5.00	±1.00	50	10-115	0	20	
1-Methylnaphthalene	2.34	1	"	5.00	±1.00	47	10-104	0	20	
Benzo(b)fluoranthene	2.84	0.1	"	5.00	±0.100	57	15-116	0	20	
Benzo(k)fluoranthene	3.28	0.1	"	5.00	±0.100	66	33-122	0	20	
Surrogate: Terphenyl-D14	3.79		PERCENT	5.00		76	20-128			
Surrogate: Nitrobenzene-d5	2.71		"	5.00		54	10-112			
Surrogate: 2-Fluorobiphenyl	2.86		"	5.00		57	10-116			

MSD (374693-001 SD)		Source: 374693-001 SD			Prepared: 05/28/2010 Analyzed: 05/29/2010					
Dibenz(a,h)anthracene	2.78	0.2	ug/L	5.00	±0.200	56	11-115	1	20	
Fluoranthene	2.8	1	"	5.00	±1.00	56	42-112	7	20	
Fluorene	2.33	1	"	5.00	±1.00	47	25-109	18	20	
Indeno(1,2,3-c,d)Pyrene	2.84	0.1	"	5.00	±0.100	57	16-120	0	20	

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Noelle E Doyle, Laboratory Manager

Olsson Associates  
826 21 1/2 Road  
Grand Junction CO 81505

Ken Kreie  
Project Number: 010-0974  
Project: BBC - Pad Seep

## Semivolatile Organic Compounds (SVOCs) by SW8270D - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch 808786 - SW3510C

MSD (374693-001 SD)		Source: 374693-001 SD			Prepared: 05/28/2010 Analyzed: 05/29/2010					
Naphthalene	1.72	1	ug/L	5.00	1.00	34	12-102	37	20	
Chrysene	3.03	0.1	"	5.00	0.100	61	11-115	5	20	
Pyrene	3.06	0.1	"	5.00	0.100	61	36-123	2	20	
Anthracene	2.48	1	"	5.00	1.00	50	39-111	12	20	
Phenanthrene	2.55	1	"	5.00	1.00	51	38-108	13	20	
Benzo(k)fluoranthene	2.27	0.1	"	5.00	0.100	45	33-122	36	20	
Benzo(g,h,i)perylene	2.82	0.1	"	5.00	0.100	56	29-120	1	20	
Benzo(b)fluoranthene	3.52	0.1	"	5.00	0.100	70	15-116	21	20	
Benzo(a)anthracene	3.13	0.1	"	5.00	0.100	63	28-115	3	20	
Acenaphthylene	2.12	1	"	5.00	1.00	42	21-109	25	20	
Acenaphthene	2.15	1	"	5.00	1.000	43	23-100	22	20	
2-Methylnaphthalene	1.79	1	"	5.00	1.00	36	10-115	33	20	
1-Methylnaphthalene	1.71	1	"	5.00	1.00	34	10-104	31	20	
Benzo(a)pyrene	2.9	0.1	"	5.00	0.100	58	27-119	4	20	
Surrogate: Terphenyl-D14	3.56		PERCENT	5.00		71	20-128			
Surrogate: Nitrobenzene-d5	1.83		"	5.00		37	10-112			
Surrogate: 2-Fluorobiphenyl	1.99		"	5.00		40	10-116			

LCS (564378-1-BKS)		Source: 564378-1-BKS			Prepared: 05/28/2010 Analyzed: 05/28/2010					
Dibenz(a,h)anthracene	3.36	0.2	ug/L	5.00	0.006	67	11-115	0	20	
Naphthalene	2.73	1	"	5.00	0.034	55	12-102	0	20	
Benzo(k)fluoranthene	2.77	0.1	"	5.00	0.012	55	33-122	0	20	
1-Methylnaphthalene	2.63	1	"	5.00	0.026	53	10-104	0	20	
Pyrene	3.31	0.1	"	5.00	0.008	66	36-123	0	20	
Indeno(1,2,3-c,d)Pyrene	3.36	0.1	"	5.00	0.011	67	16-120	0	20	
Fluorene	2.96	1	"	5.00	0.011	59	25-109	0	20	
Fluoranthene	3.29	1	"	5.00	0.008	66	42-112	0	20	

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Ken Kreie  
Project Number: 010-0974  
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## Semivolatile Organic Compounds (SVOCs) by SW8270D - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch 808786 - SW3510C

LCS (564378-1-BKS)		Source: 564378-1-BKS			Prepared: 05/28/2010 Analyzed: 05/28/2010					
Chrysene	3.35	0.1	ug/L	5.00	±0.017	67	11-115	0	20	
2-Methylnaphthalene	2.75	1	"	5.00	±0.030	55	10-115	0	20	
Benzo(b)fluoranthene	3.85	0.1	"	5.00	±0.015	77	15-116	0	20	
Benzo(a)pyrene	3.28	0.1	"	5.00	±0.013	66	27-119	0	20	
Benzo(a)anthracene	3.4	0.1	"	5.00	±0.011	68	28-115	0	20	
Anthracene	3.03	1	"	5.00	±0.006	61	39-111	0	20	
Acenaphthylene	2.88	1	"	5.00	±0.026	58	21-109	0	20	
Acenaphthene	2.84	1	"	5.00	±0.027	57	23-100	0	20	
Benzo(g,h,i)perylene	3.31	0.1	"	5.00	±0.014	66	29-120	0	20	
Phenanthrene	3.14	1	"	5.00	±0.014	63	38-108	0	20	
Surrogate: Terphenyl-D14	3.82		PERCENT	5.00		76	20-128			
Surrogate: Nitrobenzene-d5	3		"	5.00		60	10-112			
Surrogate: 2-Fluorobiphenyl	2.98		"	5.00		60	10-116			

