

HUQWO-191002-C-1410

RELEASE SITE CHARACTERIZATION AND REMEDIATION CLOSURE REPORT JUNIPER 10" LINE RELEASE SECTION 3, TOWNSHIP 24S, RANGE 29E

Report Prepared for:

Lucid Energy Delaware

Prepared by:

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HRL Compliance Solutions

September 2019 Artesia, NM

Summary of Release

Site Name	Juniper 8"							
Location	Lat.	Long.	Unit Letter, Section, Township, Range					
	32.248098°	-103.972614°	Unit Letter F, Section 03, Township 24S, Range 29E					
District RP	2RP-5566							
Estimated Date of Release	7/15/2019							
Date Reported	7/15/2019							
Reported By	Michael Gant – Lucid Energy Group							
Reported To	NMOCD and BLM							
Surface Owner	Federal							
Cause of Release	Flow erosion on the gas pipeline resulted in a release that ignited an overhead electrical line, subsequently melting saltwater polyethylene line.							
Released Material/Volume(s)	Gas and Produced Water/1.5MMCF and 20 bbls							
Depth to Groundwater/Nearest Surface Water	~80ft bgs/Pec	os River 2.1 miles	SW					
Site Characterization	Three areas of investigation complete. Site investigation; over 60 soil samples field screened and 20 analyzed at the laboratory.							
Remediation Area(s)	Main = 305 sq yd; Electrical fire = 245 sq yd; Off RoW = 232 sq yd							
Confirmatory Sampling	Three excavated areas analyzed; 28 soil composite samples collected and submitted to an accredited laboratory; 8 soil samples re-assessed							
Recommendations	Request file to	be closed						

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1.0 INTRODUCTION

HRL Compliance Solutions (HRL) was retained by Lucid Energy Delaware LLC (Lucid) to conduct a site assessment and characterization program at the Juniper Pipeline release site located within Section 3, Township 24 South, Range 29 East (Figure 1). The release was discovered on July 15, 2019 and notification was sent to New Mexico Oil Conservation Division (NM OCD; see Appendix A–C141).

In brief, the Lucid Juniper 8" gas line cracked (32°14′53.2" N, 103°58′21.4" W) which resulted in an overhead electrical line to ignite. The fire caused the pole to collapse and the heat from the fire resulted in the neighbouring EOG Resources (EOG) polyethylene water line to melt. Both the Lucid gas line and the EOG water line share the same right-of-way. The produced water extinguished the fire and continued to flow off the right-of-way following the local topography. The leading edge of the plume was mapped to a low-lying vegetative patch approximate 275 ft southeast of the release point (Figure 2). The purpose of this site assessment and characterization program was to determine the extent of the soil impacts, mitigate any potential environmental adverse effect, and develop an effective remediation program protective of identified receptors.

2.0 AREA DESCRIPTION

2.1 Regional Physiography

The Juniper pipeline is within Eddy County located in the southeastern part of New Mexico approximately 20 miles southeast of Carlsbad and 7.5 miles from Loving, NM (Figure 1). The area is within the Chihuahuan Desert ecoregion, specifically the Chihuahuan Basins and Playas. The playas and basin floors have saline or alkaline soils and areas of salt flats, dunes, and windblown sands.

The area generally showcases flat to rolling plains that gently slope towards the Pecos River. The predominant land use is grazing, irrigation agriculture, potash mining, and oil & gas development. Locally, the surrounding area consists of limited cattle grazing, a couple large potash mines, and oil & gas operations as part of the Permian Basin.

The lower elevations (i.e. <4,500 ft) of this area result in a hot and arid climate. The vegetation is typical of desert shrubs and grasses, dominated by creosote bush, tarbush, fourwing saltbush, gyp grama, and similar species that can withstand large diurnal temperature ranges, low moisture, and a high evapotranspiration rate. An area topographical map is provided on Figure 3.

2.2 Regional Geology

The site location is in the northwestern part of the Delaware Basin, at the southern boundaries of Nash Draw, a partially closed depression. The Delaware Basin has been described as a deep, oval, sedimentary basin 75 miles wide and 135 miles long. The basin lithology is made up of crystalline sedimentary rocks overlain by evaporites deposited in the late Permian Period. As seawater evaporated, the deep marine environment of limestone and dolomite transitioned to a shallower marine and eventually dry environment of gypsum, halite, anhydrite, and potassium salts. Early assessment conducted by USGS, as part of the Project Gnome site, noted several thousand feet of accumulated salt deposits on the basin floor.

The composition of the highly soluble rock within the subsurface has the potential for karst formations or features to be present in the vicinity of the area of investigation. Figure 4 presents the mapped karst areas of southeastern New Mexico in relation to the area of investigation.

2.3 Regional Hydrogeology

The Pecos River Basin alluvial aquifer consists of generally unconsolidated, poorly to moderately sorted deposits of gravel, sand, silt, and clay; as well as small amounts of gypsum and caliche formed by chemical processes. Groundwater in the Cenozoic alluvium is an important resource as the surrounding area receives an average annual rainfall of less than 12 inches (USGS Groundwater Atlas). Natural concentrations of total dissolved solids (TDS) in water in the alluvial aquifer typically exceeds 1,000 mg/L. Freshwater is defined as having a TDS concentration of <1,000 mg/L. Groundwater for the alluvial aquifer is mainly used for irrigation. Water well sustainability is variable based on the proximity to the Pecos River.

A review of the NM Office of the State Engineer (OSE) water well database presented 9 water wells within a 3-mile radius and only 5 of these wells measured water levels. Most of these wells were near the Pecos River or Salt Lake to the north. The United States Geological Survey (USGS) National Water Information System depicted water wells greater than 3 miles from location, within a 5-mile radius the water level ranged depending on the proximity to the Pecos River. Figure 5 shows the radius of water wells from the site of investigation. The corresponding water levels are in Table 1.

The closest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is the Pecos River. The Malaga Bend of the river is the closest bank to the site of investigation at a distance of 2.15 miles (Figure 3).

2.4 Local Setting

The Juniper pipeline release point is located in Section 3, Township 24S, Range 29E at an elevation of approximately 3,070 feet above sea level (Figure 2). The right of way is shared by an

EOG saltwater line. In the vicinity of the area under investigation, the native soil and subsurface material was locally shown to be highly disturbed due to the number of buried pipelines.

According to the National Resources Conservation Services Web-based Soil Survey, the soil composition is mainly of the Pajarito unit and the typical profile is loamy fine sand to 13 inches, with fine sandy loam upwards of 60 inches in areas. The parent material of this unit is mixed alluvium and/or eolian sands. The area is susceptible to severe wind erosion, drifting sand, and is well drained, with very low runoff. The area slopes are found to be less than 3%.

The northern portion of subject location also borders Upton gravelly loam unit that is a result of weathered limestone. Upton soils are typically shallow (<13 inches) over indurated caliche. The natural drainage is considered to be well drained, with runoff classified as high. The area slopes are 0 to 9 percent.

The nearest waterbody is Pecos River located 2.1 miles southwest of the site investigation and Salt Lake is 2.8 miles north. There are no identified springs or wetlands in the area.

The ChevronTexaco depth to groundwater map was reviewed and the groundwater depth beneath the site location is estimated at 80 feet below ground surface (bgs). The contour lines shown on Figure 6 are 25 ft intervals and the release point as shown on the Figure is close to the 75 ft contour.

The local area is mainly populated with oil and gas operations, with a number of right-of-way's and access roads/trails.

3.0 SCOPE OF WORK

The objective of this site investigation was to map the extent of any chemicals of concern (COC) from the reported fire incident and to determine if there may be a potential for an adverse effect to surrounding receptors. In order to meet these objectives, the following tasks were conducted:

- Review public databases for subsurface conditions and soil lithology.
- Review the New Mexico OSE water column reports and the USGS National Water Information System database, as well as any maps to determine depth to groundwater and distance to any significant watercourses.
- Review requirements for an archaeological survey outside the existing right of way.
- Initiate a NM One-call and notify all pipeline owners in the vicinity.
- Collect initial soil samples based on visual release footprint and submit select soil samples to the laboratory to characterize potential chemicals of concerns.

- Field screen soil samples using a Hanna electrical conductivity (EC) meter to attempt to correlate EC values with chloride concentrations.
- Horizontally and vertically delineate the COC and submit select soil samples to Hall Environmental Analysis Laboratory.
- Excavate impacted subsurface material and dispose of at R360 waste management facility.
- Obtain confirmatory soil samples to meet Table I *Closure Criteria for Soils Impacted by a Release* (19.15.29 NMAC).
- Reclaim excavated areas with clean caliche, and in vegetated areas add at least 12 inches of topsoil and seed with BLM approved seed mix.

4.0 SITE CHARACTERIZATION

4.1 Field Program

Field events took place between July 18 to September 20, 2019. During this time a number of composite soil samples were collected from the release area and in the southeast direction following the path of the plume. For ease of description, the area of investigation was broken up into 3 zones – 1) Main Excavation; 2) Area Around Electrical Pole; 3) Access Area & BLM off right of way (RoW). The field screening results can be found in Table 2a. Appendix B contains area photographs that illustrates the described site conditions.

- 1. Main Excavation
 - July 18: Soil samples were collected from around the riser, and the base and walls of the pipeline repair excavation, to better understand the chemicals of concern and to investigate any residual impacts. Two samples were collected from the leading edge of the plume based on visual demarcation. Hydrocarbon and chloride concentrations were analyzed in 12 soil samples. Chlorides from the produced water line release was determined to be the chemical of concern and the parameter that would be investigated to influence remediation.
 - July 30: Field screen for EC values along the extent of the entire excavation. Area broken up into north and south (width of excavation), and east, central, west (length of excavation). Composite samples collected from base and walls to further aid in the excavation.
 - July 31/August 1: Additional excavation around the release point, field screen for EC values and continue to remove elevated material around the sono column near the release point. Excavation depths in the vicinity of the column approximately12ft below

ground surface (bgs). The material was noted to be very heterogeneous, and the EC values were inconsistent. Submit 3 soil composite soil samples for detailed analysis of cations and anions.

- August 7: Assess the base and wall around the new sono column that was installed at 16ft bgs. Samples taken at 8ft bench and 16ft base
- 2. Area Around Electrical Pole (Fire)
 - July 31/August 1: Hydrovac Oxy and Enterprise pipelines and have representatives onsite to witness soil removal. Field screen EC values in the vicinity of each of these pipelines to vertically assess potential chloride impacts. Advance two test pits to approximately 3 feet below ground surface where caliche was encountered. Field EC values of the caliche material was less than 500 μS/cm. Remove approximately 2ft of material.
 - August 7: Map out the area to delineate chloride concentrations (#1 #9). Base samples collected between 1.5 and 2 feet bgs. Submit select samples for analysis of chloride.
- 3. Access Area & BLM Off ROW
 - August 1: Screen EC values from the surface material within the access area (i.e. the area between the release RoW and the vegetation). Remove approximately 6 inches and re-screen.
 - August 8: Excavate area closest to the access road, transition area before vegetation. Depth of excavation between 2 and 5ft bgs, with the deeper excavation closest to the access road. The material was very heterogenous likely due to the number of pipelines right of ways in the area vicinity.

4.2 Soil Sampling – Confirmatory

On August 14 and 15, 2019, a confirmatory sampling program was initiated at all three areas. The results are presented in Table 2b. Results were compared to Table A – Closure Criteria (below).

 Main Excavation (Figure 7a): Eight base samples and 6 wall samples were field screened for EC and submitted to Hall Environmental Analysis Laboratory for chloride concentrations. The base samples were 5-point composite grab samples between 6ft and 8ft bgs, and the wall samples were 5-point composite samples collected less than 4ft. One background sample at surface, outside the footprint of the release was also sampled. All soil samples submitted met the closure criteria of 10,000 mg/kg chloride concentration, as well as the reclamation requirement of minimum 4 ft depth being less than 600 mg/kg chlorides. Area of excavation = 305 sq yd

- 2. Area Around Electrical Pole (Figure 7b): Six base samples were field screened for EC and submitted to Hall Environmental Analysis Laboratory for chloride concentrations. The base samples were 5-point composite grab samples at approximately 2ft bgs. The chloride concentration met the closure criteria of 10,000 mg/kg. The chloride concentrations were collected less than 4ft bgs and did not meet the reclamation requirements of 600 mg/kg, except sample point Base 14. Due to the extensive buried infrastructure and the overhead electrical line, further excavation in the area of the RoW was not considered to be executed without safety concerns. The area is not an area that was or will be vegetated (see Appendix B Photos). Remediating the rooting zone to 600 mg/kg is not believed to be warranted. Area of excavation = 245 sq yd
- 3. Access Area & BLM Off ROW (Figure 7c): Two samples were collected from the access area and 4 samples were collected from the vegetated off RoW land; all 6 samples were submitted to Hall Environmental Analysis Laboratory for chloride concentrations and met the closure criteria of 10,000 mg/kg. Three of the samples were greater than the reclamation criteria of 600 mg/kg and the areas were re-assessed.

4.3 Soil Sampling – Vegetated re-assessed

Area 3 was reassessed between August 27 and September 5, 2019. The excavation was extended around BLM sample points 3 and 4 (Figure 7c). The final depth at sample point 3 reached 5ft and at sample point 4 the excavation was to 3ft. The initial visual surface footprint of the impacted area became considerably larger at depth. The Mesquite water line to the south of the excavation needed to be hydrovac'd and the company representative was onsite during the excavation program. The subsurface material in this area was highly disturbed as the Mesquite pipeline had just recently been installed. Additional sampling was obtained on August 28-29, and September 4-5, the results are shown in Table 2c. All soil samples collected met closure criteria and the reclamation criteria at less than 4ft. Area of excavation = 231 sq yd

	Closure Criteria				
Depth to Ground Water	Constituent	Limit			
	Chloride	10,000 mg/kg			
51-100 feet	TPH (GRO+DRO+MRO)	2,500 mg/kg			
	GRO+DRO	1,000 mg/kg			
	BTEX	50 mg/kg			
	Benzene	10 mg/kg			

5.0 CONCLUSION

5.1 Summary

The initial C141 report for this release was provided to NM OCD on July 29, 2019 (Appendix A). The Bureau of Land Management (BLM) was also informed of the release as being the landowners of the property. Initial conversations between Kerry Egan (Lucid) and Jim Amos (BLM) discussed the Off-RoW release portion and the possibility of a resource specialist to conduct an archeological survey. A follow up conversation with Mr. Amos resulted in dismissing the archeological requirement.

The three areas of investigation showed a heterogeneous subsurface component. The depth to caliche varied as did the thickness of the fine sandy loam. The variation in the subsurface composition correlated with pipeline installations and associated disturbance. The latest pipeline installation being the Mesquite saltwater line only a few months ago in the area off the RoW.

The depth of groundwater beneath the site of investigation was determined to be approximately 80ft bgs (Figure 6), thus the chloride closure criteria limits of 10,000 mg/kg concentrations were met in all confirmatory samples analyzed. Tables 2a, 2b, and 2c show that the chloride concentrations were remediated, and the laboratory analytical reports are in Appendix C. The initial confirmatory sampling program conducted off the RoW, downgradient from the initial release point, measured elevated chloride concentrations based on depth not on the closure criteria of 10,000 mg/kg chloride. Further remediation was conducted in order to bring the chloride concentrations to the reclamation standard of 600 mg/kg in the rooting zone considered to be 4 ft bgs. Since this area is vegetated the rooting zone was deemed an applicable receptor.

Table 2c verifies the rooting zone meets 600 mg/kg chloride. One composite sample exceeded 600 mg/kg but this location was at a depth greater than 4 feet (1,700 mg/kg @ 5ft).

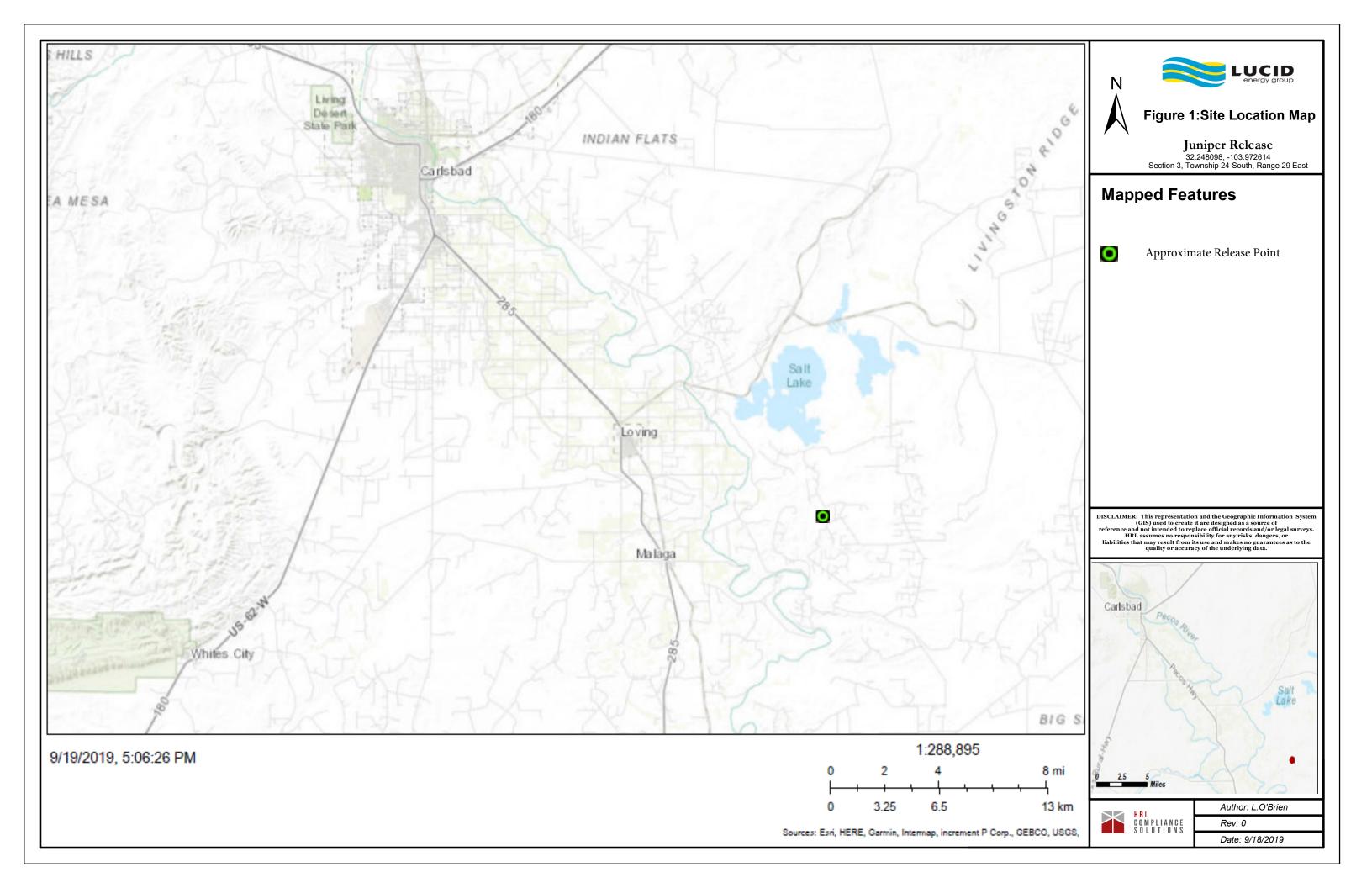
5.2 Closure Request

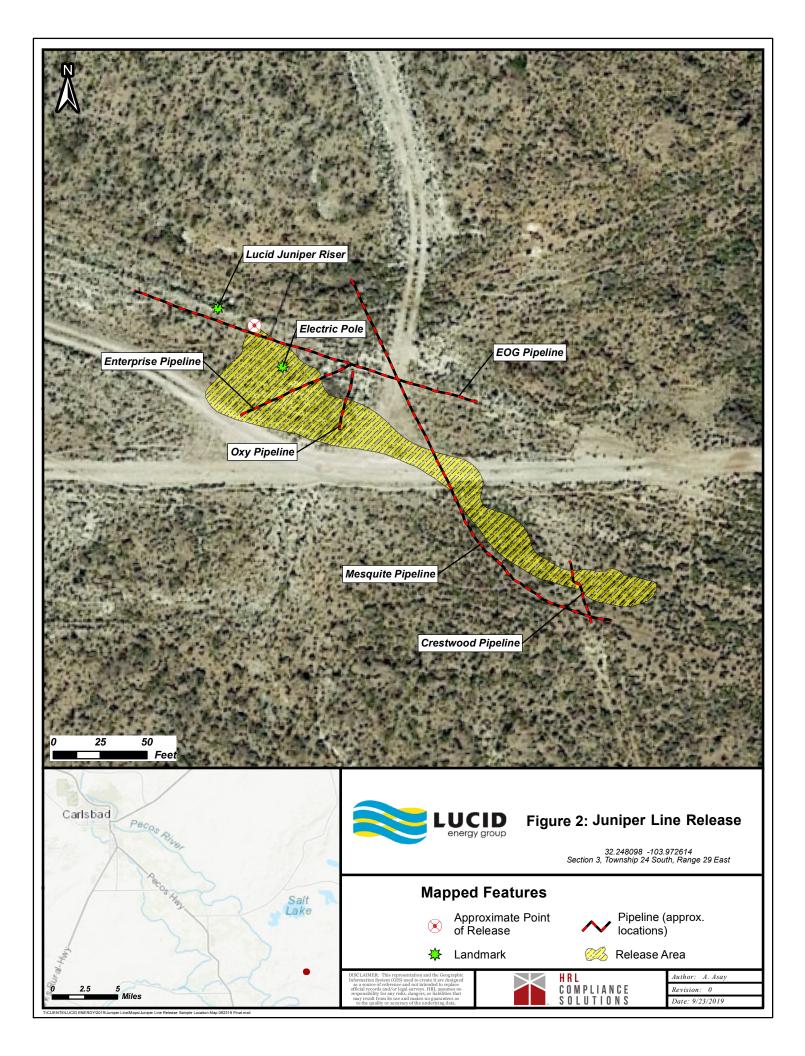
The assessment conducted by HRL followed New Mexico remediation requirements and pertinent regulations. The site investigation and subsequent remediation was completed utilizing appropriate soil sampling protocol and best management practices (NRCS Field Guide). As described in Section 5.1 above, the footprint of the release has been remediated that delivers human health and ecological protection. Based on the site investigation and analytical results, it is recommended that the Lucid Juniper pipeline release site located at 32.248098, -103.972614 be consider closed.

