

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

#8026

RECEIVED
10/14/2013

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

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.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

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

GENERAL INFORMATION

OGCC Operator Number: <u>10071</u> Name of Operator: <u>Bill Barrett Corporation</u> Address: <u>112 Red Feather Trail</u> City: <u>Silt</u> State: <u>CO</u> Zip: <u>81652</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>Not Applicable</u> Facility Name: <u>GGU Daley 1-30 Pit</u> Well Name: <u>Not Applicable</u> Location (QtrQtr, Sec, Twp, Rng, Meridian): <u>NENE Sec. 30 T6S R91W 6th PM</u>		County: <u>Garfield</u> Facility Number: <u>NA - No response from COGCC</u> Well Number: <u>Not Applicable</u> Latitude: <u>39.504526</u> Longitude: <u>-107.589057</u>	

TECHNICAL CONDITIONS

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

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

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

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Olney loam, 3 to 6 percent slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Irrigation ditch approx. 80 feet south. Water well approx. 0.16 miles northeast.

Pond approx. 0.22 miles southeast. Groundwater expected to be approx. 50 feet below ground surface.

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		

REMEDIALATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):
Not Applicable. See attached pit closure report.

Describe how source is to be removed:
Not Applicable. See attached pit closure report.

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. See attached pit closure report.

State of Colorado
Oil and Gas Conservation Commission

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REMEDIATION WORKPLAN (CONT.)

OGCC Employee: _____

Tracking Number: _____
Name of Operator: Bill Barrett Corporation
OGCC Operator No: 10071
Received Date: _____
Well Name & No: Not Applicable
Facility Name & No.: GGU Daley 1-30 Pad

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

Groundwater was not encountered during excavation and sampling activities.

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 pit closure authorization, Bill Barrett Corporation (BBC) will return the area to previous grade and contour.

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

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

Although BBC filed a Form 15 to permit the completions pit, an approval was not received from the COGCC. BBC has collected the required confirmation samples from the bottom of the completions pit and both samples are compliant with COGCC Table 910-1 concentration levels or are within background concentrations. As a result, BBC is requesting authorization to close the completions pit.

See attached pit closure report.

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


Not Applicable. See attached pit closure report.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: <u>8/1/2013</u>	Date Site Investigation Completed: <u>NA</u>	Remediation Plan Submitted: <u>10/14/2013</u>
Remediation Start Date: <u>NA</u>	Anticipated Completion Date: <u>NA</u>	Actual Completion Date: <u>TBD</u>

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:  Title: Environmental H&S Coordinator Date: 10/14/2013

OGCC Approved: _____ Title: _____ Date: _____



September 24, 2013

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

**RE: Field Activities and Sample Results Report
GGU Daley 1-30 Pad Pit Closure
NENE 30 T6S R91W
Garfield County, Colorado**

Dear Mr. Ghan:

LT Environmental, Inc. (LTE) was contracted by Bill Barrett Corporation (BBC) to provide environmental sampling activities at the above-referenced site. The scope of work consisted of confirmation soil sampling from the base of a drilling/completion pit, background soil sampling, laboratory analysis, and reporting field activities. A Form 15 was submitted by BBC to the Colorado Oil and Gas Conservation Commission (COGCC) on October 12, 2010, in order to permit the pit. To date, no response has been issued. Therefore, there is no Facility ID associated with the pit in the COGCC online database.

An LTE representative conducted pit closure sampling activities at the site on August 1, 2013. Pit closure samples P01@28' and P02@31' were collected from the bottom of the drilling/completion pit. Samples P01@28' and P02@31' were submitted to Accutest Mountain States Laboratories (Accutest) in Wheat Ridge, Colorado for analysis of the COGCC Table 910-1 metals; electrical conductivity (EC); pH; sodium adsorption ratio (SAR); benzene, toluene, ethylbenzene, and total xylenes (BTEX); total petroleum hydrocarbons-gasoline range organics (TPH-GRO); TPH-diesel range organics (DRO); and each of the polycyclic aromatic hydrocarbons (PAHs) listed in Table 910-1. Additionally, four background soil samples (BG01@0.5' through BG04@0.5') were collected from undisturbed soils approximately 100 feet from the edge of the pad surface. Background soil samples were submitted to Accutest for laboratory analysis of arsenic. A topographic Site Location Map is attached as Figure 1 and a Site Map illustrating soil sample locations is attached as Figure 2.

Laboratory analytical results indicated concentration levels for metals, SAR, pH, BTEX, TPH-GRO, TPH-DRO, and PAHs for the pit bottom samples were compliant with COGCC Table 910-1, with the exception of arsenic (Table 1). The background arsenic concentrations for the surrounding area ranged from 2.60 milligrams per kilogram (mg/kg) to 3.78 mg/kg. The arsenic concentrations in the GGU Daley 1-30 pit bottom samples were compliant with background arsenic concentrations. The laboratory report is included as an attachment.



The level of EC at sample location P01@28', on the floor of the drilling/completion pit, exceeded the COGCC Table 910-1 concentration level. BBC has indicated the bottom of the pit will be buried beneath at least 28 feet of cover and is a minimum of 3 feet above the static water level.

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 3 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 pit bottom is to be buried greater than 3 feet below the vegetative root zone.

Please call LTE at (303) 285-9985 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 'Chris McKisson'.

Chris McKisson
Project Environmental Scientist

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

Brian Dodek
Client Manager/Senior Geologist

Attachments:

Figure 1- Site Location Map

Figure 2- Site Map

Table 1 - Soil Analytical Results

Attachment - Laboratory Analytical Reports



IMAGE COURTESY OF ESRI/BING MAPS

LEGEND

- SAMPLE
- PAD

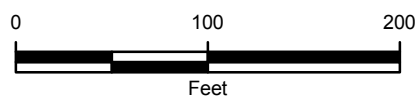


FIGURE 2
SITE MAP
GGU DALEY 1-30
GARFIELD COUNTY, COLORADO

BILL BARRETT CORPORATION



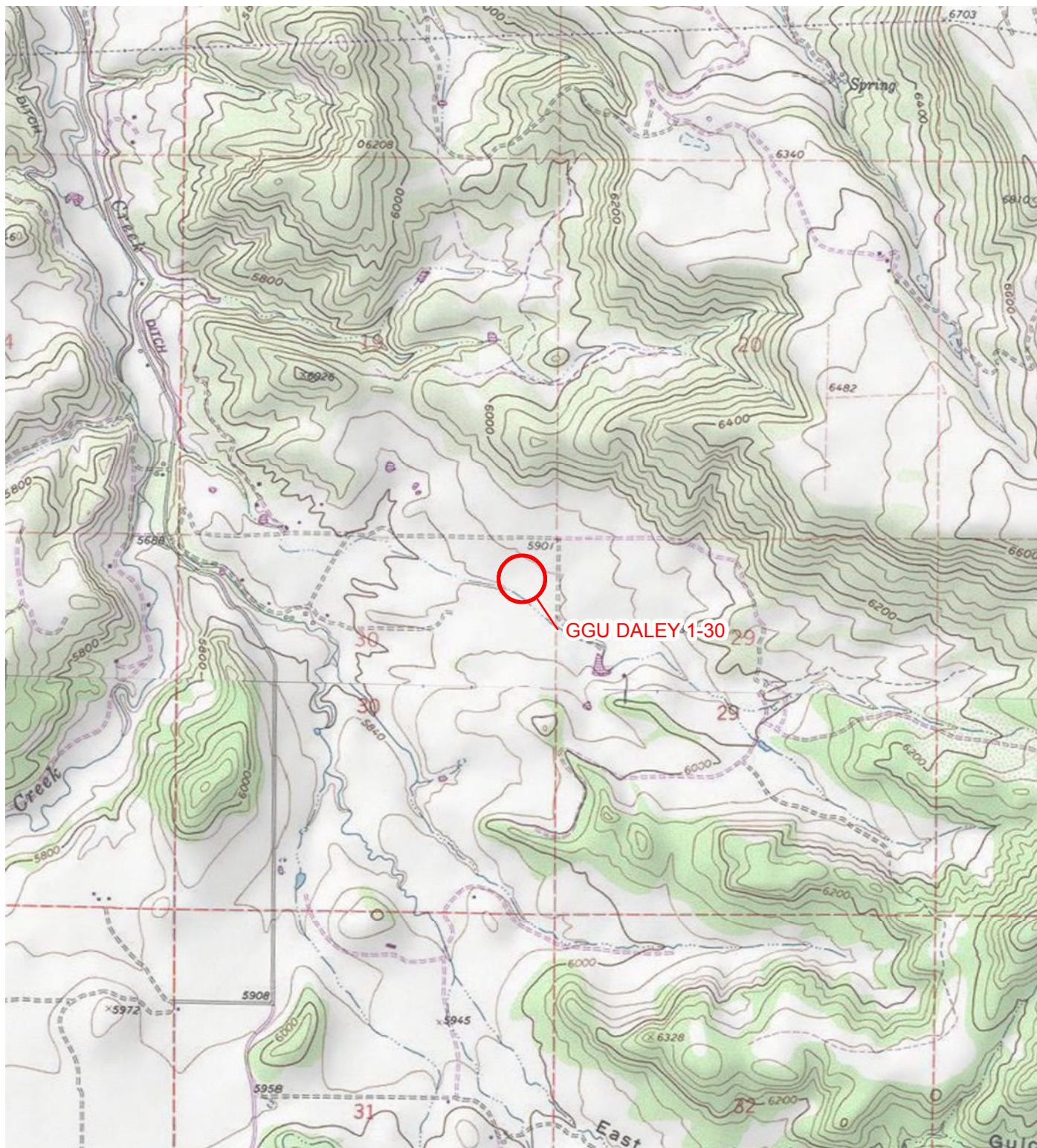


IMAGE COURTESY OF ESRI/USGS

LEGEND

○ SITE LOCATION

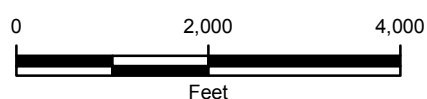


FIGURE 1
SITE LOCATION MAP
GGU DALEY 1-30
GARFIELD COUNTY, COLORADO

BILL BARRETT CORPORATION



TABLE 1
SOIL ANALYTICAL RESULTS
GGU DALEY 1-30 PIT
COUNTY, COLORADO
BILL BARRETT CORPORATION

Parameter	Standard	BG01	BG02	BG03	BG04
Depth (feet)		0.5	0.5	0.5	0.5
Sample Date		8/1/2013	8/1/2013	8/1/2013	8/1/2013

