

State of Colorado  
Oil and Gas Conservation Commission

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



FOR OGCC USE ONLY

#8295

RECEIVED  
3/20/2014

**SITE INVESTIGATION AND REMEDIATION WORKPLAN**

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

OGCC Employee:

- Spill  Complaint  
 Inspection  NOAV

Tracking No:

**CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED**

- Spill or Release  Plug & Abandon  Central Facility Closure  Site/Facility Closure  Other (describe): \_\_\_\_\_

**GENERAL INFORMATION**

<b>OGCC Operator Number:</b> 10071 Name of Operator: <u>Bill Barrett Corporation (BBC)</u> Address: <u>1099 18th Street, Suite 2300</u> City: <u>Denver</u> State: <u>CO</u> Zip: <u>80202</u>		Contact Name and Telephone Name: <u>Scott Ghan</u> No: <u>970-876-1959</u> Fax: <u>970-876-0981</u>	
API/Facility No: <u>335185</u> Facility Name: <u>Jolley No. 1 Pit</u> Well Name: <u>Not Applicable</u>		County: <u>Garfield</u> Facility Number: <u>301699</u> Well Number: <u>Not Applicable</u>	
Location (QtrQtr, Sec, Twp, Rng, Meridian): <u>SESE, Sec 20, T6S, R91W, 6th PM</u>		Latitude: <u>39.50975</u> Longitude: <u>-107.5713</u>	

**TECHNICAL CONDITIONS**

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): Not Applicable

Site Conditions: Is location within a sensitive area (according to Rule 901e)?  Y  N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Open range

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Vale Silt Loam, 3-6% Slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): A designated intermittent drainage is located approximately 1454' northeast of the facility. A domestic water well is located approximately 2400' to the north of the facility.

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

Impacted Media (check):	Extent of Impact:	How Determined:
<input type="checkbox"/> Soils	_____	_____
<input type="checkbox"/> Vegetation	_____	_____
<input type="checkbox"/> Groundwater	_____	_____
<input type="checkbox"/> Surface water	_____	_____

**REMEDIATION WORKPLAN**

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

In June 2012, all water was removed from the pit and disposed of in one of Bill Barrett Corporation's injection wells. The liners were cleaned, removed, bailed and sent by a subcontractor to a recycling facility. No visual signs of the liner being compromised were evident during this process. The soils from the bottom of the pit were then sampled for compliance with Table 910-1 Concentration Levels. The results of the soil samples are included in the attached report. It should be noted that BBC was approached by another operator in late 2012 regarding a possible water sharing agreement for their completion activities in the area and this would have possibly involved placing this facility back into service under this recycle and reuse option. This option never developed and is the reason for extended time frame between the sampling and this submittal. The pit remains out of service and is awaiting COGCC approval to proceed with backfill and other closure activities.

Describe how source is to be removed:

As noted, all water and liners have been removed and disposed of or recycled at an appropriate facility.

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

Not Applicable

State of Colorado Oil and Gas Conservation Commission

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Tracking Number: Name of Operator: Bill Barrett Corporation OGCC Operator No: 10071 Received Date: Well Name & No: Not Applicable Facility Name & No.: Jolley No. 1 Pit 301699

REMEDIATION WORKPLAN (CONT.)

OGCC Employee:

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.): Groundwater was not encountered during the remedial activities. Based on information from the water well approximately 2400' to the north of the facility, the depth to groundwater is estimated to be at least 85' below ground surface.

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required. Upon COGCC authorization of this remediation plan, BBC will backfill the former pit. The former pit location will be recontoured and reseeded. Because the Jolley No.1 pit is part of a active well pad and ongoing production activities, the reclaimed area will be managed under BBC's surface management programs such as stormwater and weed management.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing. Is further site investigation required? [ ] Y [X] N If yes, describe: Please see the attached sampling report. It should be noted that the intial pit samples from 23' below ground surface were collected from the soil immediately under the liner at the base of the pit. This contradicts with the depth indicated on the Form 15 approved for this facility. As noted in the attached sampling report, laboratory results indicated exceedances of Table 910-1 concentration levels for EC, SAR, pH and arsenic in some of the samples. The COGCC has previously indicated that they will only apply the Table 910-1 concentration levels for EC, pH, and SAR to soils that are 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 Table 910-1 compliant 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 and the pit bottom will be buried well below the vegetative root zone. The arsenic concentrations for soil samples collected within the former pit were within the range of background concentrations (2.40 mg/kg to 2.88 mg/kg) at the site.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.): Water was disposed of in one or more of the following injection facilities - GGU Rodreick (Facility 159176); Specialty 13A-28-692 SWD(Facility 159212); Circle B Land 33A-35-692 (Facility 159277); or Scott 41D-36-692 SWD (Facility 159159). The liner was cleaned, bailed and sent to the Holcim/Geocycle recycling facility in Morgan, UT. Bill Barrett Corporation has waste manifests and certificates of destruction from Holcim/Geocycle to verify appropriate disposition of the liners.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 6/14/12 Date Site Investigation Completed: 10/18/13 Remediation Plan Submitted: 3/20/14 Remediation Start Date: NA Anticipated Completion Date: NA Actual Completion Date: TBD

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

Print Name: Scott Ghan

Signed: [Signature] Title: Senior Environmental Specialist Date: 3/20/14

OGCC Approved: Title: Date:



October 18, 2013

Mr. Carlos Lujan  
Environmental Protection Specialist  
Colorado Oil and Gas Conservation Commission  
796 Megan Ave., Suite 201  
Rifle, Colorado 81650

**RE: Jolley 1 Completions Pit Closure  
Bill Barrett Corporation  
Facility ID: 301699  
SESE Sec. 20 T6S R91W, 6th Principal Meridian  
Garfield County, Colorado**

Dear Mr. Lujan:

LT Environmental, Inc. (LTE) was contracted by Bill Barrett Corporation (BBC) to conduct pit closure sampling at the Jolley 1 completions pit (Site). The Site is located approximately 4.65 miles southeast of Silt, Colorado (Figure 1).

### **Pit Closure Activities**

On June 14, 2012, LTE personnel were on site for pit closure sampling. Soil samples PS01 and PS02 were collected at approximately 23 feet below ground surface (bgs) from the completions pit bottom (Figure 2). Soil samples were submitted to ALS Environmental, Inc. (ALS) in Fort Collins, Colorado, for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (EPA) Method 8260B, total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO) by EPA Modified Method 8015, the Colorado Oil & Gas Conservation Commission (COGCC) Table 910-1 Metals by EPA Method SW6020, polycyclic aromatic hydrocarbons (PAHs) by EPA Method SW8270, pH by EPA Method 9045, specific conductance (EC) by Standard Method 2510B, and sodium adsorption ratio (SAR) by the United States Department of Agriculture Handbook 60 Method. Additionally, three background soil samples (BG01 through BG03) were collected and submitted to ALS for arsenic by EPA Method SW6020 to define background levels for arsenic in the area.

Analytical results (Table 1) indicate that the pit bottom samples PS01 and PS02 exceeded the COGCC Table 910-1 Concentration Level for EC at 5.84 millimhos per centimeter (mmhos/cm) and 6.87 mmhos/cm, respectively. The pit bottom samples also exhibited an elevated arsenic concentration at 1.97 milligrams per kilogram (mg/kg) and 2.26 mg/kg, respectively. However, these arsenic concentrations are below the established background levels for arsenic in the area which ranged from 2.40 mg/kg to 2.88 mg/kg. Sample PS02 (collected at 26 feet bgs) also exceeded the COGCC Table 910-1 Concentration Level for pH at 9.62. However, a slight



exceedance of pH at this depth is not considered to be a threat to human health or the environment.

It is believed that the inorganic exceedances exhibited by PS01 and PS02 are related to a previous release from the southern completions pit on the Jolley #1 Pad. The release (spill number 1881440) was reported to the COGCC on October 18, 2007. Assessment and remediation activities were conducted following discovery of the release. After sampling reported elevated levels of EC and SAR existed, BBC proposed natural attenuation for the remaining inorganics and the release was granted No Further Action on January 29, 2008.

To evaluate the depth of inorganic impacts from the previous release LTE conducted pothole excavations in the pit bottom. On July 9, July 31, and September 5, 2012, LTE personnel were on site for assessment oversight and follow-up soil sampling. Following the exceedances of EC at sample locations PS01 and PS02, potholes were excavated and sampled from the completions pit bottom to determine a depth of compliance. Although surface background samples (BG01 through BG03) were collected on June 14, 2012, LTE collected additional background sample BG01 on July 9, 2012 and analyzed the sample for EC and SAR to define background levels at a depth of 20 feet bgs. Sample location PS01 achieved a compliant depth at 26 feet bgs. Sample location PS02 exhibited an elevated SAR level at 26 feet bgs and continued to exceed the Table 910-1 Concentration Level in each sample until a depth of 53 feet bgs. Sample location PS02 continued to exceed the COGCC Table 910-1 Concentration Level for EC at the final assessment depth of 56 feet bgs with a concentration of 12.9 mmhos/cm. According to well records on the Division of Water Resources database, groundwater is expected to be at least 85 feet bgs.

BBC has conducted site assessment and sampling to characterize the EC and SAR exceedances detailed above. The SAR exceedances were delineated and although EC continues to slightly exceed the COGCC Table 910-1 Concentration Level at 12.9, BBC is requesting authorization to close the completions pit despite elevated concentrations of EC, pH, and SAR. The elevated concentrations are likely the result of a historical release at the Site (Spill Tracking #1881440), which was granted a No Further Action determination by the COGCC. In addition, frequently asked question number 32 on the COGCC website states that the COGCC will apply the Table 910-1 Concentration Levels for EC, pH, and SAR only 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 3 feet of cover and a minimum of 3 feet above the static water level. Although EC, pH, and SAR are parameters used to ensure proper reclamation of disturbed areas, limited exceedances of these parameters will not affect reclamation, as the completions pit bottom samples and site assessment samples below the completions pit were collected well beyond 3 feet below the vegetative root zone and will be buried beneath greater than 3 feet of cover. LTE believes the SAR in soil exists at compliant levels before encountering groundwater.



Please call us at (303) 433-9788 if you have any questions regarding this report or require additional information.

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read "Michael Wicker". The signature is fluid and cursive, with the first and last names being the most prominent.

Michael Wicker  
Staff Geologist

A handwritten signature in black ink, appearing to read "Brian Dodek". The signature is fluid and cursive, with the first and last names being the most prominent.

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

Attachments:

