District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NRM2021936507
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Armstrong Energy Corporation	OGRID 1092
Contact Name Kyle Alpers	Contact Telephone 575-625-2222
Contact email kalpers@aecnm.com	Incident # *(assigned by OCD)*
Contact mailing address P.O. Box 1973, Roswell, NM 88202-1973	

Location of Release Source

Latitude 33.862831 Longitude 103.412047
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Long Tall Sally #1	Site Type
Date Release Discovered 7/21/2020	API# *(if applicable)* 30-041-20954

Unit Letter	Section	Township	Range	County
B	19	5S	34E	Roosevelt

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☒ Crude Oil	Volume Released (bbls) 20	Volume Recovered (bbls) 15
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

PLEASE SEE ATTACHED SHEET

State of New Mexico
Oil Conservation Division

Incident ID	NRM2021936507
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☒ The source of the release has been stopped.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
Please see attached.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Kyle Alpers Title: VP Engineering

Signature: Date: 7/21/2020

email: kalpers@aecnm.com Telephone: 575-625-2222

OCD Only

Received by: Ramona Marcus Date: 8/6/2020

NRM2021936507

Well had been shut in for several days due to a pipeline issue. When the well was brought back on, it flowed for a short period of time and died. Well was left open to the tanks overnight, with plenty of room in the tanks, in prep for a swab unit the next morning. Sometime during the early morning, the well unloaded on its own. There was plenty of room in the oil tanks, however, the surging caused misting and splashing out of a thief hatch for a short period of time. The release is the result of flush production surging and splashing out of a thief hatch. Upon discovery of the release, a vac truck was called and was able to pick up approximately 15 barrels of oil from within the tank berm with the remainder being rainwater from rain during the night. The misting covered 2' to 6' out from the north and east sides of the berm on the caliche pad. A backhoe and gang were brought in immediately, and all contaminated caliche was picked up and removed to appropriate disposal site, and replaced with clean caliche.

Characterization Report:

Site map showing impacted area attached.

No soil contamination measurements were taken as the site was cleaned immediately.

Depth to water determined via USGS records to be around 124' bgs.

No water sources or watercourses within ½ mile of release.

There was no boring or excavation performed.

Photographs attached.

Topographic map attached.

No lab data available.

State of New Mexico
Oil Conservation Division

Incident ID	NRM2021936507
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	124 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	NRM2021936507
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Kyle Alpers Title: VP Engineering

Signature: Date: 8/3/2020

email: kalpers@aecnm.com Telephone: 575-625-2222

OCD Only

Received by: Ramona Marcus Date: 8/6/2020

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NRM2021936507
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

[X] A scaled site and sampling diagram as described in 19.15.29.11 NMAC

[X] Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

[X] Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

[X] Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Kyle Alpers Title: VP Engineering

Signature: Date: 02/19/2021

email: kalpers@aecnm.com Telephone: 575-625-2222

OCD Only

Received by: Chad Hensley Date: 03/30/2021

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Date: 03/30/2021

Printed Name: Chad Hensley Title: Environmental Specialist Advanced

WSP USA
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

February 22, 2021

District 1 - Hobbs
New Mexico Oil Conservation Division
1625 N. French Drive
Hobbs, New Mexico 88240

Re: Closure Request
Long Tall Sally #1
Incident Number NRM2021936507
Roosevelt County, New Mexico

To Whom It May Concern:

WSP USA Inc. (WSP), on behalf of Armstrong Energy Corporation (Armstrong), presents the following Closure Request detailing site assessment and soil sampling activities at the Long Tall Sally #1 (Site) located in Unit B, Section 19, Township 5 South, Range 34 East, in Roosevelt County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following the release of crude oil at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, Armstrong is submitting this Closure Request and requesting no further action (NFA) for Incident Number NRM2021936507.

RELEASE BACKGROUND

On July 21, 2020, a surge of the well to the tanks, as a result of swabbing, caused a misting and splash out of the thief hatch, resulting in the release of approximately 20 barrels (bbls) of crude oil into the secondary containment and onto the caliche well pad. A vacuum truck was immediately dispatched to the Site to recover freestanding fluids and saturated surficial soil; approximately 15 bbls of crude oil were recovered. No released fluids escaped the well pad. Armstrong reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on July 21, 2020 and subsequently the release was assigned Incident Number NRM2021936507.

SITE CHARACTERIZATION

WSP characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 335158103243001, located approximately 1,256 feet northwest of the Site. The groundwater

well has a reported depth to groundwater of 108 feet bgs and a total depth of 124 feet bgs. All wells used for depth to groundwater determination are depicted on Figure 1. When viewed regionally, the Site falls in an area with depth to groundwater between 98 feet and 127 feet bgs, with three corresponding data points within 2 miles of the Site. Data from the two southern water wells (USGS wells 335113103244201 and 33511303244202) were not included in the depth to water evaluation since the last depth to water measurements were from 1980 and 1975, respectively, and not reflective of current depth to water measurements in the region. The referenced water well records are provided in Attachment 1.

The closest continuously flowing water or significant watercourse to the Site is a playa lake, located approximately 0.4 miles south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

CLOSURE CRITERIA

Based on the results of the Site Characterization, the following NMOCD Table 1 Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 10,000 mg/kg

SITE ASSESSMENT AND DELINEATION SOIL SAMPLING ACTIVITIES

On November 4, 2020, WSP personnel were at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. WSP personnel advanced five boreholes (BH01 though BH05) via hand-auger within the release extent to assess the presence or absence of soil impacts. Two soil samples were collected from each borehole at depths ranging from approximately 1-foot bgs to 6 feet bgs before encountering auger refusal due to the presence of well cemented caliche. Soil from the boreholes were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations from the boreholes were documented on a lithologic/soil sampling log and are included as Attachment 2. The delineation boreholes were backfilled with the soil removed. The borehole

delineation soil sample locations are depicted on Figure 2. Photographic documentation was conducted during the Site visit. The photographic log is included in Attachment 3.

Additionally, WSP collected four lateral delineation soil samples (BH06 through BH09) at depths ranging from approximately 1-foot bgs to 6 feet bgs around the secondary containment, to confirm the lateral extent of the release. Surface soil sample SS01 was also collected in a minor mist location identified by Armstrong. The delineation soil sample locations are depicted on Figure 2.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH- GRO, TPH- DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

SOIL ANALYTICAL RESULTS

Laboratory analytical results for delineation soil sample SS01 and BH01 through BH09, collected at depths ranging from approximately 0.5 feet bgs to 6 feet bgs, indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were all compliant with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and depicted on Figure 2. The complete laboratory analytical report is included as Attachment 4.

CLOSURE REQUEST

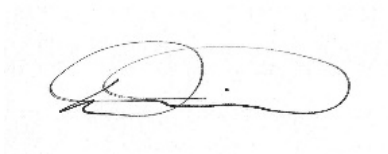
Site assessment and delineation activities were conducted at the Site to address the July 21, 2020, crude oil release. Once the release was discovered Armstrong immediately dispatched a vacuum truck to the Site to recover freestanding fluids and remove stained soil. Laboratory analytical results for the delineation soil samples indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were all compliant with the Closure Criteria and no further remediation appears necessary. Remedial efforts appear to have prevented any vertical migration and the presence of cemented caliche will aid in retarding any residual contaminants of concern from migrating deeper.

Based on initial response efforts, absence of elevated field screening results, and soil sample laboratory analytical results compliant with the Closure Criteria and regional depth to groundwater between 98 feet and 127 feet bgs, Armstrong respectfully requests NFA for Incident Number NRM2021936507.

If you have any questions or comments, please do not hesitate to contact Daniel Moir at (303) 887-2946.

Sincerely,

WSP USA Inc.



Kalei Jennings
Associate Consultant

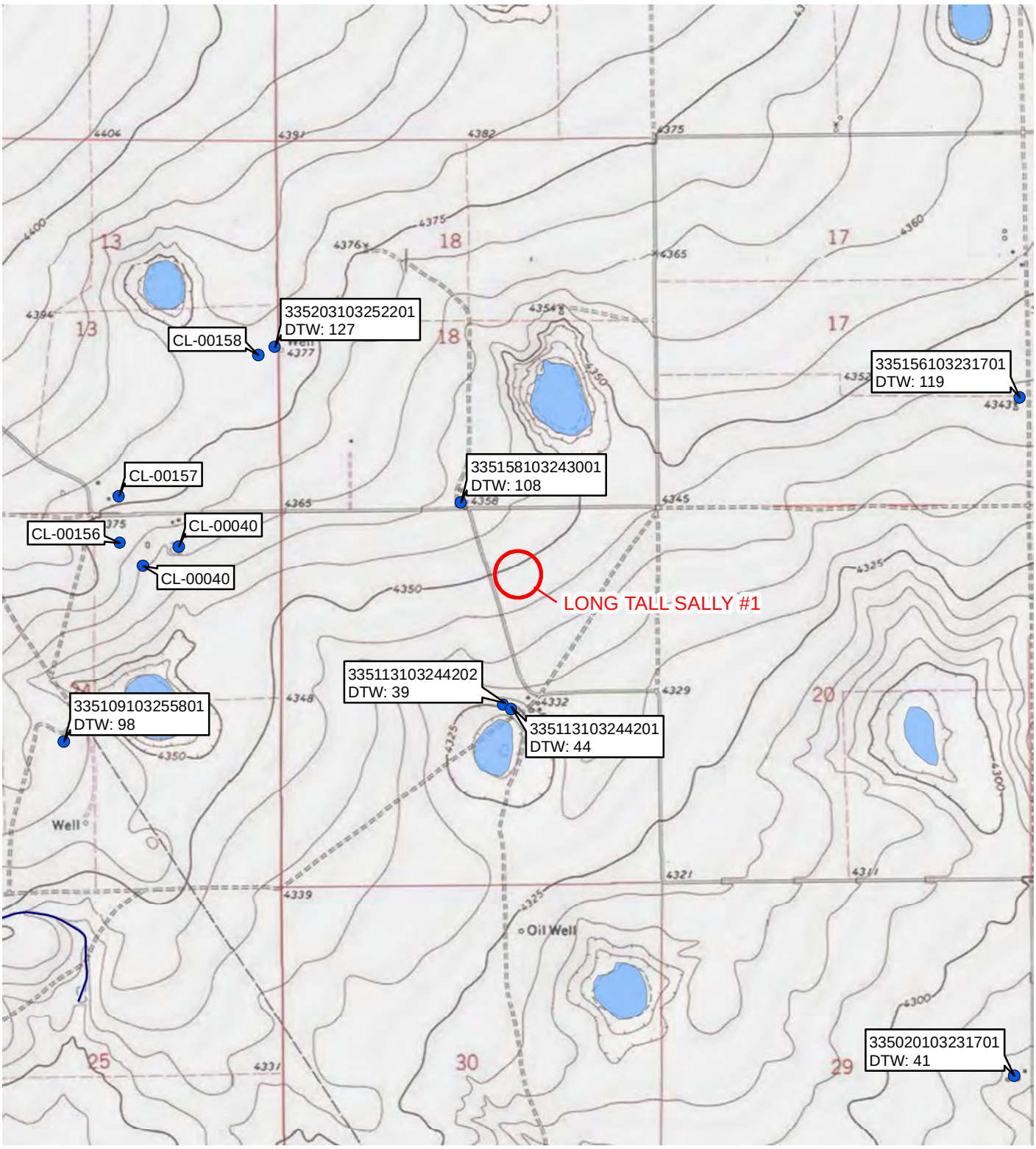
Daniel R. Moir, P.G.
Lead Consultant, Geologist

cc: Kyle Alpers, Armstrong Energy Corporation

Attachments:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Referenced Well Records
Attachment 2	Lithologic/Sampling Logs
Attachment 3	Photographic Log
Attachment 4	Laboratory Analytical Reports