Inorganics

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

Metals

Arsenic (mg/Kg)	0.39	3.78	3.77	3.50	2.60
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
GGU DALEY 1-30 PIT
COUNTY, COLORADO
BILL BARRETT CORPORATION

Parameter	Standard	P01	P02
Depth (feet)		28	31
Sample Date		8/1/2013	8/1/2013

Inorganics

Electrical Conductivity (mmhos/cm)	4	4.87	2.54
SAR (meq/meq)	12	5.52	3.71
pH, Lab (Standard Units)	6 to 9	8.58	8.35

Metals

Arsenic (mg/Kg)	0.39	2.71	2.11
Barium (mg/Kg)	15000	225	206
Cadmium (mg/Kg)	70	<0.487	<0.385
Chromium+3 Calculated (mg/Kg)	120000	6.81	6.89
Chromium, Hexavalent (mg/Kg)	23	<2.00	<1.99
Copper (mg/Kg)	3100	9.62	8.93
Lead (mg/Kg)	400	8.62	8.57
Mercury (mg/Kg)	23	0.00548	0.00882
Nickel (mg/Kg)	1600	10.0	9.75
Selenium (mg/Kg)	390	0.551	0.595
Silver (mg/Kg)	390	<0.487	<0.385
Zinc (mg/Kg)	23000	39.3	37.1

Organic Compounds

TPH-DRO (mg/Kg)		<1.7	8.5
TPH-GRO (mg/Kg)		<0.050	<0.050
TPH-Total (mg/Kg)	500	<1.75	8.5
Benzene (mg/Kg)	0.17	<0.0050	<0.0050
Toluene (mg/Kg)	85	<0.0050	<0.0050
Ethylbenzene (mg/Kg)	100	<0.0050	<0.0050
Xylenes, Total (mg/Kg)	175	<0.010	<0.010
Acenaphthene (mg/Kg)	1000	<0.0066	<0.0066
Anthracene (mg/Kg)	1000	<0.0066	<0.0066
Benzo (a) anthracene (mg/Kg)	0.22	<0.0066	<0.0066
Benzo (b) fluoranthene (mg/Kg)	0.22	<0.0066	<0.0066
Benzo (k) fluoranthene (mg/Kg)	2.2	<0.0066	<0.0066
Benzo (a) pyrene (mg/Kg)	0.022	<0.0066	<0.0066
Chrysene (mg/Kg)	22	<0.0066	<0.0066
Dibenz (a,h) anthracene (mg/Kg)	0.022	<0.0066	<0.0066
Fluoranthene (mg/Kg)	1000	<0.0066	<0.0066
Fluorene (mg/Kg)	1000	<0.0066	<0.0066
Indeno (1,2,3-cd) pyrene (mg/Kg)	0.22	<0.0066	<0.0066
Naphthalene (mg/Kg)	23	<0.0066	<0.0066
Pyrene (mg/Kg)	1000	<0.0066	<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





09-Aug-2013

Jake Janicek
LT Environmental
4600 West 60th Avenue
Arvada, CO 80003

Tel: (303) 433-9788
Fax: (303) 433-1432

Re: GGU Daley 1-30 Pit # 027313015

Work Order: **1308141**

Dear Jake,

ALS Environmental received 6 samples on 02-Aug-2013 08:45 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 37.

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

Sincerely,

A handwritten signature in cursive script, reading "Bernadette Fini".

Electronically approved by: Dayna.Fisher

Bernadette A. Fini
Project Manager



Certificate No: T104704231-13-12

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 Group An ALS Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: LT Environmental
Project: GGU Daley 1-30 Pit # 027313015
Work Order: 1308141

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>
1308141-01	BG01 @ 0.5'	Soil		8/1/2013 09:15	8/2/2013 08:45	<input type="checkbox"/>
1308141-02	PO1 @ 28'	Soil		8/1/2013 09:30	8/2/2013 08:45	<input type="checkbox"/>
1308141-03	PO2 @ 31'	Soil		8/1/2013 10:00	8/2/2013 08:45	<input type="checkbox"/>
1308141-04	BG02 @ 0.5'	Soil		8/1/2013 10:25	8/2/2013 08:45	<input type="checkbox"/>
1308141-05	BG03 @ 0.5'	Soil		8/1/2013 10:35	8/2/2013 08:45	<input type="checkbox"/>
1308141-06	BG04 @ 0.5'	Soil		8/1/2013 10:40	8/2/2013 08:45	<input type="checkbox"/>

ALS Environmental

Date: 12-Aug-13

Client: LT Environmental
Project: GGU Daley 1-30 Pit # 027313015
Work Order: 1308141

Case Narrative

Batch 72052, Total Metals Method 6020, Sample ID "BG01 @ 0.5" (1308141-01): MS and/or MSD recoveries were outside quality control limits for various spiked elements, due to high concentration to the background sample. Results are flagged with an O. The associated LCS recoveries and MS/MSD RPD were within the control limits.

Batch R151697, BTEX Method 8260, Sample 1308018-01: MS/MSD is for an unrelated sample.

ALS Environmental

Date: 09-Aug-13

Client: LT Environmental

Project: GGU Daley 1-30 Pit # 027313015

Work Order: 1308141

Sample ID: BG01 @ 0.5'

Lab ID: 1308141-01

Collection Date: 8/1/2013 09:15 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			SW6020		Prep Date: 8/5/2013	Analyst: ALR
Arsenic	3.78		0.480	mg/Kg	1	8/5/2013 11:51 PM

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

ALS Environmental

Date: 09-Aug-13

Client: LT Environmental
Project: GGU Daley 1-30 Pit # 027313015
Sample ID: PO1 @ 28'
Collection Date: 8/1/2013 09:30 AM

Work Order: 1308141
Lab ID: 1308141-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TPH (DRO) - 8015C						
DRO (>C10 - C28)	ND		SW8015M	1.7 mg/Kg	Prep Date: 8/5/2013	Analyst: RPM
Surr: 2-Fluorobiphenyl	66.2		60-135 %REC	%REC	1	8/6/2013 12:44 PM
GASOLINE RANGE ORGANICS - SW8015C						
Gasoline Range Organics	ND		SW8015	0.050 mg/Kg	1	Analyst: KKP
Surr: 4-Bromofluorobenzene	108		70-130 %REC	%REC	1	8/5/2013 06:28 PM
TRIVALENT CHROMIUM						
Chromium, Trivalent	6.81		CALCULATION	5.00 mg/Kg	1	Analyst: SKS
MERCURY - SW7471B						
Mercury	0.00548		SW7471A	0.00351 mg/Kg	Prep Date: 8/6/2013	Analyst: OFO
METALS						
Arsenic	2.71		SW6020	0.487 mg/Kg	Prep Date: 8/5/2013	Analyst: ALR
Barium	225		2.43 mg/Kg	mg/Kg	5	8/6/2013 01:34 AM
Cadmium	ND		0.487 mg/Kg	mg/Kg	1	8/7/2013 01:57 AM
Chromium	6.81		0.487 mg/Kg	mg/Kg	1	8/6/2013 01:34 AM
Copper	9.62		0.487 mg/Kg	mg/Kg	1	8/6/2013 01:34 AM
Lead	8.62		2.43 mg/Kg	mg/Kg	5	8/6/2013 01:34 AM
Nickel	10.0		0.487 mg/Kg	mg/Kg	1	8/7/2013 01:57 AM
Selenium	0.551		0.487 mg/Kg	mg/Kg	1	8/6/2013 01:34 AM
Silver	ND		0.487 mg/Kg	mg/Kg	1	8/7/2013 02:28 AM
Zinc	39.3		0.487 mg/Kg	mg/Kg	1	8/6/2013 01:34 AM
LA29B SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	5.52		LA29B SAR	0.0100 meq/meq	Prep Date: 8/7/2013	Analyst: SKS
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR						
Calcium	44.3		LA29B-6020	5.00 mg/L	Prep Date: 8/7/2013	Analyst: SKS
Magnesium	54.4		5.00 mg/L	mg/L	10	8/9/2013 01:28 PM
Sodium	232		5.00 mg/L	mg/L	10	8/9/2013 01:28 PM
LOW-LEVEL PAHS						
Acenaphthene	ND		SW8270	0.0066 mg/Kg	Prep Date: 8/5/2013	Analyst: ACN
Anthracene	ND		0.0066 mg/Kg	mg/Kg	1	8/5/2013 06:58 PM
Benz(a)anthracene	ND		0.0066 mg/Kg	mg/Kg	1	8/5/2013 06:58 PM
Benzo(a)pyrene	ND		0.0066 mg/Kg	mg/Kg	1	8/5/2013 06:58 PM
Benzo(b)fluoranthene	ND		0.0066 mg/Kg	mg/Kg	1	8/5/2013 06:58 PM
Benzo(k)fluoranthene	ND		0.0066 mg/Kg	mg/Kg	1	8/5/2013 06:58 PM
Chrysene	ND		0.0066 mg/Kg	mg/Kg	1	8/5/2013 06:58 PM
Dibenz(a,h)anthracene	ND		0.0066 mg/Kg	mg/Kg	1	8/5/2013 06:58 PM