Figure 1 – Site Location Map

Figure 2 – Site Map

Table 1 – Soil Analytical Results

Attachment – Laboratory Analytical Reports

## FIGURES



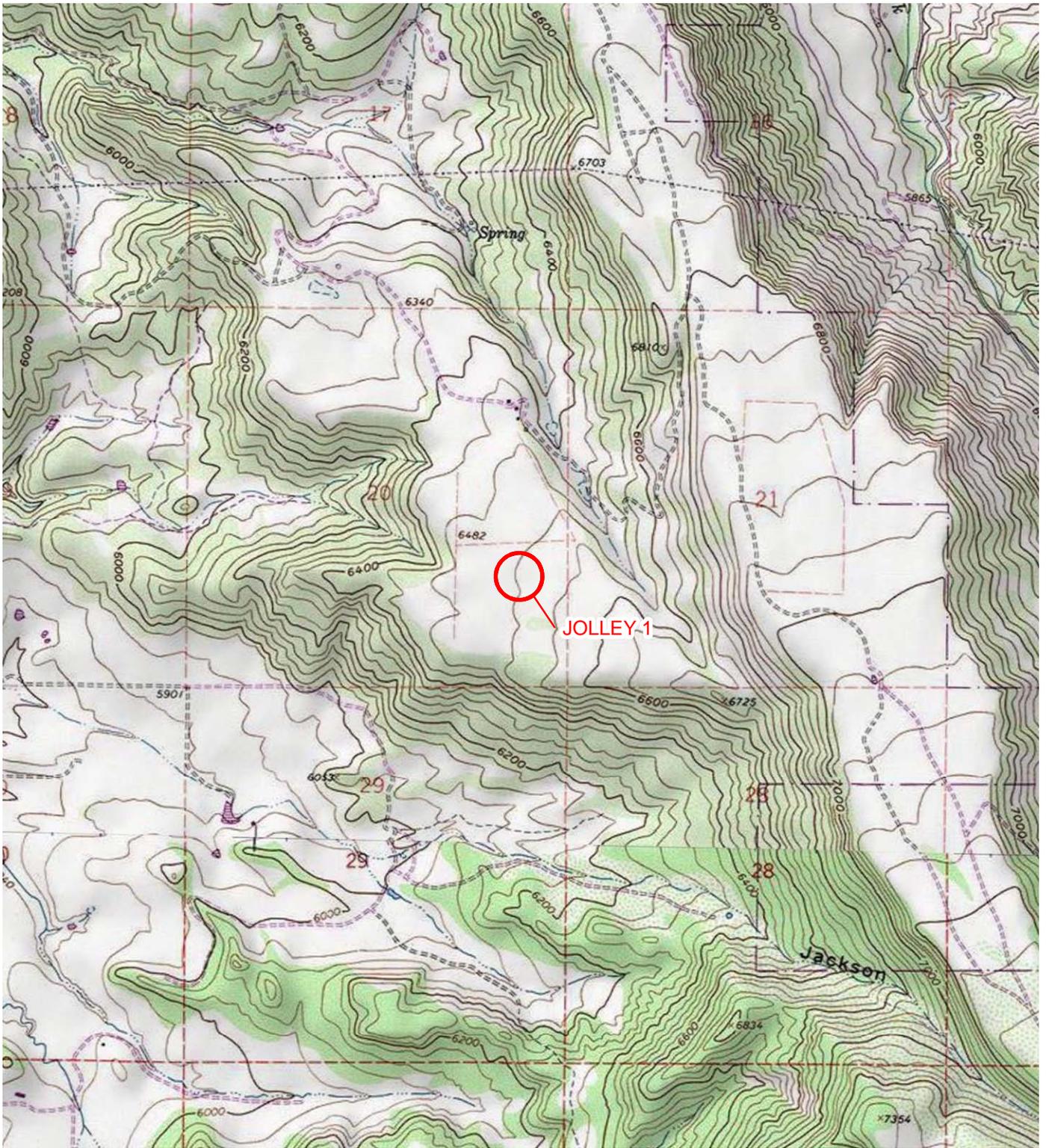


IMAGE COURTESY OF USGS/ESRI

**LEGEND**

 SITE LOCATION

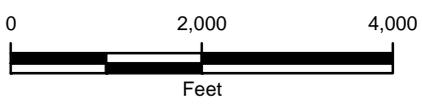


FIGURE 1  
 SITE LOCATION MAP  
 JOLLEY 1  
 GARFIELD COUNTY, COLORADO

**BILL BARRETT CORPORATION**





IMAGE COURTESY OF ESRI/BING MAPS

**LEGEND**

- SOIL SAMPLE
- COMPLETIONS PIT

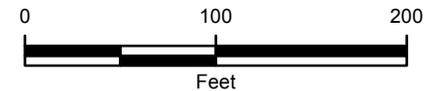


FIGURE 2  
 SITE MAP  
 JOLLEY 1  
 SESE SEC 20-T6S-R91W  
 GARFIELD COUNTY, COLORADO  
 BILL BARRETT CORPORATION



**TABLE**



**TABLE 1**  
**SOIL ANALYTICAL RESULTS**  
**JOLLEY 1 PIT CLOSURE**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**

Parameter	Standard	BG01	BG01	BG02	BG03
Depth (feet)		0.5	20	0.5	0.5
Sample Date		6/14/2012	7/9/2012	6/14/2012	6/14/2012

**Inorganics**

Electrical Conductivity (mmhos/cm)	4	1.70		
SAR (meq/meq)	12	1.30		
pH, Lab (Standard Units)	6 to 9			

**Metals**

Arsenic (mg/kg)	0.39	<b>2.57</b>	<b>2.88</b>	<b>2.40</b>
Barium (mg/kg)	15000			
Cadmium (mg/kg)	70			
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

**Notes:**

< - less than stated laboratory reporting limit  
 Bold indicates result is equal to or exceeds the applicable standard  
 Basic Standards for Soil are 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



**TABLE 1 (Continued)**  
**SOIL ANALYTICAL RESULTS**  
**JOLLEY 1 PIT CLOSURE**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**

Parameter	Standard	PS01	PS01	PS01	PS02
Depth (feet)		23	26	29	23
Sample Date		6/14/2012	7/9/2012	7/9/2012	6/14/2012

**Inorganics**

Electrical Conductivity (mmhos/cm)	4	<b>5.84</b>	3.60	1.90	<b>6.87</b>
SAR (meq/meq)	12	11.2	2.58	2.88	11.9
pH, Lab (Standard Units)	6 to 9	8.48			<b>9.62</b>

**Metals**

Arsenic (mg/kg)	0.39	<b>1.97</b>			<b>2.26</b>
Barium (mg/kg)	15000	171			138
Cadmium (mg/kg)	70	<0.479			<0.480
Chromium+3 Calculated (mg/kg)	120000	<5.00			7.00
Chromium, Hexavalent (mg/kg)	23	<2.00			<2.00
Copper (mg/kg)	3100	6.09			11.6
Lead (mg/kg)	400	3.08			6.43
Mercury (mg/kg)	23	0.0411			0.0463
Nickel (mg/kg)	1600	11.4			27.6
Selenium (mg/kg)	390	<0.479			0.737
Silver (mg/kg)	390	<0.479			<0.480
Zinc (mg/kg)	23000	13.9			29.8

**Organic Compounds**

TPH-DRO (mg/kg)		20			26
TPH-GRO (mg/kg)		0.069			<0.050
TPH-Total (mg/kg)	500	20.069			26
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	<0.015			<0.015
Acenaphthene (mg/kg)	1000	<0.0065			<0.0066
Anthracene (mg/kg)	1000	<0.0065			<0.0066
Benzo (a) anthracene (mg/kg)	0.22	<0.0065			<0.0066
Benzo (b) fluoranthene (mg/kg)	0.22	<0.0065			<0.0066
Benzo (k) fluoranthene (mg/kg)	2.2	<0.0065			<0.0066
Benzo (a) pyrene (mg/kg)	0.022	<0.0065			<0.0066
Chrysene (mg/kg)	22	<0.0065			0.0081
Dibenz (a,h) anthracene (mg/kg)	0.022	<0.0065			<0.0066
Fluoranthene (mg/kg)	1000	<0.0065			0.0069
Fluorene (mg/kg)	1000	<0.0065			<0.0066
Indeno (1,2,3-cd) pyrene (mg/kg)	0.22	<0.0065			<0.0066
Naphthalene (mg/kg)	23	<0.0065			<0.0066
Pyrene (mg/kg)	1000	<0.0065			<0.0066

**Notes:**

< - less than stated laboratory reporting limit  
 Bold indicates result is equal to or exceeds the applicable standard  
 Basic Standards for Soil are 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



**TABLE 1 (Continued)**  
**SOIL ANALYTICAL RESULTS**  
**JOLLEY 1 PIT CLOSURE**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**

Parameter	Standard	PS02	PS02	PS02	PS02
Depth (feet)		26	29	32	35
Sample Date		7/9/2012	7/9/2012	7/31/2012	7/31/2012

**Inorganics**

Electrical Conductivity (mmhos/cm)	4	<b>6.85</b>	<b>8.40</b>	<b>11.0</b>	<b>8.03</b>
SAR (meq/meq)	12	<b>27.5</b>	<b>27.3</b>	<b>34.7</b>	<b>28.8</b>
pH, Lab (Standard Units)	6 to 9				

**Metals**

Arsenic (mg/kg)	0.39
Barium (mg/kg)	15000
Cadmium (mg/kg)	70
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

**Notes:**

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 Bold indicates result is equal to or exceeds the applicable standard  
 Basic Standards for Soil are 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



**TABLE 1 (Continued)**  
**SOIL ANALYTICAL RESULTS**  
**JOLLEY 1 PIT CLOSURE**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**

Parameter	Standard	PS02	PS02	PS02	PS02
Depth (feet)		38	41	44	47
Sample Date		7/31/2012	7/31/2012	9/5/2012	9/5/2012

**Inorganics**

Electrical Conductivity (mmhos/cm)	4	<b>9.42</b>	<b>10.6</b>	<b>11.8</b>	<b>12.8</b>
SAR (meq/meq)	12	<b>39.0</b>	<b>49.2</b>	<b>23.8</b>	<b>20.9</b>
pH, Lab (Standard Units)	6 to 9				

**Metals**

Arsenic (mg/kg)	0.39
Barium (mg/kg)	15000
Cadmium (mg/kg)	70
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

**Notes:**

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 Basic Standards for Soil are 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



**TABLE 1 (Continued)**  
**SOIL ANALYTICAL RESULTS**  
**JOLLEY 1 PIT CLOSURE**  
**GARFIELD COUNTY, COLORADO**  
**BILL BARRETT CORPORATION**

Parameter	Standard	PS02	PS02	PS02
Depth (feet)		50	53	56
Sample Date		9/5/2012	9/5/2012	9/5/2012

**Inorganics**

Electrical Conductivity (mmhos/cm)	4	<b>11.8</b>	<b>11.2</b>	<b>12.9</b>
SAR (meq/meq)	12	<b>14.2</b>	7.04	6.73
pH, Lab (Standard Units)	6 to 9			

**Metals**

Arsenic (mg/kg)	0.39
Barium (mg/kg)	15000
Cadmium (mg/kg)	70
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

**Notes:**

< - less than stated laboratory reporting limit  
**Bold** indicates result is equal to or exceeds the applicable standard  
Basic Standards for Soil are 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



**ATTACHMENT**  
**LABORATORY ANALYTICAL RESULTS**





19-Sep-2012

Rob Fishburn  
LT Environmental  
4600 West 60th Avenue  
Arvada, CO 80003

Tel: (303) 285-9985  
Fax: (303) 433-1432

Re: Jolley 1

Work Order: **1206614**

Dear Rob,

ALS Environmental received 6 samples on 15-Jun-2012 09:20 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 30.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink that reads "Patricia L. Lynch".

Electronically approved by: Jumoke M. Lawal

Patricia L. Lynch  
Project Manager



Certificate No: T104704231-09A-TX

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

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RIGHT SOLUTIONS RIGHT PARTNER

**Client:** LT Environmental  
**Project:** Jolley 1  
**Work Order:** 1206614

**Work Order Sample Summary**

---

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1206614-01	PS01@23'	Soil		6/14/2012 09:20	6/15/2012 09:20	<input type="checkbox"/>
1206614-02	PS02@23'	Soil		6/14/2012 09:30	6/15/2012 09:20	<input type="checkbox"/>
1206614-03	BG01	Soil		6/14/2012 10:20	6/15/2012 09:20	<input type="checkbox"/>
1206614-04	BG02	Soil		6/14/2012 10:25	6/15/2012 09:20	<input type="checkbox"/>
1206614-05	BG03	Soil		6/14/2012 10:30	6/15/2012 09:20	<input type="checkbox"/>
1206614-06	TRIP BLANK	Water		6/14/2012	6/15/2012 09:20	<input checked="" type="checkbox"/>

---

**Client:** LT Environmental

**Project:** Jolley 1

**Work Order:** 1206614

**Case Narrative**

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This report was revised on September 19, 2012 to change the sample IDs at the request of the client.

Batch 61956, Mercury, Sample "PS02", MS/MSD recoveries were outside the control limits.

Batch 61975, Metals, Sample 1206678-01, MS/MSD was an unrelated sample.

**ALS Environmental**

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS01@23'  
**Collection Date:** 6/14/2012 09:20 AM

**Work Order:** 1206614  
**Lab ID:** 1206614-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>TPH AND MISCELLANEOUS GCFID</b>			<b>SW8015M</b>		Prep Date: <b>6/18/2012</b>	Analyst: <b>KMB</b>
DRO (>C10 - C28)	20		1.7	mg/Kg	1	6/19/2012 12:45 PM
Surr: 2-Fluorobiphenyl	132		60-135	%REC	1	6/19/2012 12:45 PM
<b>GASOLINE RANGE ORGANICS - SW8015C</b>			<b>SW8015</b>			Analyst: <b>KKP</b>
Gasoline Range Organics	0.069		0.050	mg/Kg	1	6/19/2012 11:52 AM
Surr: 4-Bromofluorobenzene	92.0		70-130	%REC	1	6/19/2012 11:52 AM
<b>TRIVALENT CHROMIUM</b>			<b>CALCULATION</b>			Analyst: <b>SKS</b>
Chromium, Trivalent	ND		5.00	mg/Kg	1	6/22/2012
<b>MERCURY - SW7471B</b>			<b>SW7471A</b>		Prep Date: <b>6/19/2012</b>	Analyst: <b>JCJ</b>
Mercury	0.0411		0.00356	mg/Kg	1	6/19/2012 02:35 PM
<b>METALS</b>			<b>SW6020</b>		Prep Date: <b>6/19/2012</b>	Analyst: <b>IGF</b>
Arsenic	1.97		0.479	mg/Kg	1	6/19/2012 09:55 PM
Barium	171		4.79	mg/Kg	10	6/20/2012 04:44 PM
Cadmium	ND		0.479	mg/Kg	1	6/19/2012 09:55 PM
Chromium	4.51		0.479	mg/Kg	1	6/19/2012 09:55 PM
Copper	6.09		0.479	mg/Kg	1	6/19/2012 09:55 PM
Lead	3.08		0.479	mg/Kg	1	6/19/2012 09:55 PM
Nickel	11.4		0.479	mg/Kg	1	6/19/2012 09:55 PM
Selenium	ND		0.479	mg/Kg	1	6/19/2012 09:55 PM
Silver	ND		0.479	mg/Kg	1	6/19/2012 09:55 PM
Zinc	13.9		0.479	mg/Kg	1	6/19/2012 09:55 PM
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>6/21/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	11.2		0.0100	meq/meq	1	6/22/2012
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		Prep Date: <b>6/21/2012</b>	Analyst: <b>SKS</b>
Calcium	29.6		4.99	mg/L	10	6/21/2012 04:42 PM
Magnesium	10.8		4.99	mg/L	10	6/21/2012 04:42 PM
Sodium	281		4.99	mg/L	10	6/21/2012 04:42 PM
<b>LOW-LEVEL PAHS</b>			<b>SW8270</b>		Prep Date: <b>6/18/2012</b>	Analyst: <b>LG</b>
Acenaphthene	ND		0.0065	mg/Kg	1	6/18/2012 08:53 PM
Anthracene	ND		0.0065	mg/Kg	1	6/18/2012 08:53 PM
Benz(a)anthracene	ND		0.0065	mg/Kg	1	6/18/2012 08:53 PM
Benzo(a)pyrene	ND		0.0065	mg/Kg	1	6/18/2012 08:53 PM
Benzo(b)fluoranthene	ND		0.0065	mg/Kg	1	6/18/2012 08:53 PM
Benzo(k)fluoranthene	ND		0.0065	mg/Kg	1	6/18/2012 08:53 PM
Chrysene	ND		0.0065	mg/Kg	1	6/18/2012 08:53 PM
Dibenz(a,h)anthracene	ND		0.0065	mg/Kg	1	6/18/2012 08:53 PM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS01@23'  
**Collection Date:** 6/14/2012 09:20 AM

