HRL COMPLIANCE SOLUTIONS
P.O. Box 1708 • Artesia, NM 88211
www.hrlcomp.com

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:

Lori O'Brien, Project Manager
HRL Compliance Solutions

Michael Gant, Environmental Coordinator

Lucid Energy Group

April 2021
Artesia, NM

INNOVATIVE SOLUTIONS DELIVERED

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/ Incident ID	2RP-5566; NAB1922059305		
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	>100 ft bgs/Pecos 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		

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

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.

Initially during the site characterization, the groundwater data available on NM Office of the State Engineer (NMOSE) was beyond the OCD required 0.5-mile radius. After rejection of the initial closure request a secondary review of the NMOSE water well database presented 8 grounding wells within a 0.5-mile radius and none of the wells encountered groundwater at total depth. 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. Figure 6 shows the NMOSE database of nearby wells. 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 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).

1. 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.

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.

Table A: Closure Criteria for Soils Impacted by a Release (19.15.29 NMAC)

>100 feet	Chloride***	EPA 300.0 or SM4500 Cl B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	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 before the release in the area off the RoW.

The depth of groundwater beneath the site of investigation was determined to be greater than 100ft bgs, after a secondary review of the NMOSE groundwater database (Figure 6). The initially applicable 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

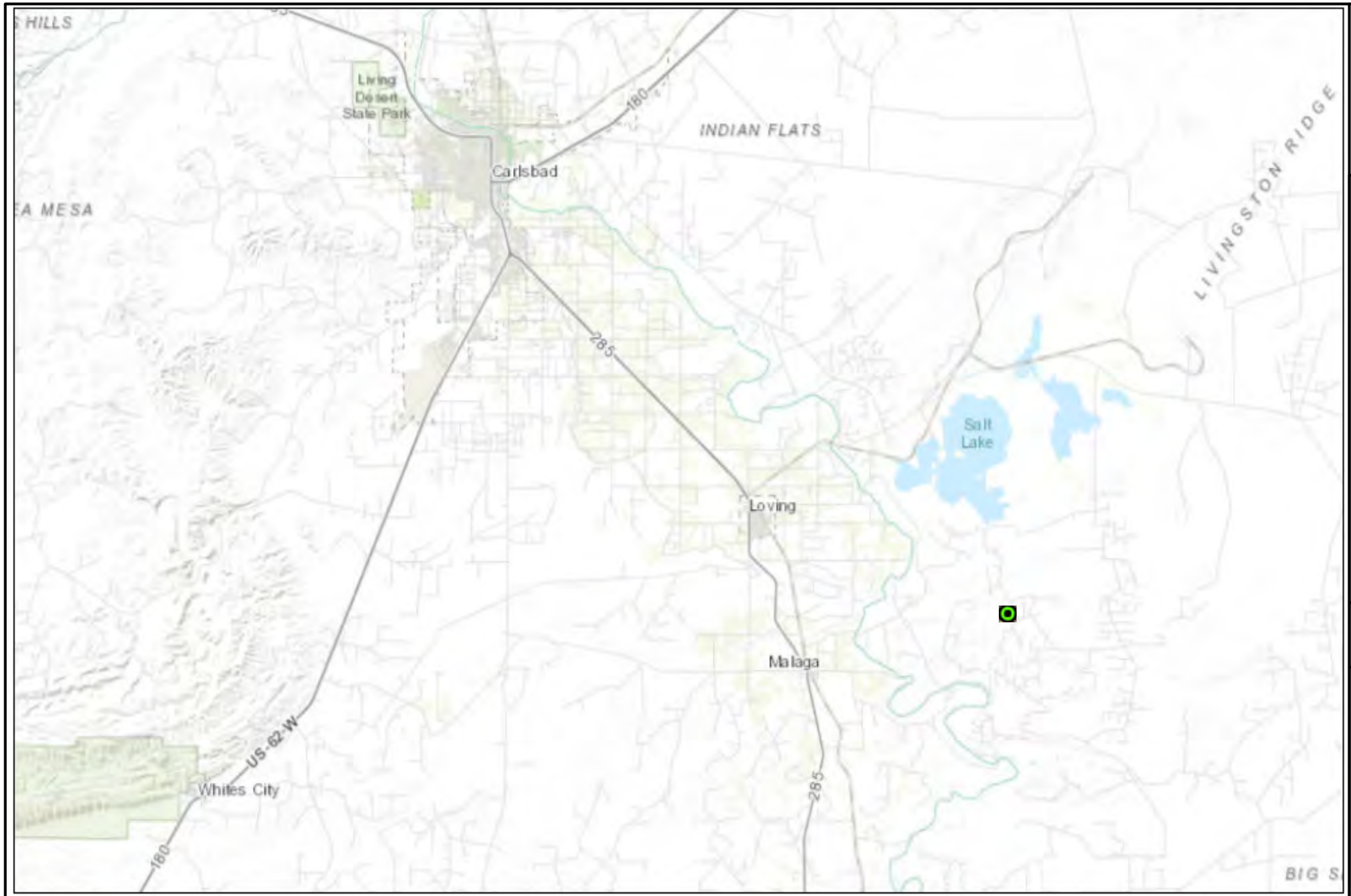
The assessment conducted by HRL followed New Mexico remediation requirements and pertinent regulations. The site investigation and subsequent remediation was completed utilizing appropriate soil sampling protocol and best management practices (NRCS Field Guide). As described in Section 5.1 above, the 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.

FIGURES



N

LUCID energy group

Figure 1:Site Location Map

Juniper Release

32.248098, -103.972614

Section 3, Township 24 South, Range 29 East

Mapped Features

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.