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

ALS Environmental

Date: 09-Aug-13

Client: LT Environmental
Project: GGU Daley 1-30 Pit # 027313015
Sample ID: PO1 @ 28'
Collection Date: 8/1/2013 09:30 AM

Work Order: 1308141
Lab ID: 1308141-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		0.0066	mg/Kg	1	8/5/2013 06:58 PM
Fluorene	ND		0.0066	mg/Kg	1	8/5/2013 06:58 PM
Indeno(1,2,3-cd)pyrene	ND		0.0066	mg/Kg	1	8/5/2013 06:58 PM
Naphthalene	ND		0.0066	mg/Kg	1	8/5/2013 06:58 PM
Pyrene	ND		0.0066	mg/Kg	1	8/5/2013 06:58 PM
Surr: 2-Fluorobiphenyl	78.7		43-125	%REC	1	8/5/2013 06:58 PM
Surr: 4-Terphenyl-d14	89.1		32-125	%REC	1	8/5/2013 06:58 PM
Surr: Nitrobenzene-d5	85.7		37-125	%REC	1	8/5/2013 06:58 PM
VOLATILES - SW8260C			SW8260			Analyst: WLR
Benzene	ND		0.0050	mg/Kg	1	8/6/2013 01:00 PM
Ethylbenzene	ND		0.0050	mg/Kg	1	8/6/2013 01:00 PM
m,p-Xylene	ND		0.010	mg/Kg	1	8/6/2013 01:00 PM
o-Xylene	ND		0.0050	mg/Kg	1	8/6/2013 01:00 PM
Toluene	ND		0.0050	mg/Kg	1	8/6/2013 01:00 PM
Xylenes, Total	ND		0.010	mg/Kg	1	8/6/2013 01:00 PM
Surr: 1,2-Dichloroethane-d4	98.7		70-128	%REC	1	8/6/2013 01:00 PM
Surr: 4-Bromofluorobenzene	95.2		73-126	%REC	1	8/6/2013 01:00 PM
Surr: Dibromofluoromethane	96.8		71-128	%REC	1	8/6/2013 01:00 PM
Surr: Toluene-d8	98.0		73-127	%REC	1	8/6/2013 01:00 PM
HEXAVALENT CHROMIUM - SW7196A			SW7196		Prep Date: 8/8/2013	Analyst: KKB
Chromium, Hexavalent	ND		2.00	mg/Kg	1	8/8/2013 10:30 AM
LA29B ELECTRICAL CONDUCTIVITY			LADNR-29B EC			Analyst: KL
Electrical Conductivity @ saturation	4.87		0.0100	mmhos/cm @25°C	1	8/8/2013 10:49 AM
Electrical Conductivity, 1:1 aqueous	1.72		0.0100	mmhos/cm @25°C	1	8/8/2013 10:49 AM
LA29B SATURATION POINT (AS FRACTION)			LADNR-29B SP			Analyst: KAH
Saturation Point	0.353		0.100	SP as fraction	1	8/8/2013 09:00 AM
PH - SOIL - SW9045D			SW9045B			Analyst: TBS
pH	8.58		0.100	pH Units	1	8/7/2013 12:40 PM

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

ALS Environmental

Date: 09-Aug-13

Client: LT Environmental
Project: GGU Daley 1-30 Pit # 027313015
Sample ID: PO2 @ 31'
Collection Date: 8/1/2013 10:00 AM

Work Order: 1308141
Lab ID: 1308141-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TPH (DRO) - 8015C			SW8015M		Prep Date: 8/5/2013	Analyst: RPM
DRO (>C10 - C28)	8.5		1.7	mg/Kg	1	8/6/2013 03:05 PM
Surr: 2-Fluorobiphenyl	69.5		60-135	%REC	1	8/6/2013 03:05 PM
GASOLINE RANGE ORGANICS - SW8015C			SW8015			Analyst: KKP
Gasoline Range Organics	ND		0.050	mg/Kg	1	8/5/2013 06:44 PM
Surr: 4-Bromofluorobenzene	104		70-130	%REC	1	8/5/2013 06:44 PM
TRIVALENT CHROMIUM			CALCULATION			Analyst: SKS
Chromium, Trivalent	6.89		5.00	mg/Kg	1	8/9/2013
MERCURY - SW7471B			SW7471A		Prep Date: 8/6/2013	Analyst: OFO
Mercury	0.00882		0.00349	mg/Kg	1	8/6/2013 02:09 PM
METALS			SW6020		Prep Date: 8/5/2013	Analyst: ALR
Arsenic	2.11		0.385	mg/Kg	1	8/6/2013 01:39 AM
Barium	206		1.92	mg/Kg	5	8/7/2013 02:03 AM
Cadmium	ND		0.385	mg/Kg	1	8/6/2013 01:39 AM
Chromium	6.89		0.385	mg/Kg	1	8/6/2013 01:39 AM
Copper	8.93		0.385	mg/Kg	1	8/6/2013 01:39 AM
Lead	8.57		1.92	mg/Kg	5	8/7/2013 02:03 AM
Nickel	9.75		0.385	mg/Kg	1	8/6/2013 01:39 AM
Selenium	0.595		0.385	mg/Kg	1	8/7/2013 02:34 AM
Silver	ND		0.385	mg/Kg	1	8/6/2013 01:39 AM
Zinc	37.1		0.385	mg/Kg	1	8/6/2013 01:39 AM
LA29B SODIUM ADSORPTION RATIO			LA29B SAR		Prep Date: 8/7/2013	Analyst: SKS
Sodium Adsorption Ratio	3.71		0.0100	meq/meq	1	8/9/2013
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR			LA29B-6020		Prep Date: 8/7/2013	Analyst: SKS
Calcium	59.1		5.00	mg/L	10	8/9/2013 01:30 PM
Magnesium	33.4		5.00	mg/L	10	8/9/2013 01:30 PM
Sodium	144		5.00	mg/L	10	8/9/2013 01:30 PM
LOW-LEVEL PAHS			SW8270		Prep Date: 8/5/2013	Analyst: ACN
Acenaphthene	ND		0.0066	mg/Kg	1	8/7/2013 05:42 PM
Anthracene	ND		0.0066	mg/Kg	1	8/7/2013 05:42 PM
Benz(a)anthracene	ND		0.0066	mg/Kg	1	8/7/2013 05:42 PM
Benzo(a)pyrene	ND		0.0066	mg/Kg	1	8/7/2013 05:42 PM
Benzo(b)fluoranthene	ND		0.0066	mg/Kg	1	8/7/2013 05:42 PM
Benzo(k)fluoranthene	ND		0.0066	mg/Kg	1	8/7/2013 05:42 PM
Chrysene	ND		0.0066	mg/Kg	1	8/7/2013 05:42 PM
Dibenz(a,h)anthracene	ND		0.0066	mg/Kg	1	8/7/2013 05:42 PM

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

ALS Environmental

Date: 09-Aug-13

Client: LT Environmental
Project: GGU Daley 1-30 Pit # 027313015
Sample ID: PO2 @ 31'
Collection Date: 8/1/2013 10:00 AM