BLANK (564378-1-BLK)		Source: 564378-1-BLK			Prepared: 05/28/2010 Analyzed: 05/28/2010					
Fluoranthene	ND	1	ug/L	5.00		-	0	20		
Fluorene	ND	1	"	5.00		-	0	20		
Indeno(1,2,3-c,d)Pyrene	ND	0.1	"	5.00		-	0	20		
Naphthalene	ND	1	"	5.00		-	0	20		
Phenanthrene	ND	1	"	5.00		-	0	20		
Dibenz(a,h)anthracene	ND	0.2	"	5.00		-	0	20		
Pyrene	ND	0.1	"	5.00		-	0	20		
Chrysene	ND	0.1	"	5.00		-	0	20		
Benzo(k)fluoranthene	ND	0.1	"	5.00		-	0	20		
Benzo(g,h,i)perylene	ND	0.1	"	5.00		-	0	20		
Benzo(b)fluoranthene	ND	0.1	"	5.00		-	0	20		
Benzo(a)pyrene	ND	0.1	"	5.00		-	0	20		

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Grand Junction CO 81505

Ken Kreie  
Project Number: 010-0974  
Project: BBC - Pad Seep

## Semivolatile Organic Compounds (SVOCs) by SW8270D - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 808786 - SW3510C</b>										
<b>BLANK (564378-1-BLK)</b>		<b>Source: 564378-1-BLK</b>			<b>Prepared: 05/28/2010 Analyzed: 05/28/2010</b>					
Benzo(a)anthracene	ND	0.1	ug/L	5.00			-	0	20	
Anthracene	ND	1	"	5.00			-	0	20	
Acenaphthylene	ND	1	"	5.00			-	0	20	
2-Methylnaphthalene	ND	1	"	5.00			-	0	20	
1-Methylnaphthalene	ND	1	"	5.00			-	0	20	
Acenaphthene	ND	1	"	5.00			-	0	20	
Surrogate: Nitrobenzene-d5	2.58		PERCENT	5.00		52		10-112		
Surrogate: Terphenyl-D14	3.52		"	5.00		70		20-128		
Surrogate: 2-Fluorobiphenyl	2.65		"	5.00		53		10-116		

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Ken Kreie  
Project Number: 010-0974  
Project: BBC - Pad Seep

**Total Alkalinity by SM2320B - Quality Control  
XENCO**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 809541 - NONE</b>										
<b>LCS (809541-1-BKS)</b>		Source: 809541-1-BKS			Prepared: 06/07/2010 Analyzed: 06/07/2010					
Alkalinity, Total (as CaCO <sub>3</sub> )	246	1	mg/L	250	+0.392	98	80-120	0	20	
<b>BLANK (809541-1-BLK)</b>		Source: 809541-1-BLK			Prepared: 06/07/2010 Analyzed: 06/07/2010					
Alkalinity, Total (as CaCO <sub>3</sub> )	ND	1	mg/L	250			-	0	20	

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Olsson Associates

826 21 1/2 Road

Grand Junction CO 81505

Ken Kreie

Project Number: 010-0974

Project: BBC - Pad Seep

### Notes and Definitions

- V detected in sample and blank
- L exceeded calibration of range of instrument at that dilution. Value may be biased
- I Sample result was found between MDL and RL
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference

Origins Laboratory, Inc.



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Noelle E Doyle, Laboratory Manager

Sample Summary

Origins Laboratory

Job No: D14061

Origins Laboratory, Denver, CO  
Project No: V#657

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D14061-1	05/24/10	12:30	06/09/10	AQ	Ground Water	SE-1

**Report of Analysis**

Page 1 of 1

<b>Client Sample ID:</b>	SE-1	<b>Date Sampled:</b>	05/24/10
<b>Lab Sample ID:</b>	D14061-1	<b>Date Received:</b>	06/09/10
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Project:</b>	Origins Laboratory, Denver, CO		

**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chlorate	< 0.020	0.020	mg/l	1	06/11/10	GH	EPA 300.1

---

RL = Reporting Limit



D14061

page ☐ of ☐

Client: ORIGINS LAB  
Address:

Project Manager: NOELLE DOYLE

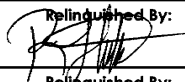
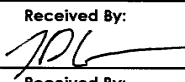
Project Name: BBC - PAD SEED

Project Number: N/A

Telephone Number:

Samples Collected By:

Email Address: NDOYLE@OELABI.NC.COM

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix				Analysis				Sample Instructions		
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Sampling Container #	Other	CHLORATE	B/B					
SE-1	5/24/10	12:30	1					X					X				01	1
																		2
																		3
																		4
																		5
																		6
																		7
																		8
																		9
																		10
Relinquished By: 	Date: 6/9/10	Time: 17:25	Received By: 				Date:	Time:	Turnaround Time:									
Relinquished By:	Date:	Time:	Received By:				Date:	Time:	Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/>									
									48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/>									
									Standard <input type="checkbox"/>									

H.D. 5/10/48

Date Results Needed

D14061: Chain of Custody

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