FIGURES



LEGEND

- SITE LOCATION
- WATER WELL LOCATION
- NATIONAL HYDROGRAPHY DATASET SURFACE WATER FEATURE
- NATIONAL WETLANDS INVENTORY SURFACE WATER FEATURE

NOTE: INCIDENT NUMBER NOT ASSIGNED
DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000
Feet

N

FIGURE 1
SITE LOCATION MAP
LONG TALL SALLY #1
UNIT B SEC 19 T5S R34E
ROOSEVELT COUNTY, NEW MEXICO
ARMSTRONG ENERGY CORP

P:\Armstrong Energy Corp\GIS\MXD\106520001_LONG TALL SALLY #1\106520001_FIG01_SL_RECEPTOR_2020.mxd

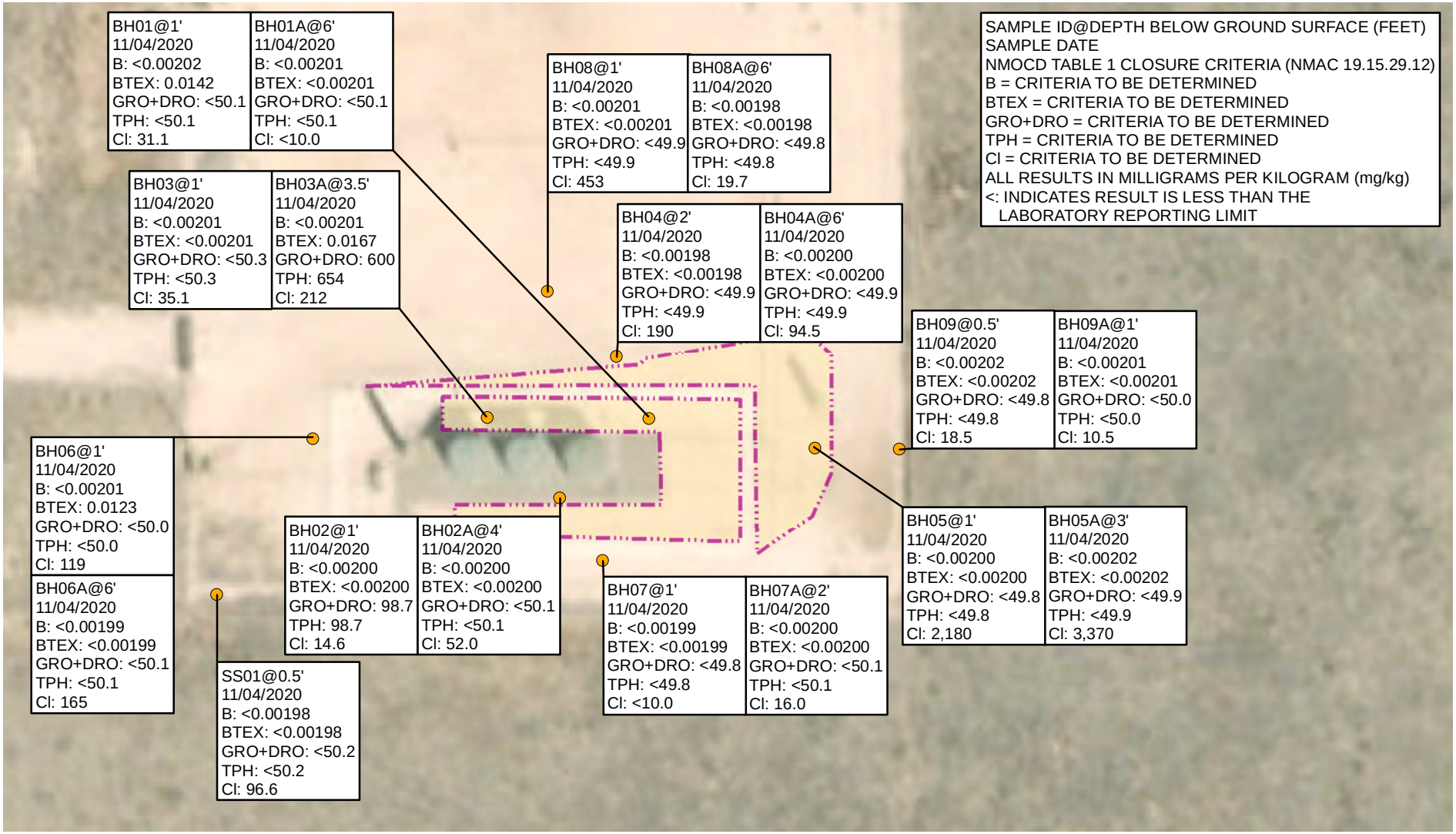


IMAGE COURTESY OF ESRI

LEGEND

- DELINEATION SOIL SAMPLE
- RELEASE EXTENT

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION

0 50 100
Feet

N

FIGURE 2
DELNEATION SOIL SAMPLE LOCATIONS
LONG TALL SALLY #1
UNIT B SEC 19 T5S R34E
ROOSEVELT COUNTY, NEW MEXICO
ARMSTRONG ENERGY CORP

P:\Armstrong Energy Corp\GIS\MXD\106520001_LONG TALL SALLY #1\106520001_FIG02_DELINEATION_2020_1.mxd

TABLES

Table 1

Soil Analytical Results
Long Tall Sally #1
Incident Number NRM2021936507
Roosevelt County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Surface Samples										
SS01	11/04/2020	0.5	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	96.6
Delineation Samples										
BH01	11/04/2020	1	<0.00202	0.0142	<50.1	<50.1	<50.1	<50.1	<50.1	31.1
BH01A	11/04/2020	6	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	<10.0
BH02	11/04/2020	1	<0.00200	<0.00200	98.7	<50.1	<50.1	98.7	98.7	14.6
BH02A	11/04/2020	4	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	52.0
BH03	11/04/2020	1	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	35.1
BH03A	11/04/2020	3.5	<0.00201	0.0167	600	<50.3	53.9	600	654	212
BH04	11/04/2020	2	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	190
BH04A	11/04/2020	6	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	94.5
BH05	11/04/2020	1	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	2,180
BH05A	11/04/2020	3	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	3,370
BH06	11/04/2020	1	<0.00201	0.0123	<50.0	<50.0	<50.0	<50.0	<50.0	119
BH06A	11/04/2020	6	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	165
BH07	11/04/2020	1	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	<10.0
BH07A	11/04/2020	2	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	16.0
BH08	11/04/2020	1	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	453
BH08A	11/04/2020	6	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	19.7

Released to Imaging: 3/30/2021 1:17:46 PM

Table 1

Soil Analytical Results
Long Tall Sally #1
Incident Number NRM2021936507
Roosevelt County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
BH09	11/04/2020	0.5	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	18.5
BH09A	11/04/2020	1	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	10.5

ft - feet/foot
mg/kg - milligrams per kilograms
BTEX - benzene, toluene, ethylbenzene, and total xylenes
TPH - total petroleum hydrocarbons
DRO - diesel range organics
GRO - gasoline range organics
ORO - motor oil range organics
NMOCD - New Mexico Oil Conservation Division
NMAC - New Mexico Administrative Code
< - indicates result is less than the stated laboratory method practical quantitation limit
NE - Not Established
BOLD - indicates results exceed the higher of the background sample result or applicable regulatory standard
Greyed data represents samples that were excavated