Work Order: 1308141
Lab ID: 1308141-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		0.0066	mg/Kg	1	8/7/2013 05:42 PM
Fluorene	ND		0.0066	mg/Kg	1	8/7/2013 05:42 PM
Indeno(1,2,3-cd)pyrene	ND		0.0066	mg/Kg	1	8/7/2013 05:42 PM
Naphthalene	ND		0.0066	mg/Kg	1	8/7/2013 05:42 PM
Pyrene	ND		0.0066	mg/Kg	1	8/7/2013 05:42 PM
Surr: 2-Fluorobiphenyl	84.1		43-125	%REC	1	8/7/2013 05:42 PM
Surr: 4-Terphenyl-d14	89.6		32-125	%REC	1	8/7/2013 05:42 PM
Surr: Nitrobenzene-d5	75.3		37-125	%REC	1	8/7/2013 05:42 PM
VOLATILES - SW8260C			SW8260		Analyst: WLR	
Benzene	ND		0.0050	mg/Kg	1	8/6/2013 03:29 PM
Ethylbenzene	ND		0.0050	mg/Kg	1	8/6/2013 03:29 PM
m,p-Xylene	ND		0.010	mg/Kg	1	8/6/2013 03:29 PM
o-Xylene	ND		0.0050	mg/Kg	1	8/6/2013 03:29 PM
Toluene	ND		0.0050	mg/Kg	1	8/6/2013 03:29 PM
Xylenes, Total	ND		0.010	mg/Kg	1	8/6/2013 03:29 PM
Surr: 1,2-Dichloroethane-d4	87.9		70-128	%REC	1	8/6/2013 03:29 PM
Surr: 4-Bromofluorobenzene	98.2		73-126	%REC	1	8/6/2013 03:29 PM
Surr: Dibromofluoromethane	95.0		71-128	%REC	1	8/6/2013 03:29 PM
Surr: Toluene-d8	100		73-127	%REC	1	8/6/2013 03:29 PM
HEXAVALENT CHROMIUM - SW7196A			SW7196		Prep Date: 8/8/2013	Analyst: KKB
Chromium, Hexavalent	ND		1.99	mg/Kg	1	8/8/2013 10:30 AM
LA29B ELECTRICAL CONDUCTIVITY			LADNR-29B EC		Analyst: KL	
Electrical Conductivity @ saturation	2.54		0.0100	mmhos/cm @25°C	1	8/8/2013 10:51 AM
Electrical Conductivity, 1:1 aqueous	1.20		0.0100	mmhos/cm @25°C	1	8/8/2013 10:51 AM
LA29B SATURATION POINT (AS FRACTION)			LADNR-29B SP		Analyst: KAH	
Saturation Point	0.473		0.100	SP as fraction	1	8/8/2013 09:00 AM
PH - SOIL - SW9045D			SW9045B		Analyst: TBS	
pH	8.35		0.100	pH Units	1	8/7/2013 12:40 PM

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

ALS Environmental

Date: 09-Aug-13

Client: LT Environmental

Project: GGU Daley 1-30 Pit # 027313015

Work Order: 1308141

Sample ID: BG02 @ 0.5'

Lab ID: 1308141-04

Collection Date: 8/1/2013 10:25 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			SW6020		Prep Date: 8/5/2013	Analyst: ALR
Arsenic	3.77		0.454	mg/Kg	1	8/6/2013 01:55 AM

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

ALS Environmental

Date: 09-Aug-13

Client: LT Environmental

Project: GGU Daley 1-30 Pit # 027313015

Work Order: 1308141

Sample ID: BG03 @ 0.5'

Lab ID: 1308141-05

Collection Date: 8/1/2013 10:35 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			SW6020		Prep Date: 8/5/2013	Analyst: ALR
Arsenic	3.50		0.455	mg/Kg	1	8/6/2013 02:00 AM

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

ALS Environmental

Date: 09-Aug-13

Client: LT Environmental

Project: GGU Daley 1-30 Pit # 027313015

Work Order: 1308141

Sample ID: BG04 @ 0.5'

Lab ID: 1308141-06

Collection Date: 8/1/2013 10:40 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			SW6020		Prep Date: 8/5/2013	Analyst: ALR
Arsenic	2.60		0.449	mg/Kg	1	8/6/2013 02:05 AM

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

Work Order: 1308141
Client: LT Environmental
Project: GGU Daley 1-30 Pit # 027313015

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID 72052</u>		<u>Test Name: Metals</u>				
1308141-01A	BG01 @ 0.5'	Soil	8/1/2013 9:15:00 AM		8/5/2013 10:00 AM	8/5/2013 11:51 PM
1308141-02D	PO1 @ 28'		8/1/2013 9:30:00 AM		8/5/2013 10:00 AM	8/6/2013 01:34 AM
					8/5/2013 10:00 AM	8/7/2013 01:57 AM
					8/5/2013 10:00 AM	8/7/2013 02:28 AM
1308141-03D	PO2 @ 31'		8/1/2013 10:00:00 AM		8/5/2013 10:00 AM	8/6/2013 01:39 AM
					8/5/2013 10:00 AM	8/7/2013 02:03 AM
					8/5/2013 10:00 AM	8/7/2013 02:34 AM
1308141-04A	BG02 @ 0.5'		8/1/2013 10:25:00 AM		8/5/2013 10:00 AM	8/6/2013 01:55 AM
1308141-05A	BG03 @ 0.5'		8/1/2013 10:35:00 AM		8/5/2013 10:00 AM	8/6/2013 02:00 AM
1308141-06A	BG04 @ 0.5'		8/1/2013 10:40:00 AM		8/5/2013 10:00 AM	8/6/2013 02:05 AM
<u>Batch ID 72053</u>		<u>Test Name: Low-Level PAHs</u>				
1308141-02B	PO1 @ 28'	Soil	8/1/2013 9:30:00 AM		8/5/2013 10:00 AM	8/5/2013 06:58 PM
1308141-03B	PO2 @ 31'		8/1/2013 10:00:00 AM		8/5/2013 10:00 AM	8/7/2013 05:42 PM
<u>Batch ID 72055A</u>		<u>Test Name: TPH (DRO) - 8015C</u>				
1308141-02C	PO1 @ 28'	Soil	8/1/2013 9:30:00 AM		8/5/2013 12:00 PM	8/6/2013 12:44 PM
1308141-03C	PO2 @ 31'		8/1/2013 10:00:00 AM		8/5/2013 12:00 PM	8/6/2013 03:05 PM
<u>Batch ID 72088</u>		<u>Test Name: Mercury - SW7471B</u>				
1308141-02D	PO1 @ 28'	Soil	8/1/2013 9:30:00 AM		8/6/2013 10:40 AM	8/6/2013 02:17 PM
1308141-03D	PO2 @ 31'		8/1/2013 10:00:00 AM		8/6/2013 10:40 AM	8/6/2013 02:09 PM

Work Order: 1308141
Client: LT Environmental
Project: GGU Daley 1-30 Pit # 027313015

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID 72128</u> <u>Test Name:</u> <u>La 29B - 1:1 Soluble Cations for SAR</u>						
1308141-02B	PO1 @ 28'	Soil	8/1/2013 9:30:00 AM		8/7/2013 01:00 PM	8/9/2013 01:28 PM
					8/7/2013 01:00 PM	8/9/2013
1308141-03B	PO2 @ 31'		8/1/2013 10:00:00 AM		8/7/2013 01:00 PM	8/9/2013 01:30 PM
					8/7/2013 01:00 PM	8/9/2013
<u>Batch ID 72143</u> <u>Test Name:</u> <u>Hexavalent Chromium - SW7196A</u>						
1308141-02D	PO1 @ 28'	Soil	8/1/2013 9:30:00 AM		8/8/2013 10:12 AM	8/8/2013 10:30 AM
1308141-03D	PO2 @ 31'		8/1/2013 10:00:00 AM		8/8/2013 10:12 AM	8/8/2013 10:30 AM
<u>Batch ID R151696</u> <u>Test Name:</u> <u>Volatiles - SW8260C</u>						
1308141-02A	PO1 @ 28'	Soil	8/1/2013 9:30:00 AM			8/6/2013 01:00 PM
<u>Batch ID R151697</u> <u>Test Name:</u> <u>Volatiles - SW8260C</u>						
1308141-03A	PO2 @ 31'	Soil	8/1/2013 10:00:00 AM			8/6/2013 03:29 PM
<u>Batch ID R151707</u> <u>Test Name:</u> <u>Gasoline Range Organics - SW8015C</u>						
1308141-02A	PO1 @ 28'	Soil	8/1/2013 9:30:00 AM			8/5/2013 06:28 PM
1308141-03A	PO2 @ 31'		8/1/2013 10:00:00 AM			8/5/2013 06:44 PM
<u>Batch ID R151805</u> <u>Test Name:</u> <u>pH - Soil - SW9045D</u>						
1308141-02B	PO1 @ 28'	Soil	8/1/2013 9:30:00 AM			8/7/2013 12:40 PM
1308141-03B	PO2 @ 31'		8/1/2013 10:00:00 AM			8/7/2013 12:40 PM
<u>Batch ID R151851</u> <u>Test Name:</u> <u>La29B Electrical Conductivity</u>						
1308141-02B	PO1 @ 28'	Soil	8/1/2013 9:30:00 AM			8/8/2013 10:49 AM
1308141-03B	PO2 @ 31'		8/1/2013 10:00:00 AM			8/8/2013 10:51 AM

Work Order: 1308141
Client: LT Environmental
Project: GGU Daley 1-30 Pit # 027313015

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID R151881</u> <u>Test Name: La29B Saturation Point (as fraction)</u>						
1308141-02B	PO1 @ 28'	Soil	8/1/2013 9:30:00 AM			8/8/2013 09:00 AM
1308141-03B	PO2 @ 31'		8/1/2013 10:00:00 AM			8/8/2013 09:00 AM
<u>Batch ID R151951</u> <u>Test Name: Trivalent Chromium</u>						
1308141-02D	PO1 @ 28'	Soil	8/1/2013 9:30:00 AM			8/9/2013
1308141-03D	PO2 @ 31'		8/1/2013 10:00:00 AM			8/9/2013

ALS Environmental

Date: 09-Aug-13

Client: LT Environmental
Work Order: 1308141
Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **72055A** Instrument ID **FID-7** Method: **SW8015M**