**Work Order:** 1206614  
**Lab ID:** 1206614-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		0.0065	mg/Kg	1	6/18/2012 08:53 PM
Fluorene	ND		0.0065	mg/Kg	1	6/18/2012 08:53 PM
Indeno(1,2,3-cd)pyrene	ND		0.0065	mg/Kg	1	6/18/2012 08:53 PM
Naphthalene	ND		0.0065	mg/Kg	1	6/18/2012 08:53 PM
Pyrene	ND		0.0065	mg/Kg	1	6/18/2012 08:53 PM
<i>Surr: 2-Fluorobiphenyl</i>	58.9		43-125	%REC	1	6/18/2012 08:53 PM
<i>Surr: 4-Terphenyl-d14</i>	93.4		32-125	%REC	1	6/18/2012 08:53 PM
<i>Surr: Nitrobenzene-d5</i>	52.8		37-125	%REC	1	6/18/2012 08:53 PM
<b>VOLATILES</b>			<b>SW8260</b>			Analyst: <b>WLR</b>
Benzene	ND		0.0050	mg/Kg	1	6/18/2012 11:09 AM
Ethylbenzene	ND		0.0050	mg/Kg	1	6/18/2012 11:09 AM
m,p-Xylene	ND		0.010	mg/Kg	1	6/18/2012 11:09 AM
o-Xylene	ND		0.0050	mg/Kg	1	6/18/2012 11:09 AM
Toluene	ND		0.0050	mg/Kg	1	6/18/2012 11:09 AM
Xylenes, Total	ND		0.015	mg/Kg	1	6/18/2012 11:09 AM
<i>Surr: 1,2-Dichloroethane-d4</i>	88.5		70-128	%REC	1	6/18/2012 11:09 AM
<i>Surr: 4-Bromofluorobenzene</i>	100		73-126	%REC	1	6/18/2012 11:09 AM
<i>Surr: Dibromofluoromethane</i>	95.3		71-128	%REC	1	6/18/2012 11:09 AM
<i>Surr: Toluene-d8</i>	97.5		73-127	%REC	1	6/18/2012 11:09 AM
<b>HEXAVALENT CHROMIUM - SW7196A</b>			<b>SW7196</b>		Prep Date: <b>6/20/2012</b>	Analyst: <b>IAB</b>
Chromium, Hexavalent	ND		2.00	mg/Kg	1	6/20/2012 05:00 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	5.84		0.0100	mmhos/cm @25	1	6/21/2012 05:15 PM
Electrical Conductivity, 1:1 aqueous	1.93		0.0100	mmhos/cm @25	1	6/21/2012 05:15 PM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>KAH</b>
Saturation Point	0.330		0.100	% Saturation as	1	6/20/2012 11:00 AM
<b>PH</b>			<b>SW9045B</b>			Analyst: <b>EDG</b>
pH	8.48		0.100	pH Units	1	6/19/2012 03:00 PM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS02@23'  
**Collection Date:** 6/14/2012 09:30 AM

**Work Order:** 1206614  
**Lab ID:** 1206614-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>TPH AND MISCELLANEOUS GCFID</b>			<b>SW8015M</b>		Prep Date: <b>6/18/2012</b>	Analyst: <b>KMB</b>
DRO (>C10 - C28)	26		1.7	mg/Kg	1	6/19/2012 11:41 AM
Surr: 2-Fluorobiphenyl	73.8		60-135	%REC	1	6/19/2012 11:41 AM
<b>GASOLINE RANGE ORGANICS - SW8015C</b>			<b>SW8015</b>			Analyst: <b>KKP</b>
Gasoline Range Organics	ND		0.050	mg/Kg	1	6/19/2012 11:34 AM
Surr: 4-Bromofluorobenzene	96.0		70-130	%REC	1	6/19/2012 11:34 AM
<b>TRIVALENT CHROMIUM</b>			<b>CALCULATION</b>			Analyst: <b>SKS</b>
Chromium, Trivalent	7.00		5.00	mg/Kg	1	6/22/2012
<b>MERCURY - SW7471B</b>			<b>SW7471A</b>		Prep Date: <b>6/19/2012</b>	Analyst: <b>JCJ</b>
Mercury	0.0463		0.00352	mg/Kg	1	6/19/2012 02:20 PM
<b>METALS</b>			<b>SW6020</b>		Prep Date: <b>6/19/2012</b>	Analyst: <b>IGF</b>
Arsenic	2.26		0.480	mg/Kg	1	6/19/2012 10:01 PM
Barium	138		0.480	mg/Kg	1	6/19/2012 10:01 PM
Cadmium	ND		0.480	mg/Kg	1	6/19/2012 10:01 PM
Chromium	7.00		0.480	mg/Kg	1	6/19/2012 10:01 PM
Copper	11.6		0.480	mg/Kg	1	6/19/2012 10:01 PM
Lead	6.43		0.480	mg/Kg	1	6/19/2012 10:01 PM
Nickel	27.6		0.480	mg/Kg	1	6/20/2012 04:50 PM
Selenium	0.737		0.480	mg/Kg	1	6/19/2012 10:01 PM
Silver	ND		0.480	mg/Kg	1	6/20/2012 04:50 PM
Zinc	29.8		0.480	mg/Kg	1	6/19/2012 10:01 PM
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>6/21/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	11.9		0.0100	meq/meq	1	6/22/2012
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		Prep Date: <b>6/21/2012</b>	Analyst: <b>SKS</b>
Calcium	26.2		4.99	mg/L	10	6/21/2012 04:53 PM
Magnesium	8.27		4.99	mg/L	10	6/21/2012 04:53 PM
Sodium	273		4.99	mg/L	10	6/21/2012 04:53 PM
<b>LOW-LEVEL PAHS</b>			<b>SW8270</b>		Prep Date: <b>6/18/2012</b>	Analyst: <b>LG</b>
Acenaphthene	ND		0.0066	mg/Kg	1	6/19/2012 07:04 PM
Anthracene	ND		0.0066	mg/Kg	1	6/19/2012 07:04 PM
Benz(a)anthracene	ND		0.0066	mg/Kg	1	6/19/2012 07:04 PM
Benzo(a)pyrene	ND		0.0066	mg/Kg	1	6/19/2012 07:04 PM
Benzo(b)fluoranthene	ND		0.0066	mg/Kg	1	6/19/2012 07:04 PM
Benzo(k)fluoranthene	ND		0.0066	mg/Kg	1	6/19/2012 07:04 PM
Chrysene	0.0081		0.0066	mg/Kg	1	6/19/2012 07:04 PM
Dibenz(a,h)anthracene	ND		0.0066	mg/Kg	1	6/19/2012 07:04 PM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS02@23'  
**Collection Date:** 6/14/2012 09:30 AM

**Work Order:** 1206614  
**Lab ID:** 1206614-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Fluoranthene</b>	<b>0.0069</b>		<b>0.0066</b>	<b>mg/Kg</b>	1	6/19/2012 07:04 PM
Fluorene	ND		0.0066	mg/Kg	1	6/19/2012 07:04 PM
Indeno(1,2,3-cd)pyrene	ND		0.0066	mg/Kg	1	6/19/2012 07:04 PM
Naphthalene	ND		0.0066	mg/Kg	1	6/19/2012 07:04 PM
Pyrene	ND		0.0066	mg/Kg	1	6/19/2012 07:04 PM
Surr: 2-Fluorobiphenyl	62.4		43-125	%REC	1	6/19/2012 07:04 PM
Surr: 4-Terphenyl-d14	85.2		32-125	%REC	1	6/19/2012 07:04 PM
Surr: Nitrobenzene-d5	49.8		37-125	%REC	1	6/19/2012 07:04 PM
<b>VOLATILES</b>			<b>SW8260</b>			Analyst: <b>WLR</b>
Benzene	ND		0.0050	mg/Kg	1	6/18/2012 11:38 AM
Ethylbenzene	ND		0.0050	mg/Kg	1	6/18/2012 11:38 AM
m,p-Xylene	ND		0.010	mg/Kg	1	6/18/2012 11:38 AM
o-Xylene	ND		0.0050	mg/Kg	1	6/18/2012 11:38 AM
Toluene	ND		0.0050	mg/Kg	1	6/18/2012 11:38 AM
Xylenes, Total	ND		0.015	mg/Kg	1	6/18/2012 11:38 AM
Surr: 1,2-Dichloroethane-d4	89.5		70-128	%REC	1	6/18/2012 11:38 AM
Surr: 4-Bromofluorobenzene	95.1		73-126	%REC	1	6/18/2012 11:38 AM
Surr: Dibromofluoromethane	96.4		71-128	%REC	1	6/18/2012 11:38 AM
Surr: Toluene-d8	97.1		73-127	%REC	1	6/18/2012 11:38 AM
<b>HEXAVALENT CHROMIUM - SW7196A</b>			<b>SW7196</b>		Prep Date: <b>6/20/2012</b>	Analyst: <b>IAB</b>
Chromium, Hexavalent	ND		2.00	mg/Kg	1	6/20/2012 05:00 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	<b>6.87</b>		<b>0.0100</b>	<b>mmhos/cm @25</b>	1	6/21/2012 05:15 PM
Electrical Conductivity, 1:1 aqueous	<b>2.01</b>		<b>0.0100</b>	<b>mmhos/cm @25</b>	1	6/21/2012 05:15 PM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>KAH</b>
Saturation Point	<b>0.292</b>		<b>0.100</b>	<b>% Saturation as</b>	1	6/20/2012 11:00 AM
<b>PH</b>			<b>SW9045B</b>			Analyst: <b>EDG</b>
pH	<b>9.62</b>		<b>0.100</b>	<b>pH Units</b>	1	6/19/2012 03:00 PM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** BG01  
**Collection Date:** 6/14/2012 10:20 AM

**Work Order:** 1206614  
**Lab ID:** 1206614-03  
**Matrix:** SOIL

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Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS</b>			<b>SW6020</b>		Prep Date: <b>6/19/2012</b>	Analyst: <b>IGF</b>
Arsenic	2.57		0.478	mg/Kg	1	6/19/2012 10:07 PM

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**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** BG02  
**Collection Date:** 6/14/2012 10:25 AM

**Work Order:** 1206614  
**Lab ID:** 1206614-04  
**Matrix:** SOIL

---

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS</b>			<b>SW6020</b>		Prep Date: <b>6/19/2012</b>	Analyst: <b>IGF</b>
Arsenic	2.88		0.476	mg/Kg	1	6/19/2012 10:13 PM

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**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** BG03  
**Collection Date:** 6/14/2012 10:30 AM

**Work Order:** 1206614  
**Lab ID:** 1206614-05  
**Matrix:** SOIL

---

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS</b>			<b>SW6020</b>		Prep Date: <b>6/19/2012</b>	Analyst: <b>IGF</b>
Arsenic	2.40		0.479	mg/Kg	1	6/19/2012 10:19 PM

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**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** LT Environmental  
**Work Order:** 1206614  
**Project:** Jolley 1

**QC BATCH REPORT**

Batch ID: **61947** Instrument ID **FID-8** Method: **SW8015M**

MBLK		Sample ID: <b>FBLKS1-120618-61947</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>6/19/2012 12:02 PM</b>			
Client ID:		Run ID: <b>FID-8_120619A</b>			SeqNo: <b>2825193</b>		Prep Date: <b>6/18/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	ND	1.7								
<i>Surr: 2-Fluorobiphenyl</i>	2.47	0	3.3	0	74.8	60-135	0			

LCS		Sample ID: <b>FLCSS1-120618-61947</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>6/19/2012 12:24 PM</b>			
Client ID:		Run ID: <b>FID-8_120619A</b>			SeqNo: <b>2825194</b>		Prep Date: <b>6/18/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	27.3	1.7	33.3	0	82	70-130	0			
<i>Surr: 2-Fluorobiphenyl</i>	2.42	0	3.3	0	73.3	60-135	0			