ATTACHMENT 1: REFERENCED WELL RECORD

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 335109103255801

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

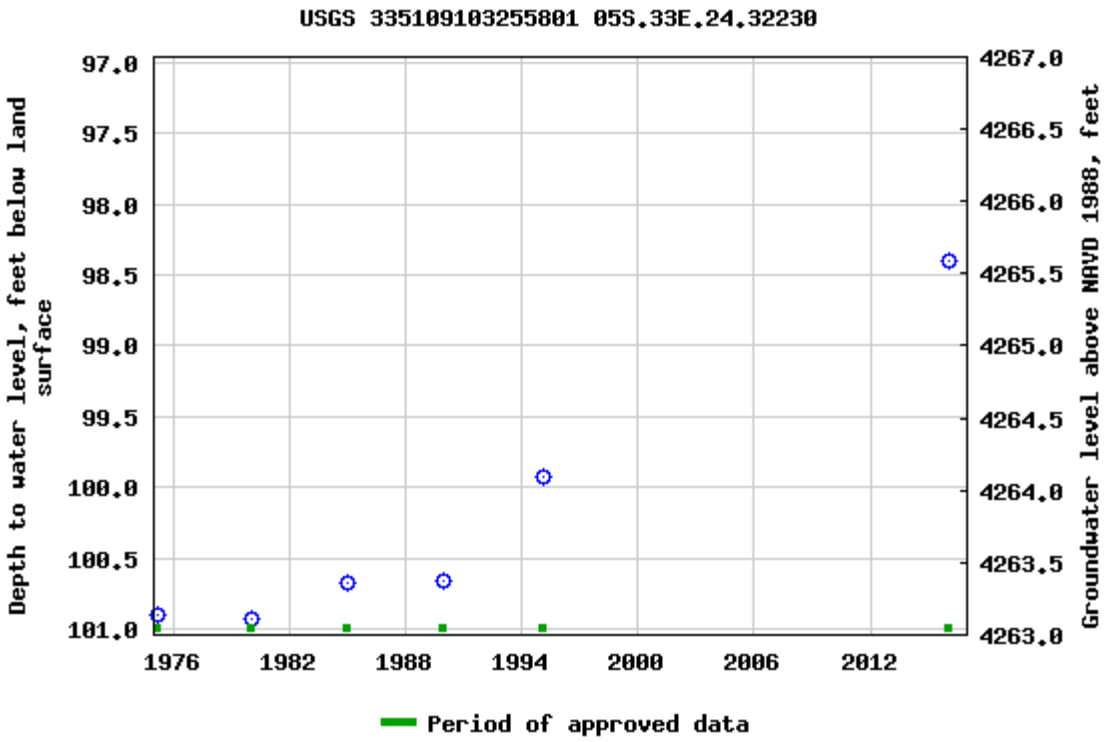
USGS 335109103255801 05S.33E.24.32230

Available data for this site | Groundwater: Field measurements | GO

Roosevelt County, New Mexico
Hydrologic Unit Code 12050001
Latitude 33°51'23.3", Longitude 103°25'59.8" NAD83
Land-surface elevation 4,364 feet above NAVD88
This well is completed in the Ogallala Formation (121OGLL) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey
Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2021-01-27 10:40:47 EST
0.64 0.57 nadww01

National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information | Geographic Area: United States | GO

Click to hideNews Bulletins

- Explore the **NEW** USGS National Water Dashboard to access real-time data from over 13,500 stations nationwide.
- Full News

USGS 335113103244201 05S.34E.19.411224

Available data for this site SUMMARY OF ALL AVAILABLE DATA | GO

Well Site

DESCRIPTION:

Latitude 33°51'28", Longitude 103°24'42" NAD27
Roosevelt County, New Mexico , Hydrologic Unit 12050001
Well depth: 64 feet
Land surface altitude: 4,328.00 feet above NGVD29.
Well completed in "Ogallala Formation" (121OGLL) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1975-03-20	1980-01-08	2
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

---

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=335113103244201

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2020-12-17 19:27:46 EST
0.27 0.26 caww01

National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information | Geographic Area: United States | GO

Click to hideNews Bulletins

- Explore the **NEW** USGS National Water Dashboard to access real-time data from over 13,500 stations nationwide.
- Full News

USGS 335113103244202 05S.34E.19.411224A

Available data for this site SUMMARY OF ALL AVAILABLE DATA | GO

Well Site

DESCRIPTION:

Latitude 33°51'28", Longitude 103°24'42" NAD27
Roosevelt County, New Mexico , Hydrologic Unit 12050001
Well depth: 47 feet
Land surface altitude: 4,329.00 feet above NGVD29.
Well completed in "Ogallala Formation" (121OGLL) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1975-03-20	1975-03-20	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

---

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=335113103244202

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2020-12-17 19:26:35 EST
0.26 0.26 caww01

National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information | Geographic Area: United States | GO

Click to hideNews Bulletins

- Explore the **NEW** USGS National Water Dashboard to access real-time data from over 13,500 stations nationwide.
- Full News

USGS 335158103243001 05S.34E.18.34444

Available data for this site SUMMARY OF ALL AVAILABLE DATA | GO

Well Site

DESCRIPTION:

Latitude 33°51'56", Longitude 103°24'51" NAD27
Roosevelt County, New Mexico , Hydrologic Unit 12050001
Well depth: 124 feet
Land surface altitude: 4,358.00 feet above NGVD29.

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1990-02-15	1990-02-15	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

---

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

U.S. Department of the Interior | U.S. Geological Survey

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=335158103243001

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2020-12-17 19:24:48 EST
0.27 0.25 caww01

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 335203103252201

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

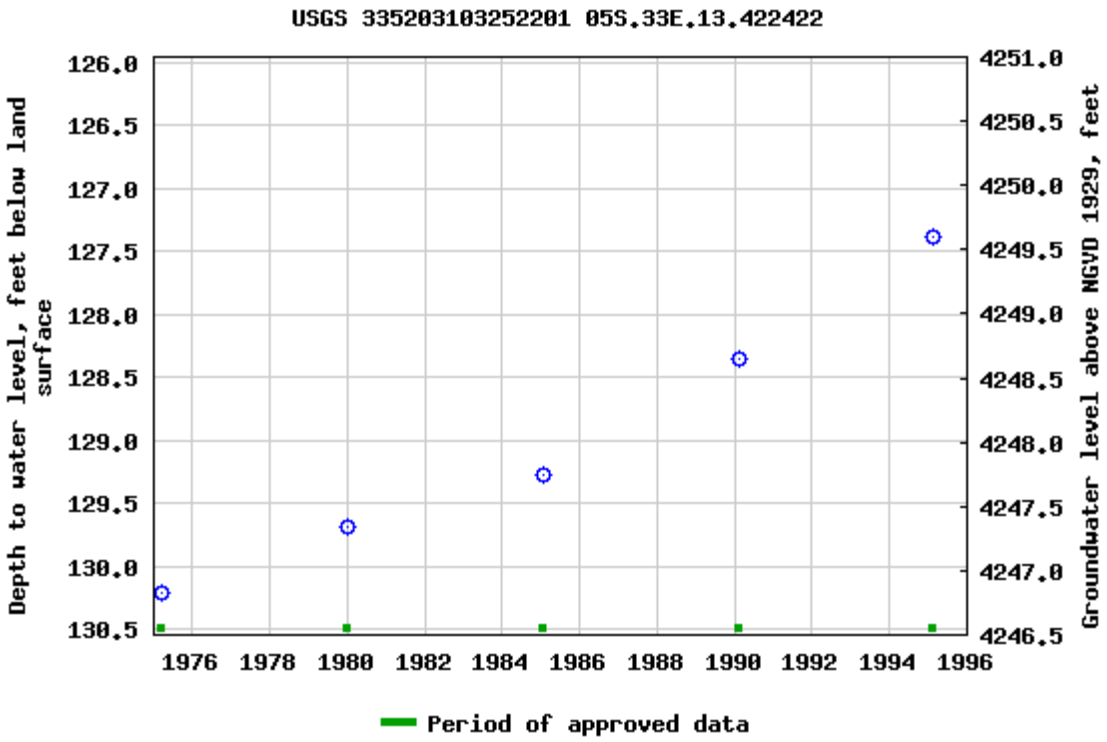
USGS 335203103252201 05S.33E.13.422422

Available data for this site | Groundwater: Field measurements | GO

Roosevelt County, New Mexico
Hydrologic Unit Code 12050001
Latitude 33°52'18", Longitude 103°25'22" NAD27
Land-surface elevation 4,377.00 feet above NGVD29
This well is completed in the Ogallala Formation (121OGLL) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2021-01-27 10:44:24 EST
0.64 0.58 nadww01

ATTACHMENT 2: LITHOLOGIC/SAMPLING LOG

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: BH01	Date: 11/04/2020
Site Name: Long Tall Sally #1	
RP or Incident Number:	
LTE Job Number:	
Logged By: Robert M.	Method: Hand Auger
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: 3"	Total Depth: 6'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		CHCE Heavily Stained pepples - cobbles mod consolidated
M	<124 ~~636~~	165	N		1'	1	S	SP-SM, small round grain, Brown Strong odor
M	<124 ~~636~~	115	N		2'	2	S	odor decreases
M	<124 ~~636~~	12.4	N		3'	3	S	
D	<124 ~~636~~	13.8	N		4'	4	S	SP-SM, Brown, small-medium round grain Slight odor
D	<124	42	N		5'	5		SP-SM, light Brown, small round grain pebbles mixed in
D	<124	4.2	N		6'	6		
						7		
						8		
						9		
						10		
						11		
						12		

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: BH02	Date: 11/04/2020
Site Name: Long tall sally #1	
RP or Incident Number:	
LTE Job Number:	
Logged By: Robert M.	Method: Hand Auger
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: 3"	Total Depth: 4'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	<124 ~~636~~	260	N		1'	1	S	SP-SM, Small round grain, Brown Strong odor
M	<124 ~~636~~	26.8	N		2'	2	S	odor decreases
M	<124 ~~636~~	13.5	N		3'	3	S	
D	<124 ~~636~~	7.2	N		4'	4	S	SP-SM, small round grain, light brown slight odor
						5		Refusal @ 4.5'
						6		
						7		
						8		
						9		
						10		
						11		
						12		

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: BH03	Date: 11/04/2020
Site Name: Long tall sally #1	
RP or Incident Number:	
LTE Job Number:	
Logged By: Robert M.	Method: Hand Auger
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: 3"	Total Depth: 3'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	<124	126	N		1'	1	S	SP-SM, strong odor, Brown
M	<124	32.8	N		2'	2	S	
M	<124	25.4	N		3'	3	S	
M	<124	138.4	N		3.5'		S	
						4		Refusal at 4'
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: BH04 | Date: 11/04/2020
Site Name: Long tall Sally #1
RP or Incident Number:
LTE Job Number:
Logged By: Robert M | Method: Hand Auger
Lat/Long: | Field Screening: Chloride, PID | Hole Diameter: 3" | Total Depth: 6'
Comments:

LITHOLOGIC / SOIL SAMPLING LOG

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	<124	1.0	N		1'	1	S	SP-SM Brown, small round grain no odor,
M	<124	1.2	N		2'	2	S	
M	<124	0.8	N		3'	3	S	
D	<124	0.7	N		4'	4	S	SP-SM light brown, small round grain
						5		
D	<124	0.3	N		6'	6	S	trace Caliche
						7		
						8		
						9		
						10		
						11		
						12		

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: BH05	Date: 11/04/2020
Site Name: Long tall Sally #1	
RP or Incident Number:	
LTE Job Number:	
Logged By: Robert M.	Method: Hand Auger
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: 3"	Total Depth: 3'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	<124	0.9	N		1'	1	S	SP-SM, Brown, small round grain, organics present
M	<124	0.4	N		2'	2	S	SP-SM Brown small round grain
M	<124	0.5	N		3'	3	S	Refusal @ 3.5'