MBLK	Sample ID: FBLKS1-130805-72055A				Units: mg/Kg		Analysis Date: 8/6/2013 10:46 AM			
Client ID:	Run ID: FID-7_130805A				SeqNo: 3315886		Prep Date: 8/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	ND	1.7								
Surr: 2-Fluorobiphenyl	2.346	0	3.3	0	71.1	60-135	0			

LCS	Sample ID: FLCSS1-130805-72055A				Units: mg/Kg		Analysis Date: 8/6/2013 10:22 AM			
Client ID:	Run ID: FID-7_130805A				SeqNo: 3315885		Prep Date: 8/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	28.09	1.7	33.3	0	84.3	70-130				
Surr: 2-Fluorobiphenyl	2.675	0	3.3	0	81.1	60-135	0			

MS	Sample ID: 1308141-02CMS				Units: mg/Kg		Analysis Date: 8/6/2013 01:07 PM			
Client ID: PO1 @ 28'	Run ID: FID-7_130805A				SeqNo: 3315888		Prep Date: 8/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	33.6	1.7	33.24	0	101	70-130				
Surr: 2-Fluorobiphenyl	3.302	0	3.295	0	100	60-135	0			

MSD	Sample ID: 1308141-02CMSD				Units: mg/Kg		Analysis Date: 8/6/2013 02:42 PM			
Client ID: PO1 @ 28'	Run ID: FID-7_130805A				SeqNo: 3315889		Prep Date: 8/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	34.64	1.7	33.26	0	104	70-130	33.6	3.04	30	
Surr: 2-Fluorobiphenyl	3.201	0	3.296	0	97.1	60-135	3.302	3.11	30	

The following samples were analyzed in this batch:

1308141-02C	1308141-03C
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 19

Client: LT Environmental
 Work Order: 1308141
 Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **R151707** Instrument ID **FID-14** Method: **SW8015**

MBLK	Sample ID: GBLKS-130805-R151707			Units: mg/Kg			Analysis Date: 8/5/2013 02:58 PM			
Client ID:	Run ID: FID-14_130805A			SeqNo: 3312913			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								
Surr: 4-Bromofluorobenzene	0.1016	0.0050	0.1	0	102	70-130	0			

LCS	Sample ID: GLCSS-130805-R151707			Units: mg/Kg			Analysis Date: 8/5/2013 02:42 PM			
Client ID:	Run ID: FID-14_130805A			SeqNo: 3312912			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	1.044	0.050	1	0	104	70-130				
Surr: 4-Bromofluorobenzene	0.1097	0.0050	0.1	0	110	70-130	0			

MS	Sample ID: 1308141-02AMS			Units: mg/Kg			Analysis Date: 8/5/2013 05:55 PM			
Client ID: PO1 @ 28'	Run ID: FID-14_130805A			SeqNo: 3312923			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	0.786	0.050	1	0	78.6	70-130				
Surr: 4-Bromofluorobenzene	0.1118	0.0050	0.1	0	112	70-130	0			

MSD	Sample ID: 1308141-02AMSD			Units: mg/Kg			Analysis Date: 8/5/2013 06:11 PM			
Client ID: PO1 @ 28'	Run ID: FID-14_130805A			SeqNo: 3312924			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	0.7757	0.050	1	0	77.6	70-130	0.786	1.32	30	
Surr: 4-Bromofluorobenzene	0.1117	0.0050	0.1	0	112	70-130	0.1118	0.0725	30	

The following samples were analyzed in this batch:

1308141-02A	1308141-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental
 Work Order: 1308141
 Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **72052** Instrument ID **ICPMS03** Method: **SW6020**

MBLK	Sample ID: MBLKS1-080513-72052				Units: mg/Kg		Analysis Date: 8/5/2013 11:40 PM			
Client ID:	Run ID: ICPMS03_130805A				SeqNo: 3312751		Prep Date: 8/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.500								
Barium	ND	0.500								
Cadmium	ND	0.500								
Chromium	ND	0.500								
Copper	ND	0.500								
Lead	ND	0.500								
Nickel	ND	0.500								
Silver	ND	0.500								
Zinc	ND	0.500								

MBLK	Sample ID: MBLKS1-080513-72052				Units: mg/Kg		Analysis Date: 8/6/2013 01:58 PM			
Client ID:	Run ID: ICPMS03_130806A				SeqNo: 3313340		Prep Date: 8/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	ND	0.500								

LCS	Sample ID: MLCSS1-080513-72052				Units: mg/Kg		Analysis Date: 8/5/2013 11:46 PM			
Client ID:	Run ID: ICPMS03_130805A				SeqNo: 3312752		Prep Date: 8/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.41	0.500	10	0	94.1	80-120				
Barium	9.225	0.500	10	0	92.2	80-120				
Cadmium	9.096	0.500	10	0	91	80-120				
Chromium	8.852	0.500	10	0	88.5	80-120				
Copper	8.831	0.500	10	0	88.3	80-120				
Lead	9.06	0.500	10	0	90.6	80-120				
Nickel	8.759	0.500	10	0	87.6	80-120				
Silver	9.034	0.500	10	0	90.3	80-120				
Zinc	9.749	0.500	10	0	97.5	80-120				

LCS	Sample ID: MLCSS1-080513-72052				Units: mg/Kg		Analysis Date: 8/6/2013 02:03 PM			
Client ID:	Run ID: ICPMS03_130806A				SeqNo: 3313341		Prep Date: 8/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	8.793	0.500	10	0	87.9	80-120				

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

Client: LT Environmental
Work Order: 1308141
Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **72052** Instrument ID **ICPMS03** Method: **SW6020**

MS		Sample ID: 1308141-01AMS				Units: mg/Kg		Analysis Date: 8/6/2013 12:07 AM		
Client ID: BG01 @ 0.5'		Run ID: ICPMS03_130805A				SeqNo: 3312756		Prep Date: 8/5/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.15	0.484	9.678	3.777	76.2	75-125				
Barium	157.5	0.484	9.678	148.6	91.9	75-125				O
Cadmium	8.505	0.484	9.678	0.2792	85	75-125				
Chromium	17.19	0.484	9.678	9.455	79.9	75-125				
Copper	18.66	0.484	9.678	11.31	76	75-125				
Lead	17.99	0.484	9.678	10.63	76	75-125				
Nickel	18.92	0.484	9.678	11.77	73.9	75-125				S
Silver	7.933	0.484	9.678	0.04172	81.5	75-125				
Zinc	52.38	0.484	9.678	44.7	79.3	75-125				O

MS		Sample ID: 1308141-01AMS				Units: mg/Kg		Analysis Date: 8/6/2013 02:24 PM		
Client ID: BG01 @ 0.5'		Run ID: ICPMS03_130806A				SeqNo: 3313345		Prep Date: 8/5/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	7.204	0.484	9.678	1.132	62.7	75-125				S

MSD		Sample ID: 1308141-01AMSD				Units: mg/Kg		Analysis Date: 8/6/2013 12:12 AM		
Client ID: BG01 @ 0.5'		Run ID: ICPMS03_130805A				SeqNo: 3312757		Prep Date: 8/5/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.53	0.474	9.477	3.777	71.2	75-125	11.15	5.72	25	S
Barium	151	0.474	9.477	148.6	25.4	75-125	157.5	4.21	25	SO
Cadmium	8.041	0.474	9.477	0.2792	81.9	75-125	8.505	5.6	25	
Chromium	16.37	0.474	9.477	9.455	72.9	75-125	17.19	4.89	25	S
Copper	18	0.474	9.477	11.31	70.6	75-125	18.66	3.61	25	S
Lead	17.48	0.474	9.477	10.63	72.2	75-125	17.99	2.91	25	S
Nickel	18.46	0.474	9.477	11.77	70.6	75-125	18.92	2.46	25	S
Silver	7.595	0.474	9.477	0.04172	79.7	75-125	7.933	4.35	25	
Zinc	50.93	0.474	9.477	44.7	65.7	75-125	52.38	2.8	25	SO

MSD		Sample ID: 1308141-01AMSD				Units: mg/Kg		Analysis Date: 8/6/2013 02:29 PM		
Client ID: BG01 @ 0.5'		Run ID: ICPMS03_130806A				SeqNo: 3313346		Prep Date: 8/5/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	7.038	0.474	9.477	1.132	62.3	75-125	7.204	2.33	25	S

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

Client: LT Environmental
 Work Order: 1308141
 Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **72052** Instrument ID **ICPMS03** Method: **SW6020**

DUP		Sample ID: 1308141-01ADUP			Units: mg/Kg		Analysis Date: 8/5/2013 11:56 PM			
Client ID: BG01 @ 0.5'		Run ID: ICPMS03_130805A			SeqNo: 3312754		Prep Date: 8/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	3.703	0.418					3.777	1.99	25	
Barium	142.5	0.418					148.6	4.16	25	
Cadmium	ND	0.418					0.2792	0	25	
Chromium	9.021	0.418					9.455	4.7	25	
Copper	10.91	0.418					11.31	3.57	25	
Lead	10.42	0.418					10.63	2.07	25	
Nickel	11.19	0.418					11.77	4.99	25	
Silver	ND	0.418					0.04172	0	25	
Zinc	42.72	0.418					44.7	4.52	25	

