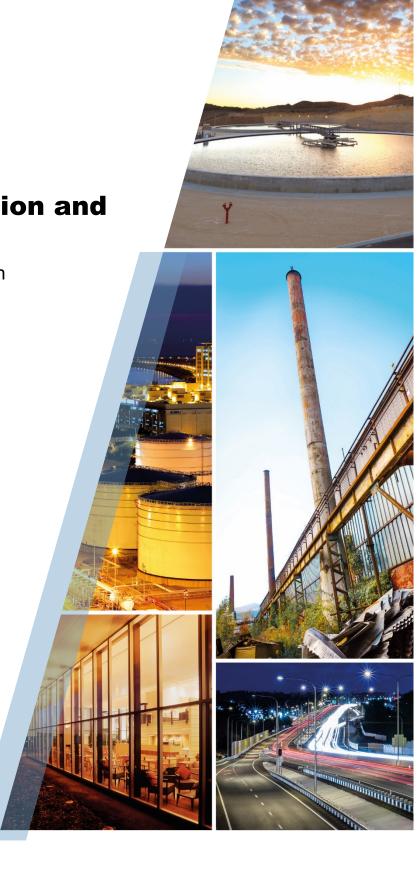


Site Characterization and Closure Report

Rattlesnake SWD Pump Station Produced Water Release Lea County, New Mexico

Lucid Energy Group





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#### 1. Introduction

GHD is pleased to present this Soil Characterization and Site Closure Report to Lucid Energy Group (Lucid) for the Rattlesnake SWD Pump Station release location (hereafter referred to as the "Site"). The Site is located in Unit P, Section 16, Township 26 South, Range 34 East, approximately 17 miles southwest of Jal, in southern Lea County, New Mexico (refer to Figure 1). The Site is on land administered by the United States Bureau of Land Management.

# 2. Project Information and Background

Lucid submitted an initial C-141 Form to the NMOCD dated August 15, 2019, describing a release of 15 to 20 barrels (bbls) produced water with zero volume being recovered; stating the cause of the release as, "Flange on pumping station failed causing the release of water." The C141 Release Notification is included in Appendix B. At this writing, NMOCD has not provided a Remediation Permit number for this release.

Following discovery of the release, Lucid immediately performed surface soil remediation activities. Initial assessment included a site visit, photograph collection, and a preliminary inspection of impacts to the surrounding environment. Photographs of the site are included in Appendix C. GHD conducted follow-up site characterization activities on August 16, 2019.

#### 3. NMOCD Closure Criteria for Soils

Subsurface investigation activities were completed in accordance with the 19.15.29 New Mexico Administrative Code (NMAC) from the New Mexico Oil Conservation Division (NMOCD) dated August 14, 2018.

The following criteria from Table 1 (below) within NMAC 19.15.29.12 was utilized to determine site-specific screening limits.

Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/l TDS	Constituent	Limit*
51 feet-100 feet	Chloride*	10,000 mg/kg
	TPH (GRO+DRO+M	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

<sup>\*</sup> This applies to releases of produced water or other fluids, which may contain chloride.

Based on the most current data listed within the New Mexico Office of the State Engineer (NMOSE) and U.S. Geological Survey's (USGS) groundwater databases, the nearest wells with a recorded depth to groundwater indicate a depth of over 100 feet (ft.) below ground surface (bgs). The NMOSE and USGS wells are over 1 mile from the site. A depth to groundwater of over 100 feet bgs is also



interpreted from Chevron Texaco groundwater trend maps. Groundwater is therefore interpreted to be greater than 100 ft. bgs, however, a Site-specific depth is not known. Therefore, a conservative 51 to 100 feet screening criteria was utilized for this assessment. Additionally, information available from the USGS National Map concludes:

- a) the depth to groundwater at the Site is believed greater than 100-feet bgs;
- b) the site is not within 300 feet of any continuously flowing watercourse;
- c) the site is not within 200 feet of any lakebed, sinkhole or playa lake;
- d) the site is not within 300 feet of an occupied permanent residence, school, etc.;
- e) the site is not within 500 feet of a spring or private, domestic fresh water well;
- f) the site is not within 1,000 feet of a fresh water well or spring;
- g) the site is not within incorporated municipal boundaries or within a defined municipal fresh water well field;
- h) the site is not within 300 feet of a wetland;
- i) the site is not within an area overlying a subsurface mine;
- j) the site is not within an unstable area; and
- k) the site is not within a 100-year floodplain.

Consequently, the anticipated site-specific screening limits to be applied to this location by the NMOCD based on the NMAC 19.15.29.12 are 10 mg/kg for benzene, 50 mg/kg for total BTEX, 2,500 mg/kg for total TPH, and 10,000 mg/kg for chloride. A list of surrounding wells with reported depth to groundwater, obtained from the NMOSE New Mexico Water Rights Reporting System database and USGS National Water Information System Mapper is included in Appendix A.

Per 19.15.29.13, Restoration, Reclamation, and Re-vegetation, the impacted area must be remediated a minimum of 4-feet bgs with non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg. Soil cover must consist of topsoil at a thickness comparable to background topsoil thicknesses, or one foot of suitable earthen material capable of establishing and maintaining vegetation at the site. Reclamation is considered complete when all disturbed areas have established vegetative cover with a life-form ratio of plus or minus 50 percent of pre-remedial levels, and plant cover of a minimum of 70 percent of previous levels, excluding noxious weeds.

#### 4. Soil Assessment and Remediation

The initial Site assessment sampling was conducted by Lucid on August 14, 2019. Lucid hand augured and collected samples in the center, and four cardinal directions of the spill footprint. The center sample (HA-C-12) was collected at a depth of 12-inches below ground surface (bgs) and the remaining samples at 6-inches bgs. Samples were submitted to Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico. All samples were analyzed for chloride concentrations by EPA Method 300. Sample HA-C-12 was also analyzed for total petroleum hydrocarbons (TPH) by EPA method 8015 and for benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA method 8021.



GHD conducted additional field assessment activities at the Site on August 16, 2019. Backhoe test pits were excavated on the north and south ends of the visibly stained release area. A third test pit, TP-3 was also dug to the west of the release area and west of Lucid's gas and water lines. Background sample BG-1 was collected in pasture east of the release are, between the Targa gas line east of the release area and the access road. Samples were collected at depths of 1 and 3 feet (ft.) bgs (except BG-1, collected at 1 ft. only) and field screened using HACH test kits. Test pit locations are depicted on Figure 2.

GHD returned on August 23, 2019 to oversee the Lucid contractor during a surface scraping of impacted soils. The contractor scraped an area of approximate dimensions of 70 ft. by 70 feet to a depth of 6 to 8 inches. The impacted soils were hauled away for off Site disposal. An attempt was also made to dig additional test pits, however, the equipment on Site could not dig beyond 3.5 feet through the caliche.

On August 26, the Lucid contractor dug test pits TP-4 and TP-5. Samples were collected at depths of 6 ft. and 10 ft. bgs and field screened for chlorides. Samples were also submitted to Hall for chloride analysis. All samples were below the LRL. It is therefore evident from these results that impacts from the small release did not penetrate below 3 to 4 ft. bgs across the Site.

Lucid ultimately excavated an area depicted in Figure 2 representing approximately 360 cubic yards (cy) of impacted soils. The remediated area was excavated generally to a depth of 4 ft. bgs. Five point composite confirmation soil samples were collected from each of the four sidewalls of the excavation and submitted for chloride laboratory analysis. The red shaded area in the figure was not excavated due to production equipment including the pump, generator and electrical panel. A deferral from remediation for this area will be requested. Disposal manifests for removed soils are included in Appendix C. Photographs of the Site equipment/deferral area and excavation are included in Appendix D.

Because the Site equipment is not housed in a fenced, secure facility, the excavated area has been backfilled with clean imported fill material.

#### 4.1 Soil Sampling Analytical Results

Soil analytical summary results from the Site assessment are presented in Table 1. A Release Assessment map is presented as Figure 2.

- Chloride concentrations from hand augured samples (8/14/2019) ranged from 3,800 milligrams per kilogram (mg/kg) at HA-S-6 to 6,800 mg/kg (HA-C-12). Results for TPH and BTEX were at concentrations below the laboratory reporting limit (LRL), or, non-detect.
- Field screening results from TP-1 and TP-2 at 1 to 3 ft. bgs were generally over range so samples were not submitted for laboratory analysis. The TP-3 and BG-1 samples were submitted to Hall for chloride analysis. These results were all less that the LRL.
- Laboratory results for samples collected from TP-4 and TP-5 and 6 ft. and 10 ft. bgs were at concentrations below the LRL.



Excavation sidewall confirmation sample results were all below the LRL.
 Soils laboratory analytical reports are included in Appendix E.

# 5. Deferral and Site Closure Requests

Evaluation of the analytical data obtained from soil assessment and delineation activities performed in August and September 2019 indicate horizontal and vertical delineation of chloride, BTEX, and TPH impacts has been achieved at the Site in accordance with 19.15.29 NMAC. Though none of the soil samples submitted for laboratory analyses were above the NMAC Table 1 closure criteria for the Site, as a precaution, Lucid excavated approximately 360 cy of soil for off Site disposal. The excavation has been backfilled with clean, imported fill material as a safety precaution because the site is not fenced. Lucid requests to postpone additional remediation efforts in the deferral area until any future Site alteration or final abandonment activities. GHD and Lucid do not believe deferment will result in imminent risk to human health, the environment or the groundwater. The majority of the impacted soil material has been excavated and transported off-site for disposal.

GHD and Lucid therefore request no further action for this release described herein.

Submitted by:

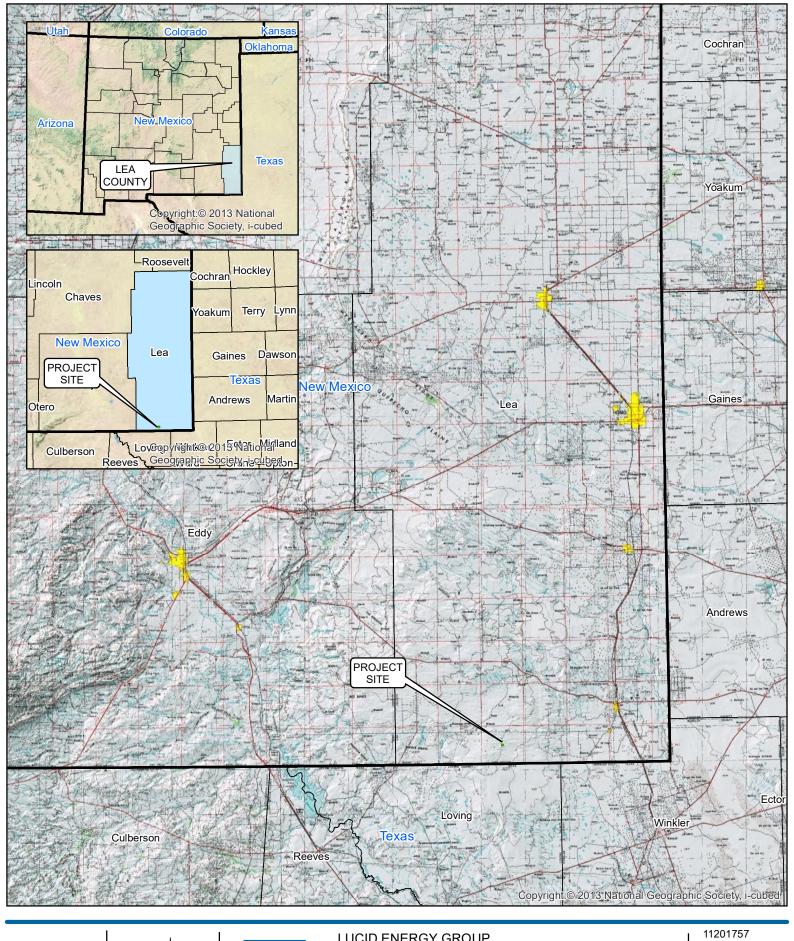
GHD Services, Inc.