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: BH06	Date: 11/04/20
Site Name: Long tall sally #1	
RP or Incident Number:	
LTE Job Number:	
Logged By: Robert M.	Method: Hand Auger
Hole Diameter: 3"	Total Depth: 6'
Field Screening: Chloride, PID	

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	<124	1.3	N		1'	1	S	SP-SM, brown, small round grain organics present, tightly packed, no odor
M	<124	1.1	N		2'	2	S	
M	<124	1.1	N		3'	3	S	SP-SM brown, small round grain tightly packed no odor
M	<124	0.7	N		4'	4	S	
						5		
D	<124	0.2	N		6'	6	S	
						7		
						8		
						9		
						10		
						11		
						12		

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: BH07	Date: 11/04/2020
Site Name: Long tall Sally #1	
RP or Incident Number:	
LTE Job Number:	
Logged By: Robert M.	Method: Hand Auger
Hole Diameter: 3"	Total Depth: 2'
Lat/Long:	Field Screening: Chloride, PID

Comments:

LITHOLOGIC / SOIL SAMPLING LOG

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	<124	1.2	N		1'	1	S	SP-SM, Brown, small round grain tightly packed, organics present
M	<124	1.4	N		2'	2	S	
						3		Refusal @ 2.5'
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: BH08	Date: 11/04/2020
Site Name: Long tall Sally #1	
RP or Incident Number:	
LTE Job Number:	
Logged By: Robert M.	Method: Hand Auger
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: 3"	Total Depth: 6'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	<124	1.5	N		1'	1	S	SP-SM, Brown, tightly packed, small round grain, organics present, no odor ↓
M	<124	1.0	N		2'	2	S	
D	<124	0.9	N		3'	3	S	SP-SM, Brown, small round grain, tightly Packed
D	<124	0.4	N		4'	4	S	SP-SM, light brown, small round grain, loosely packed, trace caliche
						5		
D	<124	0.1	N		6'	6	S	SP-SM/CHCE RM ~~tan~~ tan, loosely packed very fine - fine grain
						7		
						8		
						9		
						10		
						11		
						12		

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: BH09	Date: 11/04/2020
Site Name: Long tall sally #1	
RP or Incident Number:	
LTE Job Number:	
Logged By: Robert M.	Method: Hand Auger
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: 3"	Total Depth: 1'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	4124	1.3	N		0.5'	0	S	SP-SM, Brown, tightly Packed, organics present small round grain
M	4124	1.1	N		1'	1	S	↓
						2		Refusal @ 1.5'
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ATTACHMENT 3: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG		
Armstrong Energy Corp.	Long Tall Sally #1 Roosevelt County, New Mexico	NRM2021936507

Photo No.	Date
1	October 30, 2020

View of staining East of Tank Battery.

Photo No.	Date
2	October 30, 2020

View of staining on pad North of tank battery.

PHOTOGRAPHIC LOG		
Armstrong Energy Corp.	Long Tall Sally #1 Roosevelt County, New Mexico	NRM2021936507

Photo No.	Date
3	November 4, 2020

View of location of BH01 and staining inside earthen berm.

Photo No.	Date
4	November 4, 2020

View of location of BH05.

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS

eurofins | Environment Testing Xenco

Certificate of Analysis Summary 677115

LT Environmental, Inc., Arvada, CO

Project Name: Long Tall Sally #1

Project Id: 106520001
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri 11.06.2020 11:15
Report Date: 11.11.2020 13:59
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	677115-001					
	Field Id:	SS01					
	Depth:	0.5- ft					
	Matrix:	SOIL					
	Sampled:	11.04.2020 08:50					
BTEX by EPA 8021B	***Extracted:***	11.06.2020 16:27					
	Analyzed:	11.07.2020 06:16					
	Units/RL:	mg/kg RL					
Benzene		<0.00198 0.00198					
Toluene		<0.00198 0.00198					
Ethylbenzene		<0.00198 0.00198					
m,p-Xylenes		<0.00396 0.00396					
o-Xylene		<0.00198 0.00198					
Total Xylenes		<0.00198 0.00198					
Total BTEX		<0.00198 0.00198					
Chloride by EPA 300	***Extracted:***	11.06.2020 14:38					
	Analyzed:	11.06.2020 17:34					
	Units/RL:	mg/kg RL					
Chloride		96.6 9.96					
TPH By SW8015 Mod	***Extracted:***	11.09.2020 15:04					
	Analyzed:	11.09.2020 17:01					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2					
Diesel Range Organics (DRO)		<50.2 50.2					
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2					
Total TPH		<50.2 50.2					

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

eurofins | Environment Testing Xenco

Analytical Report 677115

for

LT Environmental, Inc.

Project Manager: Dan Moir

Long Tall Sally #1

106520001

11.11.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

eurofins | Environment Testing Xenco

11.11.2020

Project Manager: **Dan Moir**
LT Environmental, Inc.
4600 W. 60th Avenue
Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **677115**
Long Tall Sally #1
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 677115. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 677115 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

eurofins | Environment Testing Xenco

Sample Cross Reference 677115

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	11.04.2020 08:50	0.5 ft	677115-001

CASE NARRATIVE

eurofins | Environment Testing Xenco

Client Name: LT Environmental, Inc.

Project Name: Long Tall Sally #1

Project ID: *106520001*
Work Order Number(s): *677115*

Report Date: *11.11.2020*
Date Received: *11.06.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677115

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677115-001	Date Collected:	11.04.2020 08:50	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**96.6**	9.96	mg/kg	11.06.2020 17:34		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.09.2020 15:04	% Moisture:	
Seq Number:	3141880			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.09.2020 17:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.09.2020 17:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.09.2020 17:01	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.09.2020 17:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	11.09.2020 17:01	
o-Terphenyl	84-15-1	104	%	70-135	11.09.2020 17:01	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677115

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677115-001	Date Collected:	11.04.2020 08:50	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 16:27	% Moisture:	
Seq Number:	3141790			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.07.2020 06:16	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.07.2020 06:16	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.07.2020 06:16	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	11.07.2020 06:16	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.07.2020 06:16	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.07.2020 06:16	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.07.2020 06:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	11.07.2020 06:16	
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.07.2020 06:16	

eurofins | Environment Testing Xenco

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

eurofins | Environment Testing Xenco

QC Summary 677115

LT Environmental, Inc.

Long Tall Sally #1

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141709 — Matrix: Solid — Date Prep: 11.06.2020
MB Sample Id: 7714673-1-BLK — LCS Sample Id: 7714673-1-BKS — LCSD Sample Id: 7714673-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	258	103	253	101	90-110	2	20	mg/kg	11.06.2020 17:18	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141709 — Matrix: Soil — Date Prep: 11.06.2020
Parent Sample Id: 677115-001 — MS Sample Id: 677115-001 S — MSD Sample Id: 677115-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	96.6	200	301	102	316	110	90-110	5	20	mg/kg	11.06.2020 17:40	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141709 — Matrix: Soil — Date Prep: 11.06.2020
Parent Sample Id: 677117-010 — MS Sample Id: 677117-010 S — MSD Sample Id: 677117-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3370	200	3560	95	3560	94	90-110	0	20	mg/kg	11.06.2020 18:56	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141880 — Matrix: Solid — Date Prep: 11.09.2020
MB Sample Id: 7714835-1-BLK — LCS Sample Id: 7714835-1-BKS — LCSD Sample Id: 7714835-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1120	112	1100	110	70-135	2	35	mg/kg	11.09.2020 16:20	
Diesel Range Organics (DRO)	<50.0	1000	1220	122	1220	122	70-135	0	35	mg/kg	11.09.2020 16:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		128		118		70-135	%	11.09.2020 16:20
o-Terphenyl	123		119		120		70-135	%	11.09.2020 16:20

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141880 — Matrix: Solid — Date Prep: 11.09.2020
MB Sample Id: 7714835-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.09.2020 16:00	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

eurofins | Environment Testing Xenco

QC Summary 677115

LT Environmental, Inc.

Long Tall Sally #1

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3141880 Matrix: Soil Date Prep: 11.09.2020
Parent Sample Id: 677115-001 MS Sample Id: 677115-001 S MSD Sample Id: 677115-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	996	928	93	924	91	70-135	0	35	mg/kg	11.09.2020 17:21	
Diesel Range Organics (DRO)	<49.8	996	912	92	943	93	70-135	3	35	mg/kg	11.09.2020 17:21	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		99		70-135	%	11.09.2020 17:21
o-Terphenyl	94		112		70-135	%	11.09.2020 17:21

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141790 Matrix: Solid Date Prep: 11.06.2020
MB Sample Id: 7714690-1-BLK LCS Sample Id: 7714690-1-BKS LCSD Sample Id: 7714690-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0934	93	0.0944	94	70-130	1	35	mg/kg	11.07.2020 04:11	
Toluene	<0.00200	0.100	0.0881	88	0.0877	88	70-130	0	35	mg/kg	11.07.2020 04:11	
Ethylbenzene	<0.00200	0.100	0.0902	90	0.0902	90	71-129	0	35	mg/kg	11.07.2020 04:11	
m,p-Xylenes	<0.00400	0.200	0.184	92	0.183	92	70-135	1	35	mg/kg	11.07.2020 04:11	
o-Xylene	<0.00200	0.100	0.0904	90	0.0906	91	71-133	0	35	mg/kg	11.07.2020 04:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		99		99		70-130	%	11.07.2020 04:11
4-Bromofluorobenzene	107		105		109		70-130	%	11.07.2020 04:11

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141790 Matrix: Soil Date Prep: 11.06.2020
Parent Sample Id: 677115-001 MS Sample Id: 677115-001 S MSD Sample Id: 677115-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0712	72	0.0884	89	70-130	22	35	mg/kg	11.07.2020 04:56	
Toluene	<0.00198	0.0992	0.0708	71	0.0819	82	70-130	15	35	mg/kg	11.07.2020 04:56	
Ethylbenzene	<0.00198	0.0992	0.0725	73	0.0854	86	71-129	16	35	mg/kg	11.07.2020 04:56	
m,p-Xylenes	<0.00397	0.198	0.149	75	0.177	89	70-135	17	35	mg/kg	11.07.2020 04:56	
o-Xylene	<0.00198	0.0992	0.0767	77	0.0878	88	71-133	13	35	mg/kg	11.07.2020 04:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		98		70-130	%	11.07.2020 04:56
4-Bromofluorobenzene	110		108		70-130	%	11.07.2020 04:56