DUP		Sample ID: 1308141-01ADUP			Units: mg/Kg		Analysis Date: 8/6/2013 02:14 PM			
Client ID: BG01 @ 0.5'		Run ID: ICPMS03_130806A			SeqNo: 3313343		Prep Date: 8/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	1.047	0.418					1.132	7.8	25	

The following samples were analyzed in this batch:

1308141-01A	1308141-02D	1308141-03D
1308141-04A	1308141-05A	1308141-06A

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

Client: LT Environmental
Work Order: 1308141
Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **72088** Instrument ID **HG02** Method: **SW7471A**

MBLK	Sample ID: GBLKS2-080613-72088				Units: µg/Kg		Analysis Date: 8/6/2013 02:05 PM			
Client ID:	Run ID: HG02_130806A				SeqNo: 3313504		Prep Date: 8/6/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	3.32								

LCS	Sample ID: GLCSS2-080613-72088				Units: µg/Kg		Analysis Date: 8/6/2013 02:07 PM			
Client ID:	Run ID: HG02_130806A				SeqNo: 3313505		Prep Date: 8/6/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	338	3.32	333.3	0	101	85-115				

MS	Sample ID: 1308141-03DMS				Units: µg/Kg		Analysis Date: 8/6/2013 02:13 PM			
Client ID: PO2 @ 31'	Run ID: HG02_130806A				SeqNo: 3313508		Prep Date: 8/6/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	356.2	3.48	348.6	8.817	99.7	85-115				

MSD	Sample ID: 1308141-03DMSD				Units: µg/Kg		Analysis Date: 8/6/2013 02:15 PM			
Client ID: PO2 @ 31'	Run ID: HG02_130806A				SeqNo: 3313509		Prep Date: 8/6/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	357.2	3.47	348.2	8.817	100	85-115	356.2	0.286	20	

DUP	Sample ID: 1308141-03DDUP				Units: µg/Kg		Analysis Date: 8/6/2013 02:11 PM			
Client ID: PO2 @ 31'	Run ID: HG02_130806A				SeqNo: 3313507		Prep Date: 8/6/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	8.94	3.48					8.817	1.38	20	

The following samples were analyzed in this batch:

1308141-02D	1308141-03D
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental
Work Order: 1308141
Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **72128** Instrument ID **ICPMS05** Method: **La29B-6020**

LCS	Sample ID: LCS-SAR-080813-72128				Units: mg/L		Analysis Date: 8/9/2013 01:26 PM			
Client ID:	Run ID: ICPMS05_130809A				SeqNo: 3317616		Prep Date: 8/7/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	10.33	0.500	10	0	103	80-120				
Magnesium	10.27	0.500	10	0	103	80-120				
Sodium	10.25	0.500	10	0	102	80-120				

DUP	Sample ID: 1308164-02DDUP				Units: mg/L		Analysis Date: 8/9/2013 02:01 PM			
Client ID:	Run ID: ICPMS05_130809A				SeqNo: 3317631		Prep Date: 8/7/2013		DF: 100	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	1991	49.9					1930	3.12	30	
Magnesium	82.11	49.9					78.52	4.48	30	
Sodium	349.2	49.9					344	1.5	30	

The following samples were analyzed in this batch:

1308141-02B	1308141-02B	1308141-03B
1308141-03B		

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

Client: LT Environmental
 Work Order: 1308141
 Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **72053** Instrument ID **SV-6** Method: **SW8270**

MBLK		Sample ID: SBLKS1-130805-72053				Units: µg/Kg		Analysis Date: 8/5/2013 05:43 PM		
Client ID:		Run ID: SV-6_130805A				SeqNo: 3312858		Prep Date: 8/5/2013		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								
<i>Surr: 2-Fluorobiphenyl</i>	126.2	6.6	166.7	0	75.7	43-125	0			
<i>Surr: 4-Terphenyl-d14</i>	140.8	6.6	166.7	0	84.5	32-125	0			
<i>Surr: Nitrobenzene-d5</i>	130.3	6.6	166.7	0	78.2	37-125	0			

MBLK		Sample ID: SBLKS1-130805-72053				Units: µg/Kg		Analysis Date: 8/5/2013 05:43 PM		
Client ID:		Run ID: SV-6_130805A				SeqNo: 3315646		Prep Date: 8/5/2013		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								
<i>Surr: 2-Fluorobiphenyl</i>	126.2	6.6	166.7	0	75.7	43-125	0			
<i>Surr: 4-Terphenyl-d14</i>	140.8	6.6	166.7	0	84.5	32-125	0			
<i>Surr: Nitrobenzene-d5</i>	130.3	6.6	166.7	0	78.2	37-125	0			

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

Client: LT Environmental
 Work Order: 1308141
 Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **72053** Instrument ID **SV-6** Method: **SW8270**

LCS		Sample ID: SLCSS1-130805-72053				Units: µg/Kg		Analysis Date: 8/5/2013 06:02 PM		
Client ID:		Run ID: SV-6_130805A				SeqNo: 3312859		Prep Date: 8/5/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	115	6.6	166.7	0	69	50-120				
Anthracene	132.4	6.6	166.7	0	79.4	50-123				
Benz(a)anthracene	130.7	6.6	166.7	0	78.4	50-131				
Benzo(a)pyrene	132	6.6	166.7	0	79.2	50-130				
Benzo(b)fluoranthene	139.3	6.6	166.7	0	83.6	50-137				
Benzo(k)fluoranthene	119	6.6	166.7	0	71.4	50-143				
Chrysene	127.4	6.6	166.7	0	76.4	50-130				
Dibenz(a,h)anthracene	127.2	6.6	166.7	0	76.3	50-130				
Fluoranthene	133.3	6.6	166.7	0	80	50-131				
Fluorene	121.7	6.6	166.7	0	73	50-125				
Indeno(1,2,3-cd)pyrene	142.8	6.6	166.7	0	85.7	45-139				
Naphthalene	116.4	6.6	166.7	0	69.8	50-125				
Pyrene	126	6.6	166.7	0	75.6	45-130				
<i>Surr: 2-Fluorobiphenyl</i>	118.8	6.6	166.7	0	71.3	43-125		0		
<i>Surr: 4-Terphenyl-d14</i>	134.9	6.6	166.7	0	81	32-125		0		
<i>Surr: Nitrobenzene-d5</i>	124.6	6.6	166.7	0	74.8	37-125		0		

LCS		Sample ID: SLCSS1-130805-72053				Units: µg/Kg		Analysis Date: 8/5/2013 06:02 PM		
Client ID:		Run ID: SV-6_130805A				SeqNo: 3315647		Prep Date: 8/5/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	115	6.6	166.7	0	69	50-120				
Anthracene	132.4	6.6	166.7	0	79.4	50-123				
Benz(a)anthracene	130.7	6.6	166.7	0	78.4	50-131				
Benzo(a)pyrene	132	6.6	166.7	0	79.2	50-130				
Benzo(b)fluoranthene	139.3	6.6	166.7	0	83.6	50-137				
Benzo(k)fluoranthene	119	6.6	166.7	0	71.4	50-143				
Chrysene	127.4	6.6	166.7	0	76.4	50-130				
Dibenz(a,h)anthracene	127.2	6.6	166.7	0	76.3	50-130				
Fluoranthene	133.3	6.6	166.7	0	80	50-131				
Fluorene	121.7	6.6	166.7	0	73	50-125				
Indeno(1,2,3-cd)pyrene	142.8	6.6	166.7	0	85.7	45-139				
Naphthalene	116.4	6.6	166.7	0	69.8	50-125				
Pyrene	126	6.6	166.7	0	75.6	45-130				
<i>Surr: 2-Fluorobiphenyl</i>	118.8	6.6	166.7	0	71.3	43-125		0		
<i>Surr: 4-Terphenyl-d14</i>	134.9	6.6	166.7	0	81	32-125		0		
<i>Surr: Nitrobenzene-d5</i>	124.6	6.6	166.7	0	74.8	37-125		0		

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

Client: LT Environmental
 Work Order: 1308141
 Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **72053** Instrument ID **SV-6** Method: **SW8270**

MS		Sample ID: 1308141-02BMS				Units: µg/Kg		Analysis Date: 8/5/2013 07:17 PM		
Client ID: PO1 @ 28'		Run ID: SV-6_130805A				SeqNo: 3312861		Prep Date: 8/5/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	130	6.6	166.4	0	78.1	50-120				
Anthracene	147.7	6.6	166.4	0	88.7	50-123				
Benz(a)anthracene	151.1	6.6	166.4	0	90.8	50-131				
Benzo(a)pyrene	150.6	6.6	166.4	0	90.5	50-130				
Benzo(b)fluoranthene	165.4	6.6	166.4	0	99.4	50-137				
Benzo(k)fluoranthene	139.6	6.6	166.4	0	83.9	50-143				
Chrysene	151	6.6	166.4	0	90.7	50-130				
Dibenz(a,h)anthracene	144.6	6.6	166.4	0	86.9	50-130				
Fluoranthene	153.2	6.6	166.4	0	92.1	50-131				
Fluorene	136.3	6.6	166.4	0	81.9	50-125				
Indeno(1,2,3-cd)pyrene	160.3	6.6	166.4	0	96.3	45-139				
Naphthalene	132.7	6.6	166.4	0	79.7	50-125				
Pyrene	147.9	6.6	166.4	0	88.9	45-130				
<i>Surr: 2-Fluorobiphenyl</i>	134.7	6.6	166.4	0	81	43-125	0			
<i>Surr: 4-Terphenyl-d14</i>	157.4	6.6	166.4	0	94.5	32-125	0			
<i>Surr: Nitrobenzene-d5</i>	139.4	6.6	166.4	0	83.7	37-125	0			