Jeff Walker, Project Manager

Tom Larson, P.G., Operations Manager

Thomas Clayon

**Figures** 



Coordinate System: WGS 1984 UTM Zone 13N



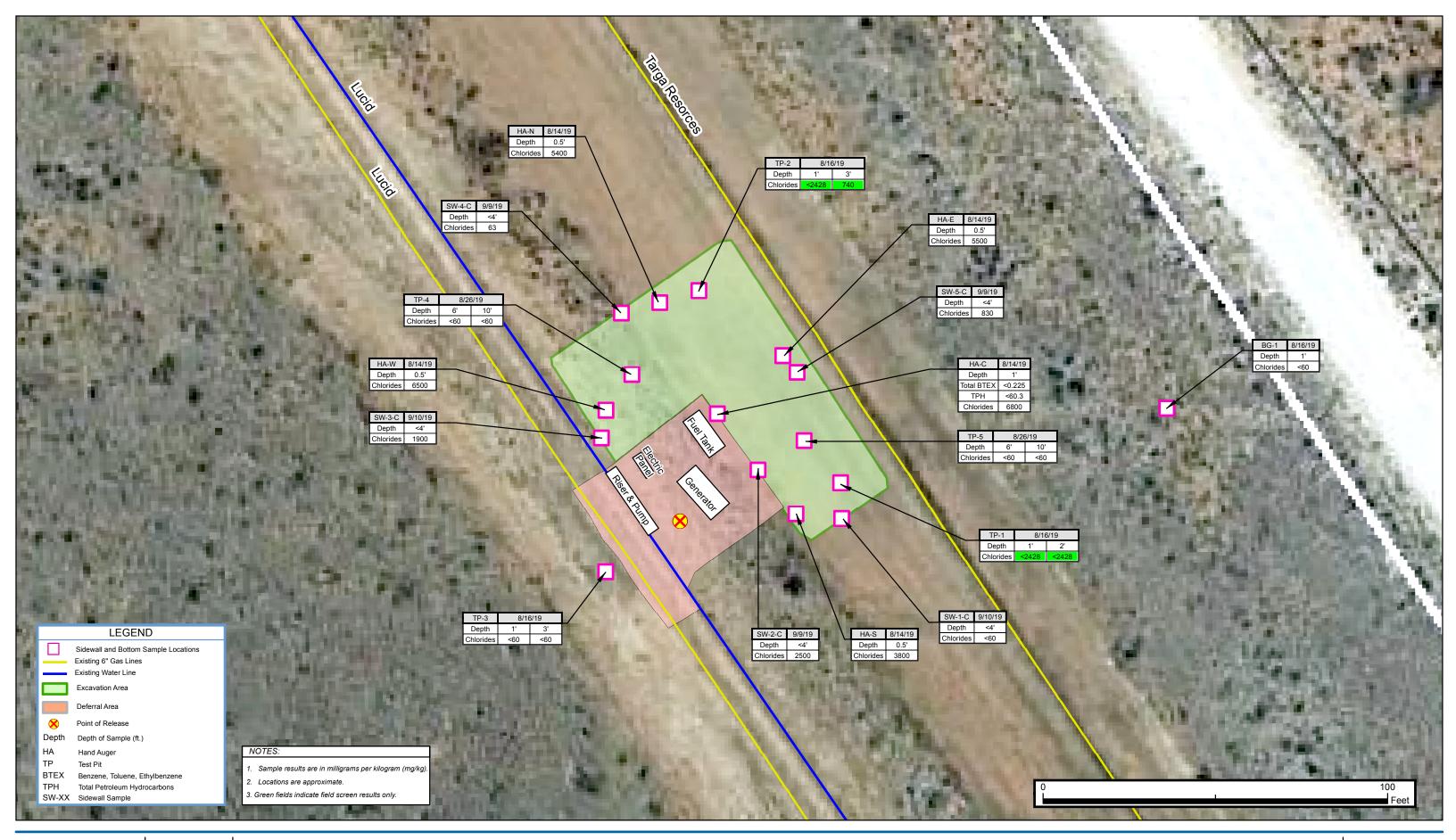
LUCID ENERGY GROUP RATTLESNAKE SWD LEA COUNTY, NM

SITE MAP

32.0388N 103.4665W

Sep 25, 2019

FIGURE 1



32.0387°N 103.4665°W

Coordinate System: WGS 1984 UTM Zone 13N



LUCID ENERGY GROUP RATTLESNAKE SWD LEA COUNTY, NM

RELEASE ASSESSMENT

11201757 Oct 8, 2019

FIGURE 2

# Table

Table 1					
Rattlesnake SWD Pump Station - Summary of Soil Analytical Data					

Sample ID	Depth (feet)	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	втех	TPH (GRO)	TPH (DRO)	TPH (MRO)	Total TPH	Chloride	Chloride Field Screen (mg/L
HA-S-6"	0.5	8/14/2019	NA	NA	NA	NA		NA	NA	NA		3800	NA
HA-C-12"	1	8/14/2019	<0.025	<0.050	<0.050	<0.10	<0.225	<5.0	<9.3	<46	<60.3	6800	NA
HA-E-6"	0.5	8/14/2019	NA	NA	NA	NA		NA	NA	NA		5500	NA
HA-N-6"	0.5	8/14/2019	NA	NA	NA	NA		NA	NA	NA	-	5400	NA
HA-W-6"	0.5	8/14/2019	NA	NA	NA	NA		NA	NA	NA	-	6500	NA
TP-1-1	1	8/16/2019	NA	NA	NA	NA		NA	NA	NA		NA	<2428
TP-1-3	2	8/16/2019	NA	NA	NA	NA		NA	NA	NA		NA	<2428
TP-2-1	1	8/16/2019	NA	NA	NA	NA		NA	NA	NA		NA	<2428
TP-2-3	3	8/16/2019	NA	NA	NA	NA		NA	NA	NA		NA	740
TP-3-1	1	8/16/2019	NA	NA	NA	NA		NA	NA	NA		<60	<114
TP-3-3	3	8/16/2019	NA	NA	NA	NA		NA	NA	NA		<60	<114
B-G-1	1	8/16/2019	NA	NA	NA	NA		NA	NA	NA		<60	<108
TP-4-6	6	8/26/2019	NA	NA	NA	NA		NA	NA	NA		<60	<114
TP-4-10	10	8/26/2019	NA	NA	NA	NA		NA	NA	NA		<60	<298
TP-5-6	6	8/26/2019	NA	NA	NA	NA		NA	NA	NA		<60	<298
TP-5-10	10	8/26/2019	NA	NA	NA	NA		NA	NA	NA		<60	<298
SW-1-C	1-4	9/10/2019	NA	NA	NA	NA		NA	NA	NA		<60	<108
SW-2-C	1-4	9/9/2019	NA	NA	NA	NA		NA	NA	NA		2500	<2428
SW-3-C	1-4	9/10/2019	NA	NA	NA	NA		NA	NA	NA		1900	NA
SW-4-C	1-4	9/9/2019	NA	NA	NA	NA		NA	NA	NA		63	<108
SW-5-C	1-4	9/9/2019	NA	NA	NA	NA		NA	NA	NA		830	556
NMOCD Table 1 C	losure Limits		10		Total B	TEX: 50			Total TF	PH: 2,500		20,000	

Notes:

All sample results are in milligrams per kilogram

NMOCD = New Mexico Oil Conservation Division

Table 1 Closure Limits = In accordance with 19.15.29 Release Rule NA = Not Analyzed

BTEX =Benzene, Toluene, Ethylbenzene, Xylenes

TPH = Total Petroleum Hydrocarbons

GRO = Gasoline Range Organics

DRO = Diesel Range Organics

MRO = Motor Oil Range Organics

**Appendices** GHD | Lucid Energy Group - Soil Assessment Report | 11201757 (01)

# Appendix A NMOSE Water Well Survey



# New Mexico Office of the State Engineer

# **Point of Diversion Summary**

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag POD Number Q64 Q16 Q4 Sec Tws Rng

C 02295 2 2 4 12 26S 33E

25. 25.455104

639850 3547710\*

**Driller License:** 122 **Driller Company:** UNKNOWN

**Driller Name:** UNKNOWN

Drill Start Date: Drill Finish Date: 12/31/1949 Plug Date: Log File Date: PCW Rcv Date: Source:

Pump Type:Pipe Discharge Size:Estimated Yield:12 GPMCasing Size:8.00Depth Well:250 feetDepth Water:200 feet

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, or suitability for any particular purpose of the data.

9/10/19 2:38 PM

POINT OF DIVERSION SUMMARY

<sup>\*</sup>UTM location was derived from PLSS - see Help



#### **National Water Information System: Web Interface**

USGS Water Resources	Data Category:	Geographic Area:		
osos water resources	Groundwater	▼ 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 =

• 320419103302201

#### Minimum number of levels = 1

Save file of selected sites to local disk for future upload

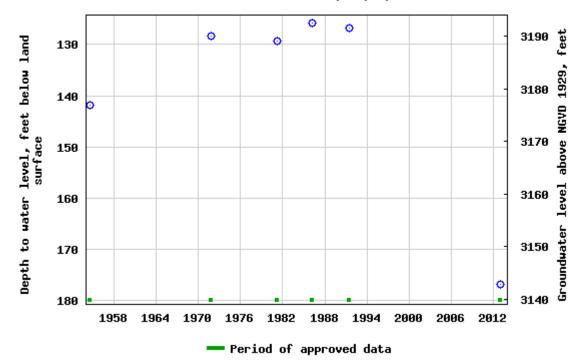
#### USGS 320419103302201 26S.34E.06.21414

Available data for this site	Groundwater:	Field measurements	; ▼	GO			
Lea County, New Mexico							
Hydrologic Unit Code 13070007							
Latitude 32°04'37.9", Longitude 103°30'20.5" NAD83							
Land-surface elevation 3,319.00 feet above NGVD29							
The depth of the well is 360 feet below land surface.							
This well is completed in the	າe Chinle Fo	rmation (231Ch	HNL)	local a	aquifer.		