MS		Sample ID: <b>1206632-01BMS</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>6/19/2012 10:59 AM</b>			
Client ID:		Run ID: <b>FID-8_120619A</b>			SeqNo: <b>2825190</b>		Prep Date: <b>6/18/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	26	1.7	33.27	0.6698	76.2	70-130	0			
<i>Surr: 2-Fluorobiphenyl</i>	2.27	0	3.297	0	68.8	60-135	0			

MSD		Sample ID: <b>1206632-01BMSD</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>6/19/2012 11:20 AM</b>			
Client ID:		Run ID: <b>FID-8_120619A</b>			SeqNo: <b>2825191</b>		Prep Date: <b>6/18/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	26.43	1.7	33.26	0.6698	77.5	70-130	26	1.61	30	
<i>Surr: 2-Fluorobiphenyl</i>	2.287	0	3.296	0	69.4	60-135	2.27	0.78	30	

The following samples were analyzed in this batch: 1206614-01C 1206614-02C

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1206614  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: R129733 Instrument ID FID-9 Method: SW8015

MBLK		Sample ID: GBLKS1-120619-R129733			Units: mg/Kg			Analysis Date: 6/19/2012 10:40 AM		
Client ID:		Run ID: FID-9_120619A			SeqNo: 2825322			Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	ND	0.050								
<i>Surr: 4-Bromofluorobenzene</i>	0.0956	0.0050	0.1	0	95.6	70-130	0			

LCS		Sample ID: GLCSS1-120619-R129733			Units: mg/Kg			Analysis Date: 6/19/2012 10:05 AM		
Client ID:		Run ID: FID-9_120619A			SeqNo: 2825320			Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.9646	0.050	1	0	96.5	70-130	0			
<i>Surr: 4-Bromofluorobenzene</i>	0.1119	0.0050	0.1	0	112	70-130	0			

LCSD		Sample ID: GLCSDS1-120619-R129733			Units: mg/Kg			Analysis Date: 6/19/2012 10:22 AM		
Client ID:		Run ID: FID-9_120619A			SeqNo: 2825321			Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.9684	0.050	1	0	96.8	70-130	0.9646	0.393	30	
<i>Surr: 4-Bromofluorobenzene</i>	0.1027	0.0050	0.1	0	103	70-130	0.1119	8.56	30	

MS		Sample ID: 1206614-02BMS			Units: mg/Kg			Analysis Date: 6/19/2012 12:41 PM		
Client ID: PS02@23'		Run ID: FID-9_120619A			SeqNo: 2825326			Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8169	0.050	1	0	81.7	70-130	0			
<i>Surr: 4-Bromofluorobenzene</i>	0.0901	0.0050	0.1	0	90.1	70-130	0			

MSD		Sample ID: 1206614-02BMSD			Units: mg/Kg			Analysis Date: 6/19/2012 12:59 PM		
Client ID: PS02@23'		Run ID: FID-9_120619A			SeqNo: 2825327			Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8256	0.050	1	0	82.6	70-130	0.8169	1.06	30	
<i>Surr: 4-Bromofluorobenzene</i>	0.08636	0.0050	0.1	0	86.4	70-130	0.0901	4.24	30	

The following samples were analyzed in this batch: 1206614-01B 1206614-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1206614  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: 61956 Instrument ID HG02 Method: SW7471A

MBLK		Sample ID: GBLKS1-061912-61956				Units: µg/Kg		Analysis Date: 6/19/2012 02:12 PM		
Client ID:		Run ID: HG02_120619A				SeqNo: 2825397		Prep Date: 6/19/2012		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	3.3								

LCS		Sample ID: GLCSS1-061912-61956				Units: µg/Kg		Analysis Date: 6/19/2012 02:14 PM		
Client ID:		Run ID: HG02_120619A				SeqNo: 2825399		Prep Date: 6/19/2012		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	346	3.3	333.3	0	104	85-115	0			

MS		Sample ID: 1206614-02CMS				Units: µg/Kg		Analysis Date: 6/19/2012 02:27 PM		
Client ID: PS02@23'		Run ID: HG02_120619A				SeqNo: 2825406		Prep Date: 6/19/2012		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	347.5	3.6	359.7	46.29	83.7	85-115	0			S

MSD		Sample ID: 1206614-02CMSD				Units: µg/Kg		Analysis Date: 6/19/2012 02:29 PM		
Client ID: PS02@23'		Run ID: HG02_120619A				SeqNo: 2825409		Prep Date: 6/19/2012		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	346.5	3.6	361.7	46.29	83	85-115	347.5	0.291	20	S

DUP		Sample ID: 1206614-02CDUP				Units: µg/Kg		Analysis Date: 6/19/2012 02:25 PM		
Client ID: PS02@23'		Run ID: HG02_120619A				SeqNo: 2825403		Prep Date: 6/19/2012		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	45.42	3.5	0	0	0		46.29	1.89	20	

The following samples were analyzed in this batch: 

1206614-01C	1206614-02C
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1206614  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: **61975** Instrument ID **ICPMS03** Method: **SW6020**

**MBLK** Sample ID: **MBLKS2-061912-61975** Units: **mg/Kg** Analysis Date: **6/19/2012 06:52 PM**

Client ID: Run ID: **ICPMS03\_120619A** SeqNo: **2826013** Prep Date: **6/19/2012** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.50								
Barium	ND	0.50								
Cadmium	ND	0.50								
Chromium	ND	0.50								
Copper	ND	0.50								
Lead	0.05112	0.50								J
Nickel	0.2054	0.50								J
Selenium	ND	0.50								
Silver	ND	0.50								
Zinc	0.42	0.50								J

**LCS** Sample ID: **MLCSS2-061912-61975** Units: **mg/Kg** Analysis Date: **6/19/2012 06:57 PM**

Client ID: Run ID: **ICPMS03\_120619A** SeqNo: **2826014** Prep Date: **6/19/2012** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.268	0.50	10	0	82.7	80-120	0			
Barium	9.38	0.50	10	0	93.8	80-120	0			
Cadmium	9.022	0.50	10	0	90.2	80-120	0			
Chromium	8.388	0.50	10	0	83.9	80-120	0			
Copper	8.419	0.50	10	0	84.2	80-120	0			
Lead	9.144	0.50	10	0	91.4	80-120	0			
Nickel	8.495	0.50	10	0	85	80-120	0			
Selenium	8.316	0.50	10	0	83.2	80-120	0			
Zinc	8.566	0.50	10	0	85.7	80-120	0			

**LCS** Sample ID: **MLCSS2-061912-61975** Units: **mg/Kg** Analysis Date: **6/19/2012 11:21 PM**

Client ID: Run ID: **ICPMS04\_120619A** SeqNo: **2826242** Prep Date: **6/19/2012** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	8.263	0.50	10	0	82.6	80-120	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1206614  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: 61975 Instrument ID ICPMS03 Method: SW6020

MS		Sample ID: 1206678-01AMS				Units: mg/Kg		Analysis Date: 6/19/2012 07:23 PM			
Client ID:		Run ID: ICPMS03_120619A				SeqNo: 2826217		Prep Date: 6/19/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	11.61	0.47	9.463	5.03	69.6	75-125	0			S	
Barium	183.8	0.47	9.463	180.5	34.9	75-125	0			SEO	
Cadmium	8.719	0.47	9.463	0.03298	91.8	75-125	0				
Chromium	14.87	0.47	9.463	6.954	83.6	75-125	0				
Copper	13.31	0.47	9.463	4.896	88.9	75-125	0				
Lead	19.76	0.47	9.463	11.25	89.9	75-125	0				
Nickel	14.21	0.47	9.463	6.325	83.4	75-125	0				
Selenium	9.52	0.47	9.463	1.074	89.3	75-125	0				
Silver	5.176	0.47	9.463	0.04091	54.3	75-125	0			S	
Zinc	17.06	0.47	9.463	8.888	86.4	75-125	0				

MSD		Sample ID: 1206678-01AMSD				Units: mg/Kg		Analysis Date: 6/19/2012 07:27 PM			
Client ID:		Run ID: ICPMS03_120619A				SeqNo: 2826218		Prep Date: 6/19/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	10.03	0.47	9.359	5.03	53.5	75-125	11.61	14.6	25	S	
Barium	186.9	0.47	9.359	180.5	68.6	75-125	183.8	1.68	25	SEO	
Cadmium	8.674	0.47	9.359	0.03298	92.3	75-125	8.719	0.515	25		
Chromium	15.05	0.47	9.359	6.954	86.5	75-125	14.87	1.22	25		
Copper	12.65	0.47	9.359	4.896	82.9	75-125	13.31	5.03	25		
Lead	18.69	0.47	9.359	11.25	79.5	75-125	19.76	5.57	25		
Nickel	13.5	0.47	9.359	6.325	76.6	75-125	14.21	5.19	25		
Selenium	9.537	0.47	9.359	1.074	90.4	75-125	9.52	0.173	25		
Silver	4.85	0.47	9.359	0.04091	51.4	75-125	5.176	6.52	25	S	
Zinc	16.8	0.47	9.359	8.888	84.5	75-125	17.06	1.56	25		

DUP		Sample ID: 1206678-01ADUP				Units: mg/Kg		Analysis Date: 6/19/2012 07:05 PM			
Client ID:		Run ID: ICPMS03_120619A				SeqNo: 2826213		Prep Date: 6/19/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	1.669	0.48	0	0	0	0-0	5.03	100	25	R	
Barium	163.5	0.48	0	0	0	0-0	180.5	9.86	25		
Cadmium	ND	0.48	0	0	0	0-0	0.03298	0	25		
Chromium	5.967	0.48	0	0	0	0-0	6.954	15.3	25		
Copper	4.113	0.48	0	0	0	0-0	4.896	17.4	25		
Lead	8.877	0.48	0	0	0	0-0	11.25	23.6	25		
Nickel	4.515	0.48	0	0	0	0-0	6.325	33.4	25	R	
Selenium	0.8706	0.48	0	0	0	0-0	1.074	20.9	25		
Silver	ND	0.48	0	0	0	0-0	0.04091	0	25		
Zinc	7.855	0.48	0	0	0	0-0	8.888	12.3	25		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** LT Environmental  
**Work Order:** 1206614  
**Project:** Jolley 1

## QC BATCH REPORT

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Batch ID: **61975**      Instrument ID **ICPMS03**      Method: **SW6020**

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**The following samples were analyzed in this batch:**

1206614-01C	1206614-02C	1206614-03A
1206614-04A	1206614-05A	

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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** LT Environmental  
**Work Order:** 1206614  
**Project:** Jolley 1

# QC BATCH REPORT

Batch ID: **62012**      Instrument ID **ICPMS05**      Method: **La29B-6020**

LCS		Sample ID: <b>LCS-062012 SAR-62012</b>				Units: <b>mg/L</b>		Analysis Date: <b>6/21/2012 04:10 PM</b>		
Client ID:		Run ID: <b>ICPMS05_120621A</b>				SeqNo: <b>2829299</b>		Prep Date: <b>6/21/2012</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	4.699	0.50	5	0	94	80-120	0			
Magnesium	4.859	0.50	5	0	97.2	80-120	0			
Sodium	5.535	0.50	5	0	111	80-120	0			

DUP		Sample ID: <b>1206614-01DDUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>6/21/2012 04:45 PM</b>		
Client ID: <b>PS01@23'</b>		Run ID: <b>ICPMS05_120621A</b>				SeqNo: <b>2830408</b>		Prep Date: <b>6/21/2012</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	33.79	5.0	0	0	0		29.63	13.1	30	
Magnesium	12.54	5.0	0	0	0		10.77	15.1	30	
Sodium	329.1	5.0	0	0	0		281.5	15.6	30	

**The following samples were analyzed in this batch:**

1206614-01D	1206614-02D
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** LT Environmental  
**Work Order:** 1206614  
**Project:** Jolley 1

# QC BATCH REPORT

Batch ID: **62012a** Instrument ID **MISC-Metals** Method: **La29B SAR**

**DUP** Sample ID: **1206614-01DDUP** Units: **meq/meq** Analysis Date: **6/22/2012**  
Client ID: **PS01@23'** Run ID: **MISC-METALS\_120622** SeqNo: **2831262** Prep Date: **6/21/2012** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	12.28	0.010	0	0	0		11.24	8.84	30	

The following samples were analyzed in this batch: 1206614-01D 1206614-02D

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1206614  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: 61936 Instrument ID SV-6 Method: SW8270

MBLK Sample ID: SBLKS1-120618-61936 Units: µg/Kg Analysis Date: 6/18/2012 04:44 PM

Client ID: Run ID: SV-6\_120618A SeqNo: 2826040 Prep Date: 6/18/2012 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.6								
Anthracene	ND	6.6								
Benz(a)anthracene	ND	6.6								
Benzo(a)pyrene	ND	6.6								
Benzo(b)fluoranthene	ND	6.6								
Benzo(k)fluoranthene	ND	6.6								
Chrysene	ND	6.6								
Dibenz(a,h)anthracene	ND	6.6								
Fluoranthene	ND	6.6								
Fluorene	ND	6.6								
Indeno(1,2,3-cd)pyrene	ND	6.6								
Naphthalene	ND	6.6								
Pyrene	ND	6.6								
Surr: 2-Fluorobiphenyl	140.7	6.6	166.7	0	84.4	43-125	0			
Surr: 4-Terphenyl-d14	176.2	6.6	166.7	0	106	32-125	0			
Surr: Nitrobenzene-d5	126.5	6.6	166.7	0	75.9	37-125	0			