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Page 52 of 106

Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com

Work Order No: 677115

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Alpers
Company Name:	LT Environmental, Inc., Permian office	Company Name:	Aarmstrong Energy Corp
Address:	3300 North A St. Bldg 1, Unit 222	Address:	P.O. Box 1973
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Roswell, NM
Phone:	(432) 701-2610	Email:	dan.moir@wsp.com robert.mcafee@wsp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project: NM
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Long Tall Sally #1	Turn Around	
Project Number:	106520001	Routine	X
P.O. Number:		Rush:	
Sampler's Name:	Robert McAfee	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Temperature (°C):	1.6/1.4	Thermometer ID		
Received Intact:	(Yes) No		IR-NM-007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Total Containers:	1	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SS01	s	11/4/2020	8:50	0.5	1	x	x	x

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

Discrete

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Robert McAfee	Cole Curtis	11.6.20 1115	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

Received by OCD: 3/4/2021 9:29:31 AM
Final 1.000
Page 11 of 12
Released to Imaging: 3/30/2021 1:17:46 PM

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11.06.2020 11.15.00 AM

Work Order #: 677115

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T_NM_007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 Custody Seals intact on sample bottles?	**Yes**	
#6*Custody Seals Signed and dated?	**Yes**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	Samples received in bulk containers.
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**No**	
#18 Water VOC samples have zero headspace?	**N/A**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 11.06.2020

Checklist reviewed by: Jessica Kramer Date: 11.10.2020

Jessica Kramer

eurofins | Environment Testing Xenco

Certificate of Analysis Summary 677117

LT Environmental, Inc., Arvada, CO

Project Name: Long Tall Sally #1

Project Id: 106520001
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri 11.06.2020 11:15
Report Date: 11.11.2020 14:00
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	677117-001		677117-002		677117-003		677117-004		677117-005		677117-006	
	Field Id:	BH01		BH01 A		BH02		BH02 A		BH03		BH03 A	
	Depth:	1- ft		6- ft		1- ft		4- ft		1- ft		3.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	11.04.2020 09:53		11.04.2020 14:25		11.04.2020 11:24		11.04.2020 11:33		11.04.2020 12:02		11.04.2020 12:08	
BTEX by EPA 8021B	***Extracted:***	11.09.2020 10:00		11.09.2020 10:00		11.09.2020 10:00		11.09.2020 10:00		11.09.2020 10:00		11.09.2020 10:00	
	Analyzed:	11.09.2020 18:32		11.09.2020 18:54		11.09.2020 19:16		11.09.2020 19:39		11.09.2020 20:01		11.09.2020 20:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201
Toluene		<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201
Ethylbenzene		<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201
m,p-Xylenes		0.00815	0.00404	<0.00402	0.00402	<0.00399	0.00399	<0.00400	0.00400	<0.00402	0.00402	0.0126	0.00402
o-Xylene		0.00607	0.00202	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	0.00412	0.00201
Total Xylenes		0.0142	0.00202	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	0.0167	0.00201
Total BTEX		0.0142	0.00202	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	0.0167	0.00201
Chloride by EPA 300	***Extracted:***	11.06.2020 14:38		11.06.2020 14:38		11.06.2020 14:38		11.06.2020 14:38		11.06.2020 14:38		11.06.2020 14:38	
	Analyzed:	11.06.2020 17:51		11.06.2020 17:56		11.06.2020 18:02		11.06.2020 18:07		11.06.2020 18:24		11.06.2020 18:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		31.1	9.94	<10.0	10.0	14.6	10.0	52.0	10.1	35.1	9.94	212	9.98
TPH By SW8015 Mod	***Extracted:***	11.06.2020 13:03		11.06.2020 13:03		11.06.2020 13:03		11.06.2020 13:03		11.06.2020 13:03		11.06.2020 13:03	
	Analyzed:	11.06.2020 21:03		11.06.2020 21:24		11.06.2020 21:44		11.06.2020 22:04		11.06.2020 22:25		11.06.2020 22:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.1	50.1	<50.1	50.1	<50.1	50.1	<50.3	50.3	<50.3	50.3
Diesel Range Organics (DRO)		<50.1	50.1	<50.1	50.1	98.7	50.1	<50.1	50.1	<50.3	50.3	600	50.3
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.1	50.1	<50.1	50.1	<50.1	50.1	<50.3	50.3	53.9	50.3
Total TPH		<50.1	50.1	<50.1	50.1	98.7	50.1	<50.1	50.1	<50.3	50.3	654	50.3

BRL - Below Reporting Limit

Jessica Kramer

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

eurofins | Environment Testing Xenco

Certificate of Analysis Summary 677117

LT Environmental, Inc., Arvada, CO

Project Name: Long Tall Sally #1

Project Id: 106520001
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri 11.06.2020 11:15
Report Date: 11.11.2020 14:00
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	677117-007		677117-008		677117-009		677117-010		677117-011		677117-012	
	Field Id:	BH04		BH04 A		BH05		BH05 A		BH06		BH06 A	
	Depth:	2- ft		6- ft		1- ft		3- ft		1- ft		6- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	11.04.2020 12:51		11.04.2020 14:38		11.04.2020 13:00		11.04.2020 13:04		11.04.2020 13:22		11.04.2020 14:33	
BTEX by EPA 8021B	***Extracted:***	11.09.2020 10:00		11.09.2020 10:00		11.09.2020 10:00		11.09.2020 10:00		11.06.2020 16:27		11.06.2020 16:27	
	Analyzed:	11.09.2020 20:46		11.09.2020 21:08		11.09.2020 21:31		11.09.2020 21:53		11.07.2020 06:38		11.07.2020 07:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199
m,p-Xylenes		<0.00397	0.00397	<0.00399	0.00399	<0.00399	0.00399	<0.00404	0.00404	0.00558	0.00402	<0.00398	0.00398
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	0.00669	0.00201	<0.00199	0.00199
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	0.0123	0.00201	<0.00199	0.00199
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	0.0123	0.00201	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***	11.06.2020 14:38		11.06.2020 14:38		11.06.2020 14:38		11.06.2020 14:38		11.06.2020 14:38		11.06.2020 14:38	
	Analyzed:	11.06.2020 18:35		11.06.2020 18:40		11.06.2020 18:46		11.06.2020 18:51		11.06.2020 19:07		11.06.2020 19:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		190	10.1	94.5	10.0	2180	49.9	3370	49.6	119	10.0	165	9.98
TPH By SW8015 Mod	***Extracted:***	11.06.2020 13:03		11.06.2020 13:03		11.06.2020 13:03		11.06.2020 13:03		11.09.2020 15:04		11.09.2020 15:04	
	Analyzed:	11.06.2020 23:06		11.06.2020 23:26		11.06.2020 23:47		11.07.2020 00:07		11.10.2020 08:09		11.10.2020 08:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.9	49.9	<49.8	49.8	<49.9	49.9	<50.0	50.0	<50.1	50.1
Diesel Range Organics (DRO)		<49.9	49.9	<49.9	49.9	<49.8	49.8	<49.9	49.9	<50.0	50.0	<50.1	50.1
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.9	49.9	<49.8	49.8	<49.9	49.9	<50.0	50.0	<50.1	50.1
Total TPH		<49.9	49.9	<49.9	49.9	<49.8	49.8	<49.9	49.9	<50.0	50.0	<50.1	50.1

BRL - Below Reporting Limit

Jessica Kramer

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

eurofins | Environment Testing Xenco

Certificate of Analysis Summary 677117

LT Environmental, Inc., Arvada, CO

Project Name: Long Tall Sally #1

Project Id: 106520001
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri 11.06.2020 11:15
Report Date: 11.11.2020 14:00
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	677117-013		677117-014		677117-015		677117-016		677117-017		677117-018	
	Field Id:	BH07		BH07 A		BH08		BH08 A		BH09		BH09 A	
	Depth:	1- ft		2- ft		1- ft		6- ft		0.5- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	11.04.2020 13:42		11.04.2020 13:44		11.04.2020 13:53		11.04.2020 14:29		11.04.2020 14:14		11.04.2020 14:16	
BTEX by EPA 8021B	***Extracted:***	11.06.2020 16:27		11.06.2020 16:27		11.06.2020 16:27		11.06.2020 16:27		11.06.2020 16:27		11.06.2020 16:27	
	Analyzed:	11.07.2020 07:23		11.07.2020 07:45		11.07.2020 08:08		11.07.2020 08:30		11.07.2020 08:53		11.07.2020 09:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00201	0.00201
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00201	0.00201
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00201	0.00201
m,p-Xylenes		<0.00398	0.00398	<0.00399	0.00399	<0.00402	0.00402	<0.00397	0.00397	<0.00404	0.00404	<0.00402	0.00402
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00201	0.00201
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00201	0.00201
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00201	0.00201
Chloride by EPA 300	***Extracted:***	11.06.2020 14:38		11.06.2020 14:38		11.06.2020 14:38		11.06.2020 14:38		11.06.2020 14:38		11.06.2020 14:38	
	Analyzed:	11.06.2020 19:18		11.06.2020 19:35		11.06.2020 19:40		11.06.2020 19:46		11.06.2020 19:51		11.06.2020 19:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<10.0	10.0	16.0	9.94	453	9.98	19.7	9.98	18.5	10.0	10.5	9.96
TPH By SW8015 Mod	***Extracted:***	11.09.2020 15:04		11.09.2020 15:04		11.09.2020 15:04		11.09.2020 15:04		11.09.2020 15:04		11.09.2020 15:04	
	Analyzed:	11.10.2020 08:49		11.10.2020 09:09		11.10.2020 09:29		11.10.2020 09:49		11.10.2020 10:09		11.10.2020 10:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.1	50.1	<49.9	49.9	<49.8	49.8	<49.8	49.8	<50.0	50.0
Diesel Range Organics (DRO)		<49.8	49.8	<50.1	50.1	<49.9	49.9	<49.8	49.8	<49.8	49.8	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.1	50.1	<49.9	49.9	<49.8	49.8	<49.8	49.8	<50.0	50.0
Total TPH		<49.8	49.8	<50.1	50.1	<49.9	49.9	<49.8	49.8	<49.8	49.8	<50.0	50.0

BRL - Below Reporting Limit

Jessica Kramer

eurofins | Environment Testing Xenco

Analytical Report 677117

for

LT Environmental, Inc.