MSD		Sample ID: 1308141-02BMSD				Units: µg/Kg		Analysis Date: 8/5/2013 07:36 PM		
Client ID: PO1 @ 28'		Run ID: SV-6_130805A				SeqNo: 3312862		Prep Date: 8/5/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	125.4	6.6	166.4	0	75.4	50-120	130	3.58	30	
Anthracene	148.7	6.6	166.4	0	89.4	50-123	147.7	0.673	30	
Benz(a)anthracene	149.2	6.6	166.4	0	89.6	50-131	151.1	1.31	30	
Benzo(a)pyrene	148.3	6.6	166.4	0	89.1	50-130	150.6	1.57	30	
Benzo(b)fluoranthene	162.5	6.6	166.4	0	97.7	50-137	165.4	1.74	30	
Benzo(k)fluoranthene	136.9	6.6	166.4	0	82.3	50-143	139.6	2	30	
Chrysene	147.8	6.6	166.4	0	88.8	50-130	151	2.18	30	
Dibenz(a,h)anthracene	147.2	6.6	166.4	0	88.5	50-130	144.6	1.79	30	
Fluoranthene	153.4	6.6	166.4	0	92.2	50-131	153.2	0.14	30	
Fluorene	132.4	6.6	166.4	0	79.6	50-125	136.3	2.88	30	
Indeno(1,2,3-cd)pyrene	155	6.6	166.4	0	93.2	45-139	160.3	3.35	30	
Naphthalene	131.6	6.6	166.4	0	79.1	50-125	132.7	0.862	30	
Pyrene	146.6	6.6	166.4	0	88.1	45-130	147.9	0.887	30	
<i>Surr: 2-Fluorobiphenyl</i>	129.2	6.6	166.4	0	77.7	43-125	134.7	4.16	30	
<i>Surr: 4-Terphenyl-d14</i>	151.8	6.6	166.4	0	91.3	32-125	157.4	3.57	30	
<i>Surr: Nitrobenzene-d5</i>	139.2	6.6	166.4	0	83.7	37-125	139.4	0.103	30	

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

Client: LT Environmental
Work Order: 1308141
Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **72053** Instrument ID **SV-6** Method: **SW8270**

The following samples were analyzed in this batch:

1308141-02B	1308141-03B
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental
 Work Order: 1308141
 Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **R151696** Instrument ID **VOA3** Method: **SW8260**

MBLK	Sample ID: VBLKS1-0806013-R151696				Units: µg/Kg		Analysis Date: 8/6/2013 10:13 AM			
Client ID:	Run ID: VOA3_130806B				SeqNo: 3312689		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	10								
Surr: 1,2-Dichloroethane-d4	48.09	0	50	0	96.2	70-128	0			
Surr: 4-Bromofluorobenzene	49.11	0	50	0	98.2	73-126	0			
Surr: Dibromofluoromethane	46.61	0	50	0	93.2	71-128	0			
Surr: Toluene-d8	50.67	0	50	0	101	73-127	0			

LCS	Sample ID: VLCSS1-0806013-R151696				Units: µg/Kg		Analysis Date: 8/6/2013 08:53 AM			
Client ID:	Run ID: VOA3_130806B				SeqNo: 3312688		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	48.88	5.0	50	0	97.8	79-120				
Ethylbenzene	48.34	5.0	50	0	96.7	80-122				
m,p-Xylene	88.31	10	100	0	88.3	79-122				
o-Xylene	48.62	5.0	50	0	97.2	80-123				
Toluene	47.7	5.0	50	0	95.4	79-120				
Xylenes, Total	136.9	10	150	0	91.3	80-120				
Surr: 1,2-Dichloroethane-d4	48.48	0	50	0	97	70-128	0			
Surr: 4-Bromofluorobenzene	51.14	0	50	0	102	73-126	0			
Surr: Dibromofluoromethane	50.93	0	50	0	102	71-128	0			
Surr: Toluene-d8	52.96	0	50	0	106	73-127	0			

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

Client: LT Environmental
Work Order: 1308141
Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **R151696** Instrument ID **VOA3** Method: **SW8260**

MS				Sample ID: 1308109-06AMS			Units: µg/Kg		Analysis Date: 8/6/2013 11:35 AM		
Client ID:		Run ID: VOA3_130806B			SeqNo:3313109		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	57.85	5.0	50	0	116	79-120					
Ethylbenzene	58.49	5.0	50	0	117	80-122					
m,p-Xylene	109.4	10	100	0	109	79-122					
o-Xylene	55.95	5.0	50	0	112	80-123					
Toluene	56.2	5.0	50	0	112	79-120					
Xylenes, Total	165.4	10	150	0	110	80-120					
Surr: 1,2-Dichloroethane-d4	49.02	0	50	0	98	70-128		0			
Surr: 4-Bromofluorobenzene	51.24	0	50	0	102	73-126		0			
Surr: Dibromofluoromethane	51.32	0	50	0	103	71-128		0			
Surr: Toluene-d8	50.95	0	50	0	102	73-127		0			

MSD				Sample ID: 1308109-06AMSD			Units: µg/Kg		Analysis Date: 8/6/2013 12:03 PM		
Client ID:		Run ID: VOA3_130806B			SeqNo: 3313110		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	55.23	5.0	50	0	110	79-120	57.85	4.63	30		
Ethylbenzene	54.39	5.0	50	0	109	80-122	58.49	7.26	30		
m,p-Xylene	102.6	10	100	0	103	79-122	109.4	6.43	30		
o-Xylene	53.78	5.0	50	0	108	80-123	55.95	3.95	30		
Toluene	52.38	5.0	50	0	105	79-120	56.2	7.04	30		
Xylenes, Total	156.4	10	150	0	104	79-123	165.4	5.58	30		
Surr: 1,2-Dichloroethane-d4	48.12	0	50	0	96.2	70-128	49.02	1.84	30		
Surr: 4-Bromofluorobenzene	49.52	0	50	0	99	73-126	51.24	3.42	30		
Surr: Dibromofluoromethane	51.02	0	50	0	102	71-128	51.32	0.598	30		
Surr: Toluene-d8	47.83	0	50	0	95.7	73-127	50.95	6.32	30		

The following samples were analyzed in this batch:

1308141-02A

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

Client: LT Environmental
Work Order: 1308141
Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **R151697** Instrument ID **VOA5** Method: **SW8260**

MBLK	Sample ID: VLKS1-080613-R151697				Units: µg/Kg		Analysis Date: 8/6/2013 10:18 AM			
Client ID:	Run ID: VOA5_130806A				SeqNo: 3312692		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	10								
<i>Surr: 1,2-Dichloroethane-d4</i>	45.78	0	50	0	91.6	70-128	0			
<i>Surr: 4-Bromofluorobenzene</i>	48.83	0	50	0	97.7	73-126	0			
<i>Surr: Dibromofluoromethane</i>	48.75	0	50	0	97.5	71-128	0			
<i>Surr: Toluene-d8</i>	50.63	0	50	0	101	73-127	0			

LCS	Sample ID: VLCSS1-080613-R151697				Units: µg/Kg		Analysis Date: 8/6/2013 09:31 AM			
Client ID:	Run ID: VOA5_130806A				SeqNo: 3312691		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	48.28	5.0	50	0	96.6	79-120				
Ethylbenzene	49.27	5.0	50	0	98.5	80-122				
m,p-Xylene	98.2	10	100	0	98.2	79-122				
o-Xylene	48.17	5.0	50	0	96.3	80-123				
Toluene	48.91	5.0	50	0	97.8	79-120				
Xylenes, Total	146.4	10	150	0	97.6	80-120				
<i>Surr: 1,2-Dichloroethane-d4</i>	48.28	0	50	0	96.6	70-128	0			
<i>Surr: 4-Bromofluorobenzene</i>	49.34	0	50	0	98.7	73-126	0			
<i>Surr: Dibromofluoromethane</i>	49.15	0	50	0	98.3	71-128	0			
<i>Surr: Toluene-d8</i>	49.77	0	50	0	99.5	73-127	0			

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

Client: LT Environmental
Work Order: 1308141
Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **R151697** Instrument ID **VOA5** Method: **SW8260**

MS	Sample ID: 1308018-01AMS					Units: µg/Kg		Analysis Date: 8/6/2013 11:28 AM		
Client ID:	Run ID: VOA5_130806A				SeqNo:3313046		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	47.19	5.0	50	0	94.4	79-120				
Ethylbenzene	41.55	5.0	50	0	83.1	80-122				
m,p-Xylene	80.02	10	100	0	80	79-122				
o-Xylene	40.26	5.0	50	0	80.5	80-123				
Toluene	44.21	5.0	50	0	88.4	79-120				
Xylenes, Total	120.3	10	150	0	80.2	80-120				
Surr: 1,2-Dichloroethane-d4	48.1	0	50	0	96.2	70-128		0		
Surr: 4-Bromofluorobenzene	48.58	0	50	0	97.2	73-126		0		
Surr: Dibromofluoromethane	49.62	0	50	0	99.2	71-128		0		
Surr: Toluene-d8	49.59	0	50	0	99.2	73-127		0		