LCS Sample ID: SLCSS1-120618-61936 Units: µg/Kg Analysis Date: 6/18/2012 05:04 PM

Client ID: Run ID: SV-6\_120618A SeqNo: 2826041 Prep Date: 6/18/2012 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	107.6	6.6	166.7	0	64.5	50-120	0			
Anthracene	115.6	6.6	166.7	0	69.4	50-123	0			
Benz(a)anthracene	135.9	6.6	166.7	0	81.5	50-131	0			
Benzo(a)pyrene	131	6.6	166.7	0	78.6	50-130	0			
Benzo(b)fluoranthene	146.8	6.6	166.7	0	88.1	50-137	0			
Benzo(k)fluoranthene	135	6.6	166.7	0	81	50-143	0			
Chrysene	127.3	6.6	166.7	0	76.4	50-130	0			
Dibenz(a,h)anthracene	135	6.6	166.7	0	81	50-130	0			
Fluoranthene	122.5	6.6	166.7	0	73.5	50-131	0			
Fluorene	118.6	6.6	166.7	0	71.2	50-125	0			
Indeno(1,2,3-cd)pyrene	142.6	6.6	166.7	0	85.5	45-139	0			
Naphthalene	111.5	6.6	166.7	0	66.9	50-125	0			
Pyrene	122.5	6.6	166.7	0	73.5	45-130	0			
Surr: 2-Fluorobiphenyl	115.9	6.6	166.7	0	69.5	43-125	0			
Surr: 4-Terphenyl-d14	149.3	6.6	166.7	0	89.6	32-125	0			
Surr: Nitrobenzene-d5	102.6	6.6	166.7	0	61.6	37-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1206614  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: 61936 Instrument ID SV-6 Method: SW8270

MS		Sample ID: 1206469-06BMS			Units: µg/Kg			Analysis Date: 6/18/2012 09:51 PM		
Client ID:		Run ID: SV-6_120618A			SeqNo: 2826046		Prep Date: 6/18/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	93.55	6.6	166.3	0	56.3	50-120	0			
Anthracene	123	6.6	166.3	2.831	72.3	50-123	0			
Benz(a)anthracene	140.3	6.6	166.3	4.001	82	50-131	0			
Benzo(a)pyrene	134.5	6.6	166.3	2.131	79.6	50-130	0			
Benzo(b)fluoranthene	158.4	6.6	166.3	4.29	92.7	50-137	0			
Benzo(k)fluoranthene	129.7	6.6	166.3	2.129	76.7	50-143	0			
Chrysene	137.8	6.6	166.3	10.3	76.7	50-130	0			
Dibenz(a,h)anthracene	146.8	6.6	166.3	0	88.3	50-130	0			
Fluoranthene	134.2	6.6	166.3	6.72	76.7	50-131	0			
Fluorene	119.6	6.6	166.3	6.623	68	50-125	0			
Indeno(1,2,3-cd)pyrene	156	6.6	166.3	2.286	92.4	45-139	0			
Naphthalene	91.48	6.6	166.3	0	55	50-125	0			
Pyrene	129.1	6.6	166.3	4.754	74.8	45-130	0			
Surr: 2-Fluorobiphenyl	92.34	6.6	166.3	0	55.5	43-125	0			
Surr: 4-Terphenyl-d14	152	6.6	166.3	0	91.4	32-125	0			
Surr: Nitrobenzene-d5	79.82	6.6	166.3	0	48	37-125	0			

MSD		Sample ID: 1206469-06BMSD			Units: µg/Kg			Analysis Date: 6/18/2012 08:34 PM		
Client ID:		Run ID: SV-6_120618A			SeqNo: 2826045		Prep Date: 6/18/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	112.1	6.6	166.3	0	67.4	50-120	93.55	18.1	30	
Anthracene	137.9	6.6	166.3	2.831	81.2	50-123	123	11.4	30	
Benz(a)anthracene	146.2	6.6	166.3	4.001	85.5	50-131	140.3	4.1	30	
Benzo(a)pyrene	141.5	6.6	166.3	2.131	83.8	50-130	134.5	5.1	30	
Benzo(b)fluoranthene	170.2	6.6	166.3	4.29	99.8	50-137	158.4	7.16	30	
Benzo(k)fluoranthene	142.3	6.6	166.3	2.129	84.3	50-143	129.7	9.21	30	
Chrysene	146	6.6	166.3	10.3	81.6	50-130	137.8	5.78	30	
Dibenz(a,h)anthracene	155	6.6	166.3	0	93.2	50-130	146.8	5.38	30	
Fluoranthene	148.7	6.6	166.3	6.72	85.4	50-131	134.2	10.3	30	
Fluorene	131.1	6.6	166.3	6.623	74.8	50-125	119.6	9.13	30	
Indeno(1,2,3-cd)pyrene	168.1	6.6	166.3	2.286	99.7	45-139	156	7.49	30	
Naphthalene	106.3	6.6	166.3	0	63.9	50-125	91.48	15	30	
Pyrene	138.4	6.6	166.3	4.754	80.4	45-130	129.1	6.92	30	
Surr: 2-Fluorobiphenyl	116.9	6.6	166.3	0	70.3	43-125	92.34	23.5	30	
Surr: 4-Terphenyl-d14	158	6.6	166.3	0	95	32-125	152	3.89	30	
Surr: Nitrobenzene-d5	96.04	6.6	166.3	0	57.8	37-125	79.82	18.4	30	

The following samples were analyzed in this batch: 1206614-01C 1206614-02C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1206614  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: R129646 Instrument ID VOA3 Method: SW8260

MBLK		Sample ID: VBLKS1-061812-R129646			Units: µg/Kg			Analysis Date: 6/18/2012 10:40 AM		
Client ID:		Run ID: VOA3_120618A			SeqNo: 2823334		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	5.0								
Ethylbenzene	ND	5.0								
m,p-Xylene	ND	10								
o-Xylene	ND	5.0								
Toluene	ND	5.0								
Xylenes, Total	ND	15								
Surr: 1,2-Dichloroethane-d4	42.84	0	50	0	85.7	70-128	0			
Surr: 4-Bromofluorobenzene	48.64	0	50	0	97.3	73-126	0			
Surr: Dibromofluoromethane	47.78	0	50	0	95.6	71-128	0			
Surr: Toluene-d8	49.77	0	50	0	99.5	73-127	0			

LCS		Sample ID: VLCSS1-061812-R129646			Units: µg/Kg			Analysis Date: 6/18/2012 09:13 AM		
Client ID:		Run ID: VOA3_120618A			SeqNo: 2823332		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	53.29	5.0	50	0	107	79-120	0			
Ethylbenzene	50.81	5.0	50	0	102	80-122	0			
m,p-Xylene	104	10	100	0	104	79-122	0			
o-Xylene	52.27	5.0	50	0	105	80-123	0			
Toluene	52.46	5.0	50	0	105	79-120	0			
Xylenes, Total	156.2	15	150	0	104	80-120	0			
Surr: 1,2-Dichloroethane-d4	43.64	0	50	0	87.3	70-128	0			
Surr: 4-Bromofluorobenzene	49.38	0	50	0	98.8	73-126	0			
Surr: Dibromofluoromethane	51.22	0	50	0	102	71-128	0			
Surr: Toluene-d8	48.72	0	50	0	97.4	73-127	0			

MS		Sample ID: 1206632-01AMS			Units: µg/Kg			Analysis Date: 6/18/2012 01:05 PM		
Client ID:		Run ID: VOA3_120618A			SeqNo: 2823377		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	47.27	5.0	50	0	94.5	79-120	0			
Ethylbenzene	45.18	5.0	50	0	90.4	80-122	0			
m,p-Xylene	91.64	10	100	0	91.6	79-122	0			
o-Xylene	45.27	5.0	50	0	90.5	80-123	0			
Toluene	46.18	5.0	50	0	92.4	79-120	0			
Xylenes, Total	136.9	15	150	0	91.3	80-120	0			
Surr: 1,2-Dichloroethane-d4	44.62	0	50	0	89.2	70-128	0			
Surr: 4-Bromofluorobenzene	51.45	0	50	0	103	73-126	0			
Surr: Dibromofluoromethane	51.05	0	50	0	102	71-128	0			
Surr: Toluene-d8	49.65	0	50	0	99.3	73-127	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1206614  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: R129646 Instrument ID VOA3 Method: SW8260

MSD		Sample ID: 1206632-01AMSD			Units: µg/Kg			Analysis Date: 6/18/2012 01:34 PM		
Client ID:		Run ID: VOA3_120618A			SeqNo: 2823378			Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	51.71	5.0	50	0	103	79-120	47.27	8.98	30	
Ethylbenzene	48.8	5.0	50	0	97.6	80-122	45.18	7.7	30	
m,p-Xylene	99.92	10	100	0	99.9	79-122	91.64	8.65	30	
o-Xylene	48.86	5.0	50	0	97.7	80-123	45.27	7.63	30	
Toluene	51.06	5.0	50	0	102	79-120	46.18	10	30	
Xylenes, Total	148.8	15	150	0	99.2	80-120	136.9	8.31	30	
Surr: 1,2-Dichloroethane-d4	44.97	0	50	0	89.9	70-128	44.62	0.764	30	
Surr: 4-Bromofluorobenzene	50.32	0	50	0	101	73-126	51.45	2.21	30	
Surr: Dibromofluoromethane	49.21	0	50	0	98.4	71-128	51.05	3.67	30	
Surr: Toluene-d8	49.41	0	50	0	98.8	73-127	49.65	0.48	30	

The following samples were analyzed in this batch:

1206614-01A	1206614-02A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1206614  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: **62062** Instrument ID **UV-2450** Method: **SW7196** (**Dissolve**)

MBLK		Sample ID: <b>WBLKW1-62062</b>				Units: <b>mg/kg</b>		Analysis Date: <b>6/20/2012 05:00 PM</b>		
Client ID:		Run ID: <b>UV-2450_120620F</b>				SeqNo: <b>2830709</b>		Prep Date: <b>6/20/2012</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	ND	2.0								

LCS		Sample ID: <b>WLCSW1-62062</b>				Units: <b>mg/kg</b>		Analysis Date: <b>6/20/2012 05:00 PM</b>		
Client ID:		Run ID: <b>UV-2450_120620F</b>				SeqNo: <b>2830710</b>		Prep Date: <b>6/20/2012</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	10.52	2.0	10	0	105	80-120	0			

LCSD		Sample ID: <b>WLCSW1-62062</b>				Units: <b>mg/kg</b>		Analysis Date: <b>6/20/2012 05:00 PM</b>		
Client ID:		Run ID: <b>UV-2450_120620F</b>				SeqNo: <b>2830759</b>		Prep Date: <b>6/20/2012</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	10.72	2.0	10	0	107	80-120	10.52	1.88	20	

MS		Sample ID: <b>1206632-01BMS</b>				Units: <b>mg/kg</b>		Analysis Date: <b>6/20/2012 05:00 PM</b>		
Client ID:		Run ID: <b>UV-2450_120620F</b>				SeqNo: <b>2830761</b>		Prep Date: <b>6/20/2012</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	10.08	2.0	10	0	101	75-125	0			

The following samples were analyzed in this batch: 1206614-01C 1206614-02C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** LT Environmental  
**Work Order:** 1206614  
**Project:** Jolley 1

## QC BATCH REPORT

Batch ID: **R129757**      Instrument ID **WetChem**      Method: **SW9045B**      **(Dissolve)**

<b>LCS</b>	Sample ID: <b>WLCS-R129757</b>		Units: <b>pH Units</b>		Analysis Date: <b>6/19/2012 03:00 PM</b>					
Client ID:	Run ID: <b>WETCHEM_120619G</b>		SeqNo: <b>2825893</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.02	0.10	6	0	100	90-110	0			

<b>DUP</b>	Sample ID: <b>1206614-02CDUP</b>		Units: <b>pH Units</b>		Analysis Date: <b>6/19/2012 03:00 PM</b>					
Client ID: <b>PS02@23'</b>	Run ID: <b>WETCHEM_120619G</b>		SeqNo: <b>2825903</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	9.64	0.10	0	0	0	0-0	9.62	0.208	20	

**The following samples were analyzed in this batch:**
1206614-01C      1206614-02C

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** LT Environmental  
**Work Order:** 1206614  
**Project:** Jolley 1

# QC BATCH REPORT

Batch ID: **R129904** Instrument ID **Balance1** Method: **LaDNR-29B SP (Dissolve)**

**DUP** Sample ID: **1206679-01ADUP** Units: % Saturation as D Analysis Date: **6/20/2012 11:00 AM**

Client ID: Run ID: **BALANCE1\_120620G** SeqNo: **2829706** Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Saturation Point	0.444	0.10	0	0	0		0.455	2.45	30	