#### **Output formats**

<u>Table of data</u>	
<u>Tab-separated data</u>	
Graph of data	
Reselect period	

#### USGS 320419103302201 265,34E,06,21414



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

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

Accessibility Plug-Ins FOIA Privacy Policies and Notices

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

**Title: Groundwater for USA: Water Levels** 

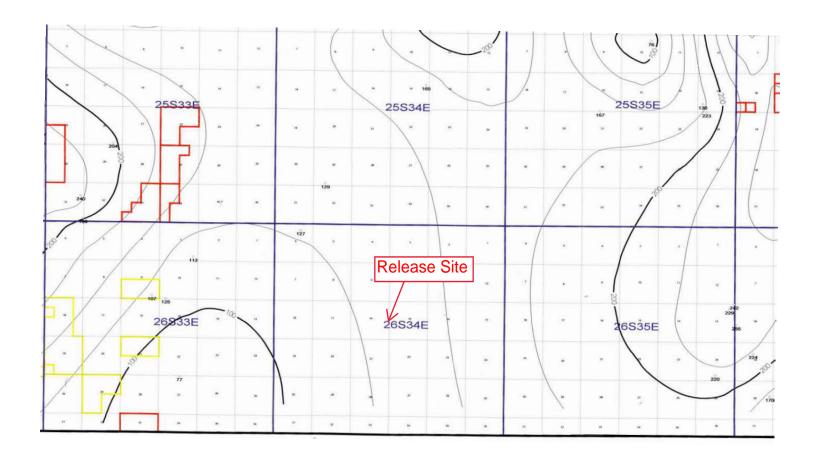
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: <u>USGS Water Data Support Team</u>

Page Last Modified: 2019-09-10 17:12:27 EDT

1.04 0.93 nadww01





**Appendix B C-141 Final** 

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	
District RP	
Facility ID	
Application ID	

# **Release Notification**

# **Responsible Party**

Responsible	Party Luci	d Energy Delav	ware, LLC	OGRID	372422		
Contact Nam	<sup>ne</sup> Michae	l Gant		Contact Te	elephone 575.748.4555		
Contact emai	<sup>il</sup> Mgant@	Dlucid-energy.c	om	Incident #	(assigned by OCD)		
Contact mail	ing address	201 South 4th	Street, Artesia,	, NM 88210			
			Location	of Release So	Durce		
Latitude 32	2.038807°	•		Longitude '	-103.466545°		
			(NAD 83 in dec	imal degrees to 5 decim	nal places)		
Site Name	Rattlesnak	ke SWD Pump	Station	Site Type	Produced water pump stati	on	
Date Release	Discovered	8-7-2019		API# (if app			
	1						
Unit Letter	Section	Township	Range	Coun	ıty		
Р	16	26S	34E	Lea			
Surface Owner	r: State	Federal Tı	ribal	<sub>Jame:</sub> Bureau o	f Land Management	)	
			Nature and	Volume of I	Release		
				calculations or specific	justification for the volumes provided bel	ow)	
Crude Oil		Volume Release			Volume Recovered (bbls)		
☑ Produced	Water	Volume Release	ed (bbls) 15-20 b	bls	Volume Recovered (bbls)		
		in the produced	tion of total dissolv water >10,000 mg/	, ,	Yes No		
Condensa	ite	Volume Release	ed (bbls)		Volume Recovered (bbls)		
Natural G	ias	Volume Release	ed (Mcf)		Volume Recovered (Mcf)		
Other (describe) Volume/Weight Released (provide units				units)	Volume/Weight Recovered (pro	ovide units)	
Cause of Rel	ease						
		ing station fail	ed causing the	e release of wa	ater.		
			· ·				

# State of New Mexico Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the respon-	sible party consider this a major release?					
☐ Yes ☑ No							
If YES, was immediate no	otice given to the OCD? By whom? To who	om? When and by what means (phone, email, etc)?					
	Initial Re	sponse					
The responsible p	party must undertake the following actions immediately	unless they could create a safety hazard that would result in injury					
☐ The source of the rele	ase has been stopped.						
✓ The impacted area has	s been secured to protect human health and t	he environment.					
Released materials ha	ve been contained via the use of berms or di	kes, absorbent pads, or other containment devices.					
All free liquids and re	coverable materials have been removed and	managed appropriately.					
P. 10 15 20 0 D. (1) NM							
has begun, please attach a	a narrative of actions to date. If remedial e	mediation immediately after discovery of a release. If remediation fforts have been successfully completed or if the release occurred ease attach all information needed for closure evaluation.					
regulations all operators are a public health or the environm failed to adequately investigated	required to report and/or file certain release notified the nent. The acceptance of a C-141 report by the Otate and remediate contamination that pose a threat	est of my knowledge and understand that pursuant to OCD rules and cations and perform corrective actions for releases which may endanger CD does not relieve the operator of liability should their operations have to groundwater, surface water, human health or the environment. In esponsibility for compliance with any other federal, state, or local laws					
Printed Name: Michael	Printed Name: Michael Gant Title: Environmental Coordinator						
Signature: MGant	-	Date: 8/15/19					
	-energy.com	Telephone: 314 330 7876					
OCD Only							
Received by:		Date:					

# State of New Mexico Oil Conservation Division

Incident ID	
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?	100 (ft bgs)					
Did this release impact groundwater or surface water?						
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?						
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?						
Are the lateral extents of the release within 300 feet of a wetland?						
Are the lateral extents of the release overlying a subsurface mine?						
Are the lateral extents of the release overlying an unstable area such as karst geology?						
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☑ No					
Did the release impact areas <b>not</b> 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 ver contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.	tical extents of soil					
Characterization Report Checklist: Each of the following items must be included in the report.						
<ul> <li>✓ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.</li> <li>✓ Field data</li> <li>✓ Data table of soil contaminant concentration data</li> <li>✓ Depth to water determination</li> <li>✓ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release</li> <li>✓ Boring or excavation logs</li> <li>✓ Photographs including date and GIS information</li> <li>✓ Topographic/Aerial maps</li> <li>✓ Laboratory data including chain of custody</li> </ul>						

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	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release not public health or the environment. The acceptance of a C-141 report by the Gailed to adequately investigate and remediate contamination that pose a threaddition, OCD acceptance of a C-141 report does not relieve the operator of and/or regulations.	ifications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have eat to groundwater, surface water, human health or the environment. In
Printed Name: Michael Gant	Title: Environmental Coordinator
Signature: MGant	Date: 10.7.2019
Signature: MGant email: mgant@lucid-energy.com	Telephone: 314 330 7876
OCD Only	
Received by:	Date:

## State of New Mexico Oil Conservation Division

Remediation Plan Checklist: Each of the following items must be included in the plan.

Incident ID	
District RP	
Facility ID	
Application ID	

# **Remediation Plan**

<ul> <li>☑ Detailed description of proposed remediation technique</li> <li>☑ Scaled sitemap with GPS coordinates showing delineation points</li> <li>☑ Estimated volume of material to be remediated</li> <li>☑ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC</li> <li>☑ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)</li> </ul>						
Deferral Requests Only: Each of the following items must be con	nfirmed as part of any request for deferral of remediation.					
Contamination must be in areas immediately under or around predeconstruction.	roduction equipment where remediation could cause a major facility					
Extents of contamination must be fully delineated.						
Contamination does not cause an imminent risk to human health	n, the environment, or groundwater.					
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: Michael Gant	Title: Environmental Coordinator					
Signature: MGant	Date: 10.7.2019					
email: mgant@lucid-energy.com	Telephone: 314 330 7876					
OCD Only						
Received by:	Date:					
☐ Approved ☐ Approved with Attached Conditions of	Approval					
Signature:	Date:					

#### State of New Mexico Oil Conservation Division

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

Incident ID	
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.

✓ A scaled site and sampling diagram as described in 19.15.29.	11 NMAC
Photographs of the remediated site prior to backfill or photos must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office
☐ Laboratory analyses of final sampling (Note: appropriate OD	C District office must be notified 2 days prior to final sampling)
Description of remediation activities	
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of	ntions. The responsible party acknowledges they must substantially inditions that existed prior to the release or their final land use in
Printed Name: Michael Gant	Title: Environmental Coordinator
Signature:	Date: 10.7.2019
email: mgant@lucid-energy.com	Telephone: 314 330 7876
OCD Only	
Received by:	Date:
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible or regulations.
Closure Approved by:	Date:
Printed Name:	Title:

# Appendix C Waste Disposal Manifests



Facility: CRI

Driver/ Agent Signature

LUCID ENERGY DELAWARE, L Ticket #: Customer:

**KYS TRUCKING** 

Customer #: CRI3795 Ordered by: GLEN BLAKJE

AFE #: PO #:

Manifest #: C138 Manif. Date: 8/28/2019

Hauler: Driver Truck #

Job Ref#

15

**JULIAN** 

Card #

Bid #: Walk-in Bid

Date: 8/28/2019 Generator: LUCID ENERGY DELAWARE,I

700-1047391

Generator #:

Well Ser. #: 999908

Well Name: RATTLE SNAKE SWD PUMP {

% Oil

Weight

Well #:

Field:

Field #: Rig:

**NON-DRILLING** 

H<sub>2</sub>S

LEA (NM) County

MR/HR

Product / Service **Quantity Units** 

**Contaminated Soil (RCRA Exempt)** 20.00 yards

Cell Hq CI %Solids Cond. Lab Analysis: 50/51 0.00 0.00 0.00

#### Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast \_ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous, (Check the appropriate items):

**TDS** 

PCI/GM

R360 Representative Signature

MSDS Information \_\_ RCRA Hazardous Waste Analysis \_\_ Process Knowledge \_\_ Other (Provide description above)

- Tron rigoni orginataro	Troco Tropicocitativo digitataro
	$\mathcal{Q}_{\perp}$
Customer Approval	

Approved By:	Date:	



LUCID ENERGY DELAWARE, L. Ticket #: 700-1046785 Customer Walk-in Bld Customer # CRI3795 Bid # Ordered by GLEN BLAKE 8/27/2019 Date: LUCID ENERGY DELAWARE. Generator: AFE # Generator #: PO#

999908 Well Ser. #: Manifest # 402948 RATTLE SNAKE SWD PUMP ! Well Name: Manif. Date: 8/27/2019

LONE RANGER TRUCKING LLC Well #: Hauler Field:

**GUILLERMO** Driver Field #: Truck # 103 Rig: Card #

NON-DRILLING LEA (NM) County Job Ref#

Facility: CRI

Quantity Units Product / Service 20.00 yards Contaminated Soil (RCRA Exempt) % OII H2S Weight MR/HR PCI/GM %Solids TDS Cond Lab Analysis, 50/51 0.00 0.00 0.00 0

#### Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

MSDS Information \_ RCRA Hazardous Waste Analysis \_ Process Knowledge \_ Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signatu

**Customer Approval** 

THIS IS NOT AN INVOICE!

Date: Approved By:



Customer: LUCID ENERGY DELAWARE, L Ticket #: 700-1046992
Customer #: CRI3795 Bid #: Walk-in Bid
Ordered by: GLEN BLAKE Date: 8/27/2019
AFE #: Generator: LUCID ENERGY DELAWARE, I

PO#: Generator#:

Manifest #: 402300 Well Ser, #: 999908
Manif. Date: 8/27/2019 Well Name: RATTLE SNAKE SWD PUMP1

Hauler: LONE RANGER TRUCKING LL( Well #:

Driver GUILERMO Field:
Truck # 103 Field #:

 Card #
 Rig:
 NON-DRILLING

 Job Ref #
 County
 LEA (NM)

Facility: CRI

Quantity Units **Product / Service** 20.00 yards Contaminated Soil (RCRA Exempt) H2S % Oil Weight MR/HR Cell pH Cond. %Solids TDS PCI/GM Lab Analysis. 50/51 0.00 0.00 0.00

#### **Generator Certification Statement of Waste Status**

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waster RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by

characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

\_ MSDS Information \_ RCRA Hazardous Waste Analysis \_ Process Knowledge \_ Other (Provide description above)

Driver/ Agent Signature	R360 Representative Signature				
Driver Agent Signature	THE REAL PROPERTY.				
THE RESERVE OF THE PARTY OF THE			~ 0		

**Customer Approval** 

	Date:	
Approved By:	Date.	