Project Manager: Dan Moir

Long Tall Sally #1

106520001

11.11.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

eurofins | Environment Testing Xenco

11.11.2020

Project Manager: **Dan Moir**
LT Environmental, Inc.
4600 W. 60th Avenue
Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **677117**
Long Tall Sally #1
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 677117. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 677117 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

eurofins | Environment Testing Xenco

Sample Cross Reference 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	11.04.2020 09:53	1 ft	677117-001
BH01 A	S	11.04.2020 14:25	6 ft	677117-002
BH02	S	11.04.2020 11:24	1 ft	677117-003
BH02 A	S	11.04.2020 11:33	4 ft	677117-004
BH03	S	11.04.2020 12:02	1 ft	677117-005
BH03 A	S	11.04.2020 12:08	3.5 ft	677117-006
BH04	S	11.04.2020 12:51	2 ft	677117-007
BH04 A	S	11.04.2020 14:38	6 ft	677117-008
BH05	S	11.04.2020 13:00	1 ft	677117-009
BH05 A	S	11.04.2020 13:04	3 ft	677117-010
BH06	S	11.04.2020 13:22	1 ft	677117-011
BH06 A	S	11.04.2020 14:33	6 ft	677117-012
BH07	S	11.04.2020 13:42	1 ft	677117-013
BH07 A	S	11.04.2020 13:44	2 ft	677117-014
BH08	S	11.04.2020 13:53	1 ft	677117-015
BH08 A	S	11.04.2020 14:29	6 ft	677117-016
BH09	S	11.04.2020 14:14	0.5 ft	677117-017
BH09 A	S	11.04.2020 14:16	1 ft	677117-018

eurofins | Environment Testing Xenco

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Long Tall Sally #1

Project ID: *106520001*
Work Order Number(s): *677117*

Report Date: *11.11.2020*
Date Received: *11.06.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-001	Date Collected:	11.04.2020 09:53	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**31.1**	9.94	mg/kg	11.06.2020 17:51		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.06.2020 13:03	% Moisture:	
Seq Number:	3141704			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.06.2020 21:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.06.2020 21:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.06.2020 21:03	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.06.2020 21:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	11.06.2020 21:03	
o-Terphenyl	84-15-1	101	%	70-135	11.06.2020 21:03	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-001	Date Collected:	11.04.2020 09:53	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.09.2020 10:00	% Moisture:	
Seq Number:	3141784			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.09.2020 18:32	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.09.2020 18:32	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.09.2020 18:32	U	1
m,p-Xylenes	179601-23-1	**0.00815**	0.00404	mg/kg	11.09.2020 18:32		1
o-Xylene	95-47-6	**0.00607**	0.00202	mg/kg	11.09.2020 18:32		1
Total Xylenes	1330-20-7	**0.0142**	0.00202	mg/kg	11.09.2020 18:32		1
Total BTEX		**0.0142**	0.00202	mg/kg	11.09.2020 18:32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	11.09.2020 18:32	
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.09.2020 18:32	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH01 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-002	Date Collected:	11.04.2020 14:25	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	11.06.2020 17:56	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.06.2020 13:03	% Moisture:	
Seq Number:	3141704			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.06.2020 21:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.06.2020 21:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.06.2020 21:24	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.06.2020 21:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	11.06.2020 21:24	
o-Terphenyl	84-15-1	119	%	70-135	11.06.2020 21:24	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH01 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-002	Date Collected:	11.04.2020 14:25	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.09.2020 10:00	% Moisture:	
Seq Number:	3141784			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.09.2020 18:54	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.09.2020 18:54	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.09.2020 18:54	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.09.2020 18:54	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.09.2020 18:54	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	11.09.2020 18:54	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.09.2020 18:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.09.2020 18:54	
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.09.2020 18:54	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-003	Date Collected:	11.04.2020 11:24	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14.6**	10.0	mg/kg	11.06.2020 18:02		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.06.2020 13:03	% Moisture:	
Seq Number:	3141704			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.06.2020 21:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	**98.7**	50.1	mg/kg	11.06.2020 21:44		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.06.2020 21:44	U	1
Total TPH	PHC635	**98.7**	50.1	mg/kg	11.06.2020 21:44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	11.06.2020 21:44	
o-Terphenyl	84-15-1	124	%	70-135	11.06.2020 21:44	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-003	Date Collected:	11.04.2020 11:24	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.09.2020 10:00	% Moisture:	
Seq Number:	3141784			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.09.2020 19:16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.09.2020 19:16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.09.2020 19:16	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.09.2020 19:16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.09.2020 19:16	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.09.2020 19:16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.09.2020 19:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.09.2020 19:16	
4-Bromofluorobenzene	460-00-4	107	%	70-130	11.09.2020 19:16	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH02 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-004	Date Collected:	11.04.2020 11:33	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**52.0**	10.1	mg/kg	11.06.2020 18:07		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.06.2020 13:03	% Moisture:	
Seq Number:	3141704			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.06.2020 22:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.06.2020 22:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.06.2020 22:04	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.06.2020 22:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	11.06.2020 22:04	
o-Terphenyl	84-15-1	123	%	70-135	11.06.2020 22:04	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH02 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-004	Date Collected:	11.04.2020 11:33	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.09.2020 10:00	% Moisture:	
Seq Number:	3141784			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.09.2020 19:39	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.09.2020 19:39	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.09.2020 19:39	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.09.2020 19:39	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.09.2020 19:39	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.09.2020 19:39	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.09.2020 19:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	11.09.2020 19:39	
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.09.2020 19:39	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-005	Date Collected:	11.04.2020 12:02	Sample Depth:	1 ft

Analytical Method: Chloride by EPA 300 — Prep Method: E300P

Tech: MAB
Analyst: MAB
Seq Number: 3141709

Date Prep: 11.06.2020 14:38

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**35.1**	9.94	mg/kg	11.06.2020 18:24		1