The following samples were analyzed in this batch: 1206614-01D 1206614-02D

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1206614  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: **R129905** Instrument ID **WetChem** Method: **LaDNR-29B EC (Dissolve)**

MBLK		Sample ID: <b>WBLKW1-062112-R129905</b>				Units: <b>mmhos/cm @25°C</b>		Analysis Date: <b>6/21/2012 05:15 PM</b>		
Client ID:		Run ID: <b>WETCHEM_120621I</b>			SeqNo: <b>2829740</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	ND	0.010								
Electrical Conductivity, 1:1 aqueous	ND	0.010								

LCS		Sample ID: <b>WLCSW1-062112-R129905</b>				Units: <b>mmhos/cm @25°C</b>		Analysis Date: <b>6/21/2012 05:15 PM</b>		
Client ID:		Run ID: <b>WETCHEM_120621I</b>			SeqNo: <b>2829741</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity, 1:1 aqueous	1.42	0.010	1.412		0	101	90-110	0		

DUP		Sample ID: <b>1206679-01ADUP</b>				Units: <b>mmhos/cm @25°C</b>		Analysis Date: <b>6/21/2012 05:15 PM</b>		
Client ID:		Run ID: <b>WETCHEM_120621I</b>			SeqNo: <b>2829750</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	4.057	0.010	0		0	0	3.934	3.08	20	
Electrical Conductivity, 1:1 aqueous	1.8	0.010	0		0	0	1.79	0.557	20	

The following samples were analyzed in this batch: 1206614-01D 1206614-02D

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** LT Environmental  
**Project:** Jolley 1  
**WorkOrder:** 1206614

**QUALIFIERS,  
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
aturation as Dec	
meq/meq	
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
mhos/cm @25°	
pH Units	

Sample Receipt Checklist

Client Name: **LT ENVIRONMENTAL**

Date/Time Received: **15-Jun-12 09:20**

Work Order: **1206614**

Received by: **RNG**

Checklist completed by Rishel D. Naran 15-Jun-12  
eSignature Date

Reviewed by: Hector Coronado 18-Jun-12  
eSignature Date

Matrices: **SOIL**  
Carrier name: **FedEx**

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present
- Custody seals intact on sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Container/Temp Blank temperature in compliance? Yes  No

Temperature(s)/Thermometer(s): 1.8 003

Cooler(s)/Kit(s): 2687

Date/Time sample(s) sent to storage: \_\_\_\_\_

Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted

Water - pH acceptable upon receipt? Yes  No  N/A

pH adjusted? Yes  No  N/A

pH adjusted by: \_\_\_\_\_

Login Notes:

-----

Client Contacted: \_\_\_\_\_ Date Contacted: \_\_\_\_\_ Person Contacted: \_\_\_\_\_

Contacted By: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments: \_\_\_\_\_

CorrectiveAction: \_\_\_\_\_



IF THE PERSON CAN BE REACHED BY TELEPHONE RECORD.

Date: 6-14-12

FedEx Tracking Number

898941669553

Sender's Name: Jake Janicek

Phone: 713-748-1311

Company: LT Environmental

Address: 820 Megan Ave

Unit B

Rifle

State

CO ZIP 81650

Internal Billing Reference

027312038.01

1206614



**ALS Environmental**

10450 Stancliff Rd., Suite 210  
Houston, Texas 77099  
Tel. +1 281 530 5656  
Fax. +1 281 530 5887

**CUSTODY SEAL**

Date: 6-14-12 Time: 1230  
Name: Jake Janicek  
Company: LT Environmental

Seal Broken By:

Date:



19-Sep-2012

Brian Dodek  
LT Environmental  
4600 West 60th Avenue  
Arvada, CO 80003

Tel: (303) 962-5535  
Fax: (303) 433-1432

Re: Jolley 1

Work Order: **1207414**

Dear Brian,

ALS Environmental received 5 samples on 10-Jul-2012 09:40 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 15.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in cursive script that reads "Patricia L. Lynch".

Electronically approved by: Jumoke M. Lawal

Patricia L. Lynch  
Project Manager



Certificate No: T104704231-09A-TX

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

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RIGHT SOLUTIONS RIGHT PARTNER

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**Client:** LT Environmental  
**Project:** Jolley 1  
**Work Order:** 1207414

**Work Order Sample Summary**

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<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1207414-01	PS01@26'	Soil		7/9/2012 10:20	7/10/2012 09:40	<input type="checkbox"/>
1207414-02	PS01@29'	Soil		7/9/2012 10:52	7/10/2012 09:40	<input type="checkbox"/>
1207414-03	PS02@26'	Soil		7/9/2012 11:10	7/10/2012 09:40	<input type="checkbox"/>
1207414-04	PS02@29'	Soil		7/9/2012 11:30	7/10/2012 09:40	<input type="checkbox"/>
1207414-05	BG01@20'bgs	Soil		7/9/2012 14:20	7/10/2012 09:40	<input type="checkbox"/>

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**Client:** LT Environmental

**Project:** Jolley 1

**Work Order:** 1207414

**Case Narrative**

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This report was revised on September 19, 2012 to change the sample IDs at the request of the client.

**ALS Environmental**

Date: 19-Sep-12

Client: LT Environmental  
 Project: Jolley 1  
 Sample ID: PS01@26'  
 Collection Date: 7/9/2012 10:20 AM

Work Order: 1207414  
 Lab ID: 1207414-01  
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: 7/17/2012	Analyst: ALR
Sodium Adsorption Ratio	2.58		0.0100	meq/meq	1	7/18/2012
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: RPM
Electrical Conductivity @ saturation	3.60		0.0100	mmhos/cm @25	1	7/17/2012 12:00 PM
Electrical Conductivity, 1:1 aqueous	1.65		0.0100	mmhos/cm @25	1	7/17/2012 12:00 PM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: RPM
Saturation Point	0.458		0.100	% Saturation as	1	7/17/2012 10:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 19-Sep-12

Client: LT Environmental  
 Project: Jolley 1  
 Sample ID: PS01@29'  
 Collection Date: 7/9/2012 10:52 AM

Work Order: 1207414  
 Lab ID: 1207414-02  
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>7/17/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	2.88		0.0100	meq/meq	1	7/18/2012
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	1.90		0.0100	mmhos/cm @25	1	7/17/2012 12:00 PM
Electrical Conductivity, 1:1 aqueous	0.759		0.0100	mmhos/cm @25	1	7/17/2012 12:00 PM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>RPM</b>
Saturation Point	0.400		0.100	% Saturation as	1	7/17/2012 10:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS02@26'  
**Collection Date:** 7/9/2012 11:10 AM

**Work Order:** 1207414  
**Lab ID:** 1207414-03  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>7/17/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	27.5		0.0100	meq/meq	1	7/18/2012
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	6.85		0.0100	mmhos/cm @25	1	7/17/2012 12:00 PM
Electrical Conductivity, 1:1 aqueous	2.66		0.0100	mmhos/cm @25	1	7/17/2012 12:00 PM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>RPM</b>
Saturation Point	0.389		0.100	% Saturation as	1	7/17/2012 10:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS02@29'  
**Collection Date:** 7/9/2012 11:30 AM

**Work Order:** 1207414  
**Lab ID:** 1207414-04  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>7/17/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	27.3		0.0100	meq/meq	1	7/18/2012
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	8.40		0.0100	mmhos/cm @25	1	7/17/2012 12:00 PM
Electrical Conductivity, 1:1 aqueous	2.85		0.0100	mmhos/cm @25	1	7/17/2012 12:00 PM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>RPM</b>
Saturation Point	0.339		0.100	% Saturation as	1	7/17/2012 10:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

# ALS Environmental

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** BG01@20'bgs  
**Collection Date:** 7/9/2012 02:20 PM

**Work Order:** 1207414  
**Lab ID:** 1207414-05  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>7/17/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	1.30		0.0100	meq/meq	1	7/18/2012
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	1.70		0.0100	mmhos/cm @25	1	7/17/2012 12:00 PM
Electrical Conductivity, 1:1 aqueous	0.583		0.0100	mmhos/cm @25	1	7/17/2012 12:00 PM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>RPM</b>
Saturation Point	0.342		0.100	% Saturation as	1	7/17/2012 10:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** LT Environmental  
**Work Order:** 1207414  
**Project:** Jolley 1

**QC BATCH REPORT**

Batch ID: **62698A**      Instrument ID **MISC-Metals**      Method: **La29B SAR**

**DUP**      Sample ID: **1207414-01ADUP**      Units: **meq/meq**      Analysis Date: **7/18/2012**  
 Client ID: **PS01@26'**      Run ID: **MISC-METALS\_120718**      SeqNo: **2864291**      Prep Date: **7/17/2012**      DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	2.65	0.010	0	0	0		2.58	2.68	30	

**The following samples were analyzed in this batch:**

1207414-01A	1207414-02A	1207414-03A
1207414-04A	1207414-05A	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** LT Environmental  
**Work Order:** 1207414  
**Project:** Jolley 1

# QC BATCH REPORT

Batch ID: **R131374**      Instrument ID **Balance1**      Method: **LaDNR-29B SP (Dissolve)**

<b>DUP</b>	Sample ID: <b>1207150-01ADUP</b>		Units: % Saturation as D		Analysis Date: <b>7/17/2012 10:00 AM</b>					
Client ID:	Run ID: <b>BALANCE1_120717A</b>		SeqNo: <b>2862501</b>		Prep Date:      DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Saturation Point	0.462	0.10	0	0.46	0		0.46	0.434	30	

**The following samples were analyzed in this batch:**

1207414-01A	1207414-02A	1207414-03A
1207414-04A	1207414-05A	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1207414  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: R131375 Instrument ID WetChem Method: LaDNR-29B EC (Dissolve)

MBLK		Sample ID: WBLKW1-071712-R131375				Units: mmhos/cm @25°C		Analysis Date: 7/17/2012 12:00 PM		
Client ID:		Run ID: WETCHEM_120717E			SeqNo: 2862502		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	ND	0.010								
Electrical Conductivity, 1:1 aqueous	ND	0.010								

LCS		Sample ID: WLCSW1-071712-R131375				Units: mmhos/cm @25°C		Analysis Date: 7/17/2012 12:00 PM		
Client ID:		Run ID: WETCHEM_120717E			SeqNo: 2862503		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity, 1:1 aqueous	1.43	0.010	1.412		0	101	90-110	0		

DUP		Sample ID: 1207150-01ADUP				Units: mmhos/cm @25°C		Analysis Date: 7/17/2012 12:00 PM		
Client ID:		Run ID: WETCHEM_120717E			SeqNo: 2862510		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	4.13	0.010	0	4.128	0		4.128	0.0484	20	
Electrical Conductivity, 1:1 aqueous	1.91	0.010	0	1.9	0		1.9	0.525	20	

The following samples were analyzed in this batch:

1207414-01A	1207414-02A	1207414-03A
1207414-04A	1207414-05A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** LT Environmental  
**Project:** Jolley 1  
**WorkOrder:** 1207414

**QUALIFIERS,  
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

**Units Reported Description**

aturation as Dec  
 meq/meq  
 mhos/cm @25°





Lab Hub LLC

CUSTODY SEAL

Date: 7.9.12

Signature: *[Handwritten Signature]*

1207904



19-Sep-2012

Brian Dodek  
LT Environmental  
4600 West 60th Avenue  
Arvada, CO 80003

Tel: (303) 962-5535  
Fax: (303) 433-1432

Re: Jolley 1

Work Order: **1208047**

Dear Brian,

ALS Environmental received 4 samples on 01-Aug-2012 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 15.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink that reads "Patricia L. Lynch".

Electronically approved by: Jumoke M. Lawal

Patricia L. Lynch  
Project Manager



Certificate No: T104704231-09A-TX

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

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**Client:** LT Environmental  
**Project:** Jolley 1  
**Work Order:** 1208047

**Work Order Sample Summary**

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<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1208047-01	PS02@32'	Soil		7/31/2012 09:15	8/1/2012 09:00	<input type="checkbox"/>
1208047-02	PS02@35'	Soil		7/31/2012 09:45	8/1/2012 09:00	<input type="checkbox"/>
1208047-03	PS02@38'	Soil		7/31/2012 10:15	8/1/2012 09:00	<input type="checkbox"/>
1208047-04	PS02@41'	Soil		7/31/2012 10:45	8/1/2012 09:00	<input type="checkbox"/>

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**Client:** LT Environmental

**Project:** Jolley 1

**Work Order:** 1208047

**Case Narrative**

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This report was revised on September 19, 2012 to change the sample IDs at the request of the client.

**ALS Environmental**

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS02@32'  
**Collection Date:** 7/31/2012 09:15 AM

**Work Order:** 1208047  
**Lab ID:** 1208047-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>8/6/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	34.7		0.0100	meq/meq	1	8/13/2012
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		Prep Date: <b>8/6/2012</b>	Analyst: <b>IGF</b>
Calcium	18.7		4.98	mg/L	10	8/9/2012 06:11 AM
Magnesium	ND		4.98	mg/L	10	8/9/2012 06:11 AM
Sodium	545		4.98	mg/L	10	8/9/2012 06:11 AM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	11.0		0.0100	mmhos/cm @25	1	8/9/2012 02:30 PM
Electrical Conductivity, 1:1 aqueous	3.66		0.0100	mmhos/cm @25	1	8/9/2012 02:30 PM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>KAH</b>
Saturation Point	0.331		0.100	% Saturation as	1	8/8/2012 11:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS02@35'  
**Collection Date:** 7/31/2012 09:45 AM

**Work Order:** 1208047  
**Lab ID:** 1208047-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>8/6/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	28.8		0.0100	meq/meq	1	8/13/2012
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		Prep Date: <b>8/6/2012</b>	Analyst: <b>IGF</b>
Calcium	14.2		5.00	mg/L	10	8/9/2012 06:16 AM
Magnesium	ND		5.00	mg/L	10	8/9/2012 06:16 AM
Sodium	394		5.00	mg/L	10	8/9/2012 06:16 AM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	8.03		0.0100	mmhos/cm @25	1	8/9/2012 02:30 PM
Electrical Conductivity, 1:1 aqueous	2.97		0.0100	mmhos/cm @25	1	8/9/2012 02:30 PM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>KAH</b>
Saturation Point	0.370		0.100	% Saturation as	1	8/8/2012 11:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS02@38'  
**Collection Date:** 7/31/2012 10:15 AM

**Work Order:** 1208047  
**Lab ID:** 1208047-03  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>8/6/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	39.0		0.0100	meq/meq	1	8/13/2012
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		Prep Date: <b>8/6/2012</b>	Analyst: <b>IGF</b>
Calcium	10.2		4.99	mg/L	10	8/9/2012 06:30 AM
Magnesium	ND		4.99	mg/L	10	8/9/2012 06:30 AM
Sodium	452		4.99	mg/L	10	8/9/2012 06:30 AM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	9.42		0.0100	mmhos/cm @25	1	8/9/2012 02:30 PM
Electrical Conductivity, 1:1 aqueous	3.13		0.0100	mmhos/cm @25	1	8/9/2012 02:30 PM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>KAH</b>
Saturation Point	0.332		0.100	% Saturation as	1	8/8/2012 11:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 19-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS02@41'  
**Collection Date:** 7/31/2012 10:45 AM

**Work Order:** 1208047  
**Lab ID:** 1208047-04  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>8/6/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	49.2		0.0100	meq/meq	1	8/13/2012
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		Prep Date: <b>8/6/2012</b>	Analyst: <b>IGF</b>
Calcium	9.73		4.99	mg/L	10	8/9/2012 06:35 AM
Magnesium	ND		4.99	mg/L	10	8/9/2012 06:35 AM
Sodium	557		4.99	mg/L	10	8/9/2012 06:35 AM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	10.6		0.0100	mmhos/cm @25	1	8/9/2012 02:30 PM
Electrical Conductivity, 1:1 aqueous	3.76		0.0100	mmhos/cm @25	1	8/9/2012 02:30 PM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>KAH</b>
Saturation Point	0.354		0.100	% Saturation as	1	8/8/2012 11:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** LT Environmental  
**Work Order:** 1208047  
**Project:** Jolley 1

**QC BATCH REPORT**

Batch ID: **63185** Instrument ID **ICPMS03** Method: **La29B-6020**

<b>MBLK</b>	Sample ID: <b>BLK-080512 SAR-63185</b>			Units: <b>mg/L</b>		Analysis Date: <b>8/9/2012 04:41 AM</b>				
Client ID:	Run ID: <b>ICPMS03_120808A</b>			SeqNo: <b>2895334</b>		Prep Date: <b>8/5/2012</b>		DF: <b>10</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	ND	5.0								
Magnesium	ND	5.0								
Sodium	ND	5.0								

<b>LCS</b>	Sample ID: <b>LCS-080512 SAR-63185</b>			Units: <b>mg/L</b>		Analysis Date: <b>8/9/2012 04:47 AM</b>				
Client ID:	Run ID: <b>ICPMS03_120808A</b>			SeqNo: <b>2895335</b>		Prep Date: <b>8/6/2012</b>		DF: <b>10</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	94.16	5.0	100	0	94.2	80-120	0			
Magnesium	95.85	5.0	100	0	95.8	80-120	0			
Sodium	96.96	5.0	100	0	97	80-120	0			

<b>DUP</b>	Sample ID: <b>1208026-02ADUP</b>			Units: <b>mg/L</b>		Analysis Date: <b>8/9/2012 05:48 AM</b>				
Client ID:	Run ID: <b>ICPMS03_120808A</b>			SeqNo: <b>2895348</b>		Prep Date: <b>8/6/2012</b>		DF: <b>10</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	1652	5.0	0	0	0		1606	2.79	30	
Magnesium	ND	5.0	0	0	0		0	0	30	
Sodium	324.7	5.0	0	0	0		388.1	17.8	30	

The following samples were analyzed in this batch:

1208047-01A	1208047-02A	1208047-03A
1208047-04A		

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** LT Environmental  
**Work Order:** 1208047  
**Project:** Jolley 1

# QC BATCH REPORT

Batch ID: **63185A**      Instrument ID **MISC-Metals**      Method: **La29B SAR**

**DUP**      Sample ID: **1208026-02ADUP**      Units: **meq/meq**      Analysis Date: **8/13/2012**  
 Client ID:      Run ID: **MISC-METALS\_120813**      SeqNo: **2899262**      Prep Date: **8/6/2012**      DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	2.2	0.010	0	0	0		2.66	18.9	30	

**The following samples were analyzed in this batch:**

1208047-01A	1208047-02A	1208047-03A
1208047-04A		

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** LT Environmental  
**Work Order:** 1208047  
**Project:** Jolley 1

# QC BATCH REPORT

Batch ID: **R132821**      Instrument ID **BALANCE1**      Method: **LaDNR-29B SP (Dissolve)**

DUP		Sample ID: <b>1208047-04ADUP</b>				Units: % Saturation as D		Analysis Date: <b>8/8/2012 11:00 AM</b>		
Client ID: <b>PS02@41'</b>		Run ID: <b>BALANCE1_120808F</b>				SeqNo: <b>2896412</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Saturation Point	0.339	0.10	0	0	0		0.354	4.33	30	

DUP		Sample ID: <b>1208164-01ADUP</b>				Units: % Saturation as D		Analysis Date: <b>8/8/2012 11:00 AM</b>		
Client ID:		Run ID: <b>BALANCE1_120808F</b>				SeqNo: <b>2896413</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Saturation Point	0.56	0.10	0	0	0		0.568	1.42	30	

The following samples were analyzed in this batch:

1208047-01A	1208047-02A	1208047-03A
1208047-04A		

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1208047  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: **R132826** Instrument ID **WetChem** Method: **LaDNR-29B EC (Dissolve)**

**MBLK** Sample ID: **WBLKW1-080912-R132826** Units: **mmhos/cm @25°C** Analysis Date: **8/9/2012 02:30 PM**

Client ID: Run ID: **WETCHEM\_120809I** SeqNo: **2896521** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	ND	0.010								
Electrical Conductivity, 1:1 aqueous	ND	0.010								

**LCS** Sample ID: **WLCSW1-080912-R132826** Units: **mmhos/cm @25°C** Analysis Date: **8/9/2012 02:30 PM**

Client ID: Run ID: **WETCHEM\_120809I** SeqNo: **2896522** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity, 1:1 aqueous	1.46	0.010	1.412		0	103	90-110	0		

**DUP** Sample ID: **1208047-04ADUP** Units: **mmhos/cm @25°C** Analysis Date: **8/9/2012 02:30 PM**

Client ID: **PS02@41'** Run ID: **WETCHEM\_120809I** SeqNo: **2896549** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	11.1	0.010	0		0		10.63	4.27	20	
Electrical Conductivity, 1:1 aqueous	3.76	0.010	0		0		3.76	0	20	

The following samples were analyzed in this batch:

1208047-01A	1208047-02A	1208047-03A
1208047-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** LT Environmental  
**Project:** Jolley 1  
**WorkOrder:** 1208047

**QUALIFIERS,  
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
aturation as Dec	
meq/meq	
mg/L	Milligrams per Liter
mhoh/cm @25°	



# 1208047

LT ENVIRONMENTAL: LT Environmental

## CHAIN OF CUSTODY

Failure to complete all section of this form may delay analysis.

Project: Jolley 1



ALS Laboratory Group

<b>GENERAL INFORMATION</b> Company Name: LT Environmental, Inc Project Manager: Brian Dodek/Rob Fishburn Address: 820 Megan Ave Unit B Rifle, CO 81650 Phone: 970.285.9885 Email 1: <a href="mailto:bdodek@ltenv.com">bdodek@ltenv.com</a> Email 2: <a href="mailto:rfishburn@ltenv.com">rfishburn@ltenv.com</a> Project ID: 027312038 Site: Jolley 1 PO No: ALS Quote No: <input checked="" type="checkbox"/> Regular (default) <input type="checkbox"/> Express (Pis specify date required) (express fee will apply)		<b>SPRINKLES AND CONTAINER INFO</b> Date: 7/31/2012 915 2 7/31/2012 945 2 7/31/2012 1015 2 7/31/2012 1045 2		<b>SEDIMENTS</b> SAR EC		<b>CROSS THE REQUESTED ANALYSE</b>	
ALS ID #	SAMPLE IDENTIFICATION (this description will appear on report)	MA TYP (L)	Date	Time	Vol (B)		
	PS02@ 12`bgs	S	7/31/2012	915	2	X	
	PS02@ 15`bgs	S	7/31/2012	945	2	X	
	PS02@ 18`bgs	S	7/31/2012	1015	2	X	
	PS02@ 21`bgs	S	7/31/2012	1045	2	X	
<b>CLIENT SIGNATURES</b> Client's Signature: <i>[Signature]</i> Client's Date and Time of Completion: 7/31/12 1400							Received by (lab): <i>[Signature]</i> Date and Time: 8.1.12. 8:00
Note: (a) DW (Drinking water), SW (Surface water), GW (Ground water), WW (Waste water), S (Soil), SL (Sludge), SE (Sediment), OS (Other solid material)							No of Cooler Received: carton / cooler box Cooler Security Seal: sealed <input type="checkbox"/> broken <input type="checkbox"/> not available <input type="checkbox"/> Sample Temp: chilled <input type="checkbox"/> ambient <input type="checkbox"/> Count: <i>[Handwritten]</i>

ALS Technichem (HK) Pty Ltd Address: 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Tel: +862 2610 1044 Fax: +852 2610 1044 Email: HongKong@alsglobal.com

From: (970) 424-4749  
Colby Koerner  
Lab Hub, LLC  
562 Huntington Point Lane  
Clifton, CO 81520

Origin ID: GJTA



Ship Date: 31JUL12  
ActWgt: 34.0 LB  
CAD: 103923490/NET3300

Dims: 17 X 11 X 16 IN

Delivery Address Bar Code



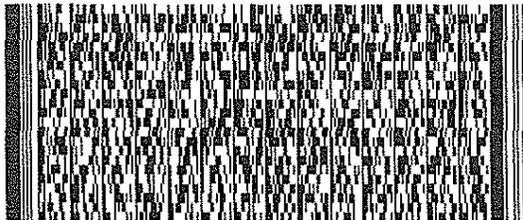
SHIP TO: (281) 530-5656  
**Sample Receiving**  
**ALS Environmental - Texas**  
**10450 STANCLIFF RD**  
**STE 210**  
**HOUSTON, TX 77099**

BILL RECIPIENT

Ref #  
Invoice #  
PO #  
Dept #

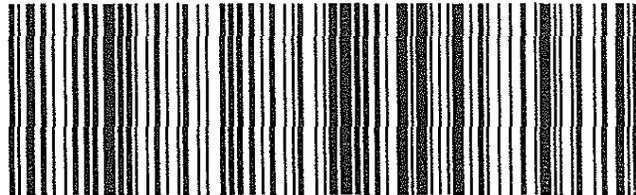
WED - 01 AUG A1  
STANDARD OVERNIGHT

TRK# 7986 8339 3897  
0201



**XH SGRA**

77099  
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IAH



515G1/A270IAA44

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Lab Hub LLC **CUSTOMER SEAL**

Date: 8/1/12

Signature: Parachute CO

8-1-12



17-Sep-2012

Brian Dodek  
LT Environmental  
4600 West 60th Avenue  
Arvada, CO 80003

Tel: (303) 962-5535  
Fax: (303) 433-1432

Re: Jolley 1

Work Order: **1209188**

Dear Brian,

ALS Environmental received 6 samples on 06-Sep-2012 09:25 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 16.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink that reads "Patricia L. Lynch".

Electronically approved by: Jumoke M. Lawal

Patricia L. Lynch  
Project Manager



Certificate No: T104704231-09A-TX

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental ALS Environmental logo icon consisting of a small blue triangle with a yellow flame.

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

RIGHT SOLUTIONS RIGHT PARTNER

**Client:** LT Environmental  
**Project:** Jolley 1  
**Work Order:** 1209188

**Work Order Sample Summary**

---

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1209188-01	PS02@ 44'bgs	Soil		9/5/2012 09:15	9/6/2012 09:25	<input type="checkbox"/>
1209188-02	PS02@ 47'bgs	Soil		9/5/2012 09:45	9/6/2012 09:25	<input type="checkbox"/>
1209188-03	PS02@ 50'bgs	Soil		9/5/2012 10:05	9/6/2012 09:25	<input type="checkbox"/>
1209188-04	PS02@ 53'bgs	Soil		9/5/2012 11:00	9/6/2012 09:25	<input type="checkbox"/>
1209188-05	PS02@ 56'bgs	Soil		9/5/2012 11:15	9/6/2012 09:25	<input type="checkbox"/>
1209188-06	Trip Blank	Water		9/5/2012	9/6/2012 09:25	<input type="checkbox"/>

# ALS Environmental

Date: 17-Sep-12

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**Client:** LT Environmental

**Project:** Jolley 1

**Work Order:** 1209188

## Case Narrative

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No Exceptions

# ALS Environmental

Date: 17-Sep-12

Client: LT Environmental  
 Project: Jolley 1  
 Sample ID: PS02@ 44'bgs  
 Collection Date: 9/5/2012 09:15 AM

Work Order: 1209188  
 Lab ID: 1209188-01  
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>9/12/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	23.8		0.0100	meq/meq	1	9/14/2012
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		Prep Date: <b>9/12/2012</b>	Analyst: <b>IGF</b>
Calcium	24.7		4.99	mg/L	10	9/13/2012 01:20 PM
Magnesium	12.3		4.99	mg/L	10	9/13/2012 01:20 PM
Sodium	580		4.99	mg/L	10	9/13/2012 01:20 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	11.8		0.0100	mmhos/cm @25	1	9/13/2012 10:00 AM
Electrical Conductivity, 1:1 aqueous	3.84		0.0100	mmhos/cm @25	1	9/13/2012 10:00 AM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>KAH</b>
Saturation Point	0.326		0.100	% Saturation as	1	9/11/2012 09:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

# ALS Environmental

Date: 17-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS02@ 47'bgs  
**Collection Date:** 9/5/2012 09:45 AM

**Work Order:** 1209188  
**Lab ID:** 1209188-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>9/12/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	20.9		0.0100	meq/meq	1	9/14/2012
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		Prep Date: <b>9/12/2012</b>	Analyst: <b>IGF</b>
Calcium	37.2		4.99	mg/L	10	9/13/2012 01:25 PM
Magnesium	19.0		4.99	mg/L	10	9/13/2012 01:25 PM
Sodium	629		4.99	mg/L	10	9/13/2012 01:25 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	12.8		0.0100	mmhos/cm @25	1	9/13/2012 10:00 AM
Electrical Conductivity, 1:1 aqueous	4.06		0.0100	mmhos/cm @25	1	9/13/2012 10:00 AM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>KAH</b>
Saturation Point	0.317		0.100	% Saturation as	1	9/11/2012 09:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

# ALS Environmental

Date: 17-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS02@ 50'bgs  
**Collection Date:** 9/5/2012 10:05 AM

**Work Order:** 1209188  
**Lab ID:** 1209188-03  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>9/12/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	14.2		0.0100	meq/meq	1	9/14/2012
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		Prep Date: <b>9/12/2012</b>	Analyst: <b>IGF</b>
Calcium	58.2		4.99	mg/L	10	9/13/2012 01:30 PM
Magnesium	26.0		4.99	mg/L	10	9/13/2012 01:30 PM
Sodium	520		4.99	mg/L	10	9/13/2012 01:30 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	11.8		0.0100	mmhos/cm @25	1	9/13/2012 10:00 AM
Electrical Conductivity, 1:1 aqueous	3.75		0.0100	mmhos/cm @25	1	9/13/2012 10:00 AM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>KAH</b>
Saturation Point	0.319		0.100	% Saturation as	1	9/11/2012 09:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 17-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS02@ 53'bgs  
**Collection Date:** 9/5/2012 11:00 AM

**Work Order:** 1209188  
**Lab ID:** 1209188-04  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>9/12/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	7.04		0.0100	meq/meq	1	9/14/2012
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		Prep Date: <b>9/12/2012</b>	Analyst: <b>IGF</b>
Calcium	101		5.00	mg/L	10	9/13/2012 01:34 PM
Magnesium	65.1		5.00	mg/L	10	9/13/2012 01:34 PM
Sodium	369		5.00	mg/L	10	9/13/2012 01:34 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	11.2		0.0100	mmhos/cm @25	1	9/13/2012 10:00 AM
Electrical Conductivity, 1:1 aqueous	3.47		0.0100	mmhos/cm @25	1	9/13/2012 10:00 AM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>KAH</b>
Saturation Point	0.309		0.100	% Saturation as	1	9/11/2012 09:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

**ALS Environmental**

Date: 17-Sep-12

**Client:** LT Environmental  
**Project:** Jolley 1  
**Sample ID:** PS02@ 56'bgs  
**Collection Date:** 9/5/2012 11:15 AM

**Work Order:** 1209188  
**Lab ID:** 1209188-05  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		Prep Date: <b>9/12/2012</b>	Analyst: <b>ALR</b>
Sodium Adsorption Ratio	6.73		0.0100	meq/meq	1	9/14/2012
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		Prep Date: <b>9/12/2012</b>	Analyst: <b>IGF</b>
Calcium	126		4.98	mg/L	10	9/13/2012 01:39 PM
Magnesium	77.3		4.98	mg/L	10	9/13/2012 01:39 PM
Sodium	389		4.98	mg/L	10	9/13/2012 01:39 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>RPM</b>
Electrical Conductivity @ saturation	12.9		0.0100	mmhos/cm @25	1	9/13/2012 10:00 AM
Electrical Conductivity, 1:1 aqueous	3.92		0.0100	mmhos/cm @25	1	9/13/2012 10:00 AM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>			Analyst: <b>KAH</b>
Saturation Point	0.303		0.100	% Saturation as	1	9/11/2012 09:00 AM

**Note:** See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 17-Sep-12

**Client:** LT Environmental  
**Work Order:** 1209188  
**Project:** Jolley 1

**QC BATCH REPORT**

Batch ID: **64145** Instrument ID **ICPMS04** Method: **La29B-6020**

<b>LCS</b>		Sample ID: <b>LCS-091212 SAR-64145</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/13/2012 01:15 PM</b>		
Client ID:		Run ID: <b>ICPMS04_120913A</b>				SeqNo: <b>2939587</b>		Prep Date: <b>9/12/2012</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	86.86	5.0	100	0	86.9	80-120	0			
Magnesium	87.42	5.0	100	0	87.4	80-120	0			
Sodium	88.76	5.0	100	0	88.8	80-120	0			

<b>DUP</b>		Sample ID: <b>1209228-06DDUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/13/2012 02:31 PM</b>		
Client ID:		Run ID: <b>ICPMS04_120913A</b>				SeqNo: <b>2939606</b>		Prep Date: <b>9/12/2012</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	85.03	5.0	0	0	0		86.29	1.46	30	
Magnesium	26.36	5.0	0	0	0		27.18	3.06	30	
Sodium	55.73	5.0	0	0	0		56.88	2.04	30	

The following samples were analyzed in this batch:

1209188-01A	1209188-02A	1209188-03A
1209188-04A	1209188-05A	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** LT Environmental  
**Work Order:** 1209188  
**Project:** Jolley 1

# QC BATCH REPORT

Batch ID: **64145A**      Instrument ID **MISC-Metals**      Method: **La29B SAR**

**DUP**      Sample ID: **1209228-06DDUP**      Units: **meq/meq**      Analysis Date: **9/14/2012**  
 Client ID:      Run ID: **MISC-METALS\_120914**      SeqNo: **2942029**      Prep Date: **9/12/2012**      DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	1.35	0.010	0	0	0		1.37	1.47	30	

**The following samples were analyzed in this batch:**

1209188-01A	1209188-02A	1209188-03A
1209188-04A	1209188-05A	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1209188  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: R134825 Instrument ID Balance1 Method: LaDNR-29B SP (Dissolve)

DUP		Sample ID: 1209228-01DDUP				Units: % Saturation as D		Analysis Date: 9/11/2012 09:00 AM		
Client ID:		Run ID: BALANCE1_120911E				SeqNo: 2938401		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Saturation Point	0.292	0.10	0	0	0		0.291	0.343	30	

DUP		Sample ID: 1209228-07DDUP				Units: % Saturation as D		Analysis Date: 9/11/2012 09:00 AM		
Client ID:		Run ID: BALANCE1_120911E				SeqNo: 2938402		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Saturation Point	0.424	0.10	0	0	0		0.416	1.9	30	

The following samples were analyzed in this batch:

1209188-01A	1209188-02A	1209188-03A
1209188-04A	1209188-05A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental  
 Work Order: 1209188  
 Project: Jolley 1

# QC BATCH REPORT

Batch ID: **R134916** Instrument ID **WetChem** Method: **LaDNR-29B EC (Dissolve)**

MBLK		Sample ID: <b>WBLKW1-091312-R134916</b>				Units: <b>mmhos/cm @25°C</b>		Analysis Date: <b>9/13/2012 10:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_120913G</b>				SeqNo: <b>2939941</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	ND	0.010								
Electrical Conductivity, 1:1 aqueous	ND	0.010								

LCS		Sample ID: <b>WLCSW1-091312-R134916</b>				Units: <b>mmhos/cm @25°C</b>		Analysis Date: <b>9/13/2012 10:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_120913G</b>				SeqNo: <b>2939942</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity, 1:1 aqueous	1.34	0.010	1.412		0	94.9	90-110	0		

LCSD		Sample ID: <b>WLCSDW1-091312-R134916</b>				Units: <b>mmhos/cm @25°C</b>		Analysis Date: <b>9/13/2012 10:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_120913G</b>				SeqNo: <b>2939948</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity, 1:1 aqueous	1.35	0.010	1.412		0	95.6	90-110	1.34	0.743	20

The following samples were analyzed in this batch:

1209188-01A	1209188-02A	1209188-03A
1209188-04A	1209188-05A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** LT Environmental  
**Project:** Jolley 1  
**WorkOrder:** 1209188

**QUALIFIERS,  
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
aturation as Dec	
meq/meq	
mg/L	Milligrams per Liter
mhoh/cm @25°	

Sample Receipt Checklist

Client Name: **LT ENVIRONMENTAL**

Date/Time Received: **06-Sep-12 09:25**

Work Order: **1209188**

Received by: **JBA**

Checklist completed by Raymond N Gambia 06-Sep-12  
eSignature Date

Reviewed by: Patricia L. Lynch 07-Sep-12  
eSignature Date

Matrices: Soil  
 Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<input type="text" value="1.7c c.u"/>	<input type="text" value="004"/>	
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text" value="9/6/2012 19:40"/>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<input type="text"/>		
Login Notes:	<u>Trip blank not on COC--logged in without analysis.</u>		

Client Contacted: \_\_\_\_\_ Date Contacted: \_\_\_\_\_ Person Contacted: \_\_\_\_\_  
 Contacted By: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments:

CorrectiveAction:



From: (970) 285-5783  
COLBY KOERNER  
LAB HUB LLC  
127 E FIRST STREET

Origin ID: RILA

FedEx  
Express

Ship Date: 05SEP12  
Act/Wgt: 31.0 LB MAN  
CAD: 0980261/CAFE2511

Dims: 19 X 13 X 13 IN

*WGA 129158*



PARACHUTE, CO 81635

Delivery Address Bar Code



J1113110808225

SHIP TO: (281) 530-5656

BILL RECIPIENT

**SAMPLE RECEIVING**  
**ALS ENVIRONMENTAL**  
10450 STANCLIFF ROAD  
SUITE 210  
HOUSTON, TX 77099

Ref# 1001-090512-1  
Invoice #  
PO #  
Dept #

THU - 06 SEP A1  
STANDARD OVERNIGHT

TRK# 5413 4493 0660

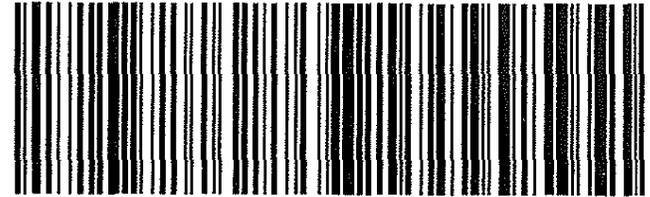
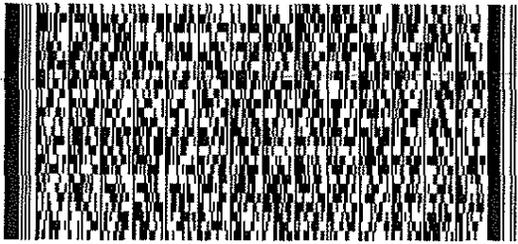
0201

77099

TX-US

**XH SGRA**

IAH



50DC10D3A10BC

Parachu  
Lab Hub LLC  
Date: *09/05/12*  
Signature: *[Signature]*

Lab, W  
CUSTODY SEAL  
*Lab, LLC*  
Parachu, CO  
*[Signature]*