700-1046982 LUCID ENERGY DELAWARE, L. Ticket # Walk-in Bid Customer Bid # Customer # CRI3795 8/27/2019 Date GLEN BLAKE LUCID ENERGY DELAWARE, Ordered by Generator AFE # Generator # 999908 PO# Well Ser # RATTLE SNAKE SWD PUMP 402293 Manifest # Well Name: Manif Date: 8/27/2019 LONE RANGER TRUCKING LLC Well # Hauler Field OSCAR Driver Field # NON-DRILLING 107 Truck # Rig. Card # LEA (NM) County

Facility: CRI **Quantity Units** Product / Service 20.00 yards Contaminated Soil (RCRA Exempt) Weight H2S MR/HR PCI/GM TDS %Solids Cond. pH Cell 0 0.00 0.00 Lab Analysis. 50/51

Job Ref #

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July

Non-Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waster RCRA Non-Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waster RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

MSDS Information \_\_ RCRA Hazardous Waste Analysis \_\_ Process Knowledge \_\_ Other (Provide description above)

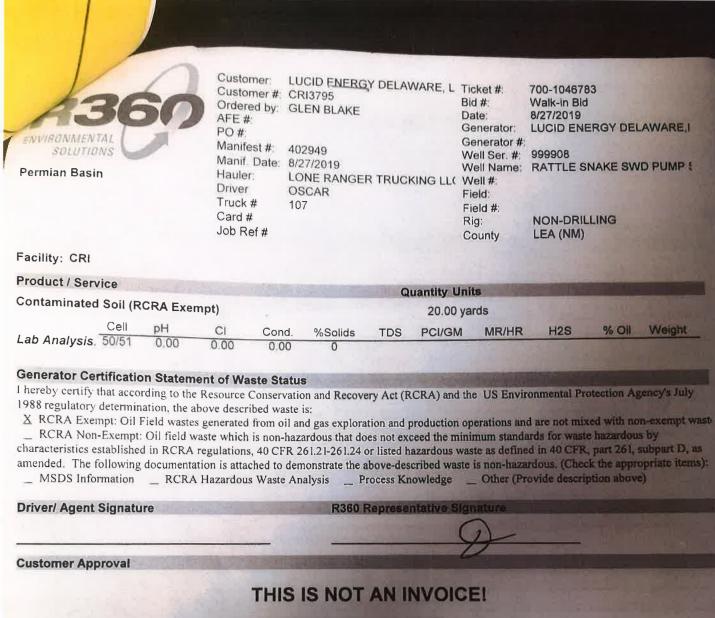
Driver/ Agent Signature

R360 Representative Signature

**Customer Approval** 

# THIS IS NOT AN INVOICE!

Approved By: \_\_\_\_\_\_\_\_ Date: \_\_\_\_\_



Approved By: \_\_\_\_\_\_ Date: \_\_\_\_\_



Customer: LUCID ENERGY DELAWARE, L Ticket #: 700-1046958
Customer #: CRI3795 Bid #: Walk-in Bid

Ordered by: GLEN BLAKE Date: 8/27/2019

AFE #: Generator: LUCID ENERGY DELAWARE,I

AFE #: Generator:
PO #: Generator #:

Manifest #: NA Well Ser. #: 999908

Manif. Date: 8/27/2019 Well Name: RATTLE SNAKE SWD PUMP 5
Hauler: KYS TRUCKING Well #:

Driver JULIAN Field: Truck # 15 Field #:

Card # Rig: NON-DRILLING
Job Ref # County LEA (NM)

Facility: CRI

Product / Serv	100		MOLE INC.			California American	uantity Uni	MA MILLIONS		Name and Address of the Owner, where	
Contaminated Soil (RCRA Exempt)					20.00 yards						
	Cell	рН	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

#### Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast \_\_ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

amended. The following doc	cumentation is attached to demonstrate	e the above-described was	ste is non-hazardous. (Check the appropriate items):
_ MSDS Information _	RCRA Hazardous Waste Analysis	Process Knowledge	Other (Provide description above)

Driver/ Agent Signature	R360 Representative Signature
Customer Approval	

## THIS IS NOT AN INVOICE!

Approved By:	Date:	

t6UJ9A019Q68 8/27/2019 3:50:41PM



Facility: CRI

	Customer:	LUCID ENERGY DELAWARE, L	Ticket #:	700-1046977
	Customer #:	CRI3795	Bid #:	Walk-in Bid
Å	Ordered by:	GLE BLAKE	Date:	8/27/2019
	AFE #:		Generator:	LUCID ENERGY DELAWARE,I
	PO #:		Generator #:	
	Manifest #:	402946	Well Ser. #:	999908
	Manif. Date:	8/27/2019	Well Name:	<b>RATTLE SNAKE SWD PUMP 5</b>

Well #:

Driver **RAUL** Field: Truck # 04 Field #:

Card # Rig: **NON-DRILLING** Job Ref# County LEA (NM)

Product / Service **Quantity Units Contaminated Soil (RCRA Exempt)** 

Hauler:

20.00 yards

pΗ Cell CI Cond. %Solids **TDS** PCI/GM MR/HR H2S % Oil Weight Lab Analysis: 50/51 0.00 0.00 0.00

**RJO TRUCKING LLC** 

#### **Generator Certification Statement of Waste Status**

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste \_ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

_ MSDS Information _	RCRA Hazardous Waste Analysis	_ Process Knowledge	_ Other (Provide description above)
Driver/ Agent Signature		R360 Representative S	ignature Table 1991
			(2)

**Customer Approval** 

Approved By:	Date:



Customer:	LUCID	<b>ENERGY</b>	DELAWARE.
Justonner.	LOUID	LINEINGI	DELAVVARE,

Customer #: CRI3795

Ordered by: GLEN BLAKE AFE #:

PO #:

Manifest #: 402945

Manif, Date: 8/27/2019 **RJO TRUCKING LLC** Hauler:

RAUL

04

Driver Truck #

Card # Job Ref# L Ticket #:

Bid #: Date:

700-1046784 Walk-in Bid

8/27/2019 Generator: LUCID ENERGY DELAWARE,I

Generator #:

Well Ser. #: 999908

Well Name: RATTLE SNAKE SWD PUMP §

Well #:

Field:

Field #:

Rig:

**Quantity Units** 

**NON-DRILLING** 

County LEA (NM)

Facility: CRI

Product / Service

Contaminated	CRA Exe	mpt)		20.00 yards							
	Cell	pН	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						
Generator Cer	rtificatio	on Statem	ent of Wa	ste Statu	S (A A A A A A A A A A A A A A A A A A A				11 3 13	Val.	
I hereby certify	that acco	rding to the	Resource	Conservation	on and Recov	ery Act (R	(CRA) and th	e US Enviro	nmental Pro	otection Ag	ency's July
1988 regulatory	determin	nation, the a	bove descr	ibed waste	is:	•	,			·	
X RCRA Exer	npt: Oil	Field waste	s generated	from oil ar	nd gas explora	ition and	production op	erations and	are not mix	ed with nor	n-exempt was
_ RCRA Non-											
characteristics e	stablishe	d in RCRA	regulation	s, 40 CFR 2	61.21-261.24	or listed h	azardous was	te as defined	in 40 CFR,	part 261, s	ubpart D, as
amended. The f	ollowing	document	ation is atta	ched to den	nonstrate the	above-des	cribed waste	is non-hazard	lous. (Chec	k the appro	priate items):
_ MSDS Info	_										Action Control of the

Driver/ Agent Signature	R360 Representative Signature
Customer Approval	

Approved By:	Date:	
	- 4114	



LUCID ENERGY DELAWARE, L Ticket #: Customer:

Ordered by: GLEN BALKE

NA

15

JUNIOR

Manif. Date: 8/28/2019

AFE #:

PO #:

Hauler:

Driver

Truck #

Card #

Job Ref#

Manifest #:

Customer #: CRI3795

KYS TRUCKING

Bid #:

700-1047255 Walk-in Bid

Date:

8/28/2019 Generator: LUCID ENERGY DELAWARE,I

Generator #:

Well Ser. #: 999908

Well Name: RATTLE SNAKE SWD PUMP 5

Well #:

Field:

Field #: Rig:

**NON-DRILLING** 

County

LEA (NM)

Facility: CRI

Product / Serv	rice	1/2/25 Pag 3		JEZESTA S		Q	uantity Uni	ts	CHARLES OF		Sales Marie
Contaminated Soil (RCRA Exempt)					20.00 yards						
	Cell	рН	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis.	50/51	0.00	0.00	0.00	0						

#### Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste \_ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

_ MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provid	e description above
--	---------------------

Driver/	Agent	Signa	ture
---------	-------	-------	------

#### R360 Representative Signature

#### **Customer Approval**

Approved By:	Date:	



)	Customer: Customer #: Ordered by: AFE #:	CRI3795	GY DELAWARE, L	Bid #: Date:	700-1046779 Walk-in Bid 8/27/2019 LUCID ENERGY DELAWARE,I
	PO #:	*		Generator #:	
	Manifest #:	C138		Well Ser. #:	
	Manif. Date:	8/27/2019		Well Name:	RATTLE SNAKE SWD PUMP (
	Hauler:	KYS TRUCKI	NG	Well #:	
	Driver	JULIAN		Field:	

Field #:

County

**NON-DRILLING** 

LEA (NM)

Rig:

Facility: CRI

Product / Serv	/ICe		0.00		7 3 7 4 1 5 5 7 1	Q	uantity Uni	ts		BALL ROSE	SERVICE SINGLE
Contaminated Soil (RCRA Exempt)					20.00 yards						
	Cell	рН	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						
Generator Ce	rtificatio	n Statem	ent of Wa	aste Statu	S		A SELECTION				district AST
I hereby certify: 1988 regulatory X RCRA Exer RCRA Non characteristics e amended. The f MSDS Info	determin npt: Oil I -Exempt: stablished following	ation, the a Field waste Oil field v d in RCRA document	above describes generated waste which a regulation attains	ribed waste I from oil an i is non-haz s, 40 CFR 2 iched to den	is: and gas explora ardous that do 261.21-261.24 anonstrate the	ntion and poes not exo or listed habove-des	production op ceed the mini azardous was cribed waste	erations and mum standare te as defined is non-hazare	are not mix ds for waste in 40 CFR, lous. (Chec	ted with not e hazardous , part 261, s k the appro	n-exempt wast s by subpart D, as opriate items):
Driver/ Agent	Signatu	ire	7 4 6		R360 I	Represe	ntative Sigr	ature			
Customer Ap	proval		(0.88)2/50				12 Black 5				
				THIS	IS NOT	AN II	NVOICE	<b>E!</b>			
Approved By:						D	ate:			• =	

15

Truck #

Card #

Job Ref#



Customer: LUCID ENLING TOELAWARE, L Ticket #:

402943

RAUL

Driver Truck #

Card #

Job Ref#

Customer #: CRI3795

Bid #:

700-1046431 Walk-in Bid

Date:

8/26/2019

LUCID ENERGY DELAWARE,I

Generator: Generator #:

Well Ser. #: 999908

Manif. Date: 8/26/2019 Well Name: RATTLE SNAKE SWD PUMP § RJO TRUCKING LLC

Well #:

Field:

Field #: Rig:

County

NON-DRILLING LEA (NM)

Facility: CRI

Customer Approval

Product / Service Quantit					uantity Uni	Units					
Contaminated Soil (RCRA Exempt)				20.00 yards							
	Cell	рН	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						
Generator Cer	tificatio	n Statem	ent of Wa	ste Statu	s		(a) A de				
I hereby certify to 1988 regulatory  X RCRA Exem  RCRA Non- characteristics estamended. The formula MSDS Informulation in the second control of the second	determin npt: Oil I Exempt: stablished ollowing	ation, the a Field waste Oil field v d in RCRA document	above descr is generated waste which regulation ation is atta	ribed waste I from oil an i is non-hazes, 40 CFR 2 iched to den	is: and gas explora ardous that do 61.21-261.24 anonstrate the	ntion and poes not export listed habove-des	production op ceed the mini azardous was cribed waste	perations and mum standare ste as defined is non-hazare	are not mix ds for waste in 40 CFR lous. (Chec	ted with none hazardous part 261, s	n-exempt waste by ubpart D, as priate items):
Driver/ Agent	Signatu	ire			R360 I	Represe	ntative Sigr	ature			

Approved By:	Date:	



Customer:	LUCID ENERGY DELAWARE, L	Ticket #:	700-1046434
Customer #:	CRI3795	Bid #:	Walk-in Bid
Ordered by:	GLEN BLAKE	Date:	8/26/2019
\FE#:		Generator:	LUCID ENERGY DELAWARE,I
O #·		Congrator #:	

Manifest #: 402944 Well Ser. #: 999908
Manif. Date: 8/26/2019 Well Name: RATTLE SNAKE SWD PUMP §

Hauler: KYS TRUCKING Well #:
Driver JULIAN Field:
Truck # 15 Field #:

Card # Rig: NON-DRILLING
Job Ref # County LEA (NM)