MSD	Sample ID: 1308018-01AMSD					Units: µg/Kg		Analysis Date: 8/6/2013 11:51 AM		
Client ID:	Run ID: VOA5_130806A				SeqNo: 3313047		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	43.42	5.0	50	0	86.8	79-120	47.19	8.33	30	
Ethylbenzene	38.98	5.0	50	0	78	80-122	41.55	6.38	30	S
m,p-Xylene	74.02	10	100	0	74	79-122	80.02	7.79	30	S
o-Xylene	37.24	5.0	50	0	74.5	80-123	40.26	7.8	30	S
Toluene	41	5.0	50	0	82	79-120	44.21	7.54	30	
Xylenes, Total	111.3	10	150	0	74.2	79-123	120.3	7.79	30	S
Surr: 1,2-Dichloroethane-d4	47.2	0	50	0	94.4	70-128	48.1	1.88	30	
Surr: 4-Bromofluorobenzene	48.65	0	50	0	97.3	73-126	48.58	0.145	30	
Surr: Dibromofluoromethane	48.97	0	50	0	97.9	71-128	49.62	1.32	30	
Surr: Toluene-d8	49.96	0	50	0	99.9	73-127	49.59	0.742	30	

The following samples were analyzed in this batch:

1308141-03A

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

Client: LT Environmental
Work Order: 1308141
Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **72143** Instrument ID **UV-2450** Method: **SW7196** **(Dissolve)**

MBLK	Sample ID: WBLKS1-080813-72143				Units: mg/kg		Analysis Date: 8/8/2013 10:30 AM			
Client ID:	Run ID: UV-2450_130808G				SeqNo: 3316881		Prep Date: 8/8/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	ND	2.00								

LCS	Sample ID: WLCSS1-080813-72143				Units: mg/kg		Analysis Date: 8/8/2013 10:30 AM			
Client ID:	Run ID: UV-2450_130808G				SeqNo: 3316882		Prep Date: 8/8/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	8.48	2.00	10	0	84.8	80-120				

MS	Sample ID: 1308141-02DMS				Units: mg/kg		Analysis Date: 8/8/2013 10:30 AM			
Client ID: PO1 @ 28'	Run ID: UV-2450_130808G				SeqNo: 3316885		Prep Date: 8/8/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	8.48	2.00	10	0	84.8	75-125				

MSD	Sample ID: 1308141-02DMSD				Units: mg/kg		Analysis Date: 8/8/2013 10:30 AM			
Client ID: PO1 @ 28'	Run ID: UV-2450_130808G				SeqNo: 3316886		Prep Date: 8/8/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	8.361	1.94	9.722	0	86	75-125	8.48	1.41	20	

The following samples were analyzed in this batch:

1308141-02D	1308141-03D
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental
Work Order: 1308141
Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **R151805** Instrument ID **WetChem** Method: **SW9045B** **(Dissolve)**

LCS Sample ID: **WLCSS1-130807-R151805** Units: **pH Units** Analysis Date: **8/7/2013 12:40 PM**

Client ID: Run ID: **WETCHEM_130807E** SeqNo: **3314838** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.01	0.100	6	0	100	90-110				

DUP Sample ID: **1308242-01BDUP** Units: **pH Units** Analysis Date: **8/7/2013 12:40 PM**

Client ID: Run ID: **WETCHEM_130807E** SeqNo: **3314869** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	5.55	0.100					5.54	0.18	20	

The following samples were analyzed in this batch:

1308141-02B	1308141-03B
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental
Work Order: 1308141
Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **R151851** Instrument ID **ManTech01** Method: **LaDNR-29B EC (Dissolve)**

MBLK Sample ID: **WBLKW1-130808-R151851** Units: **mmhos/cm @25°C** Analysis Date: **8/8/2013 09:51 AM**

Client ID: Run ID: **MANTECH01_130808D** SeqNo: **3315789** 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	0.0100								
Electrical Conductivity, 1:1 aqueous	ND	0.0100								

LCS Sample ID: **LCS-COND-R151851** Units: **mmhos/cm @25°C** Analysis Date: **8/8/2013 10:02 AM**

Client ID: Run ID: **MANTECH01_130808D** SeqNo: **3315792** 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	1.42	0.0100	1.412		0	101	90-110			

DUP Sample ID: **1308141-02BDUP** Units: **mmhos/cm @25°C** Analysis Date: **8/8/2013 10:50 AM**

Client ID: **PO1 @ 28'** Run ID: **MANTECH01_130808D** SeqNo: **3315803** 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	4.89	0.0100					4.867	0.471	20	
Electrical Conductivity, 1:1 aqueous	1.71	0.0100					1.72	0.583	20	

The following samples were analyzed in this batch:

1308141-02B	1308141-03B
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental
Work Order: 1308141
Project: GGU Daley 1-30 Pit # 027313015

QC BATCH REPORT

Batch ID: **R151881** Instrument ID **Balance1** Method: **LaDNR-29B SP (Dissolve)**

DUP Sample ID: **1308141-02BDUP** Units: **SP as fraction** Analysis Date: **8/8/2013 09:00 AM**

Client ID: **PO1 @ 28'** Run ID: **BALANCE1_130808B** SeqNo: **3316285** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Saturation Point	0.35	0.100					0.353	0.853	30	

The following samples were analyzed in this batch:

1308141-02B	1308141-03B
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: LT Environmental
Project: GGU Daley 1-30 Pit # 027313015
WorkOrder: 1308141

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>
meq/meq	
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
mmhos/cm @25°C	
pH Units	
SP as fraction	

Sample Receipt Checklist

Client Name: **LT ENVIRONMENTAL**

Date/Time Received: **02-Aug-13 08:45**

Work Order: **1308141**

Received by: **WTJ**

Checklist completed by William Jenkins
eSignature

03-Aug-13
Date

Reviewed by:

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):	<u>3.7C/3.7C C/U</u> <u>IR1</u>		
Cooler(s)/Kit(s):	<u>2608</u>		
Date/Time sample(s) sent to storage:	<u>8/3/13 13:00</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" 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:	<u>-</u>		
Login Notes:			

Client Contacted:

Date Contacted:

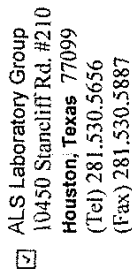
Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



Chain of Custody Form

Page 1 of 1

1308141

LT ENVIRONMENTAL: LT Environmental

Project: CO Table 910

ALS Project Manager										Parat									
Customer Information					Project Information					Parat									
Purchase Order					Project Name					A Total Arsenic 6020									
Work Order					Project Number					B Table 910-1 PAH's									
Company Name					Bill To Company					C BTEX									
Send Report To					Invoice Attn.					D TPH (GRO+DRO)									
Address					820 Megan Ave, Unit B					E pH, EC, SAR									
City/State/Zip					Rifle Co, 81650					F Table 910-1 Metals									
Phone					970-285-9985					G									
Fax										H									
e-Mail Address					jjanicek@ltnv.com					I									
e-Mail Address					jjanicek@ltnv.com					J									
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	BG01 @ 0.5'	08/01/13	0915	SS	NA	1	X												
2	P01 @ 28'	08/01/13	0930	SS	NA	4		X	X	X	X	X							
3	P02 @ 31'	08/01/13	1000	SS	NA	4		X	X	X	X	X							
4	BG02 @ 0.5'	08/01/13	1025	SS	NA	1	X												
5	BG03 @ 0.5'	08/01/13	1035	SS	NA	1	X												
6	BG04 @ 0.5'	08/01/13	1040	SS	NA	1	X												
7																			
8																			
9																			
10																			
Sampler(s): Please Print & Sign										Required Turnaround Time:									
Ryan Zernis										<input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour									
Requested by:										Received by:									
Date: 8-1-13										Date: 8-1-13 1430									
Requested by:										Received by:									
Date: 8-1-13										Date: 8-1-13 1700									
Requested by:										Received by:									
Date: 8-1-13										Date: 8-1-13 0805									
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035										Cooler Temp. 3.7C									
QC Package: (Check Box Below)										<input type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Std QC + Raw Data <input type="checkbox"/> Level IV: SW846 CLP-Like <input type="checkbox"/> Other:									

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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From: (970) 424-4749
Lab Hub, LLC

Origin ID: RILA

FedEx
Express

Ship Date: 01AUG13
ActWgt: 43.0 LB
CAD: 103923490/NET3370

Dims: 25 X 14 X 15 IN

127 E First Street

PARACHUTE, CO 81635



113111302120206

SHIP TO: (281) 530-5636

BILL SENDER

Sample Receiving
ALS Environmental - Texas
10450 STANCLIFF RD
STE 210
HOUSTON, TX 77099

Delivery Address Bar Code



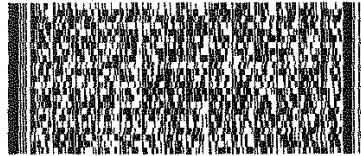
Ref #
Invoice #
PO #
Dept #

1001-080113-2

FRI - 02 AUG 3:00P

STANDARD OVERNIGHT

TRK# 7963 7616 9015
0201



XH SGRA

77099
TX-US
IAH