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P

Tech: MAB
Analyst: CAC
Seq Number: 3141704

Date Prep: 11.06.2020 13:03

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.06.2020 22:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.06.2020 22:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.06.2020 22:25	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.06.2020 22:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	11.06.2020 22:25	
o-Terphenyl	84-15-1	114	%	70-135	11.06.2020 22:25	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-005	Date Collected:	11.04.2020 12:02	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.09.2020 10:00	% Moisture:	
Seq Number:	3141784			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.09.2020 20:01	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.09.2020 20:01	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.09.2020 20:01	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.09.2020 20:01	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.09.2020 20:01	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	11.09.2020 20:01	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.09.2020 20:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.09.2020 20:01	
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.09.2020 20:01	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH03 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-006	Date Collected:	11.04.2020 12:08	Sample Depth:	3.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**212**	9.98	mg/kg	11.06.2020 18:29		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.06.2020 13:03	% Moisture:	
Seq Number:	3141704			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.06.2020 22:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	**600**	50.3	mg/kg	11.06.2020 22:46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**53.9**	50.3	mg/kg	11.06.2020 22:46		1
Total TPH	PHC635	**654**	50.3	mg/kg	11.06.2020 22:46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	132	%	70-135	11.06.2020 22:46	
o-Terphenyl	84-15-1	127	%	70-135	11.06.2020 22:46	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH03 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-006	Date Collected:	11.04.2020 12:08	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.09.2020 10:00	% Moisture:	
Seq Number:	3141784			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.09.2020 20:24	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.09.2020 20:24	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.09.2020 20:24	U	1
m,p-Xylenes	179601-23-1	**0.0126**	0.00402	mg/kg	11.09.2020 20:24		1
o-Xylene	95-47-6	**0.00412**	0.00201	mg/kg	11.09.2020 20:24		1
Total Xylenes	1330-20-7	**0.0167**	0.00201	mg/kg	11.09.2020 20:24		1
Total BTEX		**0.0167**	0.00201	mg/kg	11.09.2020 20:24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	11.09.2020 20:24	
1,4-Difluorobenzene	540-36-3	96	%	70-130	11.09.2020 20:24	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-007	Date Collected:	11.04.2020 12:51	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**190**	10.1	mg/kg	11.06.2020 18:35		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.06.2020 13:03	% Moisture:	
Seq Number:	3141704			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.06.2020 23:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.06.2020 23:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.06.2020 23:06	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.06.2020 23:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	11.06.2020 23:06	
o-Terphenyl	84-15-1	121	%	70-135	11.06.2020 23:06	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-007	Date Collected:	11.04.2020 12:51	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.09.2020 10:00	% Moisture:	
Seq Number:	3141784			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.09.2020 20:46	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.09.2020 20:46	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.09.2020 20:46	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.09.2020 20:46	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.09.2020 20:46	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.09.2020 20:46	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.09.2020 20:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.09.2020 20:46	
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.09.2020 20:46	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH04 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-008	Date Collected:	11.04.2020 14:38	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**94.5**	10.0	mg/kg	11.06.2020 18:40		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.06.2020 13:03	% Moisture:	
Seq Number:	3141704			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.06.2020 23:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.06.2020 23:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.06.2020 23:26	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.06.2020 23:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	11.06.2020 23:26	
o-Terphenyl	84-15-1	116	%	70-135	11.06.2020 23:26	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH04 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-008	Date Collected:	11.04.2020 14:38	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.09.2020 10:00	% Moisture:	
Seq Number:	3141784			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.09.2020 21:08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.09.2020 21:08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.09.2020 21:08	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.09.2020 21:08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.09.2020 21:08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.09.2020 21:08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.09.2020 21:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.09.2020 21:08	
4-Bromofluorobenzene	460-00-4	108	%	70-130	11.09.2020 21:08	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH05**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-009	Date Collected:	11.04.2020 13:00	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2180**	49.9	mg/kg	11.06.2020 18:46		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.06.2020 13:03	% Moisture:	
Seq Number:	3141704			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.06.2020 23:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.06.2020 23:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.06.2020 23:47	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.06.2020 23:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	11.06.2020 23:47	
o-Terphenyl	84-15-1	125	%	70-135	11.06.2020 23:47	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH05**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-009	Date Collected:	11.04.2020 13:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.09.2020 10:00	% Moisture:	
Seq Number:	3141784			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.09.2020 21:31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.09.2020 21:31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.09.2020 21:31	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.09.2020 21:31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.09.2020 21:31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.09.2020 21:31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.09.2020 21:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	11.09.2020 21:31	
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.09.2020 21:31	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH05 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-010	Date Collected:	11.04.2020 13:04	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3370**	49.6	mg/kg	11.06.2020 18:51		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.06.2020 13:03	% Moisture:	
Seq Number:	3141704			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.07.2020 00:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.07.2020 00:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.07.2020 00:07	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.07.2020 00:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	132	%	70-135	11.07.2020 00:07	
o-Terphenyl	84-15-1	129	%	70-135	11.07.2020 00:07	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH05 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-010	Date Collected:	11.04.2020 13:04	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.09.2020 10:00	% Moisture:	
Seq Number:	3141784			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.09.2020 21:53	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.09.2020 21:53	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.09.2020 21:53	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	11.09.2020 21:53	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.09.2020 21:53	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	11.09.2020 21:53	U	1
Total BTEX		<0.00202	0.00202	mg/kg	11.09.2020 21:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.09.2020 21:53	
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.09.2020 21:53	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH06**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-011	Date Collected:	11.04.2020 13:22	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**119**	10.0	mg/kg	11.06.2020 19:07		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.09.2020 15:04	% Moisture:	
Seq Number:	3141880			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.10.2020 08:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.10.2020 08:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.10.2020 08:09	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.10.2020 08:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	11.10.2020 08:09	
o-Terphenyl	84-15-1	100	%	70-135	11.10.2020 08:09	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH06**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-011	Date Collected:	11.04.2020 13:22	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 16:27	% Moisture:	
Seq Number:	3141790			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.07.2020 06:38	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.07.2020 06:38	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.07.2020 06:38	U	1
m,p-Xylenes	179601-23-1	**0.00558**	0.00402	mg/kg	11.07.2020 06:38		1
o-Xylene	95-47-6	**0.00669**	0.00201	mg/kg	11.07.2020 06:38		1
Total Xylenes	1330-20-7	**0.0123**	0.00201	mg/kg	11.07.2020 06:38		1
Total BTEX		**0.0123**	0.00201	mg/kg	11.07.2020 06:38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	11.07.2020 06:38	
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.07.2020 06:38	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH06 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-012	Date Collected:	11.04.2020 14:33	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**165**	9.98	mg/kg	11.06.2020 19:13		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.09.2020 15:04	% Moisture:	
Seq Number:	3141880			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.10.2020 08:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.10.2020 08:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.10.2020 08:29	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.10.2020 08:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	11.10.2020 08:29	
o-Terphenyl	84-15-1	94	%	70-135	11.10.2020 08:29	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH06 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-012	Date Collected:	11.04.2020 14:33	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 16:27	% Moisture:	
Seq Number:	3141790			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.07.2020 07:01	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.07.2020 07:01	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.07.2020 07:01	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.07.2020 07:01	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.07.2020 07:01	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.07.2020 07:01	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.07.2020 07:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.07.2020 07:01	
4-Bromofluorobenzene	460-00-4	113	%	70-130	11.07.2020 07:01	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH07**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-013	Date Collected:	11.04.2020 13:42	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	11.06.2020 19:18	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.09.2020 15:04	% Moisture:	
Seq Number:	3141880			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.10.2020 08:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.10.2020 08:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.10.2020 08:49	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.10.2020 08:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	11.10.2020 08:49	
o-Terphenyl	84-15-1	98	%	70-135	11.10.2020 08:49	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH07**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-013	Date Collected:	11.04.2020 13:42	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 16:27	% Moisture:	
Seq Number:	3141790			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.07.2020 07:23	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.07.2020 07:23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.07.2020 07:23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.07.2020 07:23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.07.2020 07:23	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.07.2020 07:23	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.07.2020 07:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	11.07.2020 07:23	
1,4-Difluorobenzene	540-36-3	107	%	70-130	11.07.2020 07:23	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH07 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-014	Date Collected:	11.04.2020 13:44	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.0**	9.94	mg/kg	11.06.2020 19:35		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.09.2020 15:04	% Moisture:	
Seq Number:	3141880			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.10.2020 09:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.10.2020 09:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.10.2020 09:09	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.10.2020 09:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	11.10.2020 09:09	
o-Terphenyl	84-15-1	92	%	70-135	11.10.2020 09:09	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH07 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-014	Date Collected:	11.04.2020 13:44	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 16:27	% Moisture:	
Seq Number:	3141790			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.07.2020 07:45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.07.2020 07:45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.07.2020 07:45	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.07.2020 07:45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.07.2020 07:45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.07.2020 07:45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.07.2020 07:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	11.07.2020 07:45	
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.07.2020 07:45	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH08**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-015	Date Collected:	11.04.2020 13:53	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**453**	9.98	mg/kg	11.06.2020 19:40		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.09.2020 15:04	% Moisture:	
Seq Number:	3141880			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.10.2020 09:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.10.2020 09:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.10.2020 09:29	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.10.2020 09:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	11.10.2020 09:29	
o-Terphenyl	84-15-1	118	%	70-135	11.10.2020 09:29	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH08**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-015	Date Collected:	11.04.2020 13:53	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 16:27	% Moisture:	
Seq Number:	3141790			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.07.2020 08:08	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.07.2020 08:08	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.07.2020 08:08	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.07.2020 08:08	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.07.2020 08:08	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	11.07.2020 08:08	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.07.2020 08:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.07.2020 08:08	
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.07.2020 08:08	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH08 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-016	Date Collected:	11.04.2020 14:29	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.7**	9.98	mg/kg	11.06.2020 19:46		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.09.2020 15:04	% Moisture:	
Seq Number:	3141880			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.10.2020 09:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.10.2020 09:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.10.2020 09:49	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.10.2020 09:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	11.10.2020 09:49	
o-Terphenyl	84-15-1	112	%	70-135	11.10.2020 09:49	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH08 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-016	Date Collected:	11.04.2020 14:29	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 16:27	% Moisture:	
Seq Number:	3141790			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.07.2020 08:30	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.07.2020 08:30	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.07.2020 08:30	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.07.2020 08:30	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.07.2020 08:30	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.07.2020 08:30	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.07.2020 08:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.07.2020 08:30	
4-Bromofluorobenzene	460-00-4	119	%	70-130	11.07.2020 08:30	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH09**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-017	Date Collected:	11.04.2020 14:14	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.5**	10.0	mg/kg	11.06.2020 19:51		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.09.2020 15:04	% Moisture:	
Seq Number:	3141880			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.10.2020 10:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.10.2020 10:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.10.2020 10:09	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.10.2020 10:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	11.10.2020 10:09	
o-Terphenyl	84-15-1	102	%	70-135	11.10.2020 10:09	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH09**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-017	Date Collected:	11.04.2020 14:14	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 16:27	% Moisture:	
Seq Number:	3141790			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.07.2020 08:53	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.07.2020 08:53	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.07.2020 08:53	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	11.07.2020 08:53	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.07.2020 08:53	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	11.07.2020 08:53	U	1
Total BTEX		<0.00202	0.00202	mg/kg	11.07.2020 08:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	11.07.2020 08:53	
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.07.2020 08:53	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH09 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-018	Date Collected:	11.04.2020 14:16	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 14:38	% Moisture:	
Seq Number:	3141709			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10.5**	9.96	mg/kg	11.06.2020 19:57		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.09.2020 15:04	% Moisture:	
Seq Number:	3141880			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.10.2020 10:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.10.2020 10:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.10.2020 10:30	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.10.2020 10:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	11.10.2020 10:30	
o-Terphenyl	84-15-1	116	%	70-135	11.10.2020 10:30	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 677117

LT Environmental, Inc., Arvada, CO

Long Tall Sally #1

Sample Id:	**BH09 A**	Matrix:	Soil	Date Received:	11.06.2020 11:15
Lab Sample Id:	677117-018	Date Collected:	11.04.2020 14:16	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.06.2020 16:27	% Moisture:	
Seq Number:	3141790			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.07.2020 09:15	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.07.2020 09:15	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.07.2020 09:15	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.07.2020 09:15	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.07.2020 09:15	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	11.07.2020 09:15	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.07.2020 09:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	11.07.2020 09:15	
1,4-Difluorobenzene	540-36-3	107	%	70-130	11.07.2020 09:15	

eurofins | Environment Testing Xenco

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 677117

eurofins | Environment Testing Xenco

LT Environmental, Inc.

Long Tall Sally #1

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141709 — Matrix: Solid — Date Prep: 11.06.2020
MB Sample Id: 7714673-1-BLK — LCS Sample Id: 7714673-1-BKS — LCSD Sample Id: 7714673-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	258	103	253	101	90-110	2	20	mg/kg	11.06.2020 17:18	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141709 — Matrix: Soil — Date Prep: 11.06.2020
Parent Sample Id: 677115-001 — MS Sample Id: 677115-001 S — MSD Sample Id: 677115-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	96.6	200	301	102	316	110	90-110	5	20	mg/kg	11.06.2020 17:40	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141709 — Matrix: Soil — Date Prep: 11.06.2020
Parent Sample Id: 677117-010 — MS Sample Id: 677117-010 S — MSD Sample Id: 677117-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3370	200	3560	95	3560	94	90-110	0	20	mg/kg	11.06.2020 18:56	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141704 — Matrix: Solid — Date Prep: 11.06.2020
MB Sample Id: 7714688-1-BLK — LCS Sample Id: 7714688-1-BKS — LCSD Sample Id: 7714688-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	907	91	898	90	70-135	1	35	mg/kg	11.06.2020 15:58	
Diesel Range Organics (DRO)	<50.0	1000	992	99	950	95	70-135	4	35	mg/kg	11.06.2020 15:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		107		120		70-135	%	11.06.2020 15:58
o-Terphenyl	89		96		92		70-135	%	11.06.2020 15:58

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141880 — Matrix: Solid — Date Prep: 11.09.2020
MB Sample Id: 7714835-1-BLK — LCS Sample Id: 7714835-1-BKS — LCSD Sample Id: 7714835-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1120	112	1100	110	70-135	2	35	mg/kg	11.09.2020 16:20	
Diesel Range Organics (DRO)	<50.0	1000	1220	122	1220	122	70-135	0	35	mg/kg	11.09.2020 16:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		128		118		70-135	%	11.09.2020 16:20
o-Terphenyl	123		119		120		70-135	%	11.09.2020 16:20

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

eurofins | Environment Testing Xenco

QC Summary 677117

LT Environmental, Inc.