Facility: CRI

Product / Serv	ice			A CONTRACTOR		Q	uantity Unit	S		N. S. A.			
Contaminated	Soil (R	CRA Exe	mpt)		20.00 yards								
	Cell	рН	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight		
Lab Analysis:	50/51	0.00	0.00	0.00	0								
Generator Cer	tificatio	n Statem	ent of Wa	aste Statu	s								
X RCRA Exer _ RCRA Non- characteristics et amended. The fi _ MSDS Infor	npt: Oil F -Exempt: stablished ollowing	ield waste Oil field v in RCRA document	es generated waste which regulation ation is atta	d from oil and is non-hazed of the contract of	nd gas explora ardous that do 261.21-261.24 on anonstrate the a	oes not exe or listed h above-des	ceed the minimazardous was cribed waste	num standar te as defined is non-hazaro	ds for waste in 40 CFR, lous. (Chec	e hazardous , part 261, s k the appro	by ubpart D, as priate items):		
Driver/ Agent		re			R360 I	Represe	ntative Sign	ature	) 				
Customer App	oroval		4.54 A				10 mg			(A) 185 M			
				THIS	IS NOT	AN II	NVOICE	<b>!</b> !					
Approved By:						D	ate:						



Customer: LUCID ENERGY ( Customer #: CRI3795

Ordered by: GLEN BLAKE

AFE #: PO #:

Manifest #: NA

Manif. Date: 8/28/2019

Hauler: Driver

**RJO TRUCKING LLC** RAUL

04

Truck # Card# Job Ref# WARL, L Ticket #:

700-1047250 Bid #: Walk-in Bid

8/28/2019

Date:

Generator: LUCID ENERGY DELAWARE,I

Generator #:

Well Ser. #: 999908

Well Name: RATTLE SNAKE SWD PUMP 5

Well #:

Field:

Field #: Rig:

**NON-DRILLING** 

County LEA (NM)

Facility: CRI

Dundrick / Complete

Product / Serv	rice	HEATER TO BE		EDGLES AND TO	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NAMED IN COL	Q	uantity Uni	ls .	STATE OF THE PARTY OF	A STATE OF THE PARTY.		
Contaminated	Soil (R	CRA Exe	mpt)		20.00 yards							
	Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight	
Lab Analysis:	50/51	0.00	0.00	0.00	0							
Generator Cer	rtificatio	n Statem	ent of Wa	ste Statu	S			ALC: NO.				
I hereby certify	that acco	rding to the	e Resource	Conservati	on and Recove	ery Act (R	CRA) and the	e US Environ	nmental Pro	tection Ag	ency's July	
1988 regulatory						•	,					
X RCRA Exer		•				ation and r	production on	erations and	are not mix	ed with no	n-exempt wast	
_ RCRA Non-												
characteristics e												
amended. The f			-							•	-	
_ MSDS Infor	_								•		•	
_ 1013D3 11110	illation	_ KCK	1 Hazaruou	s waste Ai	iaiysis _ F	IOCESS KII	owieuge _	Oulei (Flov	ride descrip	tion above	,	
Driver/ Agent	Signatu	ire		and resolution	R360 I	Represei	ntative Sign	ature	15.1177A			
		ure control of				and Applications of the Application of the Applicat		INDEWNOON DATES		MEGDAGGER		
Customer App	proval			SASTAN	IN PROPERTY.	NOT THE	The state of the s		100	TO THE RESERVE		
				THIC	IS NOT	A NI II	IVOICE	:1	$\sim$			
				ППЭ	13 1401	WIA II		- 1	1./			

Date:

Approved By:



Customer: LUCID ENERGY DELAWARE, L Ticket #:

Customer #: CRI3795 Ordered by: GLEN BLAKE

AFE #:

PO #: Manifest #: NA

Manif. Date: 8/29/2019 Hauler:

Driver Truck #

Card#

Job Ref#

**KYS TRUCKING** 

JULIAN

15

Bid #:

700-1047715 Walk-in Bid

8/29/2019 Date: Generator: LUCID ENERGY DELAWARE,I

Generator #:

Well Ser. #: 999908

Well Name: RATTLE SNAKE SWD PUMP 5

Well #:

Field:

Field #:

Rig: **NON-DRILLING** 

LEA (NM) County

Facility: CRI

Product / Serv	/ice	COURT BY		OLD/OWELL		Q	uantity Uni	ts		A STATE OF THE REAL PROPERTY.	ATTENDED TO
Contaminated	l Soil (R	CRA Exe	mpt)				20.00 ya	rds			
	Cell	рН	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						
Generator Ce	rtificatio	n Staten	ent of Wa	aste Statu	S				7 -30/19	11:84	E ELYMPIC SO
X RCRA Exer _ RCRA Non characteristics e amended. The f _ MSDS Info	mpt: Oil I -Exempt: stablished following	Field waste Oil field value in RCRA document	es generated waste which regulation ation is atta	d from oil and is non-hazes, 40 CFR 2 ached to der	nd gas explora ardous that do 261.21-261.24 nonstrate the a	oes not exo or listed h above-des	ceed the mini azardous was cribed waste	mum standar te as defined is non-hazaro	ds for waste in 40 CFR, lous. (Chec	e hazardous , part 261, s k the appro	by by ubpart D, as priate items):
Driver/ Agent	Signatu	re			R360 I	Represe	ntative Sigr	ature	18 M. J. S.	WE SON	
Customer Ap	proval	N PERSON		THIS	IS NOT	AN II	NVOICE				
Approved By:						D	ate:				



LUCID ENERGY DELAWARE, L Ticket# Customer Customer#; CRI3795

Ordered by: GLEN BLAKE

Bid # Date:

700-1047393 Walk-in Bid 8/28/2019

AFE # PO#

Manifest # NA Manif. Date: 8/28/2019 Generator Generator #:

LUCID ENERGY DELAWARE,I

Well Ser. #: 999908

Well Name: RATTLE SNAKE SWD PUMP !

Hauler Driver Truck # LONE RANGER TRUCKING LL( Well #: GUILLERMO 103

Field: Field #:

NON-DRILLING

LEA (NM)

H2S

Card # Job Ref#

Rig County

Facility: CRI

Product / Service

Lab Analysis, 50/51

Contaminated Soil (RCRA Exempt)

Cond 0.00 0.00

%Solids 0

20.00 yards PCI/GM

TDS

**Quantity Units** 

MR/HR

% Oil

Weight

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261,21-261,24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items): \_ MSDS Information \_ RCRA Hazardous Waste Analysis \_ Process Knowledge \_ Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: Date:



700-1047252 LUCID ENERGY DELAWARE, L Ticket #: Customer: Walk-in Bid Customer #: CRI3795 8/28/2019 Date:

Ordered by: GLEN BLAKE LUCID ENERGY DELAWARE, Generator: AFE # Generator #:

PO #:

999908 Well Ser. # Manifest # NA RATTLE SNAKE SWD PUMP ! Well Name: Manif. Date: 8/28/2019

LONE RANGER TRUCKING LL( Well #: Hauler EUILLERMO Field: Driver

Field # 103 Truck # Rig:

NON-DRILLING Card# LEA (NM) County Job Ref#

Facility: CRI **Quantity Units** Product / Service 20.00 yards Contaminated Soil (RCRA Exempt) Weight % Oil H2S MR/HR PCI/GM TDS %Solids CI Cond pH Cell 0.00 0.00 Lab Analysis: 50/51 0.00

# Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July

1988 regulatory determination, the above described waste is: X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast

RCRA Non-Exempt. Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

\_\_ MSDS Information \_\_ RCRA Hazardous Waste Analysis \_\_ Process Knowledge \_\_ Other (Provide description above)

**Driver/ Agent Signature** 

R360 Representative Signature

**Customer Approval** 

# THIS IS NOT AN INVOICE!

Date: Approved By:



Customer: LUCID ENERGY DELAWARE, L Ticket #:

Customer #: CRI3795

Ordered by: GLEN BLAKE

AFE #: PO #:

Manifest #: C138

Manif. Date: 8/29/2019 Hauler: RJO TRUCKING LLC

Hauler: Driver Truck #

er RAUL k# 04

Card # Job Ref # Bid #: Date: 700-1047729 Walk-in Bid

Date: 8/29/2019
Generator: LUCID ENERGY DELAWARE,I

Generator #:

Well Ser. #: 999908

Well Name: RATTLE SNAKE SWD PUMP (

Well #:

Field: Field #:

Rig:

**Quantity Units** 

NON-DRILLING

County LEA (NM)

Facility: CRI

Product / Service

Contaminated	l Soil (R	CRA Exe	mpt)		20.00 yards						
	Cell	рН	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						
Generator Ce	rtificatio	n Statem	ent of Wa	aste Statu	S	TANK TO SELECT	MANUS CHEST	Maria Cal	10 8 CHES	Para S	
I hereby certify	that acco	rding to the	e Resource	Conservation	on and Recov	ery Act (R	RCRA) and th	e US Enviro	nmental Pr	otection Ag	ency's July
1988 regulatory						•	ŕ			_	
X RCRA Exer	npt: Oil l	Field waste	s generated	from oil a	nd gas explora	tion and	production or	erations and	are not mix	ed with no	n-exempt wast
_ RCRA Non	0.50		Carrier Co.		and the second s		•				-
characteristics e	stablishe	d in RCRA	regulation	s, 40 CFR 2	261.21-261.24	or listed h	azardous was	te as defined	in 40 CFR	part 261, s	ubpart D, as
amended. The f			mild the second of the second							The second of the second of the second	
_ MSDS Info											. ,

Driver/ Agent Signature	R360 Representative Signature
Customer Approval	

#### THIS IS NOT AN INVOICE!

Approved By:	Date:	



360	Customer: Customer # Ordered by AFE #: PO #: Manifest #: Manif. Date Hauler: Driver Truck # Card # Job Ref #	GLEI C138	N BLAKE 8 /2019 IE RANGEF			Date Gen- Well Well Well Fiell Rig	erator: erator #: l Ser. #: ll Name: ll #: d:		Bid 019 ENEF 8 LE SN	AKE SW	AWARE,I
acility: CRI				Qı	antity l	Jnits	SUPPLIE	W.	ROOM.	10111	
roduct / Service		Service of the servic			20.00						
ontaminated Soil (RCRA Exemp		0 1	%Solids	TDS	PCI/G		MR/HF	R H	28	% Oil	Weight
ab Analysis. 50/51 0.00	0.00	0.00	0			1		1			No.
hereby certification Statements 988 regulatory determination, the above the second of	generated fraste which is	om oil a non-haz	nd gas explo zardous that 261.21-261.2 monstrate th nalysis	does not ex 4 or listed e above-de Process K	ceed the nazardou scribed v nowledg	mini s was vaste e	imum star ste as def is non-ha Other	ined in	or was 40 CFF	te hazardo k, part 26 ck the ap	l, subpart D, as propriate items
		0.000	R36	0 Repres	entative	Sig	nature				Name of Street, or other Designation of the last of th
Driver/ Agent Signature					2	)_			2116		
Customer Approval	mi zw	THIS	S IS NO	T AN	INVO	OIC	E!				
Approved By:					Date:	a bil	ATTO NE				

Appendix D Photographs



Photo 1 - View of pumping equipment looking northwest.



Photo 2 - View of Site excavation



# **Site Photographs**



Photo 3 - View of excavated area looking southeast.



Photo 4 - View of backfilled excavation looking southeast. Deferral/equipment area in background.



# **Site Photographs**

# Appendix E Soil Laboratory Analytical Reports



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

August 21, 2019

Michael Gant Lucid Energy Delaware 201 South 4th St. Artesia, NM 88210

TEL: (575) 513-8988

FAX:

RE: Rattlesnake Pump OrderNo.: 1908854

#### Dear Michael Gant:

Hall Environmental Analysis Laboratory received 5 sample(s) on 8/15/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1908854

Date Reported: 8/21/2019

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware Client Sample ID: HA-5-6"

 Project:
 Rattlesnake Pump
 Collection Date: 8/14/2019 11:00:00 AM

 Lab ID:
 1908854-001
 Matrix: SOIL
 Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL Qı	ual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: CAS
Chloride	3800	150	mg/Kg	50	8/19/2019 6:41:13 PM	46834

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

e pH Not In Range ting Limit Page 1 of 9

#### Lab Order 1908854

Date Reported: 8/21/2019

Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Lucid Energy Delaware Client Sample ID: HA-C-12"

Rattlesnake Pump Collection Date: 8/14/2019 11:02:00 AM **Project:** 1908854-002 Received Date: 8/15/2019 8:30:00 AM Lab ID: Matrix: SOIL

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	CAS
Chloride	6800	300	mg/Kg	100	8/20/2019 2:00:03 PM	46894
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst	: JME
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	8/17/2019 9:30:36 PM	46852
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	8/17/2019 9:30:36 PM	46852
Surr: DNOP	92.9	70-130	%Rec	1	8/17/2019 9:30:36 PM	46852
EPA METHOD 8015D: GASOLINE RANGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	8/16/2019 6:15:09 PM	46828
Surr: BFB	100	77.4-118	%Rec	1	8/16/2019 6:15:09 PM	46828
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.025	mg/Kg	1	8/16/2019 6:15:09 PM	46828
Toluene	ND	0.050	mg/Kg	1	8/16/2019 6:15:09 PM	46828
Ethylbenzene	ND	0.050	mg/Kg	1	8/16/2019 6:15:09 PM	46828
Xylenes, Total	ND	0.10	mg/Kg	1	8/16/2019 6:15:09 PM	46828
Surr: 4-Bromofluorobenzene	93.6	80-120	%Rec	1	8/16/2019 6:15:09 PM	46828

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix

- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

Page 2 of 9

#### Lab Order 1908854

Date Reported: 8/21/2019

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Lucid Energy Delaware

Client Sample ID: HA-E-6"

 Project:
 Rattlesnake Pump
 Collection Date: 8/14/2019 11:10:00 AM

 Lab ID:
 1908854-003
 Matrix: SOIL
 Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL Q	ual Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analy	st: CAS
Chloride	5500	300	mg/Kg	100 8/19/2019 6:53:38 PM	1 46834

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 9

#### Lab Order 1908854

Date Reported: 8/21/2019

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Lucid Energy Delaware

Client Sample ID: HA-N-6"

 Project:
 Rattlesnake Pump
 Collection Date: 8/14/2019 11:15:00 AM

 Lab ID:
 1908854-004
 Matrix: SOIL
 Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL Qu	ıal Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analys	st: CAS
Chloride	5400	300	mg/Kg	100 8/19/2019 7:30:52 PM	1 46834

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 4 of 9

#### Lab Order 1908854

Date Reported: 8/21/2019

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware Client Sample ID: HA-W-6"

 Project:
 Rattlesnake Pump
 Collection Date: 8/14/2019 11:20:00 AM

 Lab ID:
 1908854-005
 Matrix: SOIL
 Received Date: 8/15/2019 8:30:00 AM

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed
 Batch

 EPA METHOD 300.0: ANIONS
 Analyst: CAS

 Chloride
 6500
 300
 mg/Kg
 100
 8/19/2019 7:43:17 PM
 46834

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

orting Limit Page 5 of 9

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1908854** 

21-Aug-19

	Energy Delaware snake Pump			
Sample ID: MB-46834	SampType: mblk	TestCode: EPA Method	300.0: Anions	
Client ID: PBS	Batch ID: 46834	RunNo: <b>62163</b>		
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2111451	Units: mg/Kg	
Analyte		SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	ND 1.5			
Sample ID: LCS-46834	SampType: Ics	TestCode: EPA Method	300.0: Anions	
Client ID: LCSS	Batch ID: 46834	RunNo: <b>62163</b>		
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2111452	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	14 1.5 15.00	0 95.5 90	110	
Sample ID: MB-46834	SampType: MBLK	TestCode: EPA Method	300.0: Anions	
Client ID: PBS	Batch ID: 46834	RunNo: <b>62226</b>		
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2113641	Units: mg/Kg	
Analyte		SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	ND 1.5			
Sample ID: LCS-46834	SampType: <b>LCS</b>	TestCode: EPA Method	300.0: Anions	
Client ID: LCSS	Batch ID: 46834	RunNo: <b>62226</b>		
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2113642	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	14 1.5 15.00	0 93.4 90	110	
Sample ID: <b>MB-46894</b>	SampType: MBLK	TestCode: EPA Method	300.0: Anions	
Client ID: PBS	Batch ID: 46894	RunNo: <b>62256</b>		
Prep Date: 8/19/2019	Analysis Date: 8/19/2019	SeqNo: 2114836	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	ND 1.5			
Sample ID: LCS-46894	SampType: <b>LCS</b>	TestCode: EPA Method	300.0: Anions	
Client ID: LCSS	Batch ID: 46894	RunNo: <b>62256</b>		
Prep Date: 8/19/2019	Analysis Date: 8/19/2019	SeqNo: 2114837	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	14 1.5 15.00	0 95.6 90	110	

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 6 of 9

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1908854

21-Aug-19

Client: Lucid F	Energy Delaware								
Project: Rattless	nake Pump								
Sample ID: MB-46851	SampType: <b>M</b>	BLK	Tes	Code: <b>EF</b>	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batch ID: 46	851	R	unNo: 62	2213				
Prep Date: 8/16/2019	Analysis Date: 8	/17/2019	S	eqNo: <b>2</b> 1	112564	Units: %Red	:		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.2	10.00		92.3	70	130			
Sample ID: MB-46852	SampType: <b>M</b>	BLK	Tes	Code: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batch ID: 46	852	R	unNo: 62	2213				
Prep Date: 8/16/2019	Analysis Date: 8	/17/2019	S	eqNo: <b>2</b> 1	112565	Units: mg/K	(g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND 10								
Motor Oil Range Organics (MRO)	ND 50								
Surr: DNOP	8.3	10.00		83.0	70	130			
Sample ID: LCS-46851	SampType: <b>L</b> (	cs	Tes	tCode: <b>EF</b>	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS	Batch ID: 46	851	R	unNo: 62	2213				
Prep Date: 8/16/2019	Analysis Date: 8	/17/2019	S	eqNo: <b>2</b> 1	112567	Units: %Red	3		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.9	5.000		77.7	70	130			
Sample ID: LCS-46852	SampType: <b>L</b> (	cs	Tes	Code: <b>EF</b>	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS	Batch ID: 46	852	R	unNo: 62	2213				
Prep Date: 8/16/2019	Analysis Date: 8	/17/2019	S	eqNo: 21	112568	Units: mg/K	(g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47 10		0	93.5	63.9	124			
Surr: DNOP	3.6	5.000		72.9	70	130			

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

Value above quantitation range

Analyte detected below quantitation limits

Sample pH Not In Range

RL Reporting Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1908854** 

21-Aug-19

Client: Lucid Energy Delaware
Project: Rattlesnake Pump

Sample ID: MB-46828 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 46828 RunNo: 62171

Prep Date: 8/15/2019 Analysis Date: 8/16/2019 SeqNo: 2112322 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Gasoline Range Organics (GRO) ND 5.0

Surr: BFB 1000 1000 104 77.4 118

Sample ID: LCS-46828 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 46828 RunNo: 62171

Prep Date: 8/15/2019 Analysis Date: 8/16/2019 SeqNo: 2112323 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 80 Gasoline Range Organics (GRO) 25 5.0 25.00 0 99.9 120 Surr: BFB 1200 1000 77.4 S 118 118

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1908854** 

21-Aug-19

Client:	Lucid Energy Delaware
Project:	Rattlesnake Pump

Sample ID: MB-46828	·	SampType: MBLK TestCode: EPA Method  Batch ID: 46828 RunNo: 62171					8021B: Volat	iles				
Client ID: PBS Prep Date: 8/15/2019	Analysis D		16/2019		SeqNo: 2		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	ND	0.025										
Toluene	ND	0.050										
Ethylbenzene	ND	0.050										
Xylenes, Total	ND	0.10										
Surr: 4-Bromofluorobenzene	0.95		1.000		95.0	80	120					

Sample ID: LCS-46828	Samp1	SampType: LCS TestCode: EPA Method 8021B: Volatiles											
Client ID: LCSS	Batc	h ID: <b>46</b> 8	828	F									
Prep Date: 8/15/2019	Analysis D	Date: 8/	16/2019	9	SeqNo: 2	112358	S58 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene	0.96	0.025	1.000	0	96.1	80	120						
Toluene	1.0	0.050	1.000	0	102	80	120						
Ethylbenzene	1.1	0.050	1.000	0	105	80	120						
Xylenes, Total	3.1	0.10	3.000	0	105	80	120						
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120						

Sample ID: 1908854-002AMS	Sampl	Гуре: МS	5	TestCode: EPA Method 8021B: Volatiles								
Client ID: HA-C-12"	ent ID: HA-C-12" Batch ID: 46828 RunNo: 62171											
Prep Date: 8/15/2019	Analysis [	Date: <b>8/</b>	16/2019	S	SeqNo: 2	112360	Units: mg/K	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	0.91	0.024	0.9718	0.004980	93.5	63.9	127					
Toluene	0.99	0.049	0.9718	0	101	69.9	131					
Ethylbenzene	1.0	0.049	0.9718	0	106	71	132					
Xylenes, Total	3.1	0.097	2.915	0	105	71.8	131					
Surr: 4-Bromofluorobenzene	0.98		0.9718		101	80	120					

Sample ID: 1908854-002AMSE	D SampType: MSD TestCode: EPA Method 8021B: Volatiles									
Client ID: HA-C-12"	Batch	h ID: 468	328	F	RunNo: 6	2171				
Prep Date: 8/15/2019	Analysis D	Date: <b>8/</b>	16/2019	9	SeqNo: 2	112361	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	0.9862	0.004980	89.4	63.9	127	3.00	20	
Toluene	0.97	0.049	0.9862	0	98.3	69.9	131	1.72	20	
Ethylbenzene	1.0	0.049	0.9862	0	102	71	132	2.38	20	
Xylenes, Total	3.0	0.099	2.959	0	102	71.8	131	1.45	20	
Surr: 4-Bromofluorobenzene	0.98		0.9862		99.6	80	120	0	0	

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 9 of 9



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

С	lient Name:	LUCID EN	IERGY DELA	W Wor	k Order Nu	mber: 190	8854			Rc	ptNo:	1
Re	eceived By: $oldsymbol{\mathcal{l}}$	Majal	u	8/15/2	019 8:30:0	O AM						
	ompleted By:	Erin Mele							r// .			
	-	1 A	enurez	8/15/20	019 10:27:	22 AM		u,	WA	, -		
Re	eviewed By:	~		8/15/	19							
Ch	ain of Cus	tody										
	Is Chain of Cu		olete?			V		NI.				
	How was the						<b>✓</b>	No		Not Present	Ш	
						Cou	ner					
	o <u>g In</u>											
3.	Was an attem	pt made to	cool the samp	les?		Yes	✓	No		NA		
<b>4</b> v	Nere all samo	les receives	l at a tampa								_	
٦. ١	Were all samp	ies received	at a tempera	ture of >0°C	to 6.0°C	Yes	Y	No		NA [		
5. :	Sample(s) in p	roper conta	iner(s)?			Yes	<b>~</b>	No				
	Sufficient samp					Yes	✓	No				
	Are samples (e			perly preserve	ed?	Yes	<b>✓</b>	No				
8. v	Vas preservati	ve added to	bottles?			Yes		No	Y	NA [		
9. v	OA vials have	zero heads	space?			Yes		No		No VOA Vials	ø	
	Nere any sam			oken?		Yes		No		NO VOA VIAIS IE	니 	
						103		140		# of preserved		and a time.
	oes paperwor					Yes	✓	No		bottles checked for pH:	_	
	Note discrepar		• ,								2 or >	12 unless noted)
	re matrices co					Yes				Adjusted?		
	s it clear what a Vere all holding			•		Yes		No			5- V	0 9000
(I	f no, notify cus	stomer for a	uthorization.)			Yes	✓	No	_ [	Checked by	1: DA	N 8/15/19
	cial Handlir											
							_					
15.4	Vas client noti	ried of all dis	screpancies w	ith this order?		Yes	<u> </u>	No		NA 🛚		
	Person N	į.			Date	: [			MAXED AND			
	By Whom		v 1252		Via:	□ еМа	il 🗌	Phone	Fax	In Person		
	Regarding										`	
. [		tructions:									'	
16.	Additional rem	arks:										
17. <u>c</u>	Cooler Inform	ation_										
	Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Da	te	Signed B	y .			
				Yes		······································		To the shift Monthly of the same				
		The second secon		Yes Yes		or transmit supported by the T.						
	L	-							- 1			

Chain-of-Cus	tody Record	Turn-Aroun	d Time:	day						_							_	
Client: Lucia Energ		T □ Standar	<i>ر</i> d □ Rusl	h	-										IEN RAT			
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Mailing Address: ७० ि	1	Ratt	Je chack	ie Pump	ļ				ww.ha									
<u> </u>	le	Project #:	<u> </u>	-e lump	-			awkins										
D	797/	-				Te	el. 50	5-345		_			345-					
Phone #: 3(43307	0/6	5								7	ysis	Req	uest					
email or Fax#: mgCvnt@ QA/QC Package:	April - energy com	∐Project Man	ager:		121)	TPH:8015D(GRO / DRO / MRO)	ဖွ		,	SO4			(Present/Absent)					
•	Level 4 (Full Validation)	/Vic	rael 6	ant		N/C	PCB's	(1.1)	<u> </u>	PO <sub>4</sub> ,			/Abs				H	
Accreditation: □ Az Com		Sampler: /\	A		量	DRC	82 F	<b>(2)</b>	9	NO <sub>2</sub> , F			sent					
□ NELAC □ Other_		On Ice:		□No	11	0 /	8081 Pesticides/8082			1		Æ	Pre					l
□ EDD (Type)		# of Coolers				GF	ide	g	<u>ag</u>   2	Š		2	Ē.					i
		Cooler Tem	D(including CF): 10	(°C)		150	esti	EDB (Method 504	RCRA 8 Metals	<u>ь</u>	8260 (VOA)	(Semi-VOA)	Coliform					
		Container	Preservative	. HEAL No.		H:80	31 P		2   5	  上	ြို့	0)	alc					
	ample Name	Type and #	Туре	1908854		} d H	ã 8		<u> </u>	(3)	826	8270	Total					
8/14 1100 s W	A.S.6"	402Scil	ICE	<u>-001</u>						人								
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Date: Time: Relinguished I	by:	Received by:	/Via:	Date Time	]	- '												
SIJI I I I MA				@ 15/19 8:30														
If necessary, samples submitt	ted to Hall Environmental may be subc	contracted to other	でいれている accredited laboratori			bility.	Anv sul	o-contrac	ted data	will be	e clear	v notat	ted on t	the ana	lytical re	nort		



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

August 26, 2019

Michael Gant Lucid Energy Delaware 201 South 4th St. Artesia, NM 88210

TEL: (575) 513-8988

FAX:

RE: Rattlesnake SWD Pump Station OrderNo.: 1908B92

#### Dear Michael Gant:

Hall Environmental Analysis Laboratory received 3 sample(s) on 8/21/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

Indest

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1908B92

Hall Environmental Analysis Laboratory, Inc. Date Reported: 8/26/2019

**CLIENT:** Lucid Energy Delaware Client Sample ID: TP-3-1

**Collection Date:** 8/16/2019 1:35:00 PM Rattlesnake SWD Pump Station **Project:** 

1908B92-001 Matrix: SOIL Received Date: 8/21/2019 9:02:00 AM Lab ID:

Analyses	Result	RL Qu	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: CAS
Chloride	ND	60	mg/Kg	20	8/24/2019 5:24:53 AM	47025

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix

- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

Page 1 of 4

#### Lab Order 1908B92

Date Reported: 8/26/2019

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Lucid Energy Delaware

Client Sample ID: TP-3-3

**Project:** Rattlesnake SWD Pump Station Collection Date: 8/16/2019 2:15:00 PM

**Lab ID:** 1908B92-002 **Matrix:** SOIL **Received Date:** 8/21/2019 9:02:00 AM

Analyses	Result	RL Qu	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	st: CAS
Chloride	ND	60	mg/Kg	20	8/24/2019 5:37:18 AM	47025

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

orting Limit Page 2 of 4

#### Lab Order 1908B92

Date Reported: 8/26/2019

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware Client Sample ID: BG-1

**Project:** Rattlesnake SWD Pump Station **Collection Date:** 8/16/2019 10:10:00 AM

**Lab ID:** 1908B92-003 **Matrix:** SOIL **Received Date:** 8/21/2019 9:02:00 AM

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed
 Batch

 EPA METHOD 300.0: ANIONS
 Chloride
 ND
 60
 mg/Kg
 20
 8/24/2019 5:49:43 AM
 47025

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 4

### Hall Environmental Analysis Laboratory, Inc.

WO#: **1908B92** 

26-Aug-19

Client: Lucid Energy Delaware

**Project:** Rattlesnake SWD Pump Station

Sample ID: MB-47025 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 47025 RunNo: 62388

Prep Date: 8/23/2019 Analysis Date: 8/24/2019 SeqNo: 2121577 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Chloride ND 1.5

Sample ID: LCS-47025 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 47025 RunNo: 62388

Prep Date: 8/23/2019 Analysis Date: 8/24/2019 SeqNo: 2121579 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Chloride 14 1.5 15.00 0 95.8 90 110

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name:	LUCID E	NERGY DEL	AW Wor	k Order Nu	mber: 1908B92		RcptNe	p: 1
Received By:	Isaiah C	Ortiz	8/21/2	019 9:02:0	0 AM	I	24	
Completed By:	Erin Me	lendrez	8/21/2	019 9:42:0	7 AM	I C	_	
Reviewed By:	ms		08/3	4/19				
Chain of Cu	stody							
1. Is Chain of 0	Custody con	plete?			Yes 🗸	No 🗌	Not Present	
2. How was the	e sample de	livered?			Courier			
Log In								
3. Was an atte	mpt made to	cool the sam	ples?		Yes 🗸	No 🗌	NA 🗌	
4. Were all sam	ples receive	ed at a temper	ature of >0° C	to 6.0°C	Yes 🗸	No 🗌	NA 🗆	
5. Sample(s) in	proper cont	ainer(s)?			Yes 🗸	No 🗌		
6. Sufficient sar	nple volume	for indicated t	est(s)?		Yes 🗸	No 🗌		
7. Are samples	(except VOA	and ONG) pr	operly preserv	ed?	Yes 🗸	No 🗌		
8. Was preserva	ative added	to bottles?			Yes	No 🗸	NA 🗌	
9. VOA vials ha	ve zero head	dspace?			Yes	No 🗌	No VOA Vials ✓	
10. Were any sa	mple contair	ners received I	oroken?		Yes	No 🗸		
11. Does paperw (Note discrep		ottle labels?	<i>(</i> )		Yes 🗹	No 🗆	# of preserved bottles checked for pH:	>12 unless noted)
12. Are matrices					Yes 🗸	No 🗆	Adjusted?	12 dilless floted)
13. Is it clear wha			-		Yes 🗸	No 🗆		
14. Were all holdi (If no, notify c					Yes 🗸	No 🗆	Checked by:	DAD 8/21/1
Special Handi	ling (if ap	plicable)						
15. Was client no			with this order	?	Yes	No 🗌	NA 🗹	
Person	Notified:		THE PERSON NAMED IN COLUMN NAM	Date	e: [			1
By Who	om:			Via:	eMail	Phone Fax	In Person	
Regard	ing:	-	***************************************			Turk Turk		
Client I	nstructions:					THE RESERVE OF THE PERSON OF T		
16. Additional re	marks:							
17. Cooler Infor	mation							
Cooler No	The second second second	Condition	Seal Intact	Seal No	Seal Date	Signed By		
1	2.7	Good	Yes			orginua by		
2	2.3	Good	Yes			7		

	Chain-of-Custody Record				Turn-Around Time:													200(1)	100000		
Client:	Lo	cid	er e	□ Standard	l ⊡∕Rusl	1 3 day													ATI IOT		
				Project Nam	e:	and the second		www.hallenvironmental.com													
Mailing	Address	s: on	File	Ratt	lesnake su	ad pump		4901 Hawkins NE - Albuquerque, NM 87109													
A				Project #:							5-345				211		-4107				
Phone	#: (311	+7 330-	7876	Rattlesnake SWD					16	1. 30	J-343	STATE OF THE PARTY NAMED IN	Anal	OWNERS AND ADDRESS.	A STREET, SQUARE,	NAME AND ADDRESS OF	TELESCOPIE DE L'ANDRES				
			· @lucid-energy. com	Project Manager:				_	<u> </u>				SO <sub>4</sub>			t)			DESCRIPTION OF THE PROPERTY OF	SHEET PRINT	100
QA/QC	Package	7	1)	7 ' "				s (8021)	MRG	S.	9	2	S, S			sen					
□ Star	ndard		☐ Level 4 (Full Validation)	Michael Gant				8) s	70	PCB's		<u></u>	PO <sub>4</sub> ,	196		ıt/Ak					
Accred	itation:	□ Az Co	ompliance	Sampler:	Joshua Pi	99 [GHD]	1 - 10-125 1 - 10-125	TMB	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082	= 1	FAHS by 63 to 0r 627 USIMS	NO <sub>2</sub> ,			Coliform (Present/Absent)					
□ NEL		□ Other				J⊒ No			2	8/s	504	5 s			(A)	(Pre					
	(Type)			# of Coolers: 2					<u>©</u>	cide	g   8	o lo etal	2	3	<u>i-</u>	E	ete qu	5 1			
			# of Coolers: Z  Cooler Temp(including CF): Z, \$ ~ 0.1 ((F) Z,7(°C) 2.4 ~ 0.1((F) Z,3°C)					15[	esti	EDB (Method 504.1)	RCRA 8 Metals	CL)F, Br, NO <sub>3</sub> ,	8260 (VOA)	8270 (Semi-VOA)	olifc						
					Preservative	HEAL NO	2.3.	X	89:	7	<u></u>	Z	ш. Ш.	0	0 (8	C C		- 11			
Date	Time	Matrix	Sample Name	Type and #	Туре	1908 B 9	7	BTEX/	直	808		집	(3)	826	827	Total					
8-16-19	1335	S	TP-3-1	1 gal sample	NA	-001							¥								
8-16-19	1415	S	TP-3-3	1 gat sample	NA	-007	An one						X								
8/16/	11010	9	BG-1	bag	21.4	-003							Х	- 11	1100	i i					
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8-20-19	3-20-19 7:30 June		NIL		8/20/19 04	930			E	A ?	00	ماء	lori	de							
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12019	12019 190 1/			Received by: Via: Date Time As per Michael Gant. Added -003																	
1-4	If necessary	, samples sub	omitted to Hall Environmental may be subo	contracted to other a					ility. A	ny sub	-contra	ted data	a will be	e clearl	ly nota	ted on	the ana	lytical re	eport.		

в



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

September 05, 2019

Michael Gant Lucid Energy Delaware 201 South 4th St. Artesia, NM 88210

TEL: (575) 513-8988

FAX

RE: Rattlesnake SWD OrderNo.: 1908G59

#### Dear Michael Gant:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/28/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order **1908G59**

Date Reported: 9/5/2019

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware Client Sample ID: TP-4-6'

 Project:
 Rattlesnake SWD
 Collection Date: 8/26/2019 10:45:00 AM

 Lab ID:
 1908G59-001
 Matrix: SOIL
 Received Date: 8/28/2019 8:45:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: CJS
Chloride	ND	60	mg/Kg	20	9/4/2019 7:34:37 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 5

#### Lab Order 1908G59

Date Reported: 9/5/2019

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware Client Sample ID: TP-4-10'

 Project:
 Rattlesnake SWD
 Collection Date: 8/26/2019 11:00:00 AM

 Lab ID:
 1908G59-002
 Matrix: SOIL
 Received Date: 8/28/2019 8:45:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: CJS
Chloride	ND	60	mg/Kg	20	9/4/2019 8:36:41 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 5

#### Lab Order 1908G59

Date Reported: 9/5/2019

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware Client Sample ID: TP-5-6'

 Project:
 Rattlesnake SWD
 Collection Date: 8/26/2019 11:35:00 AM

 Lab ID:
 1908G59-003
 Matrix: SOIL
 Received Date: 8/28/2019 8:45:00 AM

Analyses	Result	RL Qua	ıl Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: CJS
Chloride	ND	60	mg/Kg	20	9/4/2019 8:49:06 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 5

#### Lab Order 1908G59

Date Reported: 9/5/2019

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware Client Sample ID: TP-5-10'

 Project:
 Rattlesnake SWD
 Collection Date: 8/26/2019 11:55:00 AM

 Lab ID:
 1908G59-004
 Matrix: SOIL
 Received Date: 8/28/2019 8:45:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: CJS
Chloride	ND	60	mg/Kg	20	9/4/2019 9:01:31 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1908G59** 

05-Sep-19

Client: Lucid Energy Delaware
Project: Rattlesnake SWD

Sample ID: MB-47268 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 47268 RunNo: 62664

Prep Date: 9/4/2019 Analysis Date: 9/4/2019 SeqNo: 2133793 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Chloride ND 1.5

Sample ID: LCS-47268 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 47268 RunNo: 62664

Prep Date: 9/4/2019 Analysis Date: 9/4/2019 SeqNo: 2133794 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Chloride 15 1.5 15.00 0 101 90 110

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

## Sample Log-In Check List

LUCID ENERGY DELAW Client Name: Work Order Number: 1908G59 RcptNo: 1 Received By: 8/28/2019 8:45:00 AM Michelle Cores Michelle Garcia Completed By: 8/28/2019 2:26:50 PM Reviewed By: DAD 8/28/19 **Chain of Custody** 1. Is Chain of Custody complete? Yes 🗹 No 🗌 Not Present 2. How was the sample delivered? FedEx Log In 3. Was an attempt made to cool the samples? Yes 🗹 No 🗌 NA 🗌 Were all samples received at a temperature of >0° C to 6.0°C Yes 🗸 NA  $\square$ 5. Sample(s) in proper container(s)? Yes 🗸 Sufficient sample volume for indicated test(s)? ~ 7. Are samples (except VOA and ONG) properly preserved? No 🗌 No 🗹 Yes NA 🗌 8. Was preservative added to bottles? 9. VOA vials have zero headspace? No 🗌 No VOA Vials 🗹 Ves No 🗹 10. Were any sample containers received broken? Yes # of preserved bottles checked Yes 🗹 No 🗌 11. Does paperwork match bottle labels? for pH (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? 12. Are matrices correctly identified on Chain of Custody? Yes 🗹 No 🗌 13. Is it clear what analyses were requested? Yes 🗸 No 🗔 14. Were all holding times able to be met? Yes 🗹 No 🗌 Checked by: (If no, notify customer for authorization.) Special Handling (if applicable) 15. Was client notified of all discrepancies with this order? Yes 🗌 No 🗌 NA 🗹 Person Notified: Date: By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: Additional remarks: 17. Cooler Information Condition | Seal Intact | Seal No Cooler No Temp ºC Seal Date Signed By 3.7 Good Yes

4.0

Good

Yes

C	Chain-of-Custody Record			Turn-Around	Time: 5	day Eurn	] "			_											
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Mailing	Address	s:	63	Rat	Hlesneke	SWD		www.hallenvironmental.com													
		on	File	Project #:				4901 Hawkins NE - Albuquerque, NM 87109													
Phone:	<b></b>			(1,201757				Tel. 505-345-3975 Fax 505-345-4107  Analysis Request													
		Magnet	Olucid-energy.com	Project Manager:				( <u>)</u>	$\widehat{\Box}$				ıllalı	7	$\overline{}$	ues					
	Package:		a leer (2) ghat. com	Michael Gant				luo	MR					SO	, s						
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□ NEL		□ Othe	er	On Ice:	√ <b>Y</b> es	19 1 No /	+	·F     +	TPH 8015B (GRO / DRO / MRO)	418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	<b>70</b>	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	Pesticides / 8082		ব্লি				Air Bubbles (Y or N)
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		·		Container	Preservative		BTEX + MTBE	BTEX + MTBE	)15E	TPH (Method	/leth	(831	RCRA 8 Metals	F)	estic	8260B (VOA)	8270 (Semi-VOA)		chlorishe		ples
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/ ·/ If	necessary.	samples subj	mitted to Hall Environmental may be subc	contracted to other ac	ccredited laboratorie	es. This serves as notice of this	possib	oility. A	Any sul	o-contra	acted	data v	will be	clear	ly nota	ted on	the ar	nalvtical	report.		



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

September 19, 2019

Michael Gant Lucid Energy Delaware 201 South 4th St. Artesia, NM 88210

TEL: (575) 513-8988

FAX

RE: Rattlesnake SWD OrderNo.: 1909636

#### Dear Michael Gant:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/12/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order: **1909636** 

#### Hall Environmental Analysis Laboratory, Inc.

ental Analysis Laboratory, Inc.

Date Reported: 9/19/2019

**CLIENT:** Lucid Energy Delaware Lab Order: 1909636 **Project:** Rattlesnake SWD Lab ID: 1909636-001 Collection Date: 9/9/2019 11:20:00 AM Client Sample ID: SW-2-C Matrix: SOIL **Analyses** Result RL Qual Units DF Date Analyzed **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 2500 150 9/19/2019 12:02:19 AM 47517 mg/Kg 50 Lab ID: 1909636-002 **Collection Date:** 9/9/2019 11:50:00 AM Client Sample ID: SW-4-C Matrix: SOIL Result RL Qual Units DF Date Analyzed **Analyses Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 63 60 20 9/17/2019 1:21:05 PM 47517 mg/Kg Lab ID: Collection Date: 9/9/2019 12:25:00 PM 1909636-003 Client Sample ID: SW-5-C Matrix: SOIL Result RL Qual Units DF Date Analyzed **Analyses Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 830 60 mg/Kg 9/17/2019 1:33:29 PM 47517 Lab ID: 1909636-004 Collection Date: 9/10/2019 12:00:00 PM Client Sample ID: SW-1-C Matrix: SOIL **Analyses** Result **RL Qual Units DF** Date Analyzed **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride ND 60 mq/Kq 20 9/17/2019 1:45:54 PM 47517 Lab ID: 1909636-005 Collection Date: 9/10/2019 12:30:00 PM Client Sample ID: SW-3-C Matrix: SOIL Result RL Qual Units DF Date Analyzed **Analyses Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

1900

#### Qualifiers:

Chloride

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range

mg/Kg

- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

60

Page 1 of 2

20 9/17/2019 1:58:18 PM 47517

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1909636** 

19-Sep-19

Client: Lucid Energy Delaware
Project: Rattlesnake SWD

Sample ID: MB-47517 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 47517 RunNo: 62982

Prep Date: 9/17/2019 Analysis Date: 9/17/2019 SeqNo: 2148372 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Chloride ND 1.5

Sample ID: LCS-47517 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 47517 RunNo: 62982

Prep Date: 9/17/2019 Analysis Date: 9/17/2019 SeqNo: 2148373 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Chloride 14 1.5 15.00 0 95.9 90 110

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: LUCIE	ENERGY DELAW	Work Order Number:	1909	636		RcptN	lo: 1
Received By: Erin	Melendrez	9/12/2019 9:00:00 AM			un.	6	
Completed By: Yazm	nine Garduno	9/12/2019 2:23:51 PM			Maymin Cofr	deuti	
Reviewed By:	m 9/	12/19			<b>V</b> .		
Chain of Custody							
1. Is Chain of Custody of	complete?		Yes	<b>~</b>	No [	Not Present	
2. How was the sample	delivered?		Couri	<u>er</u>			
<u>Log In</u>							
3. Was an attempt made	e to cool the samples?		Yes	<b>✓</b>	No 🗆	NA 🗆	
4. Were all samples rece	eived at a temperature	of >0° C to 6.0°C	Yes	<b>✓</b>	No 🗆	NA 🗆	
5. Sample(s) in proper of	container(s)?		Yes	<b>V</b>	No 🗆		
6. Sufficient sample volu	me for indicated test(s	)?	Yes	<b>~</b>	No 🗌		
7. Are samples (except \	/OA and ONG) properl	y preserved?	Yes	<b>~</b>	No 🗌		
8. Was preservative add	ed to bottles?		Yes [		No 🗸	NA 🗆	
9. VOA vials have zero h	neadspace?		Yes [		No 🗌	No VOA Vials	/
10. Were any sample cor	ntainers received broke	n?	Yes		No 🗸	# of preserved	
11. Does paperwork matc			Yes	<b>~</b>	No 🗌	bottles checked for pH:	or 12 unless noted)
12. Are matrices correctly	identified on Chain of	Custody?	Yes	<b>/</b>	No 🗌	Adjusted?	/[
13. Is it clear what analyse			Yes	<b>~</b>	No 🗌		V606/11/1
<ol><li>Were all holding times (If no, notify customer</li></ol>			Yes	<b>~</b>	No 🗌	Checked by:	101110
Special Handling (if	applicable)					/	
15. Was client notified of	all discrepancies with t	his order?	Yes		No 🗆	NA 🗹	
Person Notified		Date		- William Will		NAT	
By Whom:		Via:	еМа	il 🗌 F	Phone 🗌 Fa	x In Person	
Regarding:		Windydd og ar en y daeth o ar en	and a substitute of a	CAT. J. S. C.	THE RESERVE OF THE PERSON OF T	A MANAGEMENT AND A STREET OF THE PROPERTY OF T	
Client Instructio	ns:		Seem LOURS			PROCEST SECRETARIA SECURIOR DE LA CONTRACTOR DE LA CONTRA	
16. Additional remarks:							
17. Cooler Information							
Cooler No Tem	p °C Condition Se	eal Intact   Seal No   Se	eal Da	te	Signed By		
1 3.8	Good						

	Chain-of-Custody Record				Turn-Around Time:  Standard Rush															
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walling	Address	S: Oh	F.'le	Rattlesnate SWD			4901 Hawkins NE - Albuquerque, NM 87109													
The T	Carlo III conti			Project #:		CONTRACTOR OF STATE OF STATE OF ASSESSMENT O	l.			5-34					-345-					
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			Lucid-energy com	Project Man	ager:	Carrier Supply Transfer Supply Control	_	6									-			
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□ Star	ndard		☐ Level 4 (Full Validation)	Michael Gart			s (8021)	0	PCB'		PAHS by 8310 or 8270SIMS	o o			(Present/Absent)	F 7 000	10.31			
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□ NELAC □ Other			On Ice:	Y Yes	P.\aa	/ TMB	ò	s/8(	9.	اة ا			₹	Pre	post of the	= 121 T				
□ EDD (Type)			# of Coolers	ALL STREET, STATE OF THE PROPERTY OF THE PROPE		MTBE	9	8081 Pesticides/8082	EDB (Method 504.1)	310	C F Br NO.		8270 (Semi-VOA)							
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6	f necessary,	samples out	omitted to Hall Environmental may be subo	contracted to other a	ccredited laboratorie	es. This serves as notice of this	possib	ility. A	ny sub	o-contra	cted da	ta will	oe clear	ly notat	ted on t	he analyti	cal report			



# about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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Tom Larson Tom.Larson@ghd.com 832.203.8671

www.ghd.com