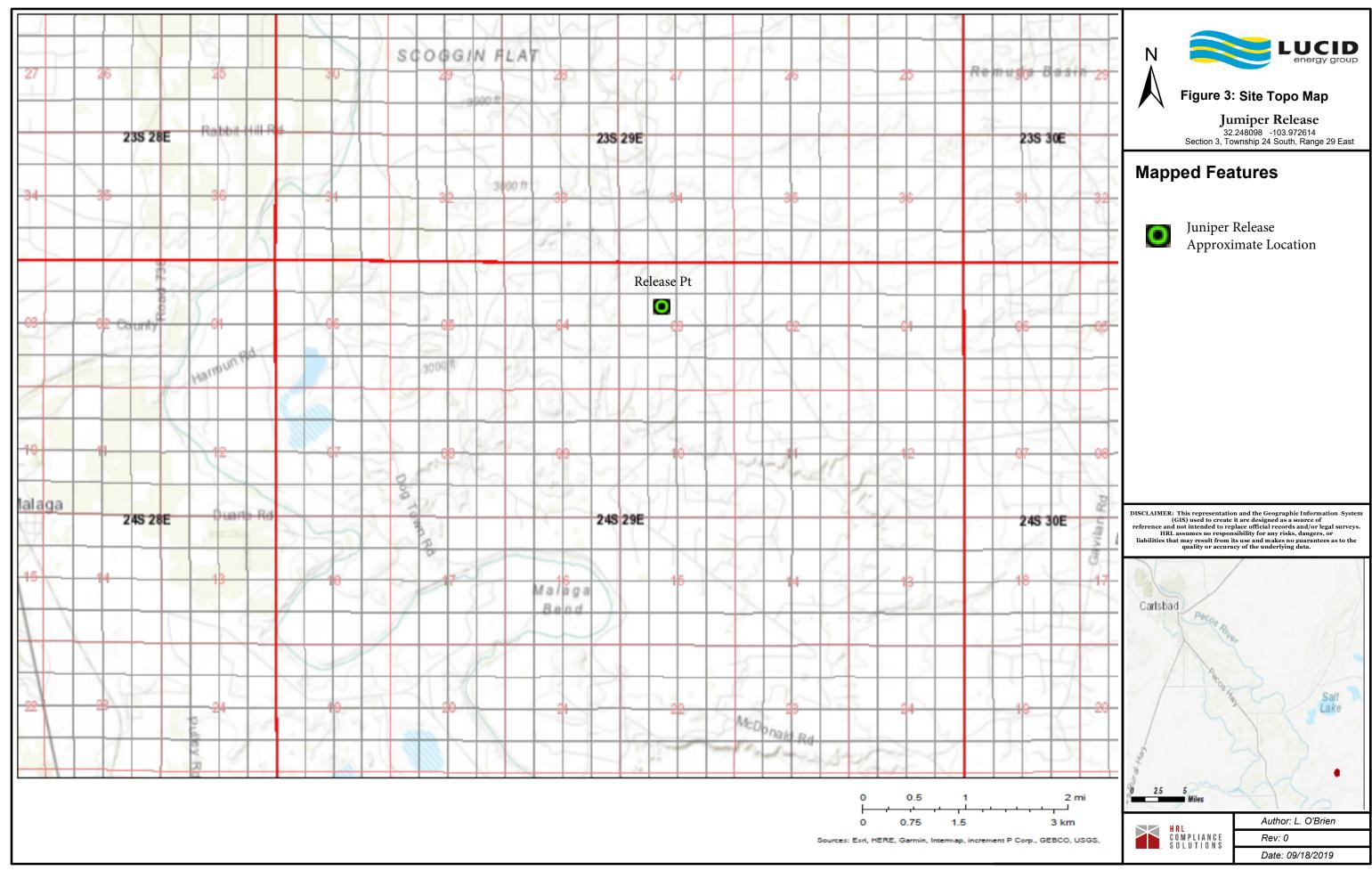
Please see the photographs in Appendix B that depicts the site investigation and area surroundings.

6.0 LIMITATIONS

HRL Compliance Solutions certify that we supervised and carried out the work as described in this report. The report is based on and limited by circumstances and conditions referred to throughout the report and on information available at the time of the site investigation. HRL Compliance Solutions has exercised reasonable skill, care and diligence to assess the information acquired during the preparation of this report. HRL Compliance Solutions believes this information is accurate but cannot guarantee or warrant its accuracy or completeness. Information provided by others was believed to be accurate but cannot be guaranteed.

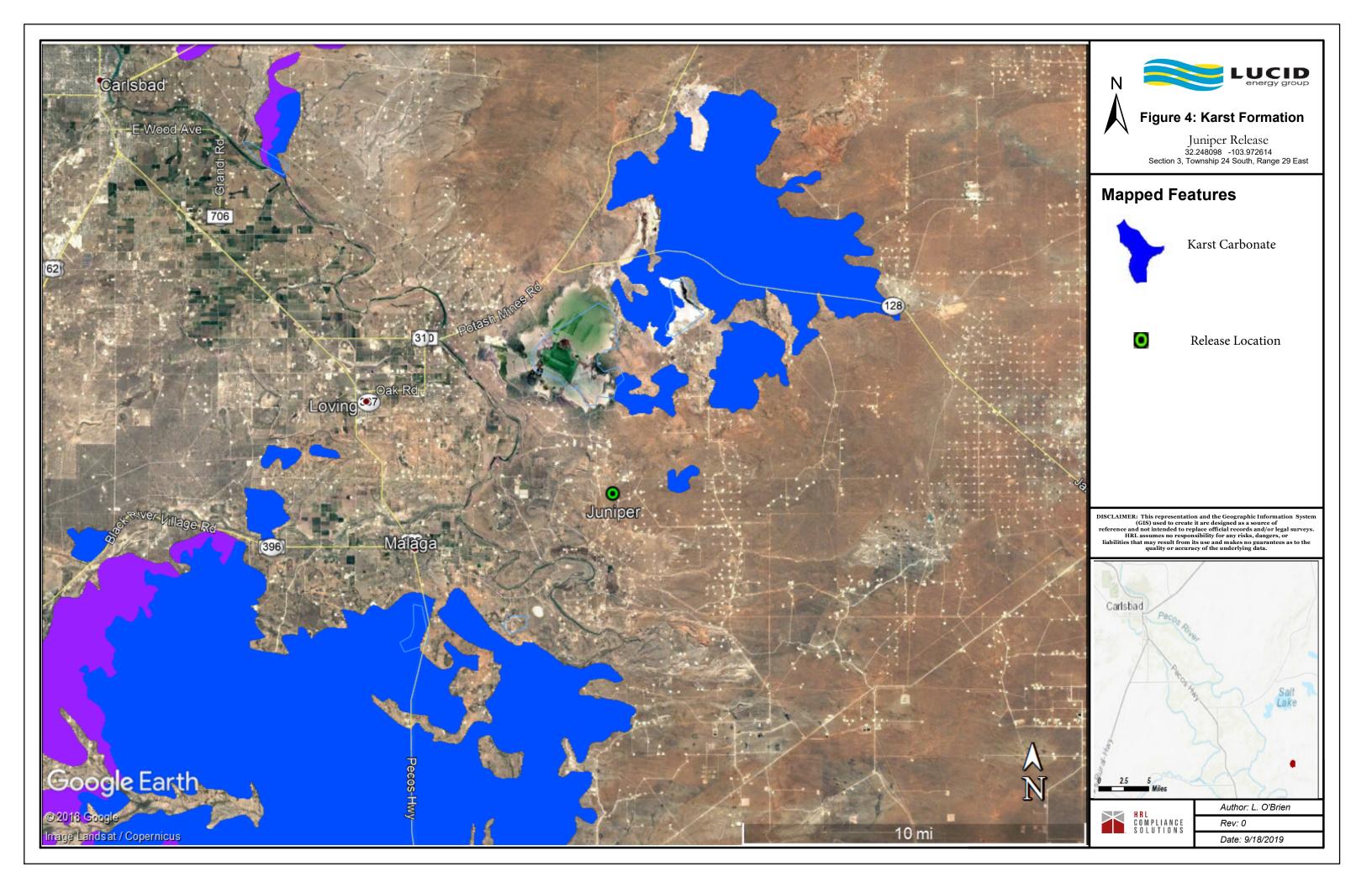


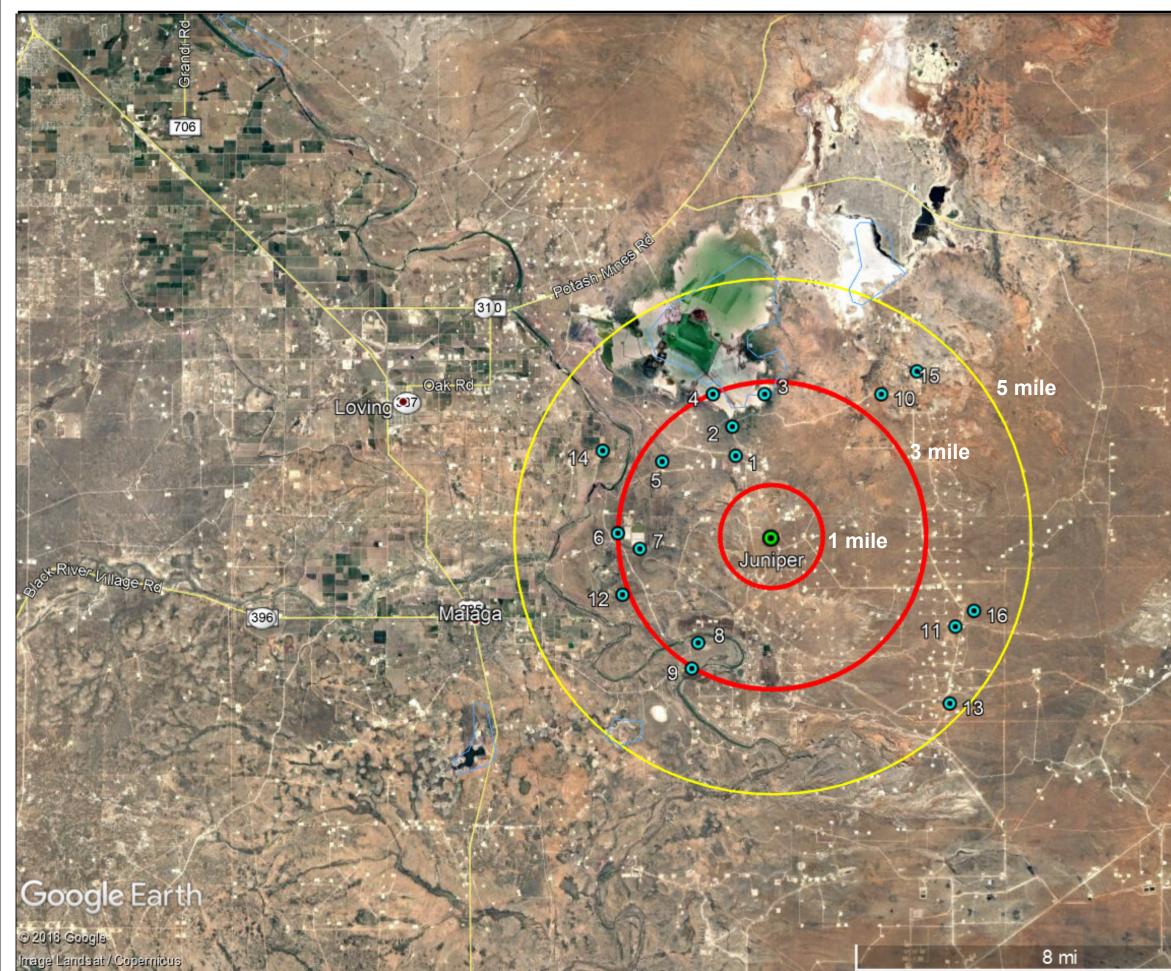










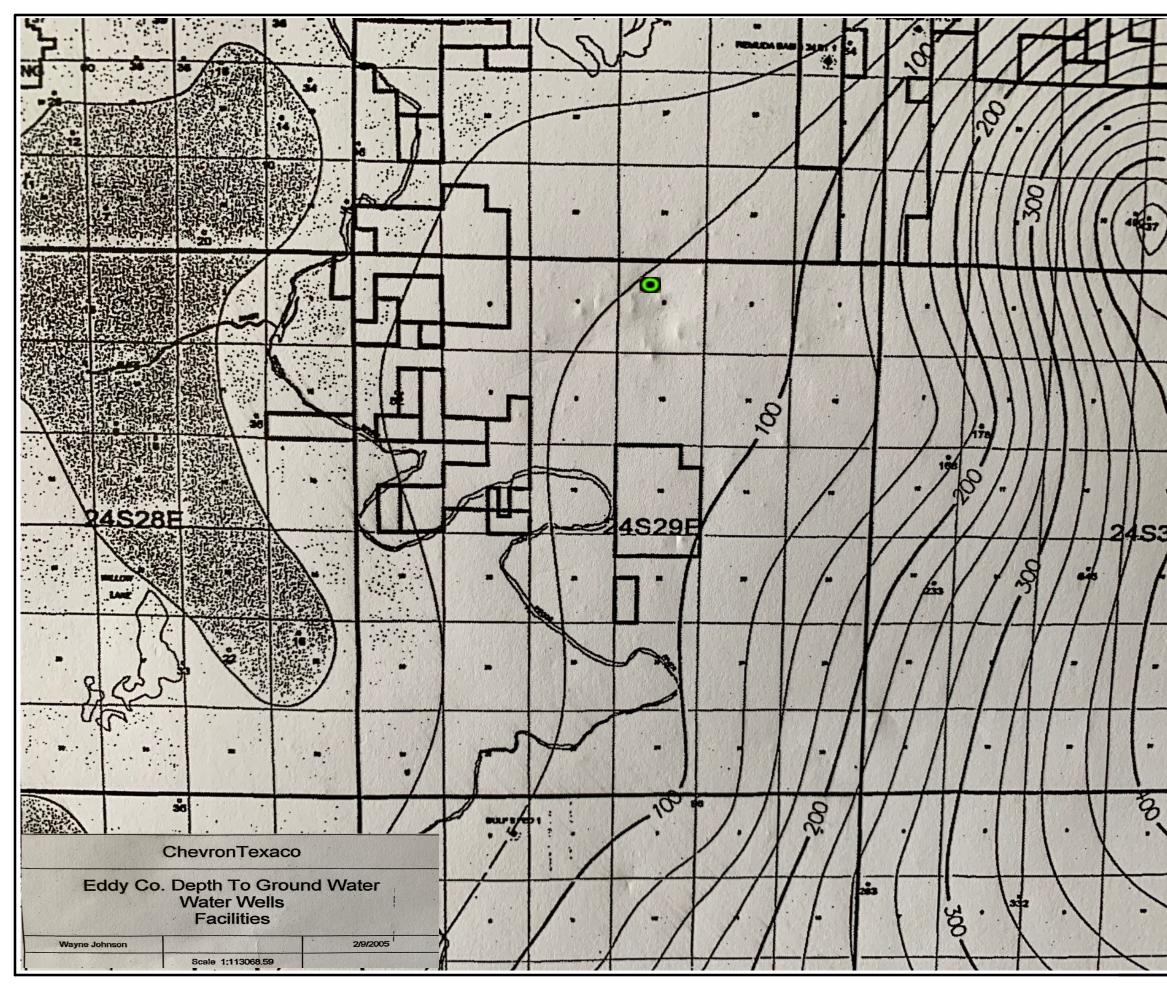


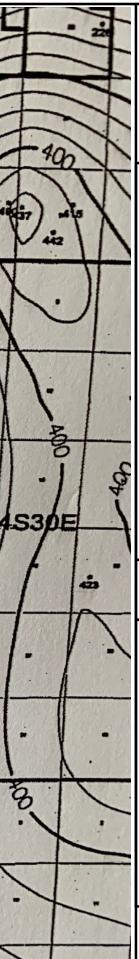


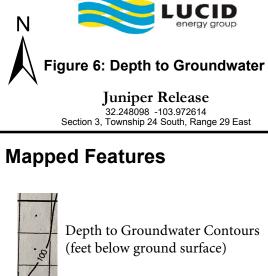


Rev: 0

Date: 9/18/2019



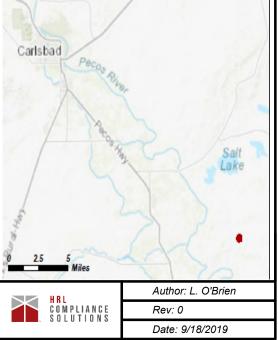


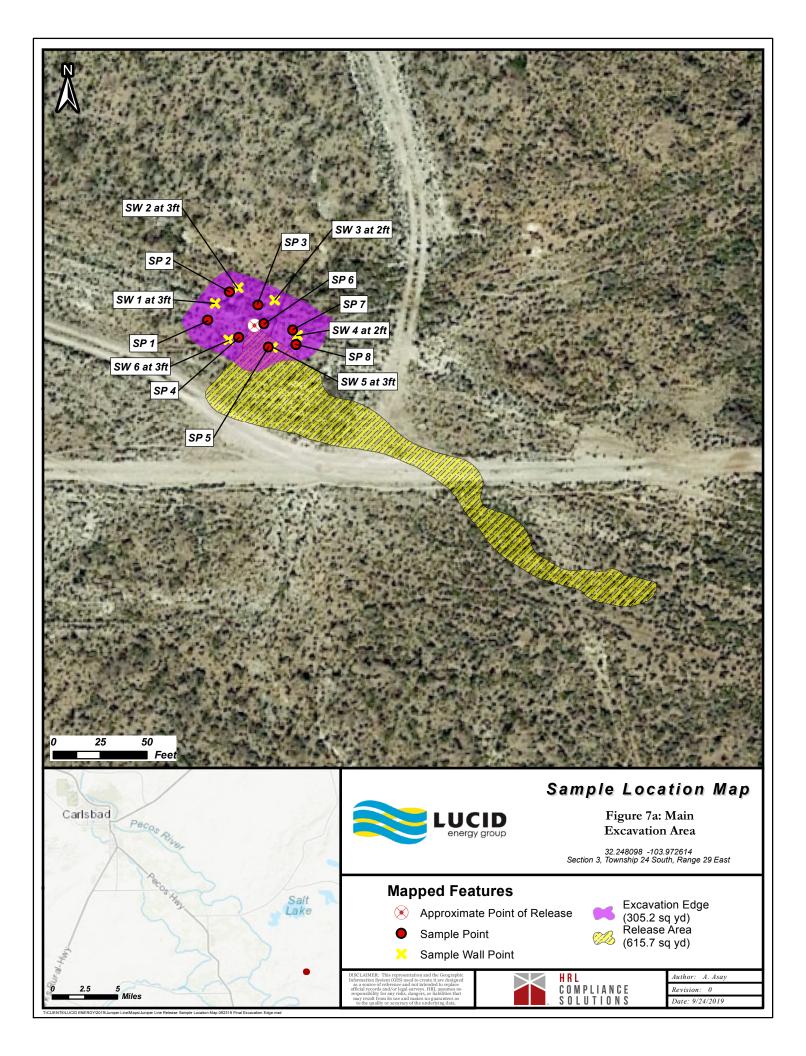


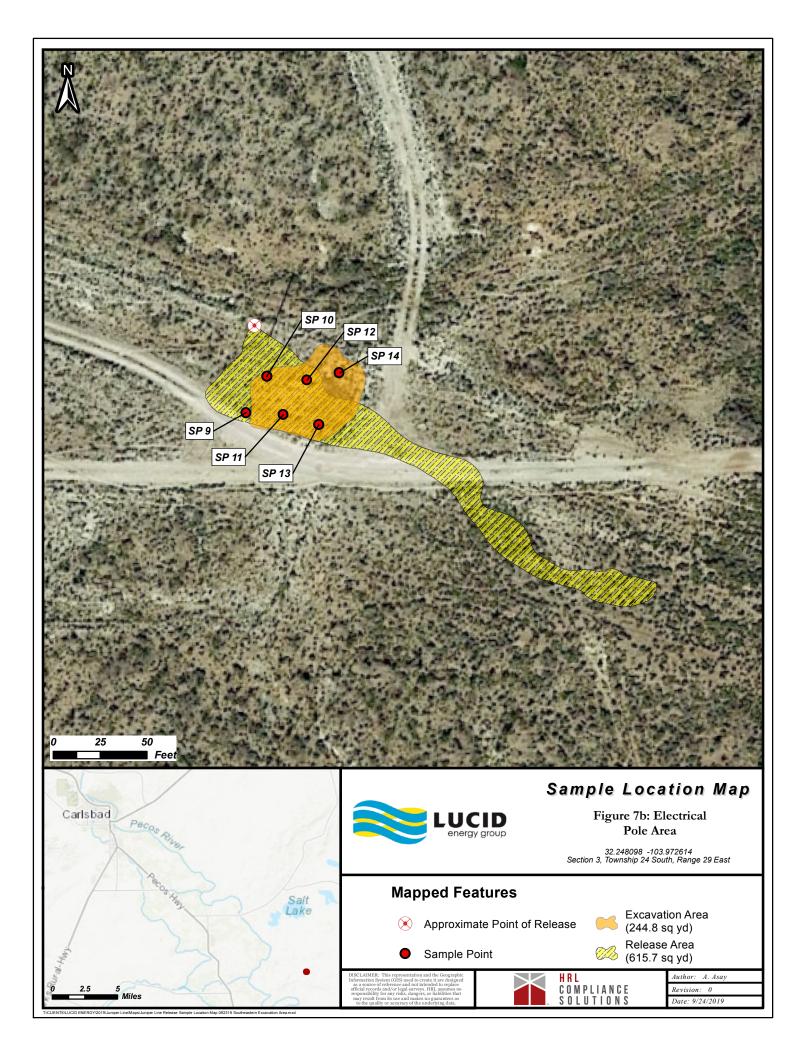


Approximate Release Point

DISCLAIMER: This representation and the Geographic Information System (GIS) used to create it are designed as a source of reference and not intended to replace official records and/or legal surveys. HRL assumes no responsibility for any risks, dangers, or liabilities that may result from its use and makes no guarantees as to the quality or accuracy of the underlying data.







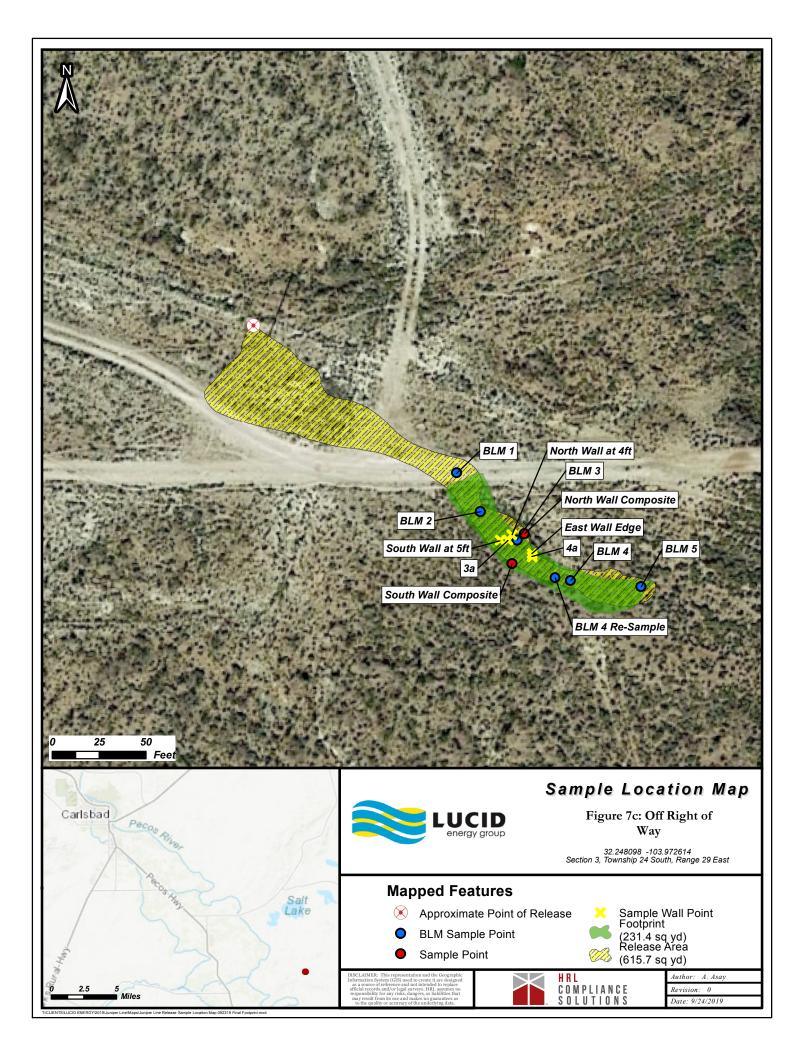


TABLE 1 - Water Well within 5 mile radius Lucid Energy Juniper Pipeline Release Juniper Section 3 - Twp 24S - RR 29E

Map ID	Well ID	Water Level	Distance from
		(ft)	Release (mi)
	OS	E Well Database	
1	1627	NA	1.74
2	2707	18	2.29
3	2797	NA	2.80
4	2721	NA	3.01
5	3587	44	2.59
6	3615 POD1	36	2.99
7	3615 POD2	26	2.57
8	863	NA	2.49
9	463	4	2.98
	USG	S - NWIS Databas	e
10	321717103561001	50.26	3.51
11	321321103544101	168.08	3.96
12	321355104012001	51.78	3.11
13	321205103544701	231.02	4.75
14	321615104014601	35.62	3.71
15	321742103552601	66.1	4.29
16	321339103541801	178.34	4.22
	AVERAGE:	75.77	

TABLE 2a - SOIL QUALITY - Initial Screening and Site Assessment Lucid Energy Juniper Pipeline Release Juniper Section 3 - Twp 24S - RR 29E

		Field EC	Lab EC	Chloride	Fluoride	Nitrite-N	Nitrate-N	Bromide	Sulfate	Calcium	Magnesium	Potassiun	n Sodium	Downowo	DTEV	GRO	DBO	
AREA ID	Date	(µS/cm)*	(µhos/cm)**		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)	(mg/kg)	DRO (mg/kg)	MRO (mg/kg)
PRELIMINARY	Date	(µ3/ cm/	(µ1103) (111)	((116/116/	(6/	(116/16/	(116/16/	(1.91,91	(116/16)	(116/16/	((IIIg/Kg)	(IIIg/Kg)	(IIIg/Kg)	(IIIg/Kg)	
Riser - North of Release Point Lab Order 1907A63																		
Initial Characterization East - Surface	18-Jul-19	6510		15000										ND	ND	ND	ND	ND
Initial Characterization East - 4ft	18-Jul-19	235		220										ND	ND	ND	ND	ND
Initial Characterization West - Surface	18-Jul-19	6150		22000										ND	ND	ND	ND	ND
Initial Characterization West - 4ft	18-Jul-19	257		200										ND	ND	ND	ND	ND
Trench - Release Point - Fill material surface, with increasing depth heterogeneo			zone(s) of sandy l															
Initial Characterization East - Base	18-Jul-18	7690		24000										ND	ND	ND	ND	ND
Initial Characterization East - South Wall	18-Jul-18	1740		4300										ND	ND	ND	ND	ND
Initial Characterization West - Base	18-Jul-18	2630		5400										ND	ND	ND	ND	ND
Initial Characterization Release Area - Base	18-Jul-18	7530		21000										0.076	6.116	100	140	95
Initial Characterization Release Area - South Wall	18-Jul-18	2590		9000										ND	ND	ND	ND	ND
Initial Characterization Release Area - North Wall (Sono Column)	18-Jul-18	15160		35000										ND	ND	9.9	25	ND
South - West Base	30-Jul-19	252																
South - Central Base	30-Jul-19	147																
South - East Base	30-Jul-19	325																
North - Sono Column Base	30-Jul-19	5490																
North - Sono Column Base (#2)	30-Jul-19	2500																
North - Sono Column Base (#3) North - Wall	30-Jul-19 30-Jul-19	4500 835																
North - Wall North - West Base	30-Jul-19 30-Jul-19	835 789																
Base under Sono Column @12'	1-Aug-19	1700	7070	3800	0.34	ND	0.96	37	980	82000	4500	640	1700					
Wall - North near Sono Column	1-Aug-19 1-Aug-19	1930	3970	1400	1.1	ND	2.8	13	300	66000	4300	710	710					
West - Base @8'	1-Aug-19 1-Aug-19	2700	7500	4700	0.43	ND	1.4	50	640	150000	4100	580	2500					
Base - Sono Column @16' (new install depth)	7-Aug-19	862	. 500	.,	3.45		1 .7	50	0-10	_50000	-500	500	2500					
Base - slope toward new cement base @8'	7-Aug-19	922		840														
East - Base @8'	7-Aug-19	2270																
Wall - East of Column @8' bench	7-Aug-19	2160		3300														
Surrounding Electrical Pole within RoW - Burnt ground - mixed materical - soil ar																		
Enterprise Line - Surface	31-Jul-19	11600																
Enterprise Line - @1'	31-Jul-19	5160																
Enterprise Line - @3'	31-Jul-19	1015																
Caliche material	31-Jul-19	389																
Oxy Line - Surface	31-Jul-19	4770																
Oxy Line - North	31-Jul-19	1980																
Oxy Line - West Test pit @3'	1-Aug-19	173																
Removal 2ft #1	7-Aug-19	2730		4600														
#2	7-Aug-19	366 230																
#3 #4	7-Aug-19 7-Aug-19	230 605																
#4 #5	7-Aug-19 7-Aug-19	4440		8000														
#5	7-Aug-19 7-Aug-19	4050		8000														
#7	7-Aug-19	3210																
#8	7-Aug-19	1110		3300														
#9	7-Aug-19	2430																
Vegetative Low Area - Mixed; number of RoW constructed and varying backfill u			y loam surface (<:	.ft), friable p	owdery soil (likely CaCO3)	varying dept	hs of caliche										
Initial Characterization Within visual release path	18-Jul-18	5850		11000				_						ND	ND	ND	ND	ND
Initial Characterization SE - outside of visual path	18-Jul-18	44		ND										ND	ND	ND	ND	ND
SE - Crestwood Gas Line@1'	1-Aug-19	94																
Removal 1ft Start point near Access and head SE - Base	8-Aug-19	2280																
North Base (@4')	8-Aug-19	434																
South Base	8-Aug-19	2100																
South Base #2 (@5')	8-Aug-19	101																
Removal 2 ft North Base	8-Aug-19	4650																
South Base	8-Aug-19	4140																
North Base (@3.5')	8-Aug-19	2160																
Base (@4.5')	8-Aug-19	109 515																
Near Crestwood Gas Line - hydrovac area Surface	8-Aug-19																	
Surface East of Crestwood Gas Line	8-Aug-19	879 131																
Access area - SE Toward Vegetation, outside RoW - Caliche Road Material	8-Aug-19	131																
Nearest release point #1	1-Aug-19	497																
Heading SE #2	1-Aug-19	10020																
Closest to Vegetation area #3	1-Aug-19 1-Aug-19	19740																
Removal 6" #1	1-Aug-19	123																
#2	1-Aug-19	486																
#3	1-Aug-19	1037																
			r															

TABLE 2b - SOIL QUALITY - Confirmatory Lucid Energy Juniper Pipeline Release Juniper Section 3 - Twp 24S - RR 29E

				Cl (mg/kg)	DRO	MRO	GRO	Benzene	BTEX
AREA	ID	Date	Field EC (µS/cm)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Confirmatory									
Main Trench Area - I	Base > 4ft and Wall < 4ft (5 pc								
	Base 1	14-Aug-19	1400	2300					
	Base 2	14-Aug-19	141	110					
	Base 3	14-Aug-19	286	250					
	Base 4	14-Aug-19	399	410					
	Base 5	14-Aug-19	566	1100					
	Base 6	14-Aug-19	260	220					
	Base 7	14-Aug-19	370	500					
	Base 8	14-Aug-19	307	320					
	Wall 1	14-Aug-19	153	210					
	Wall 2	14-Aug-19	181	160					
	Wall 3	14-Aug-19	160	60					
	Wall 4	14-Aug-19	624	980					
	Wall 5	14-Aug-19	170	250					
	Wall 6	14-Aug-19	264	200					
	Background (surface)	14-Aug-19	142	150					
Downgradient of Tre	ench - RoW Area near Electric	al Pole. See Figure #							
	Base 9	14-Aug-19	708	1900					
	Base 10	14-Aug-19	2530	4800					
	Base 11	14-Aug-19	1034	2400					
	Base 12	14-Aug-19	2560	5900					
	Base 13	14-Aug-19	856	1200					
	Base 14	14-Aug-19	142	ND					
Downgradient - Acce	ess								
	Road #1	15-Aug-19	850	550					
	Road #2/BLM1	15-Aug-19	3600	8800^					
Downgradient - Off	RoW Vegetation - Base 1-5ft	0 -							
	BLM2	15-Aug-19	1410	180					
	BLM3	15-Aug-19	1460	3300^					
	BLM4	15-Aug-19	878	1100^					
	BLM5	15-Aug-19	150	ND					
	Background #2	15-Aug-19	66	ND					
TOP SOIL - fill BLM		10 / 10 10							
Vegetated lands	Rawhide Road Pile	15-Aug-19		ND	ND	ND	ND	ND	ND

^ remove additional material and resample

14-Aug-19 Lab Order 1908928 15-Aug-19 Lab Order 1908962

TABLE 2c - SOIL QUALITY - Confirmatory Lucid Energy Juniper Pipeline Release Juniper Section 3 - Twp 24S - RR 29E

AREA	ID	Date	Field EC (μS/cm)	Cl (mg/kg)
Additional Excavation	on removal around BLM 3	8 & 4 - including wa	ll sampling. See	e Figure 7c
Downgradient - Acc	ess			
	Road #2/BLM1	5-Sep-19	100	79
	North Wall @ 2-4ft	28-Aug-19	257	200
	South Wall @ 2-4ft	28-Aug-19	236	280
Downgradient - Off	RoW Vegetation - Base 3-	5ft		
	BLM3 - Base @ 5ft	29-Aug-19	1045	1700
	North Wall @ 2-4ft	29-Aug-19	629	580
	South Wall @ 2-4ft	4-Sep-19	245	ND
	East Wall (Between	29-Aug-19	89	ND
	#3 and #4 sample pt)			
	BLM4 - Base @ 3ft	5-Sep-19	460	600

 August 28-29, 2019
 Lab Order 1909004

 September 4-5, 2019
 Lab Order 1909317



Appendix A: C-141 Notification

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	Lucid Energy Delaware, LLC.	OGRID 372422		
Contact Name	Michael Gant	Contact Telephone 575 748 4555		
Contact email	Mgant@lucid-energy.com	Incident # (assigned by OCD)		
Contact mailing address 201 S. 4th St., Artesia, NM 88210				

Location of Release Source

Latitude 32.248196°

Longitude -103.972532°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Juniper Pipeline release	Site Type Natural gas gathering
Date Release Discovered 7/15/2019	API# (if applicable)

l	Unit Letter	Section	Township	Range	County
	F	3	24S	29E	Eddy

Surface Owner: State Z Federal Tribal Private (Name: Bureau of Land Management

Nature and Volume of Release

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

Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
Produced Water	Volume Released (bbls) 20 bbls	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	Yes No
Condensate	Volume Released (bbls)	Volume Recovered (bbls)
🗹 Natural Gas	Volume Released (Mcf) 1.5 MMcf	Volume Recovered (Mcf)
Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
~ AR 1		· ·

Cause of Release

The release was caused by flow erosion of the Juniper 8" polyethylene gas line. The release of gas was then ignited by nearby electrical power lines causing a fire which melted through the now exposed produced water line. The fire melted the produced water line and released approximately 20 bbls of produced water.

Page 2

State of New Mexico Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

	Application ID				
	If YES, for what reason(s) does the responsible party consider this a major release? This is a major release based on the volume of natural gas and produced water released.				
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Immediate notification was provided to OCD by Kerry Egan to Rob Hamlet/ Victoria Venegas/ Mike Bratcher in District 2 on Monday 7/15/19 via email.					
Initial Response The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury					
The source of the release has been stopped.					
The impacted area has been secured to protect human health and the environment.					
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.					
All free liquids and recoverable materials have been removed and managed appropriately.					
If all the actions described above have <u>not</u> been undertaken, explain why:					
Free liquids were removed by vac truck immediately following shut down of surrounding wells and power lines. The affected area has been barricaded with fencing to prevent entrance by livestock and the public.					
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation					

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

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

Signature:

Title: Environmental Field Coordinator

email: mgant@lucid-energy.com

Now

Date: 7.29.19

Telephone: 314 330 7876

OCD Only

Received by:

Date: _____

State of New Mexico Oil Conservation Division

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.

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

A scaled site and sampling diagram as described in 19.15.29.11 NMAC

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

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

 \square Description of remediation activities

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

Printed Name: Michael Gant	Title: Environmental Coordinator			
Signature: <u>MGant</u>	Date: 10.2.2019			
email:mgant@lucid-energy.com	Telephone: 314 330 7876			
OCD Only				
Received by:	_ Date:			
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.				
Closure Approved by:	Date:			
Printed Name:				



Appendix B: Photographs





Photo 1: Initial Release Surficial Path – looking NW at Release Point



Photo 2: Burnt Area from Electrical Fire – looking South



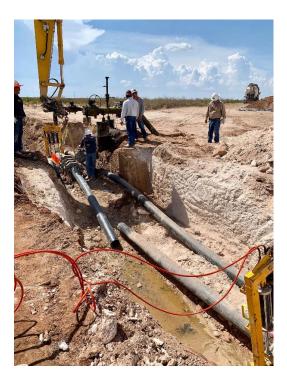


Photo 3: Main Excavation Pipeline Repair



Photo 4: Main Excavation





Photo 5: Main Excavation – looking SE toward new electrical pole



Photo 6: Main Excavation (12ft)- mixture of caliche and soil at depth





Photo 7: Main Excavation- heterogeneous subsurface caliche and soil



Photo 8: Main Excavation – new sono column (TD = 16ft)





Photo 9: Area Around Electrical Pole and Burnt Surface – looking South



Photo 10: Area Around Electrical Pole and Burnt Surface – looking NW at pole





Photo 11: Area Around Electrical Pole and Burnt Surface – Test Pit showing ~20" of unconsolidated material overlying hardpan (caliche)



Photo 12: Access Area – scraping surface looking SE





Photo 13: Off Right of Way – migration of water impacts looking SE

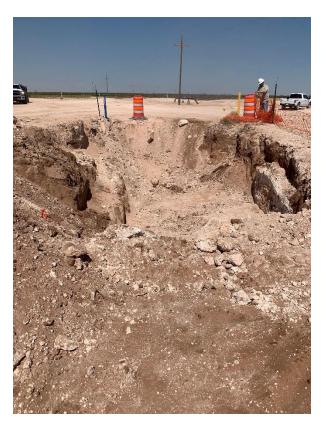


Photo 14: Off Right of Way Excavation – looking NW toward release point (electrical pole in distance)





Photo 15: Off Right of Way Excavation – looking East – heterogeneous material north wall



Photo 16: Off Right of Way Excavation – looking North – heterogeneous material north wall

Lucid Juniper Line - Fire July 15, 2019





Photo 17: Off Right of Way Excavation – looking SE at south wall



Photo 18: Off Right of Way Excavation – looking SE at final excavation area

Lucid Juniper Line - Fire July 15, 2019





Photo 19: Restoration of Access and Area Around Electrical Pole– looking SE at final excavation area and clean caliche backfill pile



Photo 20: Off Right of Way Surface Restoration – looking SE



Appendix C: Laboratory Results



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

July 29, 2019

Lori O'Brien Lucid Energy Delaware 326 WEst Quay St Artesia, NM 88210 TEL: (575) 513-8988 FAX

RE: Juniper Spill Site

OrderNo.: 1907A63

Dear Lori O'Brien:

Hall Environmental Analysis Laboratory received 12 sample(s) on 7/20/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware

Juniper Spill Site **Project:**

Lab ID: 1907A63-001 Client Sample ID: Riser-East-Surf Collection Date: 7/18/2019 2:00:00 PM Received Date: 7/20/2019 9:40:00 AM

Analyst: BRM
7/00/0040 40:40:44 DM
7/22/2019 12:19:44 PM
7/22/2019 12:19:44 PM
7/22/2019 12:19:44 PM
Analyst: NSB
7/22/2019 9:46:56 AM
7/22/2019 9:46:56 AM
Analyst: NSB
7/22/2019 9:46:56 AM
Analyst: MRA
7/22/2019 1:09:20 PM

Matrix: SOIL

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 S

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

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware

Project: Juniper Spill Site

Lab ID: 1907A63-002

Client Sample ID: Riser-East-4Ft Collection Date: 7/18/2019 2:00:00 PM Received Date: 7/20/2019 9:40:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	7/22/2019 12:42:00 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	7/22/2019 12:42:00 PM
Surr: DNOP	77.5	70-130	%Rec	1	7/22/2019 12:42:00 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.3	mg/Kg	1	7/22/2019 10:10:24 AM
Surr: BFB	86.0	73.8-119	%Rec	1	7/22/2019 10:10:24 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.022	mg/Kg	1	7/22/2019 10:10:24 AM
Toluene	ND	0.043	mg/Kg	1	7/22/2019 10:10:24 AM
Ethylbenzene	ND	0.043	mg/Kg	1	7/22/2019 10:10:24 AM
Xylenes, Total	ND	0.086	mg/Kg	1	7/22/2019 10:10:24 AM
Surr: 4-Bromofluorobenzene	86.9	80-120	%Rec	1	7/22/2019 10:10:24 AM
EPA METHOD 300.0: ANIONS					Analyst: MRA
Chloride	220	60	mg/Kg	20	7/22/2019 12:07:18 PM
Chloride	220	60	mg/Kg	20	7/22/2019 12:07

Matrix: SOIL

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

Qualifiers:

*

- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix
- D Sample Diluted Due to MatrixH 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 2 of 18

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware

Juniper Spill Site **Project:**

Lab ID: 1907A63-003 Client Sample ID: Riser-West-Surf Collection Date: 7/18/2019 2:00:00 PM Received Date: 7/20/2019 9:40:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	7/22/2019 1:29:38 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	7/22/2019 1:29:38 PM
Surr: DNOP	87.8	70-130	%Rec	1	7/22/2019 1:29:38 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	7/22/2019 10:33:53 AM
Surr: BFB	90.5	73.8-119	%Rec	1	7/22/2019 10:33:53 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.019	mg/Kg	1	7/22/2019 10:33:53 AM
Toluene	ND	0.038	mg/Kg	1	7/22/2019 10:33:53 AM
Ethylbenzene	ND	0.038	mg/Kg	1	7/22/2019 10:33:53 AM
Xylenes, Total	ND	0.076	mg/Kg	1	7/22/2019 10:33:53 AM
Surr: 4-Bromofluorobenzene	91.3	80-120	%Rec	1	7/22/2019 10:33:53 AM
EPA METHOD 300.0: ANIONS					Analyst: MRA
Chloride	22000	1500	mg/Kg	500	7/22/2019 1:21:44 PM

Matrix: SOIL

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 S

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

Page 3 of 18

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware

1907A63-004

Juniper Spill Site **Project:**

Lab ID:

Client Sample ID: Riser-West-4Ft Collection Date: 7/18/2019 2:15:00 PM Received Date: 7/20/2019 9:40:00 AM

Analyses	Result	RL Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	7/22/2019 1:51:46 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	7/22/2019 1:51:46 PM
Surr: DNOP	80.8	70-130	%Rec	1	7/22/2019 1:51:46 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.2	mg/Kg	1	7/22/2019 10:57:22 AM
Surr: BFB	89.8	73.8-119	%Rec	1	7/22/2019 10:57:22 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.021	mg/Kg	1	7/22/2019 10:57:22 AM
Toluene	ND	0.042	mg/Kg	1	7/22/2019 10:57:22 AM
Ethylbenzene	ND	0.042	mg/Kg	1	7/22/2019 10:57:22 AM
Xylenes, Total	ND	0.085	mg/Kg	1	7/22/2019 10:57:22 AM
Surr: 4-Bromofluorobenzene	91.1	80-120	%Rec	1	7/22/2019 10:57:22 AM
EPA METHOD 300.0: ANIONS					Analyst: MRA
Chloride	200	60	mg/Kg	20	7/22/2019 12:56:55 PM

Matrix: SOIL

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 S

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

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware

Juniper Spill Site **Project:**

Lab ID: 1907A63-005 Client Sample ID: Trench-East-Base Collection Date: 7/18/2019 2:15:00 PM Received Date: 7/20/2019 9:40:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	7/22/2019 2:59:07 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	7/22/2019 2:59:07 PM
Surr: DNOP	87.9	70-130	%Rec	1	7/22/2019 2:59:07 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	7/23/2019 10:00:08 PM
Surr: BFB	105	73.8-119	%Rec	1	7/23/2019 10:00:08 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	7/23/2019 10:00:08 PM
Toluene	ND	0.050	mg/Kg	1	7/23/2019 10:00:08 PM
Ethylbenzene	ND	0.050	mg/Kg	1	7/23/2019 10:00:08 PM
Xylenes, Total	ND	0.099	mg/Kg	1	7/23/2019 10:00:08 PM
Surr: 4-Bromofluorobenzene	89.2	80-120	%Rec	1	7/23/2019 10:00:08 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	24000	1500	mg/Kg	500	7/25/2019 10:39:14 PM

Matrix: SOIL

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 S

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

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware

Juniper Spill Site **Project:**

Lab ID: 1907A63-006 Client Sample ID: Trench-West-Base Collection Date: 7/18/2019 2:15:00 PM Received Date: 7/20/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/22/2019 3:21:15 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/22/2019 3:21:15 PM
Surr: DNOP	69.4	70-130	S	%Rec	1	7/22/2019 3:21:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/23/2019 11:08:15 PM
Surr: BFB	109	73.8-119		%Rec	1	7/23/2019 11:08:15 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/23/2019 11:08:15 PM
Toluene	ND	0.049		mg/Kg	1	7/23/2019 11:08:15 PM
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2019 11:08:15 PM
Xylenes, Total	ND	0.098		mg/Kg	1	7/23/2019 11:08:15 PM
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	7/23/2019 11:08:15 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	5400	150		mg/Kg	50	7/25/2019 11:41:17 PM

Matrix: SOIL

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 S

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

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware

Project: Juniper Spill Site

Lab ID: 1907A63-007

Client Sample ID: Trench-Release-Base Collection Date: 7/18/2019 2:15:00 PM Received Date: 7/20/2019 9:40:00 AM

140 95 99.4	9.1 46 70-130		mg/Kg mg/Kg %Rec	1 1 1	Analyst: BRM 7/22/2019 3:43:32 PM 7/22/2019 3:43:32 PM 7/22/2019 3:43:32 PM
95 99.4	46		mg/Kg	1	7/22/2019 3:43:32 PM
99.4			0 0	-	
	70-130		%Rec	1	7/22/2019 3:43:32 PM
100					
400					Analyst: NSB
100	4.8		mg/Kg	1	7/23/2019 11:30:58 PM
502	73.8-119	S	%Rec	1	7/23/2019 11:30:58 PM
					Analyst: NSB
.076	0.024		mg/Kg	1	7/23/2019 11:30:58 PM
1.5	0.048		mg/Kg	1	7/23/2019 11:30:58 PM
0.64	0.048		mg/Kg	1	7/23/2019 11:30:58 PM
3.9	0.096		mg/Kg	1	7/23/2019 11:30:58 PM
125	80-120	S	%Rec	1	7/23/2019 11:30:58 PM
					Analyst: CAS
000	1500		mg/Kg	500	7/25/2019 10:51:39 PM
•	502 .076 1.5 0.64 3.9	502 73.8-119 .076 0.024 1.5 0.048 0.64 0.048 3.9 0.096 125 80-120	502 73.8-119 S .076 0.024 1.5 0.048 0.64 0.048 3.9 0.096 125 80-120 S	502 73.8-119 S %Rec .076 0.024 mg/Kg 1.5 0.048 mg/Kg 0.64 0.048 mg/Kg 3.9 0.096 mg/Kg 125 80-120 S %Rec	502 73.8-119 S %Rec 1 .076 0.024 mg/Kg 1 1.5 0.048 mg/Kg 1 0.64 0.048 mg/Kg 1 3.9 0.096 mg/Kg 1 125 80-120 S %Rec 1

Matrix: SOIL

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

Qualifiers:

Value exceeds Maximum Contaminant Level.
 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

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware

Project: Juniper Spill Site

Lab ID: 1907A63-008

Client Sample ID: Trench-East-S. Wall Collection Date: 7/18/2019 2:30:00 PM Received Date: 7/20/2019 9:40:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	7/22/2019 4:05:44 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	7/22/2019 4:05:44 PM
Surr: DNOP	90.4	70-130	%Rec	1	7/22/2019 4:05:44 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/23/2019 11:53:44 PM
Surr: BFB	109	73.8-119	%Rec	1	7/23/2019 11:53:44 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	7/23/2019 11:53:44 PM
Toluene	ND	0.049	mg/Kg	1	7/23/2019 11:53:44 PM
Ethylbenzene	ND	0.049	mg/Kg	1	7/23/2019 11:53:44 PM
Xylenes, Total	ND	0.098	mg/Kg	1	7/23/2019 11:53:44 PM
Surr: 4-Bromofluorobenzene	90.5	80-120	%Rec	1	7/23/2019 11:53:44 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	4300	150	mg/Kg	50	7/25/2019 11:53:41 PM

Matrix: SOIL

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

Qualifiers:

*

- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix
- D Sample Diluted Due to MatrixH 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

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware

Juniper Spill Site **Project:**

Lab ID: 1907A63-009 Client Sample ID: Trench-Release-S. Wall Collection Date: 7/18/2019 2:30:00 PM Received Date: 7/20/2019 9:40:00 AM

Analyses	Result	RL Qu	ual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OF	RGANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	7/22/2019 7:26:38 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	7/22/2019 7:26:38 PM
Surr: DNOP	85.7	70-130	%Rec	1	7/22/2019 7:26:38 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	7/24/2019 12:16:22 AM
Surr: BFB	107	73.8-119	%Rec	1	7/24/2019 12:16:22 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	7/24/2019 12:16:22 AM
Toluene	ND	0.047	mg/Kg	1	7/24/2019 12:16:22 AM
Ethylbenzene	ND	0.047	mg/Kg	1	7/24/2019 12:16:22 AM
Xylenes, Total	ND	0.095	mg/Kg	1	7/24/2019 12:16:22 AM
Surr: 4-Bromofluorobenzene	88.9	80-120	%Rec	1	7/24/2019 12:16:22 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	9000	600	mg/Kg	200	7/26/2019 12:06:06 AM

Matrix: SOIL

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 S

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

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware

Juniper Spill Site **Project:**

Lab ID: 1907A63-010 Client Sample ID: Trench-Release-N. Wall Collection Date: 7/18/2019 2:30:00 PM Received Date: 7/20/2019 9:40:00 AM

NICS 25 ND	9.9 49		mg/Kg	1	Analyst: BRM
ND			mg/Kg	1	
	49			1	7/22/2019 7:49:06 PM
			mg/Kg	1	7/22/2019 7:49:06 PM
94.6	70-130		%Rec	1	7/22/2019 7:49:06 PM
					Analyst: NSB
9.9	4.8		mg/Kg	1	7/24/2019 12:39:04 AM
140	73.8-119	S	%Rec	1	7/24/2019 12:39:04 AM
					Analyst: NSB
ND	0.024		mg/Kg	1	7/24/2019 12:39:04 AM
ND	0.048		mg/Kg	1	7/24/2019 12:39:04 AM
ND	0.048		mg/Kg	1	7/24/2019 12:39:04 AM
ND	0.095		mg/Kg	1	7/24/2019 12:39:04 AM
95.7	80-120		%Rec	1	7/24/2019 12:39:04 AM
					Analyst: CAS
35000	1500		mg/Kg	500	7/25/2019 11:04:03 PM
	140 ND ND ND 95.7	9.94.814073.8-119ND0.024ND0.048ND0.048ND0.09595.780-120	9.9 4.8 140 73.8-119 S ND 0.024 ND 0.048 ND 0.048 ND 0.095 95.7 80-120	9.9 4.8 mg/Kg 140 73.8-119 S %Rec ND 0.024 mg/Kg ND 0.048 mg/Kg ND 0.048 mg/Kg ND 0.095 mg/Kg 95.7 80-120 %Rec	9.9 4.8 mg/Kg 1 140 73.8-119 S %Rec 1 ND 0.024 mg/Kg 1 ND 0.048 mg/Kg 1 ND 0.048 mg/Kg 1 ND 0.095 mg/Kg 1 95.7 80-120 %Rec 1

Matrix: SOIL

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 S

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

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware

Juniper Spill Site **Project:**

Lab ID: 1907A63-011 Client Sample ID: SE-Ditch-Stain#1 Collection Date: 7/18/2019 3:15:00 PM Received Date: 7/20/2019 9:40:00 AM

ate Analyzed
Analyst: BRM
7/22/2019 8:11:18 PM
//22/2019 8:11:18 PM
/22/2019 8:11:18 PM
Analyst: NSB
7/24/2019 1:24:35 AM
//24/2019 1:24:35 AM
Analyst: NSB
7/24/2019 1:24:35 AM
//24/2019 1:24:35 AM
Analyst: CAS
//26/2019 12:18:31 AM
7777

Matrix: SOIL

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 S

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

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Analytical Report Lab Order 1907A63

Date Reported: 7/29/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware

Lab ID:

Juniper Spill Site **Project:**

1907A63-012

Client Sample ID: SE-Ditch-#2 Collection Date: 7/18/2019 3:15:00 PM Received Date: 7/20/2019 9:40:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	7/22/2019 8:33:22 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	7/22/2019 8:33:22 PM
Surr: DNOP	97.2	70-130	%Rec	1	7/22/2019 8:33:22 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/24/2019 1:47:22 AM
Surr: BFB	106	73.8-119	%Rec	1	7/24/2019 1:47:22 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	7/24/2019 1:47:22 AM
Toluene	ND	0.049	mg/Kg	1	7/24/2019 1:47:22 AM
Ethylbenzene	ND	0.049	mg/Kg	1	7/24/2019 1:47:22 AM
Xylenes, Total	ND	0.097	mg/Kg	1	7/24/2019 1:47:22 AM
Surr: 4-Bromofluorobenzene	90.4	80-120	%Rec	1	7/24/2019 1:47:22 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	ND	60	mg/Kg	20	7/25/2019 5:16:35 PM

Matrix: SOIL

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 S

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

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#:	1907A63
	29-Jul-19

Client: Project:	Lucid En Juniper S	ergy Delaware pill Site									
Sample ID:	MB-46301	-46301 SampType: MBLK				TestCode: EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID: 46	301	F	lunNo: 61	1554					
Prep Date:	7/22/2019	Analysis Date: 7	/22/2019	S	SeqNo: 20	087068	Units: mg/K	g			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride		ND 1.5									
Sample ID:	LCS-46301	SampType: L(cs	Tes	tCode: EF	PA Method	300.0: Anion	s			
Client ID:	LCSS	Batch ID: 46	301	F	tunNo: 61	1554					
Prep Date:	7/22/2019	Analysis Date: 7	/22/2019	S	eqNo: 20	087069	Units: mg/K	g			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride		14 1.5	15.00	0	92.5	90	110				
Sample ID:	MB-46374	SampType: M	BLK	Tes	tCode: EF	PA Method	300.0: Anion	s			
Client ID:	PBS	Batch ID: 46	374	F	RunNo: 61634						
Prep Date:	7/24/2019	Analysis Date: 7	/24/2019	S	eqNo: 20	089324	Units: mg/Kg				
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride		ND 1.5									
Sample ID:	LCS-46374	SampType: L	cs	Tes	tCode: EF	PA Method	300.0: Anion	s			
Client ID:	LCSS	Batch ID: 46	374	RunNo: 61634							
Prep Date:	7/24/2019	Analysis Date: 7	/24/2019	SeqNo: 2089325			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:	MB-46399	SampType: M	BLK	Tes	tCode: EF	PA Method	300.0: Anion	s			
Client ID:	PBS	Batch ID: 46	399	F	lunNo: 61	1687					
Prep Date:	7/25/2019	Analysis Date: 7	/25/2019	S	SeqNo: 20	091060	Units: mg/K	g			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride		ND 1.5									
Sample ID:	LCS-46399	SampType: LO	CS	Tes	tCode: EF	PA Method	300.0: Anion	s			
Client ID:	LCSS	Batch ID: 46	399	F	lunNo: 61	1687					
Prep Date:	7/25/2019	Analysis Date: 7	/25/2019	S	eqNo: 20	091061	Units: mg/K	g			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride		14 1.5	15.00	0	91.1	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

WO#:	1907A63
	29-Jul-19

Client: Project:	Lucid Ene Juniper S	ergy Delav pill Site	vare								
Sample ID: LC	S-46299	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: LC	ss	Batch	n ID: 46	299	R	unNo: 61	551				
Prep Date: 7	/22/2019	Analysis D	ate: 7/	22/2019	S	eqNo: 20	086155	Units: mg/k	٤g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Orga	anics (DRO)	47	10	50.00	0	94.1	63.9	124			
Surr: DNOP		4.1		5.000		82.9	70	130			
Sample ID: MI	B-46299	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: PE	BS	Batch	n ID: 46	299	R	lunNo: 61	1551				
Prep Date: 7	/22/2019	Analysis D	ate: 7/	22/2019	S	SeqNo: 2086156 Units: mg/Kg					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Orga	anics (DRO)	ND	10								
Votor Oil Range O	rganics (MRO)	ND	50								
Surr: DNOP		8.3		10.00		83.2	70	130			
Sample ID: 19	07A63-001AMS	SampT	ype: MS	3	Test	tCode: EF	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: Ris	ser-East-Surf	Batch	n ID: 46	299	RunNo: 61551						
Prep Date: 7	/22/2019	Analysis D	ate: 7/	22/2019	SeqNo: 2086529 Units: mg/Kg						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Orga	anics (DRO)	45	10	49.95	0	90.4	57	142			
Surr: DNOP		4.1		4.995		82.6	70	130			
Sample ID: 19	07A63-001AMSI) SampT	ype: MS	SD	Test	tCode: EF	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: Ris	ser-East-Surf	Batch	n ID: 46	299	R	unNo: 61	1551				
Prep Date: 7	/22/2019	Analysis D	ate: 7/	22/2019	S	eqNo: 20	086530	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Orga	anics (DRO)	35	8.7	43.59	0	80.9	57	142	24.6	20	R
Surr: DNOP		3.4		4.359		77.2	70	130	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

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Client: Project:	Lucid Energ Juniper Spill	•	re									
Sample ID: RB		SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range										
Client ID: PBS		Batch I	D: G6 1	1546	F	RunNo: 61	1546					
Prep Date:	Ar	nalysis Dat	e: 7/2	2/2019	S	SeqNo: 20	086492	Units: mg/K	g			
Analyte	F	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organ Surr: BFB	ics (GRO)	ND 1000	5.0	1000		102	73.8	119				
Sample ID: 2.5UG	GRO LCS	SampTyp	e: LCS	S	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e		
Client ID: LCSS		Batch I	D: G6 1	1546	F	RunNo: 61	1546					
Prep Date:	Ar	nalysis Dat	e: 7/2	2/2019	S	SeqNo: 20	086493	Units: mg/K	g			
Analyte	F	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organ	ics (GRO)	21	5.0	25.00	0	85.4	80.1	123				
Surr: BFB		1000		1000		103	73.8	119				
Sample ID: 1907A63-001AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range												
Client ID: Riser-	-East-Surf	Batch ID: G61546			RunNo: 61546							
Prep Date:	Ar	nalysis Dat	ie: 7/2	2/2019	S	SeqNo: 20	086495	Units: mg/Kg				
Analyte	F	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organ	ics (GRO)	16	3.6	17.81	0	90.3	69.1	142				
Surr: BFB		790		712.2		111	73.8	119				
Sample ID: 1907A	A63-001AMSD	SampTyp	be: MS	D	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e		
Client ID: Riser-	-East-Surf	Batch I	D: G6 1	1546	RunNo: 61546							
Prep Date:	Ar	nalysis Dat	e: 7/2	22/2019	S	SeqNo: 20)86496	Units: mg/Kg				
Analyte	F	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organ	ics (GRO)	16	3.6	17.81	0	88.5	69.1	142	2.01	20		
Surr: BFB		790		712.3		111	73.8	119	0	0		
Sample ID: MB-40	6308	SampTyp	e: MB	LK	Tes	tCode: EF	Code: EPA Method 8015D: Gasoline Range					
Client ID: PBS		Batch I	D: 463	808	F	RunNo: 61	1588					
Prep Date: 7/22	/2019 Ar	nalysis Dat	e: 7/2	23/2019	S	SeqNo: 20	087823	Units: mg/K	g			
Analyte	F	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organ Surr: BFB	ics (GRO)	ND 950	5.0	1000		95.1	73.8	119				
Sample ID: LCS-4	16308	SampTyp	e: LCS	s	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e		
Client ID: LCSS		Batch I	D: 463	808	F	RunNo: 61	1588					

Qualifiers:

Analyte

* 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

Prep Date: 7/22/2019

% Recovery outside of range due to dilution or matrix S

Analysis Date: 7/23/2019

PQL

Result

в Analyte detected in the associated Method Blank

SeqNo: 2087824

Units: mg/Kg

%RPD

HighLimit

Е Value above quantitation range

SPK value SPK Ref Val %REC LowLimit

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 15 of 18

RPDLimit

Qual

WO#:	1907A63
	20 T. 1 10

29-Jul-19

Client: Project:	Lucid Ene Juniper S	ergy Delaw	/are								
110ject.	Juniper S	pin Site									
Sample ID: LCS-4	6308	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015D: Gasol	ine Rang	e	
Client ID: LCSS		Batch	ID: 46	308	F	RunNo: 6'	1588				
Prep Date: 7/22/	2019	Analysis D	ate: 7/	23/2019	S	SeqNo: 20	087824	Units: mg/K	9		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organi	ics (GRO)	23	5.0	25.00	0	92.2	80.1	123			
Surr: BFB		1000		1000		104	73.8	119			
Sample ID: MB-46	6343	SampT	ype: ME	BLK	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS		Batch	ID: 46	343	RunNo: 61629						
Prep Date: 7/23/	2019	Analysis D	ate: 7/	24/2019	S	SeqNo: 20	088935	Units: %Rec			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		1100		1000		106	73.8	119			
Sample ID: LCS-4	6343	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015D: Gasol	ine Rang	e	
Client ID: LCSS		Batch	ID: 46	343	F	RunNo: 6	1629				
Prep Date: 7/23/	2019	Analysis D	ate: 7/	24/2019	S	SeqNo: 20	088936	Units: %Rec			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		1200		1000		118	73.8	119			

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

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

1907A63
29-Jul-19

Client: Project:	Lucid Ene Juniper Sj	0.	ware								
Sample ID:	RB	SampT	SampType: MBLK TestCode: EPA Method 8021B: Volatiles								
Client ID:	PBS	Batcl	h ID: B6	1546	F	RunNo: 6	1546				
Prep Date:		Analysis E	Date: 7/	22/2019	S	SeqNo: 20	086510	Units: mg/k	٢g		
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-Brom	ofluorobenzene	1.0		1.000		103	80	120			
Sample ID:	100NG BTEX LCS	SampT	Type: LC	S	Tes	tCode: EF	PA Method	8021B: Volat	tiles		
Client ID:	LCSS	Batc	h ID: B6	1546	F	RunNo: 6	1546				
Prep Date:		Analysis E	Date: 7/	22/2019	S	SeqNo: 20	086511	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.96	0.025	1.000	0	96.2	80	120			
Toluene		1.0	0.050	1.000	0	99.9	80	120			
Ethylbenzene		0.97	0.050	1.000	0	97.2	80	120			
Xylenes, Total		2.9	0.10	3.000	0	96.6	80	120			
Surr: 4-Brom	ofluorobenzene	0.90		1.000		90.3	80	120			
Sample ID:	1907A63-002AMS	SampT	Гуре: МS	6	Tes	tCode: EF	PA Method	8021B: Volat	tiles		
Client ID:	Riser-East-4Ft	Batc	h ID: B6	1546	F	RunNo: 6					
Prep Date:		Analysis E	Date: 7/	22/2019	SeqNo: 2086514 Units: mg/ł				٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.82	0.022	0.8643	0	94.5	63.9	127			
Toluene		0.87	0.043	0.8643	0	100	69.9	131			
Ethylbenzene		0.88	0.043	0.8643	0	102	71	132			
Xylenes, Total		2.6	0.086	2.593	0	101	71.8	131			
Surr: 4-Brom	ofluorobenzene	0.82		0.8643		95.1	80	120			
Sample ID:	1907A63-002AMS) Samp1	Гуре: МS	SD	Tes	tCode: EF	PA Method	8021B: Volat	tiles		
Client ID:	Riser-East-4Ft	Batc	h ID: B6	1546	F	RunNo: 6 '	1546				
Prep Date:		Analysis E	Date: 7/	22/2019	S	SeqNo: 20	086515	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.80	0.022	0.8643	0	92.9	63.9	127	1.75	20	
Toluene		0.86	0.043	0.8643	0	99.3	69.9	131	1.19	20	
Ethylbenzene		0.86	0.043	0.8643	0	99.9	71	132	1.77	20	
Xylenes, Total		2.6	0.086	2.593	0	99.9	71.8	131	0.989	20	
-	ofluorobenzene	0.84		0.8643		96.9	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

QC SUMMARY REPORT	
Hall Environmental Analysis Laboratory, Inc.	

WO#:	1907A63
	29-Jul-19

Client: Lucid	l Energy Delaware									
Project: Junipe	er Spill Site									
Sample ID: MB-46308	SampType: N	/BLK	Tes	tCode: EF	A Method	8021B: Volat	iles			
Client ID: PBS	Batch ID: 4	6308	F	RunNo: 61						
Prep Date: 7/22/2019	Analysis Date:	7/23/2019	S	SeqNo: 20)87848	Units: mg/Kg				
Analyte	Result PQL	. SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND 0.02	5								
Toluene	ND 0.050	0								
Ethylbenzene	ND 0.050	0								
Xylenes, Total	ND 0.10	0								
Surr: 4-Bromofluorobenzene	0.95	1.000		95.2	80	120				
Sample ID: LCS-46308	SampType: L	SampType: LCS TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 4	6308	F	RunNo: 61	588					
Prep Date: 7/22/2019	Analysis Date:	7/23/2019	SeqNo: 2087849 L			Units: mg/K	g			
Analyte	Result PQL	. SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.0 0.02	5 1.000	0	101	80	120				
Toluene	1.1 0.050	0 1.000	0	105	80	120				
Ethylbenzene	1.0 0.050	0 1.000	0	104	80	120				
Xylenes, Total	3.1 0.10	0 3.000	0	103	80	120				
Surr: 4-Bromofluorobenzene	0.92	1.000		92.0	80	120				
Sample ID: MB-46343	SampType: N	/BLK	Tes	tCode: EF	A Method	8021B: Volat	iles			
Client ID: PBS	Batch ID: 4	6343	F	RunNo: 61	629					
Prep Date: 7/23/2019	Analysis Date:	7/24/2019	S	SeqNo: 20)88963	Units: %Rec	;			
Analyte	Result PQL	. SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 4-Bromofluorobenzene	0.89	1.000		89.5	80	120				
Sample ID: LCS-46343	SampType: L	.CS	Tes	tCode: EF	'A Method	8021B: Volat	iles			
Client ID: LCSS	Batch ID: 4	6343	F	RunNo: 61	629					
Prep Date: 7/23/2019	Analysis Date:	7/24/2019	S	SeqNo: 20)88964	Units: %Rec	;			
Analyte	Result PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Analyte	Result FQL		SFR Rei Vai	/0KEC	LOWLINI	riigiiLiiniit	70KFD	KF DLIIIII	Quai	

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 18 of 18

	ANAI YSTS I ARODATODV		4901 Hawkins NE - Albuqueroue NM 87109	10	Analysis	Þ℃	O ^{¢†} 20 SWI SRI₽	03° ba	08,80 04.1 2083 2083 ИС	ides 103, 103, 103,	stic 83 Me (AC) AC	TPH:801 8081 Pe EDB (Md PPHs by 8260 (VG 8250 (Se Total Co		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	X XXX	X X X X X X X X X X X X X X X X X X X	X	X	X	X	X	X	X	×		lobrier @ hr 1 comp. com	marshalled poer con	unit fine - one a unhu	This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
						-	1208)							×	X	X	X	X	×	X	X	X)	X	7	Řemarks:			4	s possibili
Seme Day	Rush See Below	,	Spill Site.	2 1	BOHX ~		Ę	and the second sec	No No		2+01=3,30	HEAL NO.		- 002	- 003	- 204	- 005	- 006	- 007	- 008	- 009	-010	- 011	-012	Date Time	7/19 0900	Date Time	7/20/19 9/2010	
h) and	X		inniper		bight	ager:	i D'Brie	. FI 0	Yes		m	Preservative Type	160	_	10 m	0		-	\rightarrow	-		5	(7	🖉 Via:	h	Via:	Contrut	accredited laboratories
Turn-Around Tin	Standard	Project Name:	Ţ.	Project #:		Project Manage	1,1(7)	Samular.	On Ice:	# of Coolers:	Cooler Temp(including CF):	Container Type and #	JAR 1	11	1 11	1 1	-		>	1	114	A liter	# I I	2	Received by	- All	Received by:	C	contracted to other a
Chain-of-Custody Record	Client: Lucid Energy	2	Mailing Address: Arlesia		Phone #:	email or Fax#:	age:	Accreditation: 2 Compliance		ype)		Date Time Matrix Sample Name	D7/18 14:00 Sul Riser-East-Sure.	9 1 2 Riser - East - 4Pt	V Risa- West - Sure	14:15 Reer-West-497	Treach - Fast - Bax	Trencis - West-Base	V Tranch - Release - 633	14:30 Trench-East-5 Wat	Trenon-Release - Simall	V Trench-Release N.	15:15 SE-Dirch - Staint	5	Date: Time: Relinquished by	19/19/19	Date: Time: Relinquisted by:		If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories.

ANAL		Hall Environn	4901 Albuquerqu	Hawkins NE e, NM 87109	Sa	mple Log-In (Check List
	RATORY	TEL: 505-345 Website: wi	-39/5 FAX: 50 ww.hallenviro.				
Client Name:	LUCID ENERGY DELAW	Work Order Nur	mber: 1907 A	63		RcptNc	: 1
Received By:	Desiree Dominguez	7/20/2019 9:40:00) AM	T	P>		
Completed By: Reviewed By:	Desiree Dominguez えぷ	7/20/2019 10:15:8 7 22/19	59 AM	T	Pz		
rickiewed by:	NP	7/00/07					
Chain of Cus	tody						
1. Is Chain of C	ustody complete?		Yes		No 🗌	Not Present	
2. How was the	sample delivered?		Courie	ŗ			
Log In							
3. Was an attem	npt made to cool the samples?		Yes	/ N	lo 🗌	NA 🗌	
4. Were all samp	ples received at a temperature	of >0° C to 6.0°C	Yes	N	lo 🗌	NA 🗌	
5. Sample(s) in p	proper container(s)?		Yes	N N	lo 🗌		
6. Sufficient sam	ple volume for indicated test(s)	?	Yes 🔽		o 🗌		
7. Are samples (e	except VOA and ONG) properly	/ preserved?	Yes 🗸) No	o 🗌		
8. Was preservat	tive added to bottles?		Yes] No	•	NA 🗌	1
9. VOA vials have	e zero headspace?		Yes] No	b	No VOA Vials 🖌	
10. Were any sam	nple containers received broker	1?	Yes	1	o 🗸	# of preserved	
	rk match bottle labels? ncies on chain of custody)		Yes 🗸] No	b	bottles checked for pH:	>12 unless noted)
	orrectly identified on Chain of (Sustody?	Yes 🗸	No		Adjusted?	> 12 dilless holed)
13. Is it clear what	analyses were requested?		Yes 🗸				1. 1
	g times able to be met? stomer for authorization.)		Yes 🗸	No		Checked by:	r671221k
	ng (if applicable)					/	
15. Was client not	ified of all discrepancies with the	nis order?	Yes] N a	o 🗌	NA 🗹	
Person N	Notified:	Date	· [and the second		
By Whor	m:	Via:	∵ı ∏ eMail	Phone	Fav	In Person	
Regardin	ng:						
Client Ins	structions:					an and a factor to the state of a state of the state	
16. Additional rem	narks:						
17. <u>Cooler Inform</u> Cooler No	I wanted a state of the state o	al Intact Seal No	Seal Date	Signed	Du		
		Present	Sour Date	oigned	Ъу		



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

August 08, 2019

Lori O'Brien Lucid Energy Delaware 326 West Quay St Artesia, NM 88210 TEL: (575) 513-8988 FAX:

RE: Juniper Release

OrderNo.: 1908144

Dear Lori O'Brien:

Hall Environmental Analysis Laboratory received 8 sample(s) on 8/3/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report
Lab Order 1908144

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1908144 Date Reported: 8/8/2019

CLIENT: Lucid Energy DelawareProject: Juniper ReleaseLab ID: 1908144-001	Client Sample ID: Base @ 12FtCollection Date: 8/1/2019Matrix: SOILReceived Date: 8/3/2019 9:30:00 AM							
Analyses	Result	RL (Qual Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analyst	CAS		
Fluoride	0.34	0.30	mg/Kg	1	8/5/2019 10:44:43 AM	46581		
Chloride	3800	150	mg/Kg	100	8/5/2019 1:26:02 PM	46581		
Nitrogen, Nitrite (As N)	ND	6.0	mg/Kg	20	8/5/2019 10:57:07 AM	46581		
Bromide	37	6.0	mg/Kg	20	8/5/2019 10:57:07 AM	46581		
Nitrogen, Nitrate (As N)	0.96	0.30	mg/Kg	1	8/5/2019 10:44:43 AM	46581		
Sulfate	980	30	mg/Kg	20	8/5/2019 10:57:07 AM	46581		
RESISTIVITY AND EC SOIL					Analyst	JRR		
Conductivity	7070	1.00	µmhos/c	1	8/6/2019 8:36:00 AM	46596		
EPA METHOD 6010B: SOIL METALS					Analyst	bcv		
Calcium	82000	490	mg/Kg	20	8/6/2019 9:33:03 PM	46603		
Magnesium	4500	120	mg/Kg	5	8/6/2019 5:39:29 PM	46603		
Potassium	640	240	mg/Kg	5	8/6/2019 5:39:29 PM	46603		
Sodium	1700	120	mg/Kg	5	8/6/2019 5:39:29 PM	46603		

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

- 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 10

S % Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order 1908144

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1908144 Date Reported: 8/8/2019

CLIENT: Lucid Energy Delaware	Client Sample ID: Base @ 8Ft Collection Date: 8/1/2019									
Project:Juniper ReleaseLab ID:1908144-002	Matrix: SOIL	,	Receiv							
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS						Analyst	CAS			
Fluoride	0.43	0.30		mg/Kg	1	8/5/2019 11:09:31 AM	46581			
Chloride	4700	300		mg/Kg	200) 8/5/2019 1:38:27 PM	46581			
Nitrogen, Nitrite (As N)	ND	6.0		mg/Kg	20	8/5/2019 11:21:56 AM	46581			
Bromide	50	6.0		mg/Kg	20	8/5/2019 11:21:56 AM	46581			
Nitrogen, Nitrate (As N)	1.4	0.30		mg/Kg	1	8/5/2019 11:09:31 AM	46581			
Sulfate	640	30		mg/Kg	20	8/5/2019 11:21:56 AM	46581			
RESISTIVITY AND EC SOIL						Analyst	JRR			
Conductivity	7500	1.00		µmhos/c	1	8/6/2019 8:36:00 AM	46596			
EPA METHOD 6010B: SOIL METALS						Analyst	bcv			
Calcium	150000	1200		mg/Kg	50	8/6/2019 9:36:26 PM	46603			
Magnesium	4300	120		mg/Kg	5	8/6/2019 5:41:10 PM	46603			
Potassium	580	240		mg/Kg	5	8/6/2019 5:41:10 PM	46603			
Sodium	2500	120		mg/Kg	5	8/6/2019 5:41:10 PM	46603			

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

- 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

Page 2 of 10

S % Recovery outside of range due to dilution or matrix

RL Reporting Limit

Analytical Report
Lab Order 1908144

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/8/2019

CLIENT: Lucid Energy Delaware Project: Juniper Release	Client Sample ID: Wall-Comp Collection Date: 8/1/2019									
Lab ID: 1908144-003	Matrix: SOIL									
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS						Analyst	CAS			
Fluoride	1.1	0.30		mg/Kg	1	8/5/2019 11:34:20 AM	46581			
Chloride	1400	75		mg/Kg	50	8/5/2019 1:50:52 PM	46581			
Nitrogen, Nitrite (As N)	ND	6.0		mg/Kg	20	8/5/2019 11:46:45 AM	46581			
Bromide	13	0.30		mg/Kg	1	8/5/2019 11:34:20 AM	46581			
Nitrogen, Nitrate (As N)	2.8	0.30		mg/Kg	1	8/5/2019 11:34:20 AM	46581			
Sulfate	300	30		mg/Kg	20	8/5/2019 11:46:45 AM	46581			
RESISTIVITY AND EC SOIL						Analyst	JRR			
Conductivity	3970	1.00		µmhos/c	1	8/6/2019 8:36:00 AM	46596			
EPA METHOD 6010B: SOIL METALS						Analyst	bcv			
Calcium	66000	480		mg/Kg	20	8/6/2019 9:39:49 PM	46603			
Magnesium	4100	120		mg/Kg	5	8/6/2019 5:42:52 PM	46603			
Potassium	710	240		mg/Kg	5	8/6/2019 5:42:52 PM	46603			
Sodium	710	120		mg/Kg	5	8/6/2019 5:42:52 PM	46603			

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

- 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 10

S % Recovery outside of range due to dilution or matrix

Analytical Report	
Lab Order 1908144	

Hall Environmental Analys	•	Date Reported: 8/8/2019									
CLIENT: Lucid Energy Delaware		Clien	t Sample I	D: SP	1						
Project: Juniper Release		Collection Date: 8/1/2019									
Lab ID: 1908144-004	Matrix: SOIL	Re	Received Date: 8/3/2019 9:30:00 AM								
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS					Analys	t: CAS					
Chloride	3700	150	mg/Kg	50	8/5/2019 2:03:16 PM	46581					

* **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

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

Page 4 of 10

Analytical Report	
Lab Order 1908144	

Hall Environmental Analys	•	Date Reported: 8/8/2019								
CLIENT: Lucid Energy Delaware	Client Sample ID: SP2									
Project: Juniper Release	Collection Date: 8/1/2019									
Lab ID: 1908144-005 Matrix: SOIL Received Date: 8/3/2019 9:30:00 AM										
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS					Analyst	CAS				
Chloride	3700	150	mg/Kg	50	8/5/2019 2:15:40 PM	46581				

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 5 of 10

Hall Environmental Analysis Laboratory, Inc.

Analytical Report	
Lab Order 1908144	

Hall Environmental Analys	•	Date Reported: 8/8/2019					
CLIENT: Lucid Energy Delaware		Clie	ent Sample II	D: SP	3		
Project: Juniper Release		Co	ollection Dat	e: 8/1	/2019		
Lab ID: 1908144-006	Matrix: SOIL	F	Received Dat	e: 8/3	3/2019 9:30:00 AM		
Analyses	Result	RL (Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analyst	CAS	
Chloride	3700	150	mg/Kg	50	8/5/2019 2:28:04 PM	46581	

Qualifiers:

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

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

Page 6 of 10

Hall Environmental Analysis Laboratory Inc

Analytical Report	
Lab Order 1908144	

Hall Environmental Analysis Laboratory, I		•		Date Reported: 8/8/201	9	
CLIENT: Lucid Energy Delaware		Clien	t Sample II	D: SP	4	
Project: Juniper Release		Col	lection Dat	e: 8/1	/2019	
Lab ID: 1908144-007	Matrix: SOIL	Re	ceived Dat	e: 8/3	3/2019 9:30:00 AM	
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: CAS
Chloride	5100	150	mg/Kg	50	8/5/2019 3:05:19 PM	46581

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 7 of 10

Analytical Report	
Lab Order 1908144	

Hall Environmental Analysis Laboratory, Inc.			Date Reported: 8/8/2019					
CLIENT: Lucid Energy Delaware		Clien	t Sample I	D: SP	5			
Project: Juniper Release		Col	lection Dat	e: 8/1	/2019			
Lab ID: 1908144-008	Matrix: SOIL	Re	eceived Dat	e: 8/3	3/2019 9:30:00 AM			
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analys	t: CAS		
Chloride	1500	60	mg/Kg	20	8/5/2019 1:13:37 PM	46581		

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 8 of 10

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#:	1908144

08-Aug-19

Client: Project:	Lucid Energy Dela Juniper Release	ware								
Sample ID: MB-465	581 Samp	Гуре: МЕ	BLK	Test	tCode: EF	PA Method	300.0: Anion	s		
Client ID: PBS	Batc	h ID: 46	581	R	unNo: 6	1901				
Prep Date: 8/5/20	Analysis I	Date: 8/	5/2019	S	eqNo: 20	099842	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrite (As N)	ND	0.30								
Bromide	ND	0.30								
Nitrogen, Nitrate (As N)	ND	0.30								
U ,(.)		0.00								
Sulfate	ND	1.5								
,	ND		s	Tesi	tCode: Ef	PA Method	300.0: Anion	s		
Sulfate	ND 581 Samp	1.5			tCode: Ef		300.0: Anion	s		
Sulfate Sample ID: LCS-46	ND 5581 Samp Batc	1.5 Гуре: LC h ID: 46	581	R		1901	300.0: Anion Units: mg/K			
Sulfate Sample ID: LCS-46 Client ID: LCSS	ND 5581 Samp Batc	1.5 Гуре: LC h ID: 46	581 5/2019	R	tunNo: 6	1901			RPDLimit	Qual
Sulfate Sample ID: LCS-46 Client ID: LCSS Prep Date: 8/5/20	ND 5581 Samp Batc 119 Analysis I	1.5 Type: LC h ID: 46! Date: 8/!	581 5/2019	R	tunNo: 6 ′ GeqNo: 2 (1901)99843	Units: mg/K	g	RPDLimit	Qual
Sulfate Sample ID: LCS-46 Client ID: LCSS Prep Date: 8/5/20 Analyte	ND 5581 Samp Batc 119 Analysis I Result	1.5 Type: LC h ID: 46 Date: 8	581 5/2019 SPK value	R S SPK Ref Val	aunNo: 6 [,] SeqNo: 20 %REC	1901 099843 LowLimit	Units: mg/K HighLimit	g	RPDLimit	Qual
Sulfate Sample ID: LCS-46 Client ID: LCSS Prep Date: 8/5/20 Analyte Fluoride	ND 5581 Samp Batc 119 Analysis I <u>Result</u> 1.5	1.5 Fype: LC h ID: 46! Date: 8/! PQL 0.30	581 5/2019 SPK value 1.500	R S SPK Ref Val 0	2unNo: 6 SeqNo: 20 %REC 97.9	1901 099843 LowLimit 90	Units: mg/K HighLimit 110	g	RPDLimit	Qual
Sulfate Sample ID: LCS-46 Client ID: LCSS Prep Date: 8/5/20 Analyte Fluoride Chloride	ND 5581 Samp Batc 119 Analysis I Result 1.5 14	1.5 Type: LC h ID: 46 Date: 8/ PQL 0.30 1.5	581 5/2019 SPK value 1.500 15.00	R S SPK Ref Val 0 0	RunNo: 6 GeqNo: 20 %REC 97.9 92.1	1901 099843 LowLimit 90 90	Units: mg/K HighLimit 110 110	g	RPDLimit	Qual
Sulfate Sample ID: LCS-46 Client ID: LCSS Prep Date: 8/5/20 Analyte Fluoride Chloride Nitrogen, Nitrite (As N)	ND 5581 Samp Batc 119 Analysis I <u>Result</u> 1.5 14 2.8	1.5 Fype: LC h ID: 469 Date: 8/9 PQL 0.30 1.5 0.30	581 5/2019 SPK value 1.500 15.00 3.000	R SPK Ref Val 0 0 0	RunNo: 6 GeqNo: 20 <u>%REC</u> 97.9 92.1 93.7	1901 099843 LowLimit 90 90 90	Units: mg/K HighLimit 110 110 110	g	RPDLimit	Qual

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 10

WO#:	190	8144
	00.4	

08-Aug-19

	ncid Energy Delaward	e								
Sample ID: MB-46603	SampType	: MBLI	.K	Test	Code: EF	PA Method	6010B: Soil I	Vetals		
Client ID: PBS	Batch ID	: 4660	3	R	unNo: 61	1954				
Prep Date: 8/5/2019	Analysis Date	: 8/6/2	2019	S	eqNo: 21	101426	Units: mg/K	g		
Analyte	Result P	QL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	25								
Magnesium	ND	25								
Magnesium Potassium	ND ND	25 50								
-		-								
Potassium	ND ND	50 25		Test	Code: EF	PA Method	6010B: Soil I	Metals		
Potassium Sodium	ND ND	50 25 e: LCS			Code: EF		6010B: Soil I	Metals		
Potassium Sodium Sample ID: LCS-4660	ND ND 3 SampType	50 25 E: LCS E: 4660	3	R		1954	6010B: Soil I Units: mg/K			
Potassium Sodium Sample ID: LCS-4660 Client ID: LCSS	ND ND 3 SampType Batch ID Analysis Date	50 25 :: LCS :: 4660 :: 8/6/2)3 2019	R	unNo: 61	1954			RPDLimit	Qual
Potassium Sodium Sample ID: LCS-4660 Client ID: LCSS Prep Date: 8/5/2019	ND ND 3 SampType Batch ID Analysis Date	50 25 :: LCS :: 4660 :: 8/6/2)3 2019	R	tunNo: 6 1 SeqNo: 2 1	1954 101428	Units: mg/K	g	RPDLimit	Qual
Potassium Sodium Sample ID: LCS-4660: Client ID: LCSS Prep Date: 8/5/2019 Analyte	ND ND 3 SampType Batch ID Analysis Date Result P	50 25 : LCS : 4660; : 8/6/2 PQL S	3 2019 SPK value	R S SPK Ref Val	unNo: 61 eqNo: 21 %REC	1954 101428 LowLimit	Units: mg/K HighLimit	g	RPDLimit	Qual
Potassium Sodium Sample ID: LCS-4660 Client ID: LCSS Prep Date: 8/5/2019 Analyte Calcium	ND ND Batch ID Analysis Date Result P 2600	50 25 :: LCS :: 4660 :: 8/6/2 : 25	93 2019 SPK value 2500	R S SPK Ref Val 0	unNo: 61 6eqNo: 21 %REC 104	1954 101428 LowLimit 80	Units: mg/K HighLimit 120	g	RPDLimit	Qual

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 10 of 10

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Albu TEL: 505-345-3975 Website: www.ha	4901 uquerqu FAX: 5	Hawkins NE ne, NM 87109 505-345-4107	Sar	nple Log-In C	Check List
Client Name: LUCID ENERGY DELAW	Work Order Number:	1908	144		RcptNo	: 1
Received By: Erin Melendrez	8/3/2019 9:30:00 AM		N	MA	5	
Completed By: Erin Melendrez	8/3/2019 10:33:13 AM		N	MA		
Reviewed By: DAD \$15/19						
Chain of Custody						
1. Is Chain of Custody complete?		Yes	\checkmark	No 🗌	Not Present	
2. How was the sample delivered?		<u>Couri</u>	er			
Log In					_	
3. Was an attempt made to cool the samples?		Yes	✓	No 🗌	NA 🗌	
4. Were all samples received at a temperature of	of >0° C to 6.0°C	Yes	v 1	No 🗌	NA 🗌	
5. Sample(s) in proper container(s)?		Yes	✓	No 🗌		
6. Sufficient sample volume for indicated test(s)	?	Yes		10 🗌		
7. Are samples (except VOA and ONG) properly	preserved?	Yes		lo 🗌		
8. Was preservative added to bottles?		Yes [N	lo 🔽	NA 🗌	
9. VOA vials have zero headspace?		Yes [N	lo 🗌	No VOA Vials 🗹	
10. Were any sample containers received broken	?	Yes [1	No 🔽	# of preserved	/
11. Does paperwork match bottle labels?		Yes 🛛		lo 🗌	bottles checked for pH:	
(Note discrepancies on chain of custody)					(<2 or	>12 unless noted)
12. Are matrices correctly identified on Chain of C	ustody?	Yes		lo 🗌	Adjusted?	
13. Is it clear what analyses were requested?		1000		lo 🗌		
 Were all holding times able to be met? (If no, notify customer for authorization.) 		Yes		lo 🗆	Checked by:	NM 8/5/19
Special Handling (if applicable)						
15. Was client notified of all discrepancies with the	nis order?	Yes	n 🗆	No 🗌	NA 🔽	
Person Notified:	Date:			and the second		
By Whom:	Via:	eMai	I 🗌 Phone	🗌 Fax	In Person	
Regarding:		inalde weekste comm				
Client Instructions:						
16. Additional remarks:						
17. <u>Cooler Information</u> Cooler No Temp ºC Condition Sea	al Intact Seal No S				1	
1 4.0 Good Yes	al Intact Seal No S	eal Dat	e Signe	ы ву		

	environme	4901 Hawkins NE - Albuquerque, NM 87109		Anal	¢0)	PCB's O / MR	0 / DR 3/808/2 0r 827(5 , NO ₂ ,	-70 10 ³ 10 10 10 10 10 10 10 10 10 10 10 10 10	45D0 64thc 8 Me 8 Me 8 Me 8 Me 8 Me 8 Me 8 Me	8081 P PAHs b RCRA 8260 (/ 8260 (/								×		Remarks:	-	Time: Relinquisher of Received by Via: CULIFICE Date Time 1900 X 0930
Turn-Around Time: Same Day		Juniper Helease	Project #:		Project Manager:	Luri Devien	Sampler: LOC'I O . On Ice: Vd Yes D No	olers:	Cooler Temp(including CF): H_{a} - δ .] (CF) = H_{a} , δ^{1} C	Container Preservative HEAL No. Type and # Type	/	1 1 - 002	-003	-004	J - 005	1 - 006	- 00-1	V -008		Received Mr Via: Date Time	NN 8/2/19 1100	Received by via: CUUL icr Date Time 193
Chain-of-Custody Record		Mailing Address: ON Price		Phone #:	email or Fax#:	QA/QC Package:	Accreditation:	ype)		Date Time Matrix Sample Name	Sul Base @ 12ft	1 Base @ SFt	LIALL - COMP	521	V 592	1 503	504	2 205		Relinquished by:	11:	Date: Time: Relinquished of F



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

August 13, 2019

Lori O'Brien Lucid Energy Delaware 326 West Quay St Artesia, NM 88210 TEL: (575) 513-8988 FAX:

RE: Juniper Release

OrderNo.: 1908494

Dear Lori O'Brien:

Hall Environmental Analysis Laboratory received 9 sample(s) on 8/9/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order: 1908494

Hall Environ	mental Analysis La	aboratory, I	nc.			I	Date Reported: 8/1	3/2019
	Lucid Energy Delaware Juniper Release				L	ab C)rder: 1908	3494
Lab ID:	1908494-001		C	Collecti	on Date	: 8/7	7/2019 7:00:00 PI	Μ
Client Sample ID:	SP #3				Matrix	: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 30 Chloride	0.0: ANIONS	4900	150		mg/Kg	50	Ai 8/12/2019 12:07::	nalyst: CAS 23 PM 46711
Lab ID:	1908494-002		C	ollecti	on Date	: 8/7	7/2019 7:00:00 PI	M
Client Sample ID:	SP #4				Matrix	: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 30 Chloride	0.0: ANIONS	4900	150		mg/Kg	50		nalyst: CAS 47 PM 46711
Lab ID:	1908494-003		C	ollecti	on Date	: 8/7	7/2019 7:00:00 PI	M
Client Sample ID:	Wall East				Matrix	: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 30 Chloride	0.0: ANIONS	3300	150		mg/Kg	50		nalyst: CAS 11 PM 46711
Lab ID:	1908494-004		C	ollecti	on Date	: 8/7	7/2019 7:00:00 PI	M
Client Sample ID:	Surf Exc #1				Matrix	: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 30 Chloride	0.0: ANIONS	4600	150		mg/Kg	50	Aı 8/12/2019 12:44:	nalyst: CAS 35 PM 46711
Lab ID:	1908494-005		C	ollecti	on Date	: 8/7	7/2019 7:00:00 PI	M
Client Sample ID:	Surf Exc #5				Matrix	: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 30	0.0: ANIONS						A	nalyst: CAS
Chloride		8000	300		mg/Kg	10	0 8/12/2019 1:21:4	9 PM 46711

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

- * Value exceeds Maximum Contaminant Level. **Qualifiers:**
 - D Sample Diluted Due to Matrix
 - Holding times for preparation or analysis exceeded Н
 - ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

- Analyte detected below quantitation limits J
- Р Sample pH Not In Range

RL Reporting Limit

в

Page 1 of 3

Hall Environ	mental Analysis La	aboratory, Ind	с.				ab Order: 190849 4 Date Reported: 8/1)
	ucid Energy Delaware uniper Release				L	ab C)rder: 1908	3494	
Lab ID:	1908494-006		С	ollecti	on Date	: 8/7	7/2019 7:00:00 PM	Ν	
Client Sample ID:	Surf Exc #8				Matrix	: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 300 Chloride	0.0: ANIONS	3300	150		mg/Kg	50	Ar 8/12/2019 1:34:14	-	CAS 46711
Lab ID:	1908494-007		С	ollecti	on Date	: 8/7	7/2019 7:00:00 PM	М	
Client Sample ID:	Trench Base				Matrix	: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 300 Chloride	0.0: ANIONS	840	59		mg/Kg	20	Ar 8/9/2019 7:01:20	-	CAS 46711
Lab ID:	1908494-008		С	ollecti	on Date	: 8/7	7/2019 7:00:00 PM	М	
Client Sample ID:	SP #1				Matrix	: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 300 Chloride	0.0: ANIONS	1100	60		mg/Kg	20		•	CAS 46711
Lab ID:	1908494-009		С	ollecti	on Date	: 8/7	7/2019 7:00:00 PM	M	
Client Sample ID:	SP #2				Matrix	: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 300	.0: ANIONS						Ar	nalyst:	CAS
Chloride		1100	60		mg/Kg	20	8/9/2019 7:26:09	PM	46711

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 s

Е Value above quantitation range

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits J

Sample pH Not In Range Р

RL Reporting Limit

в

Page 2 of 3

Client: Project:		ucid Energy Delay uniper Release	ware								
Sample ID:	MB-46711	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	PBS	Batch	h ID: 46	711	F	RunNo: 62	2026				
Prep Date:	8/9/2019	Analysis D	0ate: 8/	9/2019	S	SeqNo: 21	105614	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID:	LCS-4671	1 SampT	ype: LC	S	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	LCSS	Batch	h ID: 46	711	F	RunNo: 62	2026				
Prep Date:	8/9/2019	Analysis D	Date: 8/	9/2019	S	SeqNo: 21	105615	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	93.9	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

WO#: **1908494**

13-Aug-19

Page 3 of 3

HALL ENVIRONMENTAL ANALYSIS LABORATORY	TEL: 505-345-3	ntal Analysis Labord 4901 Hawkin Albuquerque, NM 8 975 FAX: 505-345- v.hallenvironmental	s NE 7109 Sam 4107	iple Log-In C	heck List
Client Name: LUCID ENERGY DELAW	Work Order Numl	ber: 1908494		RcptNo:	1
Received By: Danel M. Completed By: Leah Baca Reviewed By: 10	8/9/2019 8:30:00 A 8/9/2019 10:02:15 / &JG]19		Lad Streen		
 <u>Chain of Custody</u> 1. Is Chain of Custody complete? 2. How was the sample delivered? 		Yes ⊻ <u>Courier</u>	No	Not Present	
Log In 3. Was an attempt made to cool the samples?		Yes 🗹	No 🗌		
4. Were all samples received at a temperature	of >0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗌	
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗌		
6. Sufficient sample volume for indicated test(s7. Are samples (except VOA and ONG) proper		Yes ✔ Yes ✔	No □ No □		
8. Was preservative added to bottles?	*	Yes 🗌	No 🗹	NA 🗌	
9. VOA vials have zero headspace?10. Were any sample containers received broke11. Does paperwork match bottle labels?	an?	Yes □ Yes □ Yes ☑	No 🗌 No 🗹 「	No VOA Vials # of preserved bottles checked for pH:	
(Note discrepancies on chain of custody)		_			12 unless noted)
12. Are matrices correctly identified on Chain of13. Is it clear what analyses were requested?14. Were all holding times able to be met? (If no, notify customer for authorization.)	Custody?	Yes 🗹 Yes 🗹 Yes 🗹	No No No		AD 8/9/19
Special Handling (if applicable)					
15. Was client notified of all discrepancies with Person Notified: By Whom: Regarding: Client Instructions:	this order? Date Via:	· · · · · · · · · · · · · · · · · · ·	No Phone Fax	NA 🗹	
16. Additional remarks: 17. <u>Cooler Information</u>	eal Intact Seal No	Seal Date	Signed By		
1 4.2 Good Ye 2 5.5 Good Ye		n (free his his fair fair an Annaichte an ta dh' An (de fhailleach an ann an ann			

Chain	Chain-of-Custody Record	Turn-Around Time: Monday 24 hr	
Client: Live	Lucid Energy Roup	□ Standard □ Rush ~1	
	10	、	www.hallenvironmental.com
Mailing Address:	si Dh Ru	Juni pur recease.	4901 Hawkins NE - Albuquerque, NM 87109
		Project #:	
Phone #:			Analysis
email or Fax#:		Project Manager:	[▶] 0:
QA/QC Package:	□ Level 4 (Full Validation)	Lori VBrien.	SMI20 PO4, S 92dAVtr
Accreditation:	□ Az Compliance □ Other	Sampler: Lưng O. On Ice: Lưng Samon	Preser , NO ₂ , , NO ₂ , , NO ₂ ,
EDD (Type)		ers: 2–1	тт (103 103 103 109 109 109 109 109 109 109 109 109 109
			15D(911for 911for 911for
Date Time	Matrix Sample Name	Container Preservative HEAL No.	7PH:800 8260 (M 7260 (M 7260 (V 7260 (V 7260 (V
4	· ,) - Ce	3 3 3 1 1 3 3 1
	·		
·.	1(1)a(1) East		
	Surf Exe #1		
	1 SugrExc#5		
	SURFEXC#B	- 006	
	Treach Base	έω- -	
		-00 %	
	V 50#2	-∞ª	×
,			
Date: Time:	Relinquisted bill	Received by: // Via:	Remarks:
00:11 1 8/8	Nake/	111 Stalla	lobrien@hrlcomp.com.
Date: Time:	Relinquished by)ate Time	
244429	Witit 2	centin 8/9/10	γ : β (



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

August 20, 2019

Lori O'Brien Lucid Energy Delaware 201 South 4th St. Artesia, NM 88210 TEL: (575) 513-8988 FAX

RE: Juniper Release

OrderNo.: 1908962

Dear Lori O'Brien:

Hall Environmental Analysis Laboratory received 8 sample(s) on 8/17/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order: 1908962

Hall Environ	mental Analysis L	aboratory, In	c.			D	Date Reported: 8/20	/2019
	Lucid Energy Delaware uniper Release				I	.ab O	9rder: 19089	962
Lab ID:	1908962-001		(Collecti	on Date	e: 8/1	5/2019	
Client Sample ID:	BLM-1				Matrix	s: SO	IL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	8800	300		mg/Kg	100	An: 8/19/2019 11:04:3	alyst: CJS
	1000072 002	0000			0 0			
Lab ID:	1908962-002 BLM 2		C	Collecti	on Date			
Client Sample ID:	BLM-2	D			Matrix			D / 1 ID
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	180	60		mg/Kg	20	An: 8/19/2019 11:17:0	alyst: CJS 7 AM 46875
Lab ID:	1908962-003		(Collecti	on Date	e: 8/1	5/2019	
Client Sample ID:	BLM-3				Matrix	s: so	OIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300	0.0: ANIONS						An	alyst: CJS
Chloride		3300	150		mg/Kg	50	8/19/2019 11:16:5	4 PM 46875
Lab ID:	1908962-004		(Collecti	on Date	e: 8/1	5/2019	
Client Sample ID:	BLM-4				Matrix	s: so	IL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	1100	60		mg/Kg	20	An: 8/19/2019 11:41:5	alyst: CJS 6 AM 46875
Lab ID:	1908962-005		(Collecti	on Date	e: 8/1	5/2019	
Client Sample ID:	BLM-5				Matrix	s: so	OIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300	0.0: ANIONS							alyst: CJS
Chloride		ND	60		mg/Kg	20	8/19/2019 11:54:2	0 AM 46875

Hall Environmental Analysis Laboratory Inc

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

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

Qualifiers:

% Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits J

Sample pH Not In Range Р

P Sample pH Not RL Reporting Limit

в

Page 1 of 6

Lab Order: 1908962

Hall Environm	ental Analysis La	boratory,	Inc.			Ľ	Date Reported: 8/20)/2019)
	id Energy Delaware iper Release				I	ab O	Order: 1908	962	
Lab ID: 1	908962-006		C	ollecti	on Date	: 8/1	5/2019		
Client Sample ID: F	Road 1				Matrix	: SO	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 300.0:							An	alyst:	CJS
Chloride		550	60		mg/Kg	20	8/19/2019 12:31:3	4 PM	46875
Lab ID: 1	908962-007		C	ollecti	on Date	: 8/1	5/2019		
Client Sample ID: E	Background 2				Matrix	s: so	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch II
EPA METHOD 300.0:							An	alvst:	CJS
Chloride		ND	60		mg/Kg	20	8/19/2019 12:43:5	-	
Lab ID: 1	908962-008		C	ollecti	on Date	: 8 /1	5/2019		
Client Sample ID: 7	Cop Soil				Matrix	: MI	EOH (SOIL)		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch II
EPA METHOD 300.0:							An	alyst:	CJS
Chloride		ND	61		mg/Kg	20	8/19/2019 12:56:2	4 PM	46875
EPA METHOD 8015M	//D: DIESEL RANGE OR	GANICS					An	alyst:	BRM
Diesel Range Organics	s (DRO)	ND	10		mg/Kg	1	8/19/2019 7:15:51	PM	46869
Motor Oil Range Orga		ND	51		mg/Kg	1	8/19/2019 7:15:51	PM	46869
Surr: DNOP		94.3	70-130		%Rec	1	8/19/2019 7:15:51	PM	46869
EPA METHOD 8015D	: GASOLINE RANGE						An	alyst:	NSB
Gasoline Range Orgar	nics (GRO)	ND	3.5		mg/Kg	1	8/18/2019 3:25:48	PM	46868
Surr: BFB		102	77.4-118		%Rec	1	8/18/2019 3:25:48	PM	46868
EPA METHOD 8021E	B: VOLATILES						An	alyst:	NSB
Benzene		ND	0.018		mg/Kg	1	8/18/2019 3:25:48	PM	46868
Toluene		ND	0.035		mg/Kg	1	8/18/2019 3:25:48	PM	46868
E .1. II		ND	0.035		mg/Kg	1	8/18/2019 3:25:48	PM	46868
Ethylbenzene									
Ethylbenzene Xylenes, Total		ND	0.070		mg/Kg	1	8/18/2019 3:25:48	PM	46868

ntal Analysis I ah -Т. -- -

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

Qualifiers:

*

- в Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit

Value exceeds Maximum Contaminant Level.

- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Е Value above quantitation range
- Analyte detected below quantitation limits J
- Sample pH Not In Range Р RL Reporting Limit

Page 2 of 6

WO#:	1	1908	8962
	20		10

	Lucid Energy Delaware Juniper Release							
Sample ID: MB-468	75 SampType: ml	olk	Tes	tCode: EPA Meth	nod 300.0: Anic	ons		
Client ID: PBS	Batch ID: 46	875	F	unNo: 62258				
Prep Date: 8/19/2	Analysis Date: 8/	19/2019	S	eqNo: 2114898	Units: mg	/Kg		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC LowLi	mit HighLimit	%RPD	RPDLimit	Qual
Chloride	ND 1.5							
Sample ID: LCS-46	SampType: Ics	5	Tes	tCode: EPA Meth	nod 300.0: Anic	ons		
Client ID: LCSS	Batch ID: 46	875	F	tunNo: 62258				
Prep Date: 8/19/2	Analysis Date: 8/	19/2019	S	GeqNo: 2114899	Units: mg	/Kg		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC LowLi	mit HighLimit	%RPD	RPDLimit	Qual
Chloride	14 1.5	15.00	0	94.8	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

1908962

WO#:

Client: Lucid En	nergy Delaware		
Project: Juniper l	Release		
Sample ID: LCS-46869	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 46869	RunNo: 62218	
Prep Date: 8/18/2019	Analysis Date: 8/19/2019	SeqNo: 2113073	Units: mg/Kg
Analyte	Result PQL SPK value SI	PK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	54 10 50.00	0 107 63.9	124
Surr: DNOP	4.8 5.000	96.6 70	130
Sample ID: MB-46869	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 46869	RunNo: 62218	
Prep Date: 8/18/2019	Analysis Date: 8/19/2019	SeqNo: 2113074	Units: mg/Kg
Analyte	Result PQL SPK value SI	PK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	ND 10		
Motor Oil Range Organics (MRO)	ND 50		
Surr: DNOP	10 10.00	100 70	130
Sample ID: LCS-46873	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 46873	RunNo: 62218	
Prep Date: 8/19/2019	Analysis Date: 8/19/2019	SeqNo: 2113710	Units: %Rec
Analyte	Result PQL SPK value S	PK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Surr: DNOP	4.7 5.000	94.8 70	130
Sample ID: MB-46873	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 46873	RunNo: 62218	
Prep Date: 8/19/2019	Analysis Date: 8/19/2019	SeqNo: 2113712	Units: %Rec
Analyte	Result PQL SPK value SI	PK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
5			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

WO#:	190	8962
	• • •	

20-Aug-19

	Energy Delav Release	vare								
Sample ID: MB-46868	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
Client ID: PBS	Batch	n ID: 46	868	R	tunNo: 62	2216				
Prep Date: 8/17/2019	Analysis D	ate: 8/	18/2019	S	eqNo: 2	112812	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	980		1000		97.6	77.4	118			
Sample ID: LCS-46868	SampType: LCS TestCode: EPA Method 8			8015D: Gaso	line Rang	e				
Client ID: LCSS	Batch	n ID: 46	868	R	unNo: 62	2216				
Prep Date: 8/17/2019	Analysis D	ate: 8/	18/2019	S	eqNo: 2	112813	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.0	80	120			
Surr: BFB	1100		1000		115	77.4	118			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#:	1908962

20-Aug-19

	Energy Delav Release	ware								
Sample ID: MB-46868	Samp	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batc	h ID: 46	868	F	RunNo: 6	2216				
Prep Date: 8/17/2019	Analysis [Date: 8/	18/2019	S	SeqNo: 2	112829	Units: mg/K	ſg		
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	0.90		1.000		89.8	80	120			
Sample ID: LCS-46868	Samp	Гуре: LC	s	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batc	h ID: 46	868	F	RunNo: 6	2216				
Prep Date: 8/17/2019	Analysis [Date: 8/	18/2019	S	SeqNo: 2	112830	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.4	80	120			
Toluene	0.97	0.050	1.000	0	96.9	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.6	80	120			
Xylenes, Total	2.0	0.10	3.000	0	98.7	80	120			
Ayleries, rolar	3.0	0.10	3.000	0	90.7	00	120			

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

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

Page 6 of 6

HALL ENVIRONMENTAL ANALYSIS LABORATORY	A TEL: 505-345-39	tal Analysis Labor 4901 Hawkin Ilbuquerque, NM 8 975 FAX: 505-345- hallenvironmenta	15 NE 17109 Sam 14107	iple Log-In Cł	neck List
Client Name: LUCID ENERGY DELA	W Work Order Numb	er: 1908962	•	RcptNo:	1
Received By: Erin Melendrez	8/17/2019 2:25:00 F	PM	WIL	5	
Completed By: Erin Melendrez	8/17/2019 2:59:24 F	M	UNA UNA	3	
Reviewed By:	5/19/19				
Chain of Custody					
1. Is Chain of Custody complete?		Yes 🗹	No 🗌	Not Present	
2. How was the sample delivered?		<u>Courier</u>			
Log In 3. Was an attempt made to cool the sam	ples?	Yes 🔽	No 🗌	NA 🗍	
4. Were all samples received at a temperative	ature of >0° C to 6.0°C	Yes 🗹	No 🗌		
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗌		
6. Sufficient sample volume for indicated f	test(s)?	Yes 🗹	No 🗌		
7, Are samples (except VOA and ONG) pr	roperly preserved?	Yes 🖌	No 🗌		
8. Was preservative added to bottles?		Yes 🗌	No 🗹	NA 🛄	
9. VOA vials have zero headspace?		Yes 🗌	No 🗌	No VOA Vials 🗹	
10. Were any sample containers received	broken?	Yes	No 🗹	# of preserved	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custod)	V)	Yes 🔽	No 🗋	for pH:	12 unless noted)
12. Are matrices correctly identified on Cha		Yes 🗹	No 🗌	Adjusted?	
13. Is it clear what analyses were requested	d?	Yes 🗹	No 🗌		110
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No 🗌	Checked by:	JH 8/17/19
Special Handling (if applicable)			r		
15. Was client notified of all discrepancies	with this order?	Yes 🗌	No 🗔	NA 🗹	
Person Notified: By Whom: Regarding: Client Instructions:	Date: Via:	*	Phone [] Fax	In Person	
16. Additional remarks:	· · · · · · · · · · · · · · · · · · ·	······································		· · · · · · · · · · · · · · · · · · ·	
17. Cooler Information					

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.2	Good	Yes			

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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

Lori O'Brien Lucid Energy Delaware 201 South 4th St. Artesia, NM 88210 TEL: (575) 513-8988 FAX:

RE: Juniper Release

OrderNo.: 1908928

Dear Lori O'Brien:

Hall Environmental Analysis Laboratory received 21 sample(s) on 8/16/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order: 1908928

Hall Environ	mental Analysis La	aboratory, II	nc.			Ι	Date Reported: 8/26	/2019
	Lucid Energy Delaware Juniper Release				L	.ab C)rder: 19089	028
Lab ID:	1908928-001		(Collecti	on Date	e: 8/1	14/2019	
Client Sample ID:	Base 1				Matrix	: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300	0.0: ANIONS						Ana	alyst: CAS
Chloride		2300	60		mg/Kg	20	8/22/2019 4:16:35	PM 46985
Lab ID:	1908928-002		(Collecti	on Date	e: 8/1	14/2019	
Client Sample ID:	Base 2				Matrix	s: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	110	60		mg/Kg	20	Ana 8/22/2019 4:29:00	alyst: CAS PM 46985
Lab ID:	1908928-003		(Collecti	on Date	e: 8/1	14/2019	
Client Sample ID:	Base 3				Matrix	s: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 30	0.0: ANIONS						Ana	alyst: CAS
Chloride		250	60		mg/Kg	20	8/22/2019 4:41:25	PM 46985
Lab ID:	1908928-004		(Collecti	on Date	e: 8/1	14/2019	
Client Sample ID:	Base 4				Matrix	: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	410	60		mg/Kg	20	Ana 8/22/2019 5:43:27	alyst: CAS PM 46993
Lab ID:	1908928-005		(Collecti	on Date	e: 8/1	14/2019	
Client Sample ID:	Base 5				Matrix	s: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300	0.0: ANIONS						Ana	alyst: CAS
Chloride		1100	60		mg/Kg	20	8/22/2019 5:55:52	PM 46993

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

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

Qualifiers:

% Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits J

Sample pH Not In Range Р RL Reporting Limit

в

Page 1 of 6

Lab Order: 1908928

Hall Environ	mental Analysis La	aboratory, I	nc.			Ι	Date Reported: 8/26	/2019
	Lucid Energy Delaware Juniper Release				L	ab C)rder: 19089	28
Lab ID:	1908928-006		(Collecti	on Date	: 8 /1	14/2019	
Client Sample ID:	Base 6				Matrix	: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300	0.0: ANIONS						Ana	alyst: CAS
Chloride		220	61		mg/Kg	20	8/22/2019 6:08:16	PM 46993
Lab ID:	1908928-007		(Collecti	on Date	: 8 /1	14/2019	
Client Sample ID:	Base 7				Matrix	: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300 Chloride	D.0: ANIONS	500	60		mg/Kg	20	Ana 8/22/2019 6:20:41	alyst: CAS PM 46993
Lab ID:	1908928-008		(Collecti	on Date	: 8 /1	14/2019	
Client Sample ID:	Base 8				Matrix	s: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300	D.0: ANIONS						Ana	alyst: CAS
Chloride		320	60		mg/Kg	20	8/22/2019 6:33:05	PM 46993
Lab ID:	1908928-009		(Collecti	on Date	: 8/1	14/2019	
Client Sample ID:	Base 9				Matrix	: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300 Chloride	D.0: ANIONS	1900	60		mg/Kg	20	Ana 8/22/2019 6:45:30	alyst: CAS PM 46993
Lab ID:	1908928-010		(Collecti	on Date	: 8 /1	14/2019	
Client Sample ID:	Base 10				Matrix	s: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300	D.0: ANIONS						Ana	alyst: CAS
Chloride		4800	150		mg/Kg	50	8/23/2019 3:21:03	PM 46993

ntal A nolvoic I ob -T,

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

- * Value exceeds Maximum Contaminant Level. Qualifiers:
 - D Sample Diluted Due to Matrix
 - H Holding times for preparation or analysis exceeded
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PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

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

в

Page 2 of 6

Lab Order: 1908928

mental Analysis L	aboratory, In	IC.			Ι	Date Reported: 8/26	/2019
ucid Energy Delaware uniper Release				L	.ab C)rder: 19089	028
1908928-011		Co	ollecti	on Date	e: 8/1	14/2019	
Base 11				Matrix	s: SC	DIL	
	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
.0: ANIONS	2400	60		mg/Kg	20		alyst: CAS PM 46993
1908928-012		Co	ollecti	on Date	e: 8/1	14/2019	
Base 12				Matrix	s: SC	DIL	
	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
.0: ANIONS	5900	300		mg/Kg	10		alyst: CAS PM 46993
1908928-013		Co	ollecti	on Date	e: 8/1	14/2019	
Base 13				Matrix	: SC	DIL	
	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
.0: ANIONS						Ana	alyst: CAS
	1200	60		mg/Kg	20	8/22/2019 8:24:48	PM 46993
1908928-014		Co	ollecti	on Date	e: 8/1	14/2019	
Base 14				Matrix	s: SC	DIL	
	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
.0: ANIONS	ND	60		mg/Kg	20		alyst: CAS PM 46993
1908928-015		Co	ollecti	on Date	e: 8/1	14/2019	
Wall 1				Matrix	s: SC	DIL	
	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
	ucid Energy Delaware 1908928-011 Base 11 .0: ANIONS 1908928-012 Base 12 .0: ANIONS 1908928-013 Base 13 .0: ANIONS 1908928-014 Base 14 .0: ANIONS 1908928-014 Base 14 .0: ANIONS 1908928-015	ucid Energy Delaware miper Release 1908928-011 Base 11 .0: ANIONS 2400 1908928-012 Base 12 .0: ANIONS 5900 1908928-013 Base 13 Result .0: ANIONS 1200 1908928-014 Base 14 Result .0: ANIONS 1200 1908928-014 Base 14 Result .0: ANIONS 1200	Iniper Release Imited Release 1908928-011 Color Base 11 Result RL .0: ANIONS 2400 60 1908928-012 Color Base 12 Result RL .0: ANIONS 5900 300 1908928-013 Color Result RL .0: ANIONS 5900 300 300 1908928-013 Color Color 60 1908928-013 Color Color 60 1908928-013 Color Color 60 1908928-014 Color Color 60 1908928-014 Color Color 60 1908928-014 Color Color 60 1908928-015 Color Color ND 60 60 60 1908928-015 Color Color Wall 1 Color 60 60	ucid Energy Delaware iniper Release 1908928-011 Collecti Base 11 Result RL Qual 0: ANIONS 2400 60 1908928-012 Collecti Base 12 Result RL Qual 0: ANIONS 5900 300 1908928-013 Collecti Base 13 Result RL Qual 0: ANIONS 1200 60 1908928-014 Collecti Base 14 Result RL Qual 0: ANIONS 1200 60 1908928-014 Collecti Base 14 Collecti	ucid Energy Delaware nniper Release 1908928-011 Collection Date Base 11 Matrix Result RL Qual Units .0: ANIONS 2400 60 mg/Kg 1908928-012 Collection Date Base 12 Matrix Result RL Qual Units .0: ANIONS 5900 300 mg/Kg 1908928-013 Collection Date Base 13 Collection Date Base 14 Matrix Result RL Qual Units .0: ANIONS 1200 60 mg/Kg 1908928-014 Collection Date Base 14 Matrix Result RL Qual Units .0: ANIONS 1200 60 mg/Kg 1908928-014 Collection Date Base 14 Matrix Result RL Qual Units .0: ANIONS	ucid Energy Delaware uniper Release Lab C 1908928-011 Collection Date: 8/. Base 11 Matrix: SC Result RL Qual Units DF .0: ANIONS 2400 60 mg/Kg 20 1908928-012 Collection Date: 8/. Base 12 Matrix: SC Result RL Qual Units DF .0: ANIONS 2400 60 mg/Kg 20 1908928-012 Collection Date: 8/. Base 12 Matrix: SC Result RL Qual Units DF .0: ANIONS 5900 300 mg/Kg 10 1908928-013 Collection Date: 8/. Base 13 Matrix: SC Result RL Qual Units DF .0: ANIONS 1200 60 mg/Kg 20 1908928-014 Collection Date: 8/. Base 14 Matrix: SC .0: ANIONS ND 60 mg/Kg 20 1908928-015 Collection Dat	ucid Energy Delaware miper Release Lab Order: 1908928-011 1908928-011 Collection Date: 8/14/2019 Base 11 Matrix: SOIL Result RL Qual Units DF Date Analyzed .0: ANIONS Ana Matrix: SOIL Ana .0: ANIONS Collection Date: 8/14/2019 Matrix: SOIL 1908928-012 Collection Date: 8/14/2019 Matrix: SOIL Base 12 Collection Date: 8/14/2019 Matrix: SOIL Result RL Qual Units DF Date Analyzed .0: ANIONS Ana Soil Ana Ana .0: ANIONS Ana Matrix: SOIL Ana .0: ANIONS Collection Date: 8/14/2019 Base13 Ana .0: ANIONS Result RL Qual Units DF Date Analyzed .0: ANIONS Ana Ana Matrix: SOIL Ana .0: ANIONS

ntal A nolvoic I ob -T,

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

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

Qualifiers:

% Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits J

Sample pH Not In Range Р RL Reporting Limit

в

Page 3 of 6

Lab Order: 1908928

Hall Environ	mental Analysis La	aboratory, I	nc.			Ι	Date Reported: 8/26/	2019
	ucid Energy Delaware uniper Release				L	ab C)rder: 19089	28
Lab ID:	1908928-016		(Collect	ion Date	: 8/1	14/2019	
Client Sample ID:	Wall 2				Matrix	: SC	DIL	
Analyses		Result	RI	Qua	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300	0.0: ANIONS						Ana	lyst: CAS
Chloride		160	60)	mg/Kg	20	8/22/2019 9:26:49 F	PM 46993
Lab ID:	1908928-017		(Collect	ion Date	: 8 /1	14/2019	
Client Sample ID:	Wall 3				Matrix	: SC	DIL	
Analyses		Result	RI	Qua	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	60	60)	mg/Kg	20	Ana 8/22/2019 9:39:13 F	lyst: CAS PM 46993
Lab ID:	1908928-018		(Collect	ion Date	: 8/1	4/2019	
Client Sample ID:	Wall 4				Matrix	: SC	DIL	
Analyses		Result	RI	Qua	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300	0.0: ANIONS						Ana	lyst: CAS
Chloride		980	60)	mg/Kg	20	8/22/2019 10:16:27	PM 46993
Lab ID:	1908928-019			Collect	ion Date	: 8 /1	14/2019	
Client Sample ID:	Wall 5				Matrix	: SC	DIL	
Analyses		Result	RI	Qua	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	250	60)	mg/Kg	20	Ana 8/22/2019 10:28:51	lyst: CAS PM 46993
Lab ID:	1908928-020		(Collect	ion Date	: 8 /1	4/2019	
Client Sample ID:	Wall 6				Matrix	: SC	DIL	
Analyses		Result	RI	Qua	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	200	60)	mg/Kg	20	Ana 8/22/2019 10:41:16	lyst: CAS PM 46993

Hall Environmental Analysis Laboratory Inc

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

* 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

Qualifiers:

% Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits J

Sample pH Not In Range Р

P Sample pH Not I RL Reporting Limit

В

Page 4 of 6

Lab Order: 1908928

Hall Envi	ronmental Analysis La	aboratory, In	IC.			Γ	Date Reported: 8/20	5/2019
CLIENT: Project:	Lucid Energy Delaware Juniper Release				L	.ab C)rder: 1908	928
Lab ID: Client Sample	1908928-021 e ID: Bkgrnd (1)		C		on Date Matrix		4/2019	
Analyses	EID. Diging (1)	Result	RL	Qual			Date Analyzed	Batch ID
EPA METHO Chloride	D 300.0: ANIONS	150	60		mg/Kg	20		alyst: CAS 1 PM 46993

Hall Environmental Analysis Laboratory, Inc.

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

% Recovery outside of range due to dilution or matrix S

Е Value above quantitation range

Analyte detected in the associated Method Blank

- Analyte detected below quantitation limits J
- Р Sample pH Not In Range

RL Reporting Limit

в

Page 5 of 6

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#:	1908928

Client: Project:	Lucid En Juniper R	ergy Delav Release	ware								
Sample ID: MI	B-46985	SampT	Type: ml	olk	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID: PE	BS	Batcl	h ID: 46	985	F	unNo: 6	2350				
Prep Date: 8	/22/2019	Analysis D	Date: 8/	22/2019	5	SeqNo: 2	119770	Units: mg/K	g		
Analyte Chloride		Result ND	PQL 1.5	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: LC	CS-46985	SampT	Type: Ics	3	Tes	tCode: El	PA Method	300.0: Anion:	S		
Client ID: LC	SS	Batcl	h ID: 46	985	F	unNo: 6	2350				
Prep Date: 8	/22/2019	Analysis D	Date: 8/	22/2019	S	eqNo: 2	119771	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	95.0	90	110			
Sample ID: MI	B-46993	SampT	Type: ml	olk	Tes	tCode: El	PA Method	300.0: Anion	S		
Client ID: PE	BS	Batcl	h ID: 46	993	F	lunNo: 6	2350				
Prep Date: 8	/22/2019	Analysis D	Date: 8/	22/2019	S	eqNo: 2	119810	Units: mg/K	g		
Analyte Chloride		Result ND	PQL 1.5	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
			-								
Sample ID: LC	CS-46993	SampT	Type: Ics	5	Tes	tCode: El	PA Method	300.0: Anion	S		
Client ID: LC	SS	Batcl	h ID: 46	993	F	tunNo: 6	2350				
Prep Date: 8	/22/2019	Analysis E	Date: 8/	22/2019	5	SeqNo: 2	119811	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		15	1.5	15.00	0	98.7	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	TEL: 505-345-3975	4901 Hawkins N querque, NM 8710	samp	ole Log-In Che	ck List
Client Name: LUCID ENERGY DELAW	Work Order Number:	1908928	•	RcptNo: 1	
Received By: Leah Baca Completed By: Leah Baca Reviewed By: M	8/16/2019 10:15:00 AM 8/16/2019 11:04:51 AM DY 1 6/19	n , n ,	al Bran		
 <u>Chain of Custody</u> 1. Is Chain of Custody complete? 2. How was the sample delivered? 		Yes 🗹 Courier	No 🗌	Not Present	
Log In 3. Was an attempt made to cool the samples	s?	Yes 🗹	No 🗌	NA 🗌	
4. Were all samples received at a temperatu	re of >0° C to 6.0°C	Yes 🗹	No 🗌		
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗌		
6. Sufficient sample volume for indicated test	:(s)?	Yes 🗹	No 🗌		

6. Sufficient sample volume for indicated test(s)?	Yes 🖌	No 🗌	
7. Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗌	
8. Was preservative added to bottles?	Yes	No 🗹	NA 🗌
9. VOA vials have zero headspace?	Yes	No 🗌	No VOA Vials 🗹
10, Were any sample containers received broken?	Yes	No 🗹	# of preserved
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🖌	No 🗌	bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes 🔽	No 🗌	Adjusted?
13. Is it clear what analyses were requested?	Yes 🗹	No 🗌	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No 🗔	Checked by: ENM SILO/

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Special Handling (if applicable)

15.V	Vas client notified of all o	liscrepancies with this order?	Yes 🗌	No 🗌	NA 🗹
	Person Notified:	J	Date		
	By Whom:		Via: 🗌 eMail 🗌 Ph	none 🗌 Fax 📋] In Perso n
	Regarding:	T			*********
	Client Instructions:			·····	

16. Additional remarks:

17. Cooler Information

: . 	Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1		3.4	Good	Yes			
2		2.3	Good	Yes		•	

._____

ANALYSIS LABORATORY	www.nauenvironmentai.com 4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	•¢	PO4, S PO4, S SMIS SMIS	01 8270	(GK 103 103 103 103 104 104 104 104 104 104 104 104 104 104	/ MT 015D0 Pestic by 83 8 Me Br, 1 VOA) Semi	7PH:8/ 8081 F PAHs RCRA 8260 (8260 (8270 (704al (Remarks: 1000i er (Ohrleamp. com	PAGE 1 OF Z	This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
Turn-Around Time: Acstandard Bush Project Name:	Juniper Kelease.	Project #:		Project Manager:	Lori OBrien	Sampler: LUVi 🖯 On Ice: 🐄 Yes □ No	ers: 2	Cooler Temp(naturating cs): ろ. 8 * 0, 4 = 3 4C (*C)	Container Preservative HEAL No. Type and # Type ///08928	100	-002	-003	600-	-005	-006	- 00-	- 00 5	-004	010-	110- 1 10-	>	Received W. Via: Rete Time	Received by Via: Court & Dates Time	
Chain-of-Custody Record	Mailing Address: oう らし		Phone #:	email or Fax#:	QA/QC Package:	creditation: □ Az Compliance NELAC □ Other	ype)		Date Time Matrix Sample Name	Sul Base 1	1 1 2	11 2	T T	т Л	:	۲ ، ۱		5	<u>0</u>	11 m / 11	2 1 1 1 2		Date: Time: Relinquished by: US/19 [7a)	If hecessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories.

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 HALL ENVIRONMENTAL HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107 	3 ³ , NO ₂ , PO₄, SO₄ or 8270SIMS 504.1)	EDB (Method PAHs by 8310 Ct, F, Br, NO 8260 (VOA) 8270 (Semi-Vo 70tal Coliform						ks: Obriene hrlcomp.com Pare 20F2
4901 Tel. (98/8085 БСВ/8 30 / DKO / WKO) 5 / TMB/8 (8051)	TPH:8015D(G						Remarks: 10b
Turm-Around Time: Standard 5 day 1 un Project Name: Project #:	Project Manager: L ン r i ひひri cへ Sampler: しい ひ On loe: すYes □No	# of Coolers: 1 Cooler Tempmeduate CF: $37 - 0.4 - 340$ (°C) Container Preservative HEAL No. Type and # Type 190079	142(1) -613 1 -019	- 010-	\$10- t10-	5 4		Time: Relinquished by: Received by Via: Date Time Remarks: 1300 0
Chain-of-Custody Record Client: Luci と Energy Group Mailing Address: 0 へ らしょ	Prione #: email or Fax#: QA/QC Package: Catandard Cevel 4 (Full Validation) Accreditation: Cather Compliance	Matrix Sample Name	14/19 Soil Dase #13	Call 1	(Jaul 3)	Neul 5 Wall 6	M Sugar	Date: Time: Relinguished by: 2) 15/19 1300 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1

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

September 10, 2019

Lori O'Brien Lucid Energy Delaware 201 South 4th St. Artesia, NM 88210 TEL: (575) 513-8988 FAX:

RE: Juniper Release

OrderNo.: 1909004

Dear Lori O'Brien:

Hall Environmental Analysis Laboratory received 5 sample(s) on 8/31/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order: 1909004

Project: Juniper Release Lab ID: 1909004-001 Collection Date: 8/28/2019 Client Sample ID: #1a North Wall Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS Collection Date: 8/28/2019 Chloride 200 60 mg/Kg 20 9/9/2019 1:34:3 Lab ID: 1909004-002 Collection Date: 8/28/2019 Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS Collection Date: 8/29/2019 Chloride 280 60 mg/Kg 20 9/9/2019 EPA METHOD 300.0: ANIONS Collection Date: 8/29/2019 Chloride 280 60 mg/Kg 20 9/9/2019 Chloride 1909004-003 Collection Date: 8/29/2019 Client Sample ID: #2a North Wall Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS O O mg/Kg 20 9/9/2019 22.42:1 <th< th=""><th>Hall Environ</th><th>mental Analysis La</th><th>aboratory, I</th><th>nc.</th><th></th><th></th><th>I</th><th>Date Reported: 9/1</th><th>0/2019</th><th>)</th></th<>	Hall Environ	mental Analysis La	aboratory, I	nc.			I	Date Reported: 9/1	0/2019)
Client Sample ID: #1a North Wall Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS 200 60 mg/Kg 20 9/9/2019 1:34:3 Lab ID: 1909004-002 Collection Date: 8/28/2019 Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS Collection Date: 8/28/2019 Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS Collection Date: 8/29/2019 Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS Collection Date: 8/29/2019 Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS Go mg/Kg 20 9/9/2019 2:24:1 <						L	.ab ()rder: 1909	004	
AnalysesResultRLQualUnitsDFDate AnalyzerEPA METHOD 300.0: ANIONS Chloride20060mg/Kg209/9/2019 1:34:3Lab ID:1909004-002Collection Date:8/28/2019Client Sample ID:#1b South WallMatrix:SOILAnalysesResultRLQualUnitsDFPA METHOD 300.0: ANIONS Chloride28060mg/Kg209/9/2019 1:46:5Lab ID:1909004-003Collection Date:8/29/20197/2019Client Sample ID:#2a North WallMatrix:SOILAnalysesResultRLQualUnitsDFDate AnalyzesResultRLQualUnitsDFEPA METHOD 300.0: ANIONS Chloride58060mg/Kg209/9/2019 2:24:1Lab ID:1909004-004Collection Date:8/29/20197/2019Client Sample ID:#3 Base @ 5ftMatrix:SOILAnalysesResultRLQualUnitsDFPA METHOD 300.0: ANIONS Chloride170060mg/Kg209/9/2019 2:36:3Lab ID:1909004-005Collection Date:8/29/20197/2019Chloride170060mg/Kg209/9/2019 2:36:3Lab ID:1909004-005Collection Date:8/29/2019Chloride170060mg/Kg209/9/2019 2:36:3Lab ID:1909004-005Collection Date:8/29/2019Chloride <t< th=""><th>Lab ID:</th><th>1909004-001</th><th></th><th>С</th><th>ollecti</th><th>on Date</th><th>: 8/2</th><th>28/2019</th><th></th><th></th></t<>	Lab ID:	1909004-001		С	ollecti	on Date	: 8/2	28/2019		
EPA METHOD 300.0: ANIONS 200 60 mg/Kg 20 9/9/2019 1:34:3 Lab ID: 1909004-002 Collection Date: 8/28/2019 Client Sample ID: #1b South Wall Matrix: SOIL Analyzes Analyses Result RL Qual Units DF Date Analyzes EPA METHOD 300.0: ANIONS Collection Date: 8/28/2019 Matrix: SOIL Chloride 280 60 mg/Kg 20 9/9/2019 1:46:5 Lab ID: 1909004-003 Collection Date: 8/29/2019 Client Sample ID: #2a North Wall Analyses Result RL Qual Units DF Date Analyzes EPA METHOD 300.0: ANIONS Collection Date: 8/29/2019 Client Sample ID: #2a North Wall Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzes EPA METHOD 300.0: ANIONS Matrix: SOIL Matrix: SOIL Analyses Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzes EPA METHOD 300.0:	Client Sample ID:	#1a North Wall				Matrix	: SC	DIL		
Chloride20060mg/Kg209/9/2019 1:34:3Lab ID:1909004-002Collection Date:8/28/2019Client Sample ID:#1b South WallMatrix:SOILAnalysesResultRLQualUnitsDF Date AnalyzedEPA METHOD 300.0: ANIONSCollection Date:8/29/20191:46:5Chloride28060mg/Kg209/9/2019Chloride1909004-003Collection Date:8/29/2019Chloride1909004-003Collection Date:8/29/2019Chloride1909004-003Collection Date:8/29/2019Chloride58060mg/Kg20PA METHOD 300.0: ANIONS60mg/Kg20Chloride58060mg/Kg20PA METHOD 300.0: ANIONS70Collection Date:8/29/2019Chloride1909004-004Collection Date:8/29/2019Chloride1909004-004Collection Date:8/29/2019Chloride1909004-005Collection Date:8/29/2019Chloride170060mg/Kg20PA METHOD 300.0: ANIONS707060mg/KgChloride1909004-005Collection Date:8/29/2019Chloride1909004-005Collection Date:8/29/2019Chloride1909004-005Collection Date:8/29/2019Chloride1909004-005Collection Date:8/29/2019Chloride1909004-005Collection Date:8/29/2019	Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	atch ID
Lab ID: 1909004-002 Collection Date: 8/28/2019 Client Sample ID: #1b South Wall Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzee EPA METHOD 300.0: ANIONS 280 60 mg/Kg 20 9/9/2019 1/46.5 Lab ID: 1909004-003 Collection Date: 8/29/2019 Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzee EPA METHOD 300.0: ANIONS Collection Date: 8/29/2019 Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzee EPA METHOD 300.0: ANIONS 60 mg/Kg 20 9/9/2019 2:24:1 Lab ID: 1909004-004 Collection Date: 8/29/2019 Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzee EPA METHOD 300.0: ANIONS 70 60 mg/Kg 20 9/9/2	EPA METHOD 300	0.0: ANIONS						Ar	alyst	MRA
Client Sample ID: #1b South Wall Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS 200 9/9/2019 1:46:5 Lab ID: 1909004-003 Collection Date: 8/29/2019 Client Sample ID: #2a North Wall Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS Collection Date: 8/29/2019 Client Sample ID: #3 Base @ 5ft Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS Collection Date: 8/29/2019 Client Sample ID: #3 Base @ 5ft Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS Collection Date: 8/29/2019 Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer Chloride	Chloride		200	60		mg/Kg	20	9/9/2019 1:34:32	PM	47343
AnalysesResultRLQualUnitsDFDate AnalyzerEPA METHOD 300.0: ANIONS Chloride28060mg/Kg209/9/2019 1:46:5Lab ID:1909004-003Collection Date:8/29/2019Client Sample ID:#2a North WallMatrix:SOILAnalysesResultRLQualUnitsDFEPA METHOD 300.0: ANIONS Chloride58060mg/Kg209/9/2019 2:24:1Lab ID:1909004-004Collection Date:8/29/2019Client Sample ID:#3 Base @ 5ftMatrix:SOILAnalysesResultRLQualUnitsDFEPA METHOD 300.0: ANIONS Chloride170060mg/Kg209/9/2019 2:36:3Lab ID:1909004-005Collection Date:8/29/20194EPA METHOD 300.0: ANIONS Chloride170060mg/Kg209/9/2019 2:36:3Lab ID:1909004-005Collection Date:8/29/20194EPA METHOD 300.0: ANIONS Chloride170060mg/Kg209/9/2019 2:36:3Lab ID:1909004-005Collection Date:8/29/201944Lab ID:1909004-005Collection Date:8/29/20194EPA METHOD 300.0: ANIONSMatrix:SOILAnalysesResultRLQualUnitsDFEPA METHOD 300.0: ANIONSMatrix:SOILEPA METHOD 300.0: ANIONSMatrix:SOILAnalysesResultRLQua	Lab ID:	1909004-002		С	ollecti	on Date	: 8/2	28/2019		
EPA METHOD 300.0: ANIONS 280 60 mg/Kg 20 9/9/2019 1:46:5 Lab ID: 1909004-003 Collection Date: 8/29/2019 1:46:5 Lab ID: 1909004-003 Collection Date: 8/29/2019 1:46:5 Analyses Result RL Qual Units DF Date Analyzee EPA METHOD 300.0: ANIONS 60 mg/Kg 20 9/9/2019 2:24:1 1:46:5 Lab ID: 1909004-004 Collection Date: 8/29/2019 1:46:5 Chloride 580 60 mg/Kg 20 9/9/2019 2:24:1 Lab ID: 1909004-004 Collection Date: 8/29/2019 1:46:5 Chloride 1909004-004 Collection Date: 8/29/2019 Chloride 1909004-005 Collection Date: 8/29/2019 Chloride 1700 60 mg/Kg 20 9/9/2019 2:36:3 Lab ID: 1909004-005 Collection Date: 8/29/2019 1:36:3 Chloride 1700 60 mg/Kg 20 9/9/2019 2:36:3 Lab ID: 1909004-005 Collection Da	Client Sample ID:	#1b South Wall				Matrix	s: sc	DIL		
Chloride28060mg/Kg209/9/2019 1:46:5Lab ID:1909004-003Collection Date:8/29/2019Client Sample ID:#2a North WallMatrix:SOILAnalysesResultRLQualUnitsDFEPA METHOD 300.0:ANIONS60mg/Kg209/9/2019 2:24:1Chloride58060mg/Kg209/9/2019 2:24:1Lab ID:1909004-004Collection Date:8/29/2019Client Sample ID:#3 Base @ 5ftMatrix:SOILAnalysesResultRLQualUnitsDFEPA METHOD 300.0:ANIONS60mg/Kg209/9/2019 2:36:3Chloride170060mg/Kg209/9/2019 2:36:3Lab ID:1909004-005Collection Date:8/29/2019Chloride170060mg/Kg209/9/2019 2:36:3Lab ID:1909004-005Collection Date:8/29/2019Chloride170060mg/Kg209/9/2019 2:36:3Lab ID:1909004-005Collection Date:8/29/2019Client Sample ID:#4 East WallMatrix:SOILAnalysesResultRLQualUnitsDFEPA METHOD 300.0:ANIONS///////////////////////////////	Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	atch ID
Client Sample ID: #2a North Wall Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzed EPA METHOD 300.0: ANIONS 60 mg/Kg 20 9/9/2019 2:24:1 Lab ID: 1909004-004 Collection Date: 8/29/2019 Client Sample ID: #3 Base @ 5ft Matrix: SOIL Analyses Result RL Qual Units DF EPA METHOD 300.0: ANIONS 0 mg/Kg 20 9/9/2019 2:24:1 Lab ID: 1909004-004 Collection Date: 8/29/2019 0 Client Sample ID: #3 Base @ 5ft Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzed EPA METHOD 300.0: ANIONS 0 mg/Kg 20 9/9/2019 2:36:3 Lab ID: 1909004-005 Collection Date: 8/29/2019 Analyses Client Sample ID: #4 East Wall Matrix: SOIL Analyses Result RL Qual Units DF Date Anal		D.0: ANIONS	280	60		mg/Kg	20		-	MRA 47343
AnalysesResultRLQualUnitsDFDate AnalyzerEPA METHOD 300.0: ANIONS Chloride58060mg/Kg209/9/2019 2:24:1Lab ID:1909004-004Collection Date:8/29/2019Client Sample ID:#3 Base @ 5ftMatrix: SOILAnalysesResultRLQualUnitsDFEPA METHOD 300.0: ANIONS Chloride170060mg/Kg209/9/2019 2:36:3Lab ID:1909004-005Collection Date:8/29/20194Chloride1909004-005Collection Date:8/29/2019Client Sample ID:#4 East WallMatrix:SOILAnalysesResultRLQualUnitsDFPA METHOD 300.0: ANIONSCollection Date:8/29/2019Client Sample ID:#4 East WallMatrix:SOILAnalysesResultRLQualUnitsDFEPA METHOD 300.0: ANIONS0.00.00.0	Lab ID:	1909004-003		C	ollecti	on Date	: 8/2	29/2019		
EPA METHOD 300.0: ANIONS ////////////////////////////////////	Client Sample ID:	#2a North Wall				Matrix	s: sc	DIL		
Chloride58060mg/Kg209/9/2019 2:24:1Lab ID:1909004-004Collection Date:8/29/2019Client Sample ID:#3 Base @ 5ftMatrix:SOILAnalysesResultRLQualUnitsDFPA METHOD 300.0:ANIONSIntroduction Date:8/29/2019Chloride170060mg/Kg209/9/2019Lab ID:1909004-005Collection Date:8/29/2019Client Sample ID:#4 East WallMatrix:SOILAnalysesResultRLQualUnitsDFEPA METHOD 300.0:ANIONSIntroduction Date:8/29/2019	Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	atch ID
Lab ID: 1909004-004 Collection Date: 8/29/2019 Client Sample ID: #3 Base @ 5ft Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzed EPA METHOD 300.0: ANIONS 7 60 mg/Kg 20 9/9/2019 2:36:3 Lab ID: 1909004-005 Collection Date: 8/29/2019 7 Client Sample ID: #4 East Wall Matrix: SOIL Analyses Result RL Qual Units DF EPA METHOD 300.0: ANIONS Collection Date: 8/29/2019 7 Client Sample ID: #4 East Wall Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzed EPA METHOD 300.0: ANIONS // // // // // // EPA METHOD 300.0: ANIONS // // // // // //	EPA METHOD 300	0.0: ANIONS						Ar	alyst	MRA
Client Sample ID: #3 Base @ 5ft Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS Chloride 1700 60 mg/Kg 20 9/9/2019 2:36:3 Lab ID: 1909004-005 Collection Date: 8/29/2019 8/29/2019 Client Sample ID: #4 East Wall Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzer EPA METHOD 300.0: ANIONS Result RL Qual Units DF Date Analyzer	Chloride		580	60		mg/Kg	20	9/9/2019 2:24:11	PM	47343
AnalysesResultRLQualUnitsDFDate AnalyzedEPA METHOD 300.0: ANIONS Chloride170060mg/Kg209/9/2019 2:36:3Lab ID:1909004-005Collection Date:8/29/2019Client Sample ID:#4 East WallMatrix:SOILAnalysesResultRLQualUnitsDFEPA METHOD 300.0: ANIONS	Lab ID:	1909004-004		С	ollecti	on Date	: 8/2	29/2019		
EPA METHOD 300.0: ANIONS // Chloride 1700 60 mg/Kg 20 9/9/2019 2:36:3 Lab ID: 1909004-005 Collection Date: 8/29/2019 Client Sample ID: #4 East Wall Matrix: SOIL Analyses Result RL Qual Units DF Date Analyzed EPA METHOD 300.0: ANIONS // // // //	Client Sample ID:	#3 Base @ 5ft				Matrix	: SC	DIL		
Chloride170060mg/Kg209/9/2019 2:36:3Lab ID:1909004-005Collection Date:8/29/2019Client Sample ID:#4 East WallMatrix:SOILAnalysesResultRLQualUnitsDF Date AnalyzedEPA METHOD 300.0: ANIONS//////	Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	atch ID
Client Sample ID: #4 East Wall Matrix: SOIL Analyses Result RL Qual Units DF EPA METHOD 300.0: ANIONS Joint Same		D.0: ANIONS	1700	60		mg/Kg	20		-	MRA 47343
Analyses Result RL Qual Units DF Date Analyzed EPA METHOD 300.0: ANIONS Image: Comparison of the second s	Lab ID:	1909004-005		С	ollecti	on Date	: 8/2	29/2019		
EPA METHOD 300.0: ANIONS	Client Sample ID:	#4 East Wall				Matrix	s: sc	DIL		
	Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	atch ID
Chloride ND 60 mg/Kg 20 9/9/2019 2:49:0	EPA METHOD 300	0.0: ANIONS			_			Ar	alyst	MRA
	Chloride		ND	60		mg/Kg	20	9/9/2019 2:49:00	PM	47343

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

* 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

Qualifiers:

S % Recovery outside of range due to dilution or matrix

Е Value above quantitation range

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits J

Sample pH Not In Range

P Sample pH Not I RL Reporting Limit

в

Page 1 of 2

Client: Project:		ncid Energy Dela niper Release	ware											
Sample ID:	MB-47343	Samp	Туре: МІ	BLK	TestCode: EPA Method 300.0: Anions									
Client ID:	PBS	Bato	h ID: 47	17343 RunNo: 62754										
Prep Date:	9/9/2019	Analysis	Date: 9/	9/2019	S	SeqNo: 21	38648	Units: mg/Kg						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Chloride		ND	1.5											
Sample ID:	LCS-47343	3 Samp	Type: LC	s	Tes	tCode: EF	PA Method	300.0: Anion	s					
Client ID:	LCSS	Bato	h ID: 47	343	RunNo: 62754									
Prep Date:	9/9/2019	Analysis	Date: 9/	9/2019	S	SeqNo: 21	38649	Units: mg/Kg						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Chloride		15	1.5	15.00	0	97.7	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

1909004

WO#:

	HALL
	ENVIRONMENTAL
100	ANALYSIS
	LABORATORY

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 ENERGY DELAW	Work Order Number	1909004		RcptNo:	1
Received By:	Andy Freeman	8/31/2019 8:05:00 AM	I	andy	_	
Completed By:	Erin Melendrez	9/3/2019 7:46:53 AM		andy C	5	
Reviewed By:	2-6)	9/3/11				
Chain of Cust	ody					
1. Is Chain of Cu	stody complete?		Yes 🗸	No 🗌	Not Present	
2. How was the s	ample delivered?		Client			
<u>Log In</u>						
	ot made to cool the samples	?	Yes 🖌	No	NA 🗌	
 Were all sample 	es received at a temperatur	e of >0° C to 6.0°C	Yes 🗸	No 🗌	NA 🗌	
5. Sample(s) in p	roper container(s)?		Yes 🗹	No 🗌		
6 Sufficient samm	ble volume for indicated test	c)2	Yes 🗸	No 🗌		
	xcept VOA and ONG) prope		Yes 🗸			
	ve added to bottles?		Yes	No 🔽	NA 🗌	
9 VOA vials have	zero headspace?		X □	N- 🗆		
	ple containers received brok	en?	Yes 🗌 Yes 🗌	No 🗌	No VOA Vials 🗹	
					# of preserved bottles checked	
	k match bottle labels?		Yes 🗸	No 🗌	for pH:	
	ncies on chain of custody) prrectly identified on Chain o	f Custody2	Yes 🔽	No 🗌	(<2 or : Adjusted?	>12 unless noted)
	analyses were requested?	Custody	Yes 🗸		/	
4. Were all holding	g times able to be met?		Yes 🗸	No 🗌	Checked by:	DAD 9/3/19
	stomer for authorization.)					
pecial Handlin	ng (if applicable)					
5. Was client noti	fied of all discrepancies with	this order?	Yes	No 🗌	NA 🗹	
Person N	lotified:	Date:		an a		
By Whon	·	Via:] eMail [] Phone 🗌 Fax	In Person	
Regardin	- /					
	structions:					
6. Additional rem						
7. Cooler Inform	I manual in the second s					
Cooler No 1	Temp °CConditionS3.4GoodYe		eal Date	Signed By		

HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com www.inallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107 Analysis Request	EDB (Method 504.1) PAHs by 8310 or 8270SIMS RCRA 8 Metals CI, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄ 8260 (VOA) 8270 (Semi-VOA) Total Coliform (Present/Absent) Coliform (Present/Absent)		Obrien Ohrichno. Cum.
4901 I	BTEX / MTBE / TMB's (8021) TPH:8015D(GRO / DRO / MRO) 8081 Pesticides/8082 PCB's		Remarks:
Turn-Around Time: Sday Turn Standard <u>Rush</u> Project Name: JUNIQUE Release Project #:	Project Manager:		Time: Relinquished by: Received by Via: Date Time Remarks: I O DY I C A M O A M O. C M Of 30 Of 30 Yai Date Time Post Remarks: Post R
Client: LUCID ENERGY RECORD Client: LUCID ENERGY ENERGY Mailing Address: Phone #:	email or Fax#: QA/QC Package: CA/QC CA/QC Package: CA/QC Package: CA/QC CA/QC Package: CA/QC Package: CA/QC CA/QC Package: CA/QC CA/QC Package: CA/QC CA/QC Package: CA/QC CA/QC Package: CA/QC CA/QC PACAGE: CA/QC CA/QC PACAGE: CA/QC CA/QC PACAGE: CA/QC PACAGE:	e 4 4 4 4 4 4 4 4 4 4 5 6 6 7 7 8 7 7 8 7 7 7 7 7 7 7 7 7 7 7 7 7	Date: Time: Relinquished by: Date: Time: Relinquished by: Date: Time: Relinquished by: If necessary, samples submitted to Hall Environmental may be subco



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

September 11, 2019

Lori O'Brien Lucid Energy Delaware 201 South 4th St. Artesia, NM 88210 TEL: (575) 513-8988 FAX:

RE: Juniper Release

OrderNo.: 1909317

Dear Lori O'Brien:

Hall Environmental Analysis Laboratory received 3 sample(s) on 9/7/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analys	sis Laboratory, Inc	2.	Lab Order 1909317 Date Reported: 9/11/2019							
CLIENT: Lucid Energy Delaware		Client S	ample II	D: So	uth Wall					
Project: Juniper Release	Collection Date: 9/4/2019									
Lab ID: 1909317-001	Matrix: SOIL	Received Date: 9/7/2019 9:30:00 AM								
Analyses	Result	RL Qual	l Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS					Analy	st: CJS				
Chloride	ND	60	mg/Kg	20	9/10/2019 6:43:07 PM	47385				

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 1 of 4

Analytical Report
Lab Order 1909317

Hall Environmental Analy	sis Laboratory, Ind	2.	Date Reported: 9/11/2019							
CLIENT: Lucid Energy Delaware		Client	Client Sample ID: BLM #4 Re Collection Date: 9/5/2019							
Project: Juniper Release		Coll								
Lab ID: 1909317-002	Matrix: SOIL	Rec	Received Date: 9/7/2019 9:30:00 AM							
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS					Analys	t: CJS				
Chloride	600	60	mg/Kg	20	9/10/2019 7:20:21 PM	47385				

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
- S % Recovery outside of range due to dilution or matrix

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

Page 2 of 4

Hall Environmental Analys	sis Laboratory, Inc	с.	Lab Order 1909317 Date Reported: 9/11/2019								
CLIENT: Lucid Energy Delaware		Client	Sample II	D: BL	LM #1 Re						
Project: Juniper Release	Collection Date: 9/5/2019										
Lab ID: 1909317-003	Matrix: SOIL	Rec	eived Dat	e: 9/7	//2019 9:30:00 AM						
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS					Analy	st: CJS					
Chloride	79	60	mg/Kg	20	9/10/2019 7:32:45 PM	A 47385					

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

WO#:	1909317
	11-Sep-19

	d Energy Delaware per Release										
Sample ID: MB-47385	SampType: mblk	TestCode: EPA Method 300.0: Anions									
Client ID: PBS	Batch ID: 47385	RunNo: 62808									
Prep Date: 9/10/2019	Analysis Date: 9/10/2019	SeqNo: 2139935 Units: mg/ł	Units: mg/Kg								
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual								
Chloride	ND 1.5										
Sample ID: LCS-47385	SampType: Ics	TestCode: EPA Method 300.0: Anions									
Client ID: LCSS	Batch ID: 47385	RunNo: 62808									
Prep Date: 9/10/2019	Analysis Date: 9/10/2019	SeqNo: 2139936 Units: mg/ł	g/Kg								
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual								
Chloride	15 1.5 15.00	0 96.8 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

Page 4 of 4

	ANALY	ONMENT SIS ATORY	AL	TE.	ll Environmental Alb L: 505-345-3975 Website: www.ho	490 uquerq FAX:	1 Hawkins 1 ue, NM 871 505-345-41	NE 09 07	Sample Log-In Check List					
Cli	ent Name:	LUCID ENI	ERGY DELAW	/ Work	Order Number	190	9317			RcptNo: 1				
Rec	ceived By:	Yazmine	Garduno	9/7/201	9 9:30:00 AM			Normin	r (Gindeut	ě				
Cor	npleted By:	Yazmine	Garduno	9/7/201	9 11:15:42 AM			Mazmir	u lighteuri	ē				
Rev	viewed By: E	ENM		9/7/	'A									
Cha	ain of Cust	ody												
1. 1	s Chain of Cu	stody comp	lete?			Yes	\checkmark	No		Not Present				
2. H	low was the s	ample deliv	vered?			Cou	rier							
Lo	<u>g In</u>													
3. v	Vas an attemp	ot made to c	cool the sample	es?		Yes	\checkmark	No		NA 🗌				
4. v	Vere all sampl	les received	l at a temperati	ure of >0° C	to 6.0°C	Yes	\checkmark	No		NA 🗌				
5. s	Sample(s) in p	roper conta	iner(s)?			Yes	\checkmark	No						
6. S	ufficient samp	ole volume f	or indicated tes	st(s)?		Yes	\checkmark	No						
7. A	re samples (e	xcept VOA	and ONG) prop	perly preserve	ed?	Yes	\checkmark	No						
8. V	/as preservati	ve added to	bottles?			Yes		No	✓	NA 🗌				
9. v	OA vials have	zero heads	space?			Yes		No		No VOA Vials 🗹 💡				
10. V	Vere any sam	ple containe	ers received bro	oken?		Yes		No		# of preserved				
	oes paperwor lote discrepar		ttle labels? ain of custody)			Yes	\checkmark	No		bottles checked for pH: (<2 pr >12 unless noted)				
			tified on Chain	of Custody?		Yes	\checkmark	No		Adjusted?				
			ere requested?				\checkmark	No		VIIIO ablu				
14. W	/ere all holding f no, notify cus	g times able	e to be met?					No		Checked by: YUG 917116				
Spec	ial Handlii	na (if apr	olicable)							•				
M0.200 1000		1991 DI 189 - 11	iscrepancies w	ith this order?	,	Yes		No		NA 🔽				
	Person N	Notified:	Γ	ne a sector any formation and the factor and	Date	ad an an a start of the start o	panyan donompo de som mend		ang na mang					
	By Whor	n:		NAT LOS CLARGES MARKING	Via:	eMa	ail 🗌 Pho	one 🗌	Fax	In Person				
	Regardin	ng:		and to be the Danish of the Araba and the South State			tal Xon bahabindalar wastard	ILLING STATE STATE						
	Client Ins	structions:				6-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1			With Deliv Juris and	And and a second and				
16. ,	Additional rem	narks:												
17. 9	Cooler Inform	1												
	Cooler No	Temp °C	Condition	Seal Intact	Seal No S	eal Da	ate S	igned	Ву					
	1	5.2	Good											
	2	3.1	Good											

Hall ENVIRONMENTAL Hall ENVIRONMENTAL Anal VSIS LaboraTORY www.hallenvironmental.com 4901 Hawkins NE Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107	Analysis	ьО⁴' 2O⁴ NSIW2 ьCB, ² О \ WKO)	^{'z} ON ^{'ɛ} C	015D((esticio Methoo by 831 8 Met 8 Met 8 Met 8 Met 8 Met	TPH:80 8081 F PAHs I RCRA CI, F, CI,	X	~	×				Remarks: U.9 f0.3 = S.2.	Time: Relinquisher by: Received by: Via: Date Time $L-S+0.3 > S/c$ If the constraint of th
Turn-Around Time: 48 hour Standard Rush Project Name: Suniper Release. Project #:	Terrafic entered in the second s	Project Manager:	Sampler: Lvrì O On Ice: A Yes 🗆 No # of Conclere: Z	(incl	Container Preservative 100031	1 ARE (1) 1 de -001	700-111	V V -003			0	A	Received by Via: ^{Date} Time Time UVY K イリー 0430
Client: Level d Energy Client: Level d Energy Mailing Address: On file	Phone #:	email or Fax#: QA/QC Package: Standard	1:		Date Time Matrix Sample Name	19104/19 Sold South Wall	18.31	11 12 1 1 1 KC				1	Date: Time: Relinquished by: