Incident ID	NAB1912958012
District RP	1RP-5475
Facility ID	30-025-26949
Application ID	pAB1912957391

June 5, 2019

Dylan Rose-Coss
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 1
1625 French Drive
Hobbs, NM 88240

REVIEWED
By Dylan Rose-Coss at 12:51 pm, Jul 23, 2019

NOT APPROVED

Deferral request denied.

Ryan Mann
Hobbs Field Office
New Mexico State Land Office
2827 North Dal Paso Street, Suite 117
Hobbs, NM 88240

Re: **Site Assessment Report and Proposed Remediation Plan**
Site Name: San Simon 6 State Battery
GPS: Latitude: 32.422908 Longitude: -103.400565
Legals: UL "H", Sec. 6, T22S, R35E
Lea County, New Mexico
NMOCD Ref. No. 1RP-5475

Lowry Environmental & Associates, LLC (LEA), on behalf of Legacy Reserves Operating, LP, has prepared this Site Assessment Report and Proposed Remediation Plan for the Release Site known as the San Simon 6 State Battery. Details of the release are summarized on the table below:

Nature and Volume of Release			
Date Release Discovered	4/8/2019	**Source of Release**	Tank Battery
Type of Release	Crude Oil and Produced Water	**Volume Released (bbls)**	157
		Volume Recovered (bbls)	0
Cause of Release The release was attributed to a hole developing in the oil storage tank.			
Affected Area The release affected within the earthen containment and on the adjacent caliche production pad measuring approximately 5,600 sq. ft.			
Was this a major release? Yes	**If YES, for what reasons (s) is this considered a major release?** Volume Greater than 25 bbls		
If Yes, was immediate notice given to the OCD? By whom? To whom? When and by what means? Yes, Clyde Wilhoit, Jim Griswold, 4/8/2019 @ 5:20, Phone Message			

A copy of the Release Notification (NMOCD Form C-141) is provided as Attachment #8.

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Site Assessment/Characterization	
What is the shallowest depth to groundwater beneath the area affected by the release?	36-50 Ft
Did this release impact groundwater or surface water?	No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	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)?	No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	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?	No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	No
Are the lateral extents of the release within 300 feet of a wetland?	No
Are the lateral extents of the release overlying a subsurface mine?	No
Are the lateral extents of the release overlying an unstable area such as karst geology?	No
Are the lateral extents of the release within a 100-year floodplain?	No
Did the release impact areas **not** on an exploration, development, production or storage site?	No

A search of groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) was conducted in an effort to determine the average depth to groundwater within a 1 Mile radius of the Site and identify any registered water wells within a 1/2 Mile radius of the Site. A search of the USGS database identified one (1) water well (OSE CP 00593/USGS 322446103240501) approximately 0.47 Miles south-southeast of the Site.

Based on the volume and nature of the release, inferred depth to groundwater and NMOCD Siting Criteria, the NMOCD Closure Criteria for the Site is as follows:

Closure Criteria for Soil Impacted by a Release	
Benzene	**10 mg/kg**
Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX)	**50 mg/kg**
Total Petroleum Hydrocarbons	**100 mg/kg**
Combined GRO and DRO	**-**
Chloride	**600 mg/kg**

NMOCD Siting Criteria data was gathered from available resources including Bureau of Land Management (BLM) shapefiles; topographic maps; NMOSE and USGS databases; and aerial imagery. The results are depicted on Figures 1 & 2. Depth to groundwater information is provided as Attachment #4. A Photographic Log is provided as Attachment #7.

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INITIAL SITE ASSESSMENT

On **April 9, 2019**, an initial assessment was conducted at the Site. During the initial assessment, seven (7) soil samples (V1 @ 6", V1 @ 12"R, V2 @ 6", V2 @ 12"R, V3 @ 6"R, V4 @ 3-6"R) were collected from within the release margins in an effort to determine the vertical extent of soil impact. The collected soil samples were submitted to an NMOCD-approved laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations exceeded the NMOCD Closure Criteria in each of the submitted soil samples. Soil samples V1 @ @ 6", V2 @ 6", V3 @ 6"R and V4 @ 3-6"R were also analyzed for concentrations of BTEX and chloride. Analytical results indicated BTEX concentrations exceeded the NMOCD Closure Criteria in each of the analyzed soil samples and that chloride concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples with the exception of soil sample V1 @ 6", which exhibited a chloride concentration of 1,280 mg/kg. Collection of soil samples from deeper intervals was precluded due to the presence of an impenetrable rock layer.

In addition, eleven (11) soil samples (NH @ 3-6"R, NH2 @ 3-6"R, EH1 @ 3-6"R, EH2 @ 3-6"R, EH3 @ 3-6"R, SH @ 3-6"R, WH1 @ 3-6", WH1 @ 12"R, WH2 @ 3-6", WH2 @ 12"R and WH3 @ 3-6"R) were collected from the inferred edges of the affected area and submitted to the laboratory for analysis of BTEX, TPH and chloride. Laboratory analytical results indicated BTEX, TPH and chloride concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples with the exception of soil samples NH @ 3-6"R, which exhibited a TPH concentration of 1,638 mg/kg and SH @ 3-6"R, which exhibited a TPH concentration of 350 mg/kg.

On **April 30, 2019**, LEA revisited the release site in an effort to further characterize affected soil at the Site. During the site visit, mechanical equipment was utilizing to advance seven (7) test trenches in the areas characterized by previous exceedances. During the advancement of the test trenches, twelve (12) soil samples (V1 @ 4', V1 @ 9'R, V2 @ 3', V2 @ 9'R, NH-V3 @ 4', NH-V3 @ 7', V4 @ 3', V4 @ 7', SH @ 3', SH @ 6', SH2 @ 3' and NH3 @ 6') were collected and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations exceeded the NMOCD Closure Criteria in each of the submitted soil samples with the exception of soil samples V4 @ 7', SH @ 3', SH @ 6', SH2 @ 3' and NH3 @ 6'. Soil samples V1 @ 4', V1 @ 9'R, V2 @ 3' and V2 @ 9'R were also analyzed for concentrations of BTEX. Analytical results indicated BTEX concentrations exceeded the NMOCD Closure Criteria in each of the submitted soil samples with the exception of soil sample V2 @ 9'R. Soil samples V1 @ 4', V1 @ 9'R, V4 @ 3', and V4 @ 7' were also analyzed for concentrations of chloride. Analytical results indicated chloride concentrations were below the NMOCD Closure Criteria in each of the submitted soil sample with the exception of V1 @ 4', which exhibited a chloride concentration of 1,200 mg/kg.

In addition, eleven (11) soil samples (NH @ 3-6"R, NH2 @ 3-6"R, EH1 @ 3-6"R, EH2 @ 3-6"R, EH3 @ 3-6"R, SH @ 3-6"R, WH1 @ 3-6", WH1 @ 12"R, WH2 @ 3-6", WH2 @ 12"R and WH3 @ 3-6"R) were collected from the inferred edges of the affected area and submitted to the laboratory for analysis of BTEX, TPH and chloride. Laboratory analytical results indicated BTEX, TPH and chloride concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples with the exception of soil samples NH @ 3-6"R, which exhibited a TPH concentration of 1,638 mg/kg and SH @ 3-6"R, which exhibited a TPH concentration of 350 mg/kg.

On **May 13, 2019**, LEA revisited the release site in an effort to further characterize affected soil at the Site. During the site visit, a drilling rig was utilizing to advance four (4) soil borings (SB-1, SB-2, SB-3 and SBNH) in the areas characterized by previous exceedances. During the advancement of the soil bores, eleven (11) soil samples (SBNH @ 3', SBNH @ 6', SB-1 @ 18', SB-1 @ 24', SB-1 @ 36', SB-2 @ 12', SB-2 @ 15', SB-2 @ 30', SB-3 @ 9', SB-3 @ 12' and SB-3 @ 24') were collected and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples with the exception of soil sample SBNH @ 3', which exhibited a TPH concentration of 1,203 mg/kg.

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Soil samples SB-1 @ 18', SB-1 @ 36', SB-2 @ 12', SB-2 @ 30', SB-3 @ 9' and SB-3 @ 24' were also analyzed for concentrations of chloride, which were determined to be below the NMOCD Closure Criteria. Soil samples SB-1 @ 36', SB-2 @ 30' and SB-3 @ 24' were also analyzed for concentrations of BTEX, which were determined to be below the NMOCD Closure Criteria.

On **May 24, 2019**, LEA revisited the release site in an effort to further characterize affected soil at the Site. During the site visit, two (2) soil samples (NH 1C @ Surf. and NH 1C @ 1') were collected from the northern portion of the release site. The collected soil samples were submitted to the laboratory for analysis of TPH concentrations, which were determined to be below the NMOCD Closure Criteria.

Based on laboratory analytical results, affected soil was not impacted above the NMOCD Closure Criteria beyond 18 Ft. bgs in the area characterized by sample points SB-1 and V1; 12 Ft. bgs in the area characterized by sample points V2 and SB-2; 9 Ft. bgs in the area characterized by sample points V3 , SB-3, NH and NH3; 6 Ft. bgs in the area characterized by sample point SBNH; or 3 Ft. bgs in the area characterized by sample point V4.

A table summarizing laboratory analytical results from soil samples collected during the initial site assessments is provided on the following page:

Concentrations of BTEX, TPH and/or Chloride in Soil - Initial Assessment(s)											
Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					E300/4500Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C_6-C_{10} (mg/kg)	DRO C_{10}-C_{28} (mg/kg)	GRO + DRO C_6-C_{28} (mg/kg)	ORO C_{28}-C_{36} (mg/kg)	TPH C_6-C_{36} (mg/kg)	Chloride (mg/kg)
V1 @ 6"	4/9/19	6"	In-Situ	2.77	**200**	2,550	6,950	9,500	954	**10,454**	**1,280**
V1 @ 12"R	4/9/19	12"	In-Situ	-	-	1,980	7,600	9,580	1,120	**10,700**	-
V1 @ 4'	4/30/19	4'	Trench	0.61	**52.11**	1,100	5,800	6,900	2,100	**9,000**	**1,200**
V1 @ 9'R	4/30/19	9'	Trench	1.5	**90.5**	1,800.0	4,800	6,600	1,600	**8,200**	<59
SB-1 @ 18'	5/13/19	18'	In-Situ	-	-	<10.0	64.3	64.3	<10.0	64.3	48.0
SB-1 @ 24'	5/13/19	24'	In-Situ	-	-	<10.0	18.3	18.3	<10.0	18.3	-
SB-1 @ 36'	5/13/19	36'	In-Situ	<0.050	<0.300	<10.0	22.6	22.6	<10.0	22.6	<16.0
V2 @ 6"	4/9/19	6"	In-Situ	3.93	**312**	8,520	17,000	25,520	2,170	**27,690**	32.0
V2 @ 12"R	4/9/19	12"	In-Situ	-	-	7,420	14,300	21,720	1,730	**23,450**	-
V2 @ 3'	4/30/19	3'	Trench	1.8	**74.8**	670	5,600	6,270	1,700	**7,970**	-
V2 @ 9'R	4/30/19	9'	Trench	0.031	5.041	200	1,600	1,800	480	**2,280**	-
SB-2 @ 12'	5/13/19	12'	In-Situ	-	-	<10.0	45	45	<10.0	45.4	32.0
SB-2 @ 15'	5/13/19	15'	In-Situ	-	-	<10.0	21.6	21.6	<10.0	21.6	-
SB-2 @ 30'	5/13/19	30'	In-Situ	<0.050	<0.300	<10.0	32.6	32.6	<10.0	32.6	<16.0
V3 @ 6"R	4/9/19	6"	In-Situ	1.05	**198**	3,300	8,050	11,350	1,150	**12,500**	<16.0
NH-V3 @ 4'	4/30/19	4'	Trench	-	-	280	2,000	2,280	1,000	**3,280**	-
NH-V3 @ 7'	4/30/19	7'	Trench	-	-	<4.8	100	100	250	**350**	-
SB-3 @ 9'	5/13/19	9'	In-Situ	-	-	<10.0	10.7	10.7	<10.0	10.7	16.0
SB-3 @ 12'	5/13/19	12'	In-Situ	-	-	<10.0	14.5	14.5	<10.0	14.5	-
SB-3 @ 24'	5/13/19	24'	In-Situ	<0.050	<0.300	<10.0	10.4	10.4	<10.0	10.4	<16.0
V4 @ 3-6"R	4/9/19	3-6"	In-Situ	1.44	**359**	7,270	28,500	35,770	4,930	**40,700**	**1,300**
V4 @ 3'	4/30/19	3'	Trench	-	-	11	520	531	180	**711**	130
V4 @ 7'	4/30/19	7'	Trench	-	-	<4.8	10	10	<48	10	140
NH @ 3-6"R	4/9/19	3-6"	In-Situ	0.074	14.1	95.2	820	915	723	**1,638**	32
NH2 @ 3-6"R	4/9/19	3-6"	In-Situ	<0.050	0.886	<10.0	16.9	16.9	<10.0	16.9	336
EH1 @ 3-6"R	4/9/19	3-6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
EH2 @ 3-6"R	4/9/19	3-6"	In-Situ	<0.050	<0.820	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
EH3 @ 3-6"R	4/9/19	3-6"	In-Situ	<0.050	0.404	<10.0	<10.0	<10.0	10.6	10.6	<16.0
SH @ 3-6"R	4/9/19	3-6"	In-Situ	<0.050	10.4	57.6	149	207	143	**350**	48.0
SH @ 3'	4/30/19	3'	Trench	-	-	<4.7	<10.0	<10.0	<50.0	<50.0	-
SH @ 6'	4/30/19	6'	Trench	-	-	<4.8	<10.0	<10.0	<50.0	<50.0	-
WH1 @ 3-6"	4/9/19	3-6"	In-Situ	<0.050	1.2	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
WH1 @ 12"R	4/9/19	12"	In-Situ	<0.050	0.580	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
WH2 @ 3-6"	4/9/19	3-6"	In-Situ	<0.050	1.4	<10.0	12.2	12.2	29.0	41.2	<16.0
WH2 @ 12"R	4/9/19	12"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
WH3 @ 3-6"R	4/9/19	3-6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SH2 @ 3'	4/30/19	3'	Trench	-	-	<4.8	84	84	<49	84	-
NH3 @ 6'	4/30/19	6'	Trench	-	-	48	8,500	8,548	3,000	**11,548**	-
SBNH @ 3'	5/13/19	3'	Trench	-	-	<10.0	963	963	240	**1,203**	-
SBNH @ 6'	5/13/19	6'	Trench	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-
NH 1C @ Surf.	5/24/19	Surf.	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-
NH 1C @ 1'	5/24/19	1'	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-
Closure Criteria				**10**	**50**	**-**	**-**	**-**	**-**	**100**	**600**

A "Site & Sample Location Map" is provided as Attachment #3. Field Data, if applicable, is provided as Attachment #9. Soil profile observations are provided on Attachment #5. Laboratory analytical reports are provided as Attachment #6.

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PROPOSED REMEDIATION PLAN

Based on laboratory analytical results, site characteristics and field observations made during the initial site assessment, Legacy Reserves Operating, LP proposes the following remediation activities designed to advance the Site toward an approved closure:

•Utilizing mechanical equipment, excavate impacted soil in the northern portion of the release site in the area characterized by sample point SBNH to a depth beyond 3 Ft bgs, until laboratory analytical results from confirmation soil samples indicated BTEX, TPH and chloride concentration are below the NMOCD Closure Criteria.
•Excavate impacted soil in the north central portion of the release site in the areas characterized by sample points NH, NH3, NH-V3, V3 and SB-3 to a depth beyond 7 Ft bgs, until laboratory analytical results from confirmation soil samples indicated BTEX, TPH and chloride concentration are below the NMOCD Closure Criteria.
•Excavate impacted soil in the central portion of the release site in the areas characterized by sample points V2 and SB-2 to a depth beyond 9 Ft bgs, until laboratory analytical results from confirmation soil samples indicated BTEX, TPH and chloride concentration are below the NMOCD Closure Criteria.
•Excavate impacted soil in the southwest portion of the release site, not beneath or adjacent to the above ground storage tanks and associated utilities, in the areas characterized by sample points V1 and SB-1 to a depth beyond 9 Ft bgs, until laboratory analytical results from confirmation soil samples indicated BTEX, TPH and chloride concentration are below the NMOCD Closure Criteria.
•Excavate impacted soil in the southeast portion of the release site in the areas characterized by sample point V4 to a depth beyond 3 Ft bgs, until laboratory analytical results from confirmation soil samples indicated BTEX, TPH and chloride concentration are below the NMOCD Closure Criteria.
•Impacted soil affected above the NMOCD Closure Criteria adjacent to and beneath the above ground storage tanks and associated utilities will be excavated to the maximum extent practicable.
•Excavation sidewalls will be advanced horizontally until laboratory analytical results indicate concentrations of BTEX, TPH and chloride are below the NMOCD Closure Criteria. Impacted soil remaining in-situ beneath the above ground storage tank will be sampled for additional characterization and use in future remediation activities.
•Excavated soil will be temporarily stockpiled on-site, atop an impermeable liner, pending disposition at an NMOCD-approved disposal facility.
• Upon receiving favorable laboratory analytical results from confirmation soil samples (below the NMOCD Closure Criteria and NMOCD Reclamation Standards) excavated areas will be backfilled with locally sourced, non-impacted "like" material. Excavation backfill will be placed at or near original relative positions. The affected area will be contoured and/or compacted to achieve erosion control, stability and preservation of surface water flow to the extent practicable.

SAMPLING PLAN

Upon completion of excavation activities, representative five-point composite excavation confirmation soil samples will be collected from the excavation sidewalls in each cardinal direction, representing no more than **50 linear ft**. A minimum of **one (1**) representative five-point composite excavation confirmation soil sample will be collected from the base of the excavated area representing every **400 square feet**. Additional, "discrete" confirmation soil samples will be collected from wet or visibly stained areas inferred to have been affected by the release, as necessary.

TIMELINE AND ESTIMATED VOLUME OF SOIL TO BE REMEDIATED

Remediation activities are expected to be completed **within 90 days** of receiving necessary approval(s) of this Site Assessment Summary and Proposed Remediation Plan. Based on laboratory analytical results, site characteristics and field observations made during the initial site assessment it is estimated that approximately **2,100 cubic yards** of soil has been affected above the NMOCD Closure Criteria.

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DEFERRAL REQUEST

Impacted soil affected above the NMOCD Closure Criteria not beneath and adjacent to the above ground storage tanks and associated utilities will be excavated and transported to an NMOCD-approved disposal facility. Legacy requests NMOCD and NMSLO permission to remediate impacted soil affected above the NMOCD Closure Criteria beneath and adjacent to the above ground storage tanks and associated utilities once that facility is no longer in use.

Legacy maintains remediation of affected soil beneath and adjacent to the above ground storage tanks and associated utilities poses a risk to human health and safety and/or would require a major facility deconstruction.

RESTORATION, RECLAMATION AND RE-VEGETATION PLAN

The release was limited to an active caliche production pad. Restoration, reclamation and re-vegetation will be conducted in accordance with NMAC 19.15.29.13 once the facility is no longer needed for production or subsequent drilling operations. Once the area is no longer in use, restoration, reclamation and re-vegetation will include but is not limited to the following:

- Excavation and removal of impacted soil present within the top four (4) Ft. affected above 600 mg/kg.
- Backfill with non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg. Excavation backfill will include a top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater.
- Upon reclaiming the facility, the Site will be reseeded in accordance with the landowner and/or applicable surface agency during the first favorable growing season.
- Areas affected by restoration and reclamation activities will be monitored until a life-form ratio of plus or minimum fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds.

If you have any questions, or need any additional information, please feel free to contact Brian Cunningham or the undersigned by phone or email.

Respectfully,

Joel W. Lowry
Environmental Professional
Lowry Environmental & Associates, LLC

Attachments:

Attachment #1- Figure 1 - Topographic Map
Attachment #2- Figure 2 - Aerial Map
Attachment #3- Figure 3 - Site & Sample Location Map
Attachment #4- Depth to Groundwater Information
Attachment #5- Soil Profile
Attachment #6- Laboratory Analytical Reports
Attachment #7- Photographic Log
Attachment #8- Release Notification (FORM C-141)
Attachment #9- Field Data