Long Tall Sally #1

Analytical Method: TPH By SW8015 Mod
Seq Number: 3141704
Matrix: Solid
MB Sample Id: 7714688-1-BLK
Prep Method: SW8015P
Date Prep: 11.06.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.06.2020 15:38	

Analytical Method: TPH By SW8015 Mod
Seq Number: 3141880
Matrix: Solid
MB Sample Id: 7714835-1-BLK
Prep Method: SW8015P
Date Prep: 11.09.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.09.2020 16:00	

Analytical Method: TPH By SW8015 Mod
Seq Number: 3141704
Matrix: Soil
Parent Sample Id: 677081-001
MS Sample Id: 677081-001 S
MSD Sample Id: 677081-001 SD
Prep Method: SW8015P
Date Prep: 11.06.2020

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	958	96	895	90	70-135	7	35	mg/kg	11.06.2020 16:59	
Diesel Range Organics (DRO)	1620	999	2700	108	2500	88	70-135	8	35	mg/kg	11.06.2020 16:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		126		70-135	%	11.06.2020 16:59
o-Terphenyl	125		120		70-135	%	11.06.2020 16:59

Analytical Method: TPH By SW8015 Mod
Seq Number: 3141880
Matrix: Soil
Parent Sample Id: 677115-001
MS Sample Id: 677115-001 S
MSD Sample Id: 677115-001 SD
Prep Method: SW8015P
Date Prep: 11.09.2020

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	996	928	93	924	91	70-135	0	35	mg/kg	11.09.2020 17:21	
Diesel Range Organics (DRO)	<49.8	996	912	92	943	93	70-135	3	35	mg/kg	11.09.2020 17:21	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		99		70-135	%	11.09.2020 17:21
o-Terphenyl	94		112		70-135	%	11.09.2020 17:21

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

eurofins | Environment Testing Xenco

QC Summary 677117

LT Environmental, Inc.

Long Tall Sally #1

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3141790 — Matrix: Solid — Date Prep: 11.06.2020
MB Sample Id: 7714690-1-BLK — LCS Sample Id: 7714690-1-BKS — LCSD Sample Id: 7714690-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0934	93	0.0944	94	70-130	1	35	mg/kg	11.07.2020 04:11	
Toluene	<0.00200	0.100	0.0881	88	0.0877	88	70-130	0	35	mg/kg	11.07.2020 04:11	
Ethylbenzene	<0.00200	0.100	0.0902	90	0.0902	90	71-129	0	35	mg/kg	11.07.2020 04:11	
m,p-Xylenes	<0.00400	0.200	0.184	92	0.183	92	70-135	1	35	mg/kg	11.07.2020 04:11	
o-Xylene	<0.00200	0.100	0.0904	90	0.0906	91	71-133	0	35	mg/kg	11.07.2020 04:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		99		99		70-130	%	11.07.2020 04:11
4-Bromofluorobenzene	107		105		109		70-130	%	11.07.2020 04:11

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3141784 — Matrix: Solid — Date Prep: 11.09.2020
MB Sample Id: 7714666-1-BLK — LCS Sample Id: 7714666-1-BKS — LCSD Sample Id: 7714666-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0967	97	0.100	100	70-130	3	35	mg/kg	11.09.2020 10:53	
Toluene	<0.00200	0.100	0.0762	76	0.0790	79	70-130	4	35	mg/kg	11.09.2020 10:53	
Ethylbenzene	<0.00200	0.100	0.0952	95	0.0993	99	71-129	4	35	mg/kg	11.09.2020 10:53	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.201	101	70-135	4	35	mg/kg	11.09.2020 10:53	
o-Xylene	<0.00200	0.100	0.0950	95	0.0988	99	71-133	4	35	mg/kg	11.09.2020 10:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		100		99		70-130	%	11.09.2020 10:53
4-Bromofluorobenzene	102		103		103		70-130	%	11.09.2020 10:53

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3141790 — Matrix: Soil — Date Prep: 11.06.2020
Parent Sample Id: 677115-001 — MS Sample Id: 677115-001 S — MSD Sample Id: 677115-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0712	72	0.0884	89	70-130	22	35	mg/kg	11.07.2020 04:56	
Toluene	<0.00198	0.0992	0.0708	71	0.0819	82	70-130	15	35	mg/kg	11.07.2020 04:56	
Ethylbenzene	<0.00198	0.0992	0.0725	73	0.0854	86	71-129	16	35	mg/kg	11.07.2020 04:56	
m,p-Xylenes	<0.00397	0.198	0.149	75	0.177	89	70-135	17	35	mg/kg	11.07.2020 04:56	
o-Xylene	<0.00198	0.0992	0.0767	77	0.0878	88	71-133	13	35	mg/kg	11.07.2020 04:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		98		70-130	%	11.07.2020 04:56
4-Bromofluorobenzene	110		108		70-130	%	11.07.2020 04:56

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

eurofins | Environment Testing Xenco

QC Summary 677117

LT Environmental, Inc.

Long Tall Sally #1

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3141784 Matrix: Soil Date Prep: 11.09.2020

Parent Sample Id: 677081-001 MS Sample Id: 677081-001 S MSD Sample Id: 677081-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0982	99	0.0833	83	70-130	16	35	mg/kg	11.09.2020 12:23	
Toluene	<0.00199	0.0994	0.0776	78	0.0735	74	70-130	5	35	mg/kg	11.09.2020 12:23	
Ethylbenzene	<0.00199	0.0994	0.0997	100	0.0876	88	71-129	13	35	mg/kg	11.09.2020 12:23	
m,p-Xylenes	<0.00398	0.199	0.203	102	0.159	80	70-135	24	35	mg/kg	11.09.2020 12:23	
o-Xylene	0.00294	0.0994	0.0989	97	0.0788	76	71-133	23	35	mg/kg	11.09.2020 12:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		99		70-130	%	11.09.2020 12:23
4-Bromofluorobenzene	103		113		70-130	%	11.09.2020 12:23

MS/MSD Percent Recovery	[D] = 100*(C-A) / B	LCS = Laboratory Control Sample	MS = Matrix Spike
Relative Percent Difference	RPD = 200* | (C-E) / (C+E) |	A = Parent Result	B = Spike Added
LCS/LCSD Recovery	[D] = 100 * (C) / [B]	C = MS/LCS Result	D = MSD/LCSD % Rec
Log Difference	Log Diff. = Log(Sample Duplicate) - Log(Original Sample)	E = MSD/LCSD Result	

Page 102 of 106

Chain of Custody

Work Order No: 677117

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Alpers
Company Name:	LT Environmental, Inc., Permian office	Company Name:	Aarmstrong Energy Corp
Address:	3300 North A St. Bldg 1, Unit 222	Address:	P.O. Box 1973
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Roswell, NM
Phone:	(432) 701-2610 Email:		dan.moir@wsp.com robert.mcafee@wsp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project: NM
Reporting:Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Long Tall Sally #1	Turn Around	
Project Number:	106520001	Routine	X
P.O. Number:		Rush:	
Sampler's Name:	Robert McAfee	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	1.6/1.4	Thermometer ID		
Received Intact:	Yes No	T-NM-002		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:	18	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
BH01	s	11/4/2020	9:53	1	1	x	x	x	Discrete
BH01A	s	11/4/2020	14:25	6	1	x	x	x	Discrete
BH02	s	11/4/2020	11:24	1	1	x	x	x	Discrete
BH02A	s	11/4/2020	11:33	4	1	x	x	x	Discrete
BH03	s	11/4/2020	12:02	1	1	x	x	x	Discrete
BH03A	s	11/4/2020	12:08	3.5	1	x	x	x	Discrete
BH04	s	11/4/2020	12:51	2	1	x	x	x	Discrete
BH04A	s	11/4/2020	14:38	6	1	x	x	x	Discrete
BH05	s	11/4/2020	13:00	1	1	x	x	x	Discrete
BH05A	s	11/4/2020	13:04	3	1	x	x	x	Discrete

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Cloe Cuttes	11.6.20 1115	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Received by OCD: 3/22/2021 9:29:31 AM
Released to Imaging: 3/30/2021 1:17:46 PM
Final 1.000
Page 49 of 51

Page 103 of 106

Chain of Custody

Work Order No: 677117

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Alpers
Company Name:	LT Environmental, Inc., Permian office	Company Name:	Aarmstrong Energy Corp
Address:	3300 North A St. Bldg 1, Unit 222	Address:	P.O. Box 1973
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Roswell, NM
Phone:	(432) 701-2610	Email:	dan.moir@wsp.com robert.mcafee@wsp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project: NM
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Long Tall Sally #1	Turn Around	
Project Number:	106520001	Routine	X
P.O. Number:		Rush:	
Sampler's Name:	Robert McAfee	Due Date:	

SAMPLE RECEIPT				
Temperature (°C):	1-6/1.4	Temp Blank:	Yes No	Wet Ice: Yes No
Received Intact:	Yes No	Thermometer ID	See Page 1	
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Work Order Notes / Sample Comments
BH06	s	11/4/2020	13:22	1	1	x	x	x	Discrete
BH06A	s	11/4/2020	14:33	6	1	x	x	x	Discrete
BH07	s	11/4/2020	13:42	1	1	x	x	x	Discrete
BH07A	s	11/4/2020	13:44	2	1	x	x	x	Discrete
BH08	s	11/4/2020	13:53	1	1	x	x	x	Discrete
BH08A	s	11/4/2020	14:29	6	1	x	x	x	Discrete
BH09	s	11/4/2020	14:14	0.5	1	x	x	x	Discrete
BH09A	s	11/4/2020	14:16	1	1	x	x	x	Discrete

ANALYSIS REQUEST

TAT starts the day recevied by the lab, if received by 4:30pm

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Robert McAfee	Clue Cuffee	11.6.20 1115	2		
			4		
			6		

Received by OCD: 3/22/2021 9:29:31 AM
Page 50 of 51
Final 1.000
Released to Imaging: 3/30/2021 1:17:46 PM

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11.06.2020 11.15.00 AM

Work Order #: 677117

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T_NM_007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 Custody Seals intact on sample bottles?	**Yes**	
#6*Custody Seals Signed and dated?	**Yes**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	Samples received in bulk containers.
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**No**	
#18 Water VOC samples have zero headspace?	**N/A**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 11.06.2020

Checklist reviewed by: Jessica Kramer Date: 11.10.2020

Jessica Kramer

ATTACHMENT 5: [ADD TITLE]

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 19435

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
ARMSTRONG ENERGY CORP	P.O. Box 1973	Roswell, NM88202	1092	19435	C-141

OCD Reviewer	Condition
chensley	None