9/19/2019, 5:06:26 PM

1:288,895

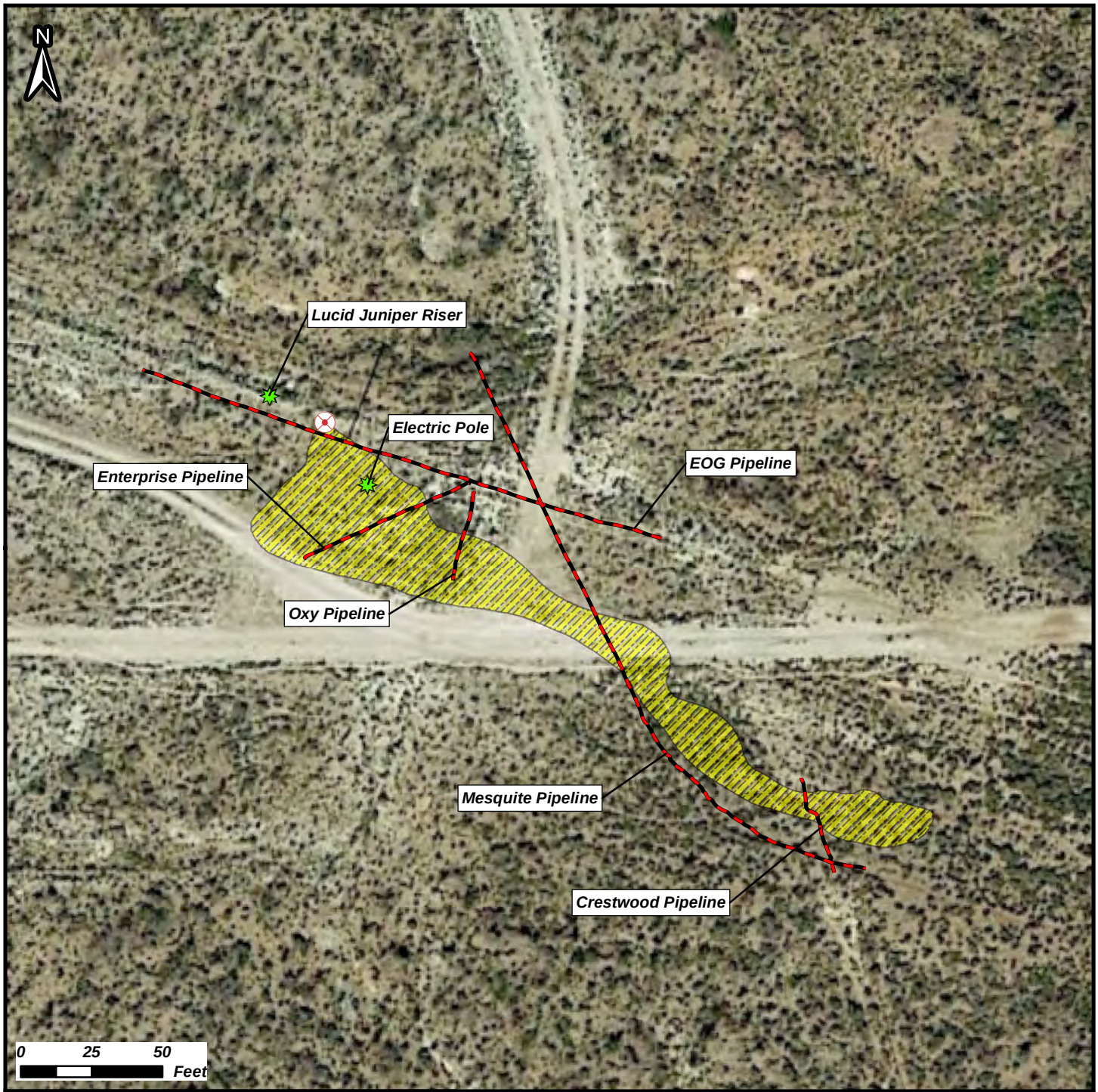
0 2 4 8 mi

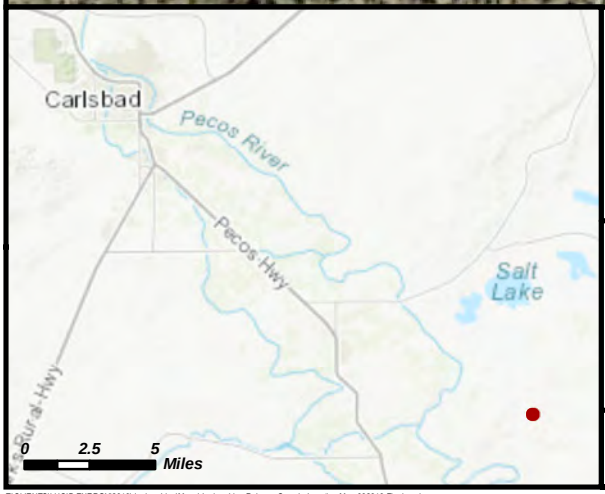
0 3.25 6.5 13 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,

HRL COMPLIANCE SOLUTIONS

Author: L.O'Brien	
Rev: 0	
Date: 9/18/2019	





LUCID energy group

Figure 2: Juniper Line Release

32.248098 -103.972614
Section 3, Township 24 South, Range 29 East

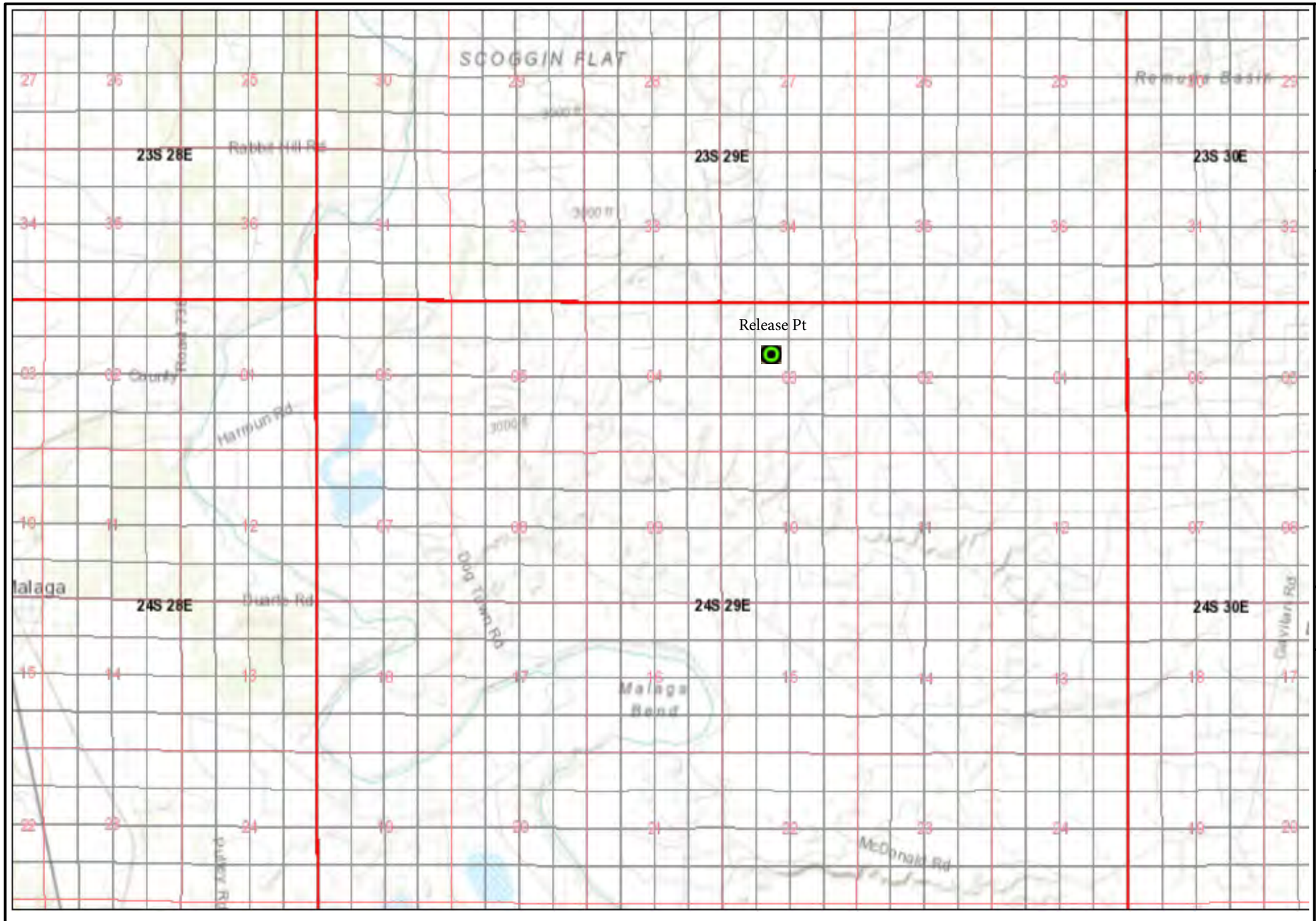
Mapped Features

- Approximate Point of Release
- Pipeline (approx. locations)
- Landmark
- Release Area

HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 9/23/2019

T:\CLIENTS\LUCID ENERGY\2019\Juniper Line\Maps\Juniper Line Release Sample Location Map 092319 Final.mxd



N

LUCID energy group

Figure 3: Site Topo Map

Jumiper Release
32.248098 -103.972614
Section 3, Township 24 South, Range 29 East

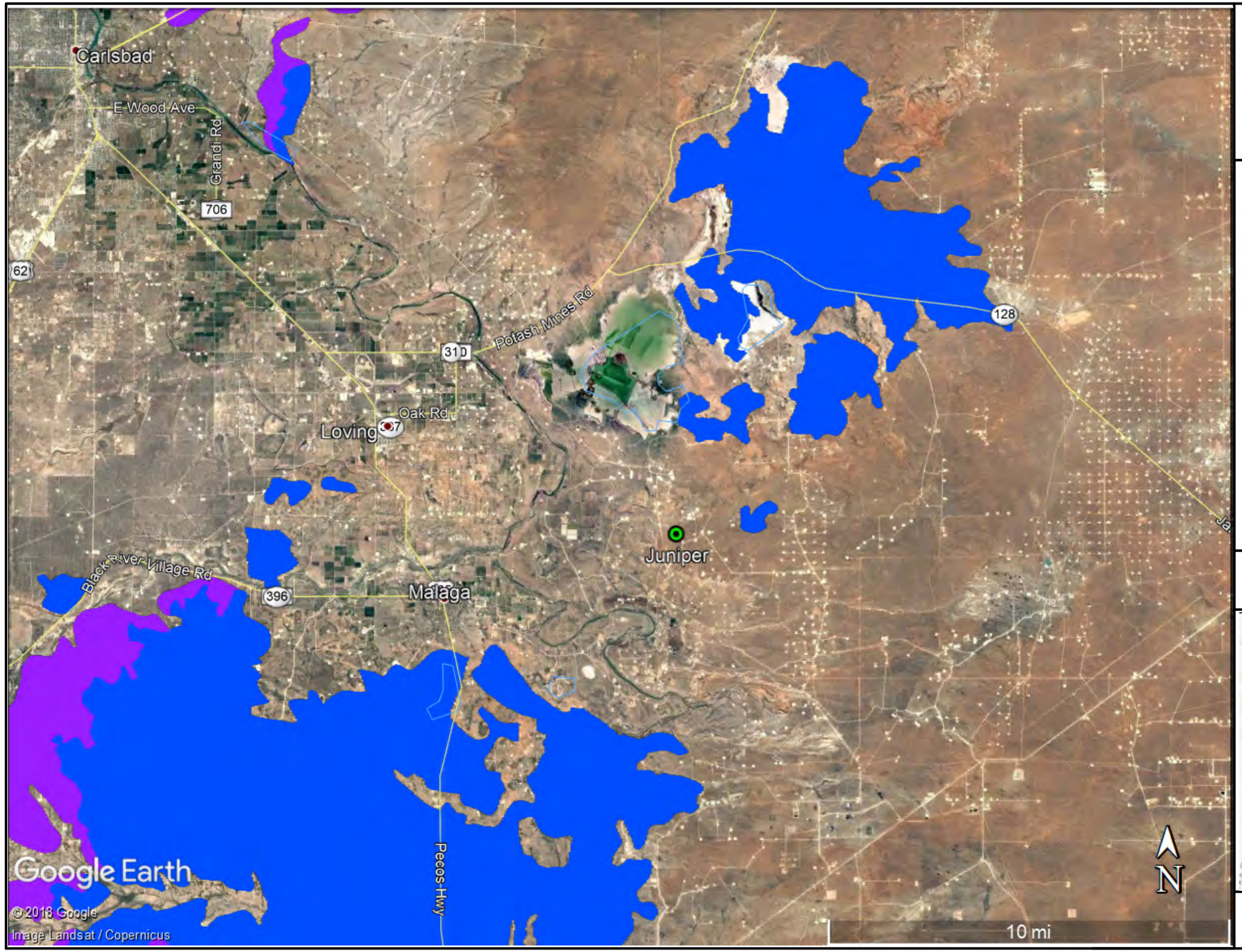
Mapped Features

Juniper Release
Approximate Location

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.

HRL COMPLIANCE SOLUTIONS

Author: L. O'Brien	
Rev: 0	
Date: 09/18/2019	



LUCID energy group

N

Figure 4: Karst Formation

Juniper Release
32.248098 -103.972614
Section 3, Township 24 South, Range 29 East

Mapped Features

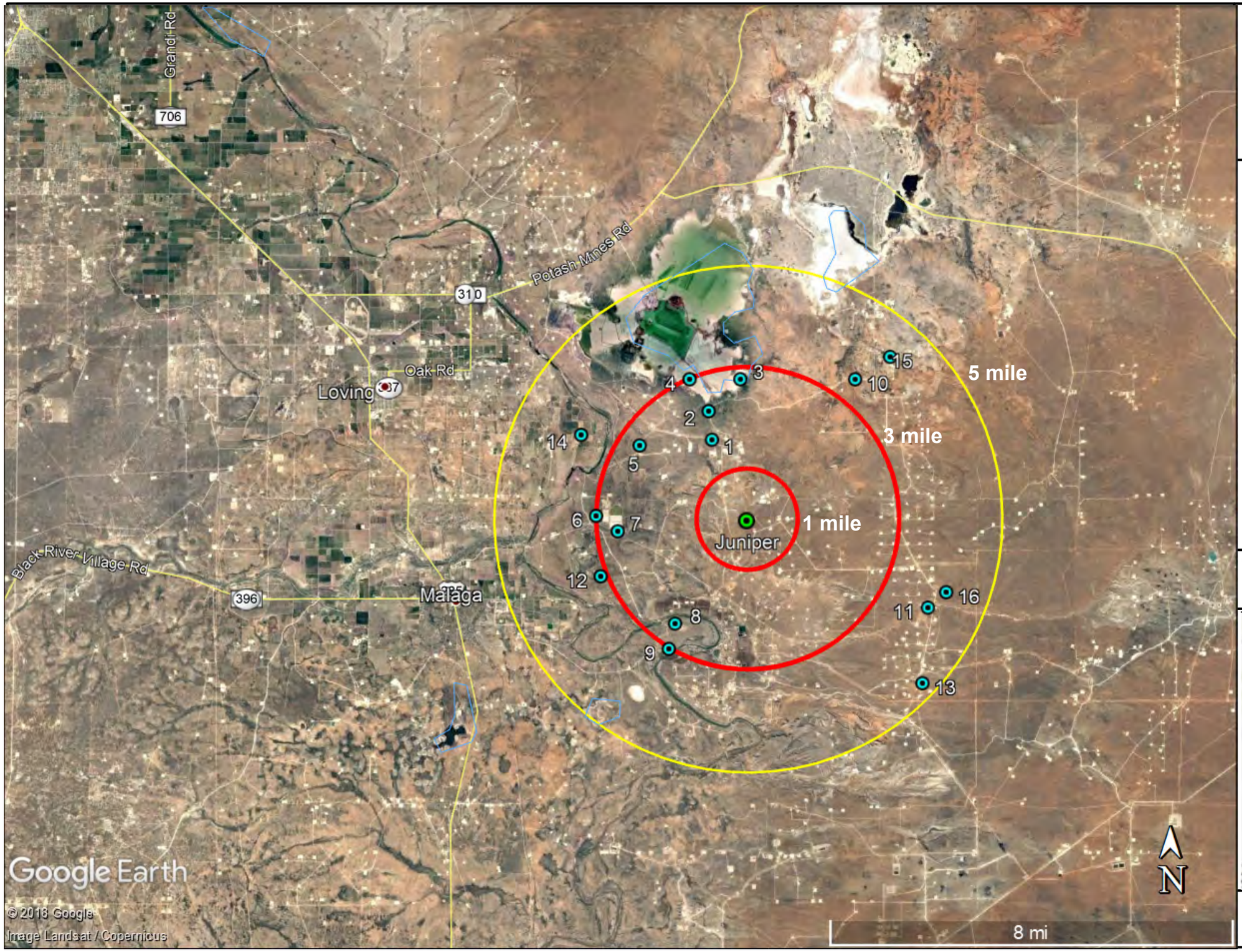
Karst Carbonate

Release Location

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.

HRL COMPLIANCE SOLUTIONS

Author: L. O'Brien	
Rev: 0	
Date: 9/18/2019	



N

LUCID energy group

Figure 5: Water Well Location

Juniper Release

32.248098 -103.972614

Section 3, Township 24 South, Range 29 East

Mapped Features

- Water Well
- Release Location

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.

HRL COMPLIANCE SOLUTIONS

Author: L.O'Brien	
Rev: 0	
Date: 9/18/2019	

Figure 6: Juniper site 0.5 mile radius wells

4/6/2021, 8:51:32 AM

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

GIS WATERS PODs

Plugged

OSE District Boundary

New Mexico State Trust Lands

Subsurface Estate

Both Estates

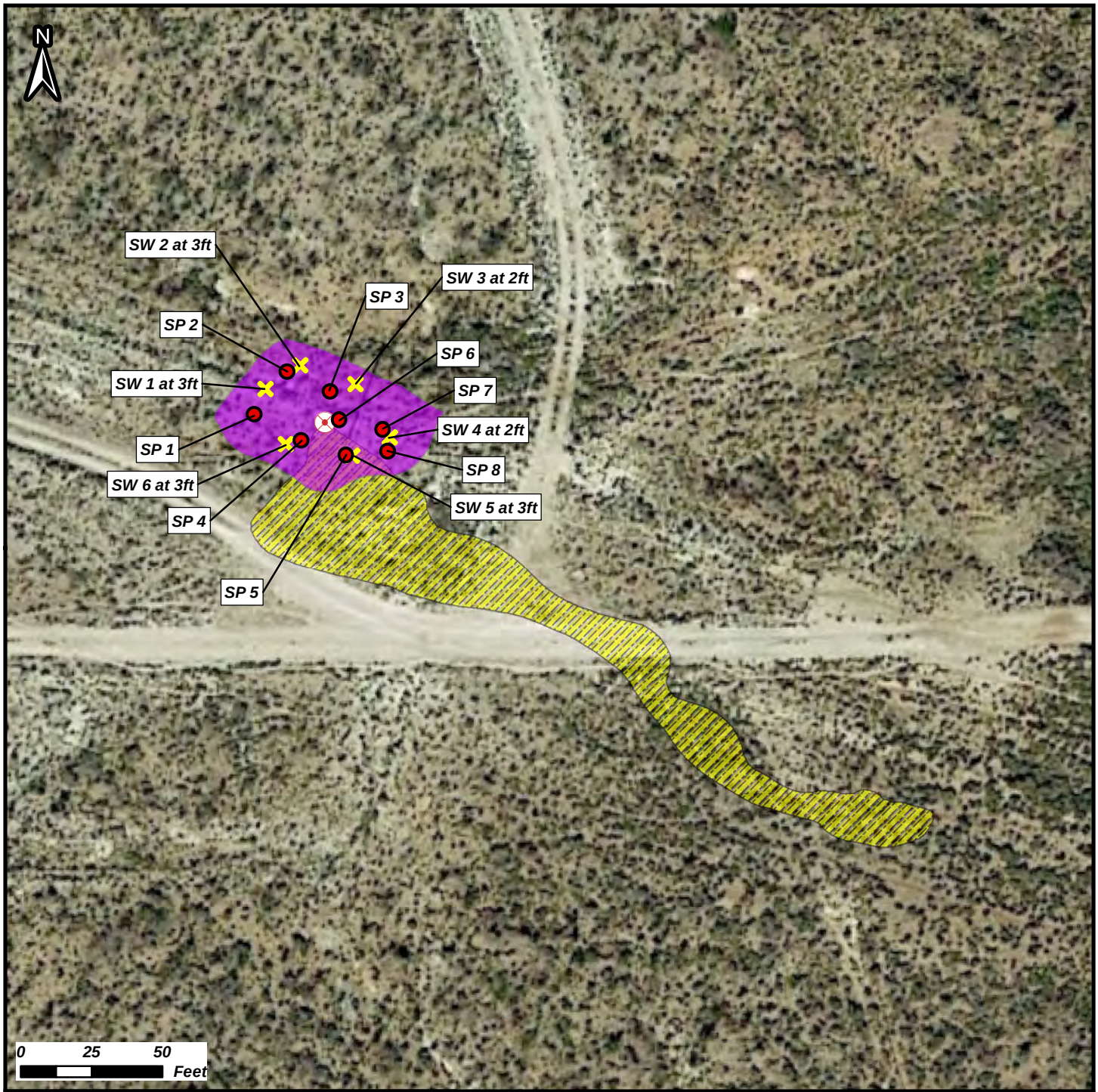
Conveyances

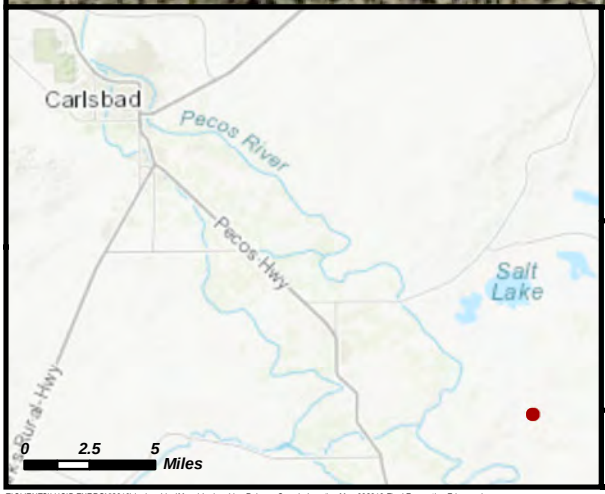
Ditch

SiteBoundaries

USDA FSA, GeoEye, Maxar, Esri, HERE, iPC, U.S. Department of Energy Office of Legacy Management, Esri, HERE, Garmin, iPC

OSE POD Locations





LUCID energy group

Sample Location Map

Figure 7a: Main Excavation Area

32.248098 -103.972614
Section 3, Township 24 South, Range 29 East

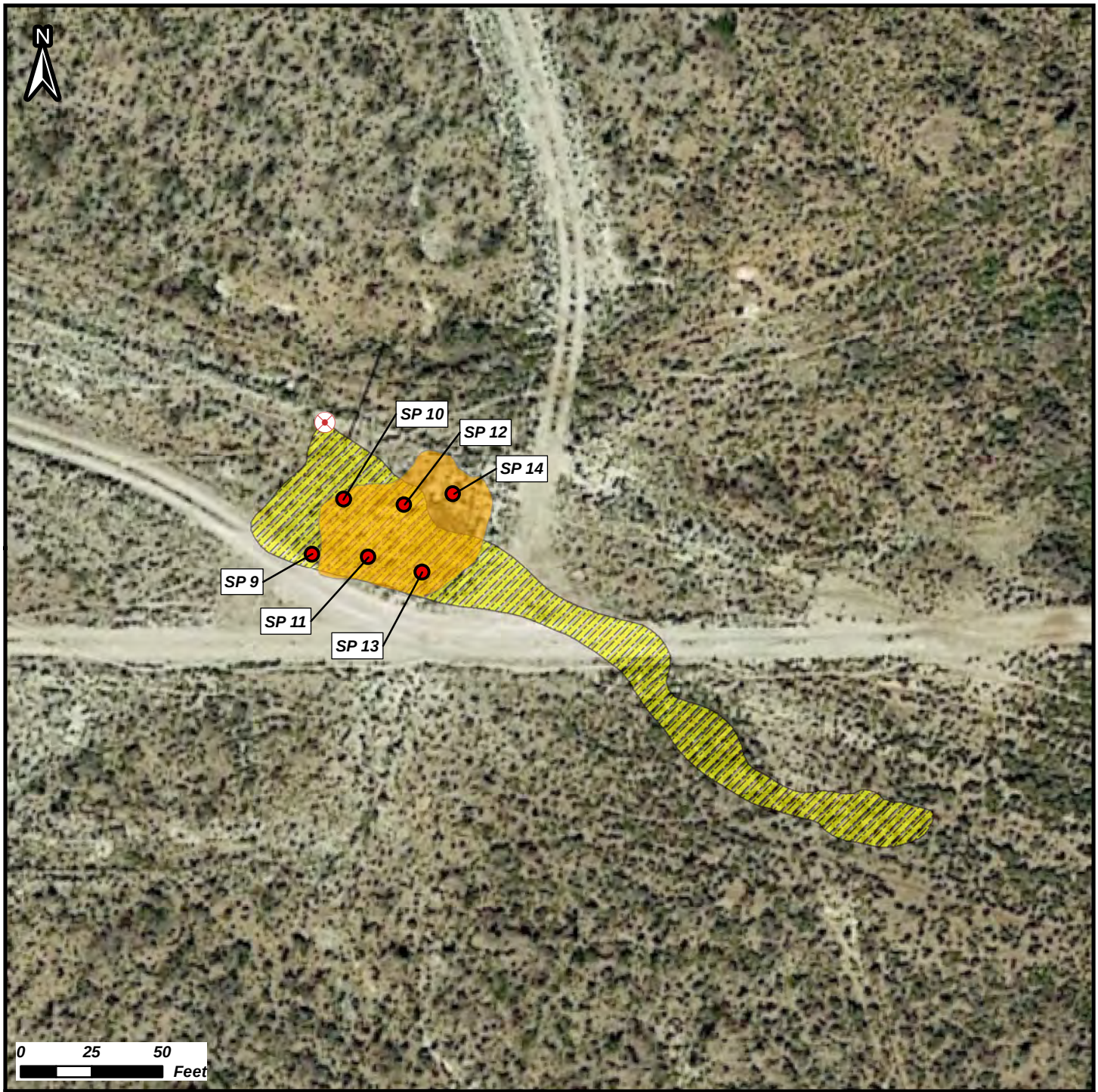
Mapped Features

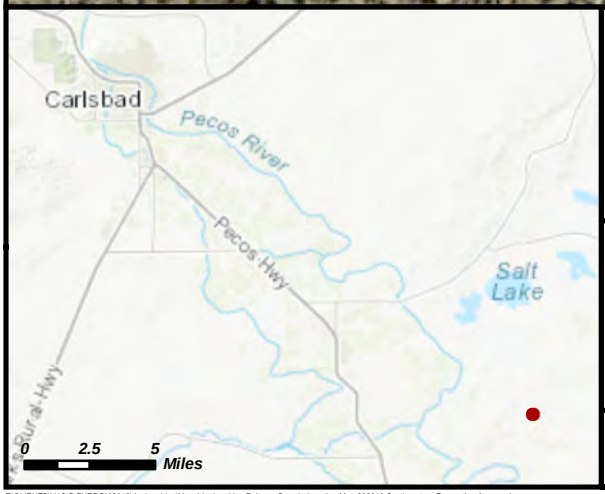
- Approximate Point of Release
- Sample Point
- Sample Wall Point
- Excavation Edge (305.2 sq yd)
- Release Area (615.7 sq yd)

HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 9/24/2019

T:\CLIENTS\LUCID ENERGY\2019\Juniper Line\Maps\Juniper Line Release Sample Location Map 092319 Final Excavation Edge.mxd





LUCID energy group

Sample Location Map

Figure 7b: Electrical Pole Area

32.248098 -103.972614
Section 3, Township 24 South, Range 29 East

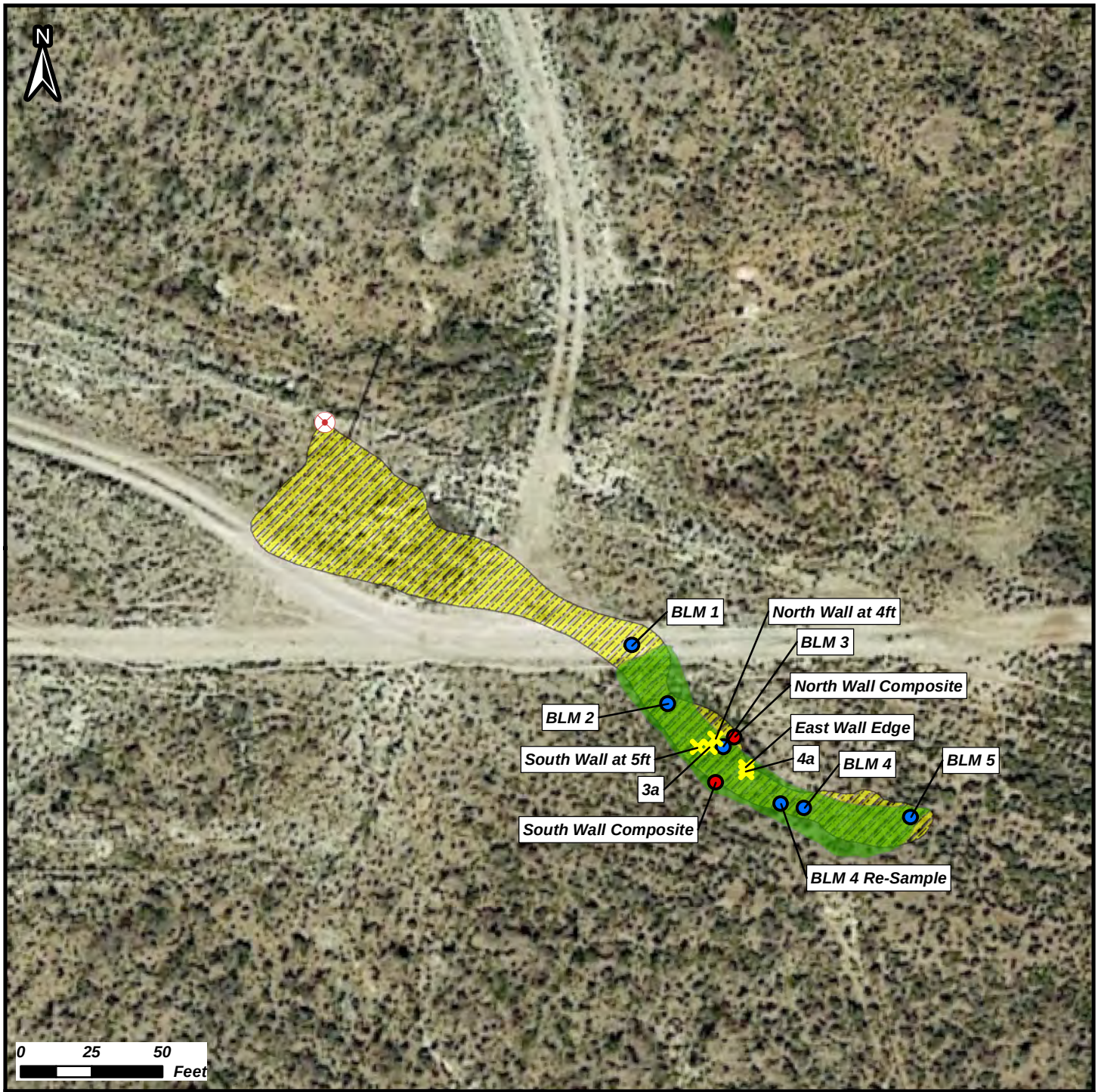
Mapped Features

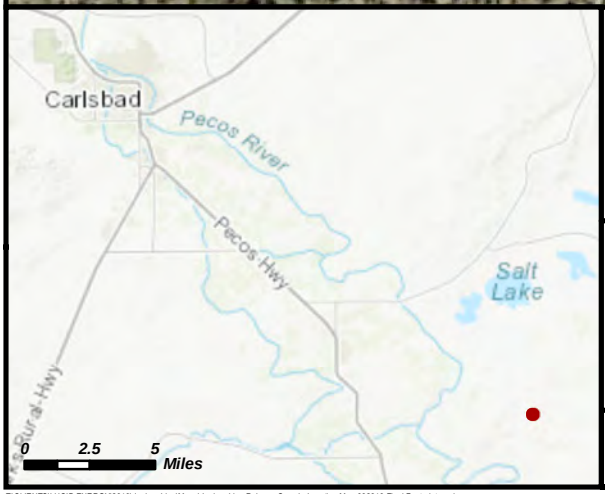
- Approximate Point of Release
- Sample Point
- Excavation Area (244.8 sq yd)
- Release Area (615.7 sq yd)

HRL COMPLIANCE SOLUTIONS

Author:	A. Asay
Revision:	0
Date:	9/24/2019

T:\CLIENTS\LUCID ENERGY\2019\Juniper Line\Maps\Juniper Line Release Sample Location Map 092319 Southeastern Excavation Area.mxd





LUCID energy group

Sample Location Map

Figure 7c: Off Right of Way

32.248098 -103.972614
Section 3, Township 24 South, Range 29 East

Mapped Features

- Approximate Point of Release
- BLM Sample Point
- Sample Point
- Sample Wall Point
- Footprint (231.4 sq yd)
- Release Area (615.7 sq yd)

HRL COMPLIANCE SOLUTIONS

Author:	A. Asay
Revision:	0
Date:	9/24/2019

T:\CLIENTS\LUCID ENERGY\2019\Juniper Line\Maps\Juniper Line Release Sample Location Map 092319 Final Footprint.mxd

TABLES

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 (ft)	Distance from Release (mi)
	OSE Well Database		
1	C04481 POD 1	>135	0.42
2	C04481 POD 2	>120	0.42
3	C04481 POD 3	>120	0.42
4	C04481 POD 4	>150	0.44
5	C04481 POD 5	>120	0.42
6	C04481 POD 6	>120	0.44
7	C04481 POD 7	>110	0.44
8	C04481 POD 8	>125	0.44
9	1627	NA	1.74
10	2707	18	2.29
11	2797	NA	2.80
12	2721	NA	3.01
13	3587	44	2.59
14	3615 POD1	36	2.99
15	3615 POD2	26	2.57
16	863	NA	2.49
17	463	4	2.98
	USGS - NWIS Database		
18	321717103561001	50.26	3.51
19	321321103544101	168.08	3.96
20	321355104012001	51.78	3.11
21	321205103544701	231.02	4.75
22	*321615104014601*	*35.62*	*3.71*
23	321742103552601	66.1	4.29
24	321339103541801	178.34	4.22

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

AREA	ID	Date	Field EC (µS/cm)*	Lab EC (µhos/cm)**	Chloride (mg/kg)	Fluoride (mg/kg)	Nitrite-N (mg/kg)	Nitrate-N (mg/kg)	Bromide (mg/kg)	Sulfate (mg/kg)	Calcium (mg/kg)	Magnesium (mg/kg)	Potassium (mg/kg)	Sodium (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)
PRELIMINARY																			
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 heterogeneous varying thickness of caliche with zone(s) of sandy loam																			
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)	30-Jul-19	4500																
	North - Wall	30-Jul-19	835																
	North - West Base	30-Jul-19	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	1930	3970	1400	1.1	ND	2.8	13	300	66000	4100	710	710					
	West - Base @8'	1-Aug-19	2700	7500	4700	0.43	ND	1.4	50	640	150000	4300	580	2500					
	Base - Sono Column @16' (new install depth)	7-Aug-19	862																
	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 and caliche																			
	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																
	#3	7-Aug-19	230																
	#4	7-Aug-19	605																
	#5	7-Aug-19	4440		8000														
	#6	7-Aug-19	4050																
	#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 used - undisturbed areas native sandy loam surface (<1ft), friable powdery soil (likely CaCO3), varying depths 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																
	Near Crestwood Gas Line - hydrovac area	8-Aug-19	515																
	Surface	8-Aug-19	879																
	East of Crestwood Gas Line	8-Aug-19	131																
Access area - SE Toward Vegetation, outside RoW - Caliche Road Material																			
	Nearest release point #1	1-Aug-19	497																
	Heading SE #2	1-Aug-19	10020																
	Closest to Vegetation area #3	1-Aug-19	19740																
Removal 6"	#1	1-Aug-19	123																
	#2	1-Aug-19	486																
	#3	1-Aug-19	1037																

TABLE 2b - 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)	DRO (mg/kg)	MRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)
Confirmatory									
Main Trench Area - Base > 4ft and Wall < 4ft (5 point composite). **See Figure #**									
	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 Trench - RoW Area near Electrical 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 - Access									
	Road #1	15-Aug-19	850	550					
	Road #2/BLM1	15-Aug-19	3600	8800^					
Downgradient - Off RoW Vegetation - Base 1-5ft									
	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 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 removal around BLM 3 & 4 - including wall sampling. See Figure 7c				
Downgradient - Access				
	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 #3 and #4 sample pt)	29-Aug-19	89	ND
	BLM4 - Base @ 3ft	5-Sep-19	460	600

August 28-29, 2019 Lab Order 1909004
September 4-5, 2019 Lab Order 1909317

Appendix A

Form C-141

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	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)*	

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

Surface Owner: ☐ State ☑ 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)

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.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☑ Yes ☐ No	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 not 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 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
Title: Environmental Field Coordinator
Signature:
Date: 7.29.19
email: mgant@lucid-energy.com
Telephone: 314 330 7876

OCD Only

Received by: _____ Date: _____

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	135 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☑ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☑ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☑ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☑ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☑ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☑ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☑ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☑ Yes ☐ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: Michael Gant Title: Environmental Coordinator

Signature: MGant Date: 4/30/2021

email: MGant@lucid-energy.com Telephone: 3143307876

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

- ☑ Detailed description of proposed remediation technique
- ☑ Scaled sitemap with GPS coordinates showing delineation points
- ☑ Estimated volume of material to be remediated
- ☑ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☑ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Michael Gant Title: Environmental Coordinator

Signature: MGant Date: 4/30/2021

email: MGant@lucid-energy.com Telephone: 3143307876

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ 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.

Closure Report Attachment Checklist: ***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)

☑ 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: MGant Date: 4/30/2021

email: MGant@lucid-energy.com Telephone: 3143307876

OCD Only

Received by: Chad Hensley Date: 06/24/2021

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

Closure Approved by: Chad Hensley Date: 06/24/2021

Printed Name: Chad Hensley Title: Environmental Specialist Advanced

Appendix B

Photographic Log

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

Photo 2: Burnt Area from Electrical Fire – looking South

Lucid Juniper Line - Fire
July 15, 2019

Photo 3: Main Excavation Pipeline Repair

Photo 4: Main Excavation

Lucid Juniper Line - Fire
July 15, 2019

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

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

Lucid Juniper Line - Fire
July 15, 2019

Photo 7: Main Excavation– heterogeneous subsurface caliche and soil

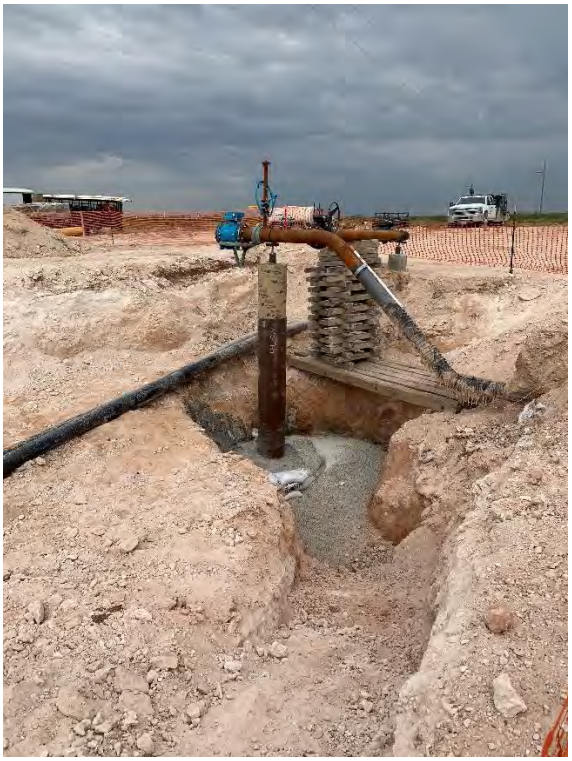


Photo 8: Main Excavation – new sono column (TD = 16ft)

Lucid Juniper Line - Fire
July 15, 2019

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

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

Lucid Juniper Line - Fire
July 15, 2019

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

Lucid Juniper Line - Fire
July 15, 2019

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)

Lucid Juniper Line - Fire
July 15, 2019

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

Lucid Juniper Line - Fire
July 15, 2019

Appendix C

Groundwater Data

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD-1		C 04481

WELL OWNER NAME(S)	PHONE (OPTIONAL)
XCEL Energy	806-457-6291

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
7801 I-40 East	Amarillo	TX	79118

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	14	30	N
	LONGITUDE	103	58	19	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

Malaga Bend Substation 363-2 Gavilan Rd Malaga, NM 88263

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1755	John D. Norris	Hungry Horse, LLC

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
10CT20	10CT20		135'	N/A

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	NO Casing						

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
1	20	6"	Bentonite Chips	~~4~~ 18.9 cf	TOP
20	135	6	Coke Breeze	25 Bags cf	TOP

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO. C-4481	POD NO.	TRN NO. 678916	
LOCATION 34 1 T24S R29E Sec 3		WELL TAG ID NO. N/A	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0'	10'	10'	Rock	Y (N)	
10'	70'	60'	SAnd	Y (N)	
70'	100'	30'	Gray shale	Y (N)	
100'	120'	20'	clay	Y (N)	
120	135'	15'	SAnd	Y (N)	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY: Not Tested

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:
Borehole was for a groundingwell

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:
Dean Parent

6. SIGNATURE

BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.

John D. Norris — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

5/OCT/20 — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO. C-4481	POD NO. 1	TRN NO. 678916	
LOCATION 34 1 T24S R29E Sec 3		WELL TAG ID NO. NA	PAGE 2 OF 2

Appendix D

Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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 Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1908144**
Date Reported: **8/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware
Client Sample ID: Base @ 12Ft
Project: Juniper Release
Collection Date: 8/1/2019
Lab ID: 1908144-001 **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**
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
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

Analytical Report
Lab Order **1908144**
Date Reported: **8/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware
Client Sample ID: Base @ 8Ft
Project: Juniper Release
Collection Date: 8/1/2019
Lab ID: 1908144-002 **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**
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.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908144**
Date Reported: **8/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware
Client Sample ID: Wall-Comp
Project: Juniper Release
Collection Date: 8/1/2019
Lab ID: 1908144-003 **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**
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.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908144**
Date Reported: **8/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware
Client Sample ID: SP1
Project: Juniper Release
Collection Date: 8/1/2019
Lab ID: 1908144-004 **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 2:03:16 PM	46581

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908144**
Date Reported: **8/8/2019**

Hall Environmental Analysis Laboratory, Inc.

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

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908144**
Date Reported: **8/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware
Client Sample ID: SP3
Project: Juniper Release
Collection Date: 8/1/2019
Lab ID: 1908144-006 **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 2:28:04 PM	46581

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908144**
Date Reported: **8/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware
Client Sample ID: SP4
Project: Juniper Release
Collection Date: 8/1/2019
Lab ID: 1908144-007 **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	5100	150		mg/Kg	50	8/5/2019 3:05:19 PM	46581

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908144**
Date Reported: **8/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware
Client Sample ID: SP5
Project: Juniper Release
Collection Date: 8/1/2019
Lab ID: 1908144-008 **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	1500	60		mg/Kg	20	8/5/2019 1:13:37 PM	46581

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1908144**
08-Aug-19

Client: Lucid Energy Delaware
Project: Juniper Release

Sample ID: **MB-46581** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **46581** RunNo: **61901**
Prep Date: **8/5/2019** Analysis Date: **8/5/2019** SeqNo: **2099842** Units: **mg/Kg**

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								
Sulfate	ND	1.5								

Sample ID: **LCS-46581** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **46581** RunNo: **61901**
Prep Date: **8/5/2019** Analysis Date: **8/5/2019** SeqNo: **2099843** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	97.9	90	110			
Chloride	14	1.5	15.00	0	92.1	90	110			
Nitrogen, Nitrite (As N)	2.8	0.30	3.000	0	93.7	90	110			
Bromide	7.0	0.30	7.500	0	94.0	90	110			
Nitrogen, Nitrate (As N)	7.3	0.30	7.500	0	96.7	90	110			
Sulfate	28	1.5	30.00	0	94.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1908144**
08-Aug-19

Client: Lucid Energy Delaware
Project: Juniper Release

Sample ID: **MB-46603**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **46603**	RunNo: **61954**
Prep Date: **8/5/2019**	Analysis Date: **8/6/2019**	SeqNo: **2101426** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	25								
Magnesium	ND	25								
Potassium	ND	50								
Sodium	ND	25								

Sample ID: **LCS-46603**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **46603**	RunNo: **61954**
Prep Date: **8/5/2019**	Analysis Date: **8/6/2019**	SeqNo: **2101428** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	2600	25	2500	0	104	80	120			
Magnesium	2500	25	2500	0	101	80	120			
Potassium	2500	50	2500	0	99.9	80	120			
Sodium	2500	25	2500	0	99.2	80	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
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

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: **1908144** RcptNo: **1**

Received By: **Erin Melendrez** **8/3/2019 9:30:00 AM**

Completed By: **Erin Melendrez** **8/3/2019 10:33:13 AM**

Reviewed By: DAD 8/5/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
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(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 ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH:

(<2 or >12 unless noted)

Adjusted?

Checked by: ENM 8/5/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.0	Good	Yes			

Chain-of-Custody Record

Client: Lucid Energy Group

Mailing Address: on file

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: Same Day
☐ Standard ☒ Rush

Project Name: Juniper Release

Project #:

Project Manager: Lori OBrien

Sampler: Lori O.

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 4.1-0.1(CF)=4.0°c

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1908144	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	F, Br, NO_3, NO_2, PO_4, SO_4 (#)	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Cation/Anions	SC	Cl- only			
08/01/19		Soil	Base @ 12ft	JAR(1)	Ice	-001											X	X	X			
			Base @ 8ft			-002											X	X	X			
			WALL-COMP			-003											X	X	X			
			SP1			-004													X			
			SP2			-005													X			
			SP3			-006													X			
			SP4			-007													X			
			SP5			-008													X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
08/02/19	11:00				8/2/19	1100
8/2/19	1900			Courier	8/3/19	0930

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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 Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **1908494**
Date Reported: **8/13/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware **Lab Order:** 1908494
Project: Juniper Release

Lab ID: 1908494-001 **Collection Date:** 8/7/2019 7:00:00 PM
Client Sample ID: SP #3 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	4900	150		mg/Kg	50	8/12/2019 12:07:23 PM	46711

Lab ID: 1908494-002 **Collection Date:** 8/7/2019 7:00:00 PM
Client Sample ID: SP #4 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	4900	150		mg/Kg	50	8/12/2019 12:19:47 PM	46711

Lab ID: 1908494-003 **Collection Date:** 8/7/2019 7:00:00 PM
Client Sample ID: Wall East **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	3300	150		mg/Kg	50	8/12/2019 12:32:11 PM	46711

Lab ID: 1908494-004 **Collection Date:** 8/7/2019 7:00:00 PM
Client Sample ID: Surf Exc #1 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	4600	150		mg/Kg	50	8/12/2019 12:44:35 PM	46711

Lab ID: 1908494-005 **Collection Date:** 8/7/2019 7:00:00 PM
Client Sample ID: Surf Exc #5 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	8000	300		mg/Kg	100	8/12/2019 1:21:49 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
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

Analytical Report
Lab Order: **1908494**
Date Reported: **8/13/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware **Lab Order:** 1908494
Project: Juniper Release

Lab ID: 1908494-006 **Collection Date:** 8/7/2019 7:00:00 PM
Client Sample ID: Surf Exc #8 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	3300	150		mg/Kg	50	8/12/2019 1:34:14 PM	46711

Lab ID: 1908494-007 **Collection Date:** 8/7/2019 7:00:00 PM
Client Sample ID: Trench Base **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	840	59		mg/Kg	20	8/9/2019 7:01:20 PM	46711

Lab ID: 1908494-008 **Collection Date:** 8/7/2019 7:00:00 PM
Client Sample ID: SP #1 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	1100	60		mg/Kg	20	8/9/2019 7:13:44 PM	46711

Lab ID: 1908494-009 **Collection Date:** 8/7/2019 7:00:00 PM
Client Sample ID: SP #2 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **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
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#: **1908494**

13-Aug-19

Client: Lucid Energy Delaware

Project: Juniper Release

Sample ID: **MB-46711**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **46711**	RunNo: **62026**							
Prep Date: **8/9/2019**	Analysis Date: **8/9/2019**	SeqNo: **2105614**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46711**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **46711**	RunNo: **62026**							
Prep Date: **8/9/2019**	Analysis Date: **8/9/2019**	SeqNo: **2105615**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.9	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1908494** RcptNo: **1**

Received By: Dane/ M. **8/9/2019 8:30:00 AM**

Completed By: **Leah Baca** **8/9/2019 10:02:15 AM** Leah Baca

Reviewed By: IO 8/9/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
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(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 ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: DAD 8/9/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.2	Good	Yes			
2	5.5	Good	Yes			

Chain-of-Custody Record

Client: Lucid Energy Group

Mailing Address: on file.

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: Monday 24 hr
☐ Standard ☐ Rush

Project Name: Juniper Release.

Project #:

Project Manager: Lori OBrien.

Sampler: Lori O.

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 4.3-0.1=4.2/5.6-0.1=5.5 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1908494	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)		EPA 300 Cl-				
08/07/19		Soil	SP#3	JAR(1)	ICE	-001												X				
			SP #4	JAR(1)		-002												X				
			Wall East			-003												X				
			SURF Exc #1			-004												X				
			SURF Exc #5			-005												X				
			SURF Exc #8			-006												X				
			Trench Base			-007												X				
			SP #1			-008												X				
↓		↓	SP #2	↓	↓	-009												X				

Date	Time	Relinquished by	Received by	Via	Date	Time
8/8/19	11:00				8/8/19	1100
8-9-19	800			courier	8/9/19	7:30

Remarks: lobrien@hrlcomp.com.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

August 19, 2019

Kerry Egan

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

RE: Juniper Pit OrderNo.: 1908762

Dear Kerry Egan:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/14/2019 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1908762**
Date Reported: **8/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware
Client Sample ID: SP 1
Project: Juniper Pit
Collection Date: 8/12/2019 3:15:00 PM
Lab ID: 1908762-001 **Matrix:** SOIL **Received Date:** 8/14/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	1500	60		mg/Kg	20	8/15/2019 12:19:01 PM	46814
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/15/2019 2:59:53 PM	46788
Surr: BFB	91.4	70-130		%Rec	1	8/15/2019 2:59:53 PM	46788
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/16/2019 9:00:26 AM	46811
Surr: DNOP	119	70-130		%Rec	1	8/16/2019 9:00:26 AM	46811
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	8/15/2019 2:59:53 PM	46788
Toluene	ND	0.049		mg/Kg	1	8/15/2019 2:59:53 PM	46788
Ethylbenzene	ND	0.049		mg/Kg	1	8/15/2019 2:59:53 PM	46788
Xylenes, Total	ND	0.098		mg/Kg	1	8/15/2019 2:59:53 PM	46788
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%Rec	1	8/15/2019 2:59:53 PM	46788
Surr: 4-Bromofluorobenzene	98.3	70-130		%Rec	1	8/15/2019 2:59:53 PM	46788
Surr: Dibromofluoromethane	103	70-130		%Rec	1	8/15/2019 2:59:53 PM	46788
Surr: Toluene-d8	99.2	70-130		%Rec	1	8/15/2019 2:59:53 PM	46788

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1908762**

19-Aug-19

Client: Lucid Energy Delaware

Project: Juniper Pit

Sample ID: **MB-46814** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **46814** RunNo: **62163**

Prep Date: **8/15/2019** Analysis Date: **8/15/2019** SeqNo: **2111358** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46814** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **46814** RunNo: **62163**

Prep Date: **8/15/2019** Analysis Date: **8/15/2019** SeqNo: **2111359** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.2	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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1908762**
19-Aug-19

Client: Lucid Energy Delaware
Project: Juniper Pit

Sample ID: **MB-46811** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **46811** RunNo: **62182**
Prep Date: **8/15/2019** Analysis Date: **8/16/2019** SeqNo: **2111126** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	12		10.00		117	70	130			

Sample ID: **LCS-46811** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **46811** RunNo: **62182**
Prep Date: **8/15/2019** Analysis Date: **8/16/2019** SeqNo: **2111132** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	63.9	124			
Surr: DNOP	5.2		5.000		105	70	130			

Sample ID: **MB-46844** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **46844** RunNo: **62182**
Prep Date: **8/16/2019** Analysis Date: **8/16/2019** SeqNo: **2111354** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.5		10.00		95.1	70	130			

Sample ID: **LCS-46844** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **46844** RunNo: **62182**
Prep Date: **8/16/2019** Analysis Date: **8/16/2019** SeqNo: **2111920** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		90.3	70	130			

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#: **1908762**
19-Aug-19

Client: Lucid Energy Delaware
Project: Juniper Pit

Sample ID: **lcs-46788** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **46788** RunNo: **62184**
Prep Date: **8/14/2019** Analysis Date: **8/15/2019** SeqNo: **2111236** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	88.0	68	135			
Toluene	0.95	0.050	1.000	0	94.8	70	130			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.5	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		101	70	130			
Surr: Toluene-d8	0.48		0.5000		96.4	70	130			

Sample ID: **mb-46788** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **46788** RunNo: **62184**
Prep Date: **8/14/2019** Analysis Date: **8/15/2019** SeqNo: **2111237** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.4	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		100	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		99.7	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

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#: **1908762**

19-Aug-19

Client: Lucid Energy Delaware

Project: Juniper Pit

Sample ID: **lcs-46788**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **46788**	RunNo: **62184**
Prep Date: **8/14/2019**	Analysis Date: **8/15/2019**	SeqNo: **2111350** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	83.6	70	130			
Surr: BFB	450		500.0		90.8	70	130			

Sample ID: **mb-46788**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **46788**	RunNo: **62184**
Prep Date: **8/14/2019**	Analysis Date: **8/15/2019**	SeqNo: **2111351** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	470		500.0		94.8	70	130			

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

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: **1908762** RcptNo: **1**

Received By: **Desiree Dominguez** **8/14/2019 9:00:00 AM**

Completed By: **Erin Melendrez** **8/14/2019 9:35:06 AM**

Reviewed By: 8/14/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
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(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 ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: DAD 8/14/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.9	Good	Yes			

Chain-of-Custody Record

Client: Lucid Energy

Mailing Address: "on file"

Phone #: 314 330 7876

email or Fax#: mgant@lucid-energy.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 48hr

Project Name: Juniper Pit

Project #:

Project Manager:

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.9 - 0.0 = 1.9 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1908762	BTEX / ~~MTBE / TMB's (8021)~~	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	(Cl), F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8/12	1515	S	SP. 1	4oz Soil Jar	ICE	-001	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8/13/19	0900				8/13/19	0900
8/13/19	1900			Courier	8/14/19	9:00

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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 Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **1908928**
Date Reported: **8/26/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware **Lab Order:** 1908928
Project: Juniper Release

Lab ID: 1908928-001 **Collection Date:** 8/14/2019
Client Sample ID: Base 1 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	2300	60		mg/Kg	20	8/22/2019 4:16:35 PM	46985

Lab ID: 1908928-002 **Collection Date:** 8/14/2019
Client Sample ID: Base 2 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	110	60		mg/Kg	20	8/22/2019 4:29:00 PM	46985

Lab ID: 1908928-003 **Collection Date:** 8/14/2019
Client Sample ID: Base 3 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	250	60		mg/Kg	20	8/22/2019 4:41:25 PM	46985

Lab ID: 1908928-004 **Collection Date:** 8/14/2019
Client Sample ID: Base 4 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	410	60		mg/Kg	20	8/22/2019 5:43:27 PM	46993

Lab ID: 1908928-005 **Collection Date:** 8/14/2019
Client Sample ID: Base 5 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	1100	60		mg/Kg	20	8/22/2019 5:55:52 PM	46993

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

Analytical Report
Lab Order: **1908928**
Date Reported: **8/26/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware **Lab Order:** 1908928
Project: Juniper Release

Lab ID: 1908928-006 **Collection Date:** 8/14/2019
Client Sample ID: Base 6 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	220	61		mg/Kg	20	8/22/2019 6:08:16 PM	46993

Lab ID: 1908928-007 **Collection Date:** 8/14/2019
Client Sample ID: Base 7 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	500	60		mg/Kg	20	8/22/2019 6:20:41 PM	46993

Lab ID: 1908928-008 **Collection Date:** 8/14/2019
Client Sample ID: Base 8 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	320	60		mg/Kg	20	8/22/2019 6:33:05 PM	46993

Lab ID: 1908928-009 **Collection Date:** 8/14/2019
Client Sample ID: Base 9 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	1900	60		mg/Kg	20	8/22/2019 6:45:30 PM	46993

Lab ID: 1908928-010 **Collection Date:** 8/14/2019
Client Sample ID: Base 10 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	4800	150		mg/Kg	50	8/23/2019 3:21:03 PM	46993

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

Analytical Report
Lab Order: **1908928**
Date Reported: **8/26/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware **Lab Order:** 1908928
Project: Juniper Release

Lab ID: 1908928-011 **Collection Date:** 8/14/2019
Client Sample ID: Base 11 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	2400	60		mg/Kg	20	8/22/2019 7:59:59 PM	46993

Lab ID: 1908928-012 **Collection Date:** 8/14/2019
Client Sample ID: Base 12 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	5900	300		mg/Kg	100	8/23/2019 3:33:27 PM	46993

Lab ID: 1908928-013 **Collection Date:** 8/14/2019
Client Sample ID: Base 13 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	1200	60		mg/Kg	20	8/22/2019 8:24:48 PM	46993

Lab ID: 1908928-014 **Collection Date:** 8/14/2019
Client Sample ID: Base 14 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/22/2019 8:37:12 PM	46993

Lab ID: 1908928-015 **Collection Date:** 8/14/2019
Client Sample ID: Wall 1 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	210	60		mg/Kg	20	8/22/2019 8:49:37 PM	46993

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

Analytical Report
Lab Order: **1908928**
Date Reported: **8/26/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware **Lab Order:** 1908928
Project: Juniper Release

Lab ID: 1908928-016 **Collection Date:** 8/14/2019
Client Sample ID: Wall 2 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	160	60		mg/Kg	20	8/22/2019 9:26:49 PM	46993

Lab ID: 1908928-017 **Collection Date:** 8/14/2019
Client Sample ID: Wall 3 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	60	60		mg/Kg	20	8/22/2019 9:39:13 PM	46993

Lab ID: 1908928-018 **Collection Date:** 8/14/2019
Client Sample ID: Wall 4 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	980	60		mg/Kg	20	8/22/2019 10:16:27 PM	46993

Lab ID: 1908928-019 **Collection Date:** 8/14/2019
Client Sample ID: Wall 5 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	250	60		mg/Kg	20	8/22/2019 10:28:51 PM	46993

Lab ID: 1908928-020 **Collection Date:** 8/14/2019
Client Sample ID: Wall 6 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	200	60		mg/Kg	20	8/22/2019 10:41:16 PM	46993

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

Analytical Report
Lab Order: **1908928**
Date Reported: **8/26/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Lucid Energy Delaware **Lab Order:** 1908928
Project: Juniper Release

Lab ID: 1908928-021 **Collection Date:** 8/14/2019
Client Sample ID: Bkgrnd (1) **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	150	60		mg/Kg	20	8/22/2019 10:53:41 PM	46993

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1908928**

26-Aug-19

Client: Lucid Energy Delaware

Project: Juniper Release

Sample ID: **MB-46985** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **46985** RunNo: **62350**

Prep Date: **8/22/2019** Analysis Date: **8/22/2019** SeqNo: **2119770** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46985** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **46985** RunNo: **62350**

Prep Date: **8/22/2019** Analysis Date: **8/22/2019** SeqNo: **2119771** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.0	90	110			

Sample ID: **MB-46993** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **46993** RunNo: **62350**

Prep Date: **8/22/2019** Analysis Date: **8/22/2019** SeqNo: **2119810** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46993** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **46993** RunNo: **62350**

Prep Date: **8/22/2019** Analysis Date: **8/22/2019** SeqNo: **2119811** Units: **mg/Kg**

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

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: **1908928** RcptNo: **1**

Received By: **Leah Baca** **8/18/2019 10:15:00 AM** Leah Baca

Completed By: **Leah Baca** **8/16/2019 11:04:51 AM** Leah Baca

Reviewed By: mp 08/16/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
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(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 ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: ENM 8/16/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

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			

Chain-of-Custody Record

Client: Lucid Energy Group

Mailing Address: on file

Phone #:

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush 3 day Turn

Project Name: Juniper Release.

Project #:

Project Manager: Lori OBrien

Sampler: Lori O

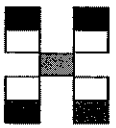
On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 3.8 - 0.4 = 3.4C (°C)

2.7 - 0.4 = 2.3C

HEAL No. 1908928



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)		Cl, SPA 300				
8/14/19		Soil	Base 1	Jar(1)	Ice	-001												X				
			" 2			-002												X				
			" 3			-003												X				
			" 4			-004												X				
			" 5			-005												X				
			" 6			-006												X				
			" 7			-007												X				
			" 8			-008												X				
			" 9			-009												X				
			" 10			-010												X				
			" 11			-011												X				
			" 12			-012												X				

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8/15/19	1200				8/15/19	1200
8/15/19	1900			Courier	8/16/19	1015

Remarks:
lobrien@hrlcomp.com

PAGE 1 OF 2

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Lucid Energy Group

Mailing Address: on file.

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush 5 day Turn

Project Name: Juniper Release.

Project #:

Project Manager: Lori OBrien

Sampler: Lori O

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 3.8 -0.4 = 3.4C (°C) 2.7 -0.4 = 2.3C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1908929	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)		Cl - EPA 300				
8/14/19		Soil	Base #13	JAR(1)		-013												X				
			" 14			-014												X				
			Wall 1			-015												X				
			Wall 2			-016												X				
			Wall 3			-017												X				
			Wall 4			-018												X				
			Wall 5			-019												X				
			Wall 6			-020												X				
			Bkgnd.(1)			-021												X				

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8/15/19	1200				8/15/19	1200
8/15/19	1900			Courier	8/16	1015

Remarks: lobrien@hrlcomp.com

PAGE 2 of 2

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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

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

CONDITIONS

Action 26499

CONDITIONS

Operator: LUCID ENERGY DELAWARE, LLC 201 S. Fourth Street Artesia, NM 88210	OGRID: 372422
	Action Number: 26499
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	For future reference please follow the below conditions.	6/24/2021
chensley	The OCD does not accept EC for closure criteria. The rule says, “The samples must be analyzed for the constituents listed in Table I of 19.15.29.12 NMAC or constituents from other applicable remediation standards”. This requires all samples to be tested for Chlorides, TPH, BTEX, and Benzene. Very few of your samples were tested for TPH, BTEX, and Benzene. We need evidence through lab analyzed samples.	6/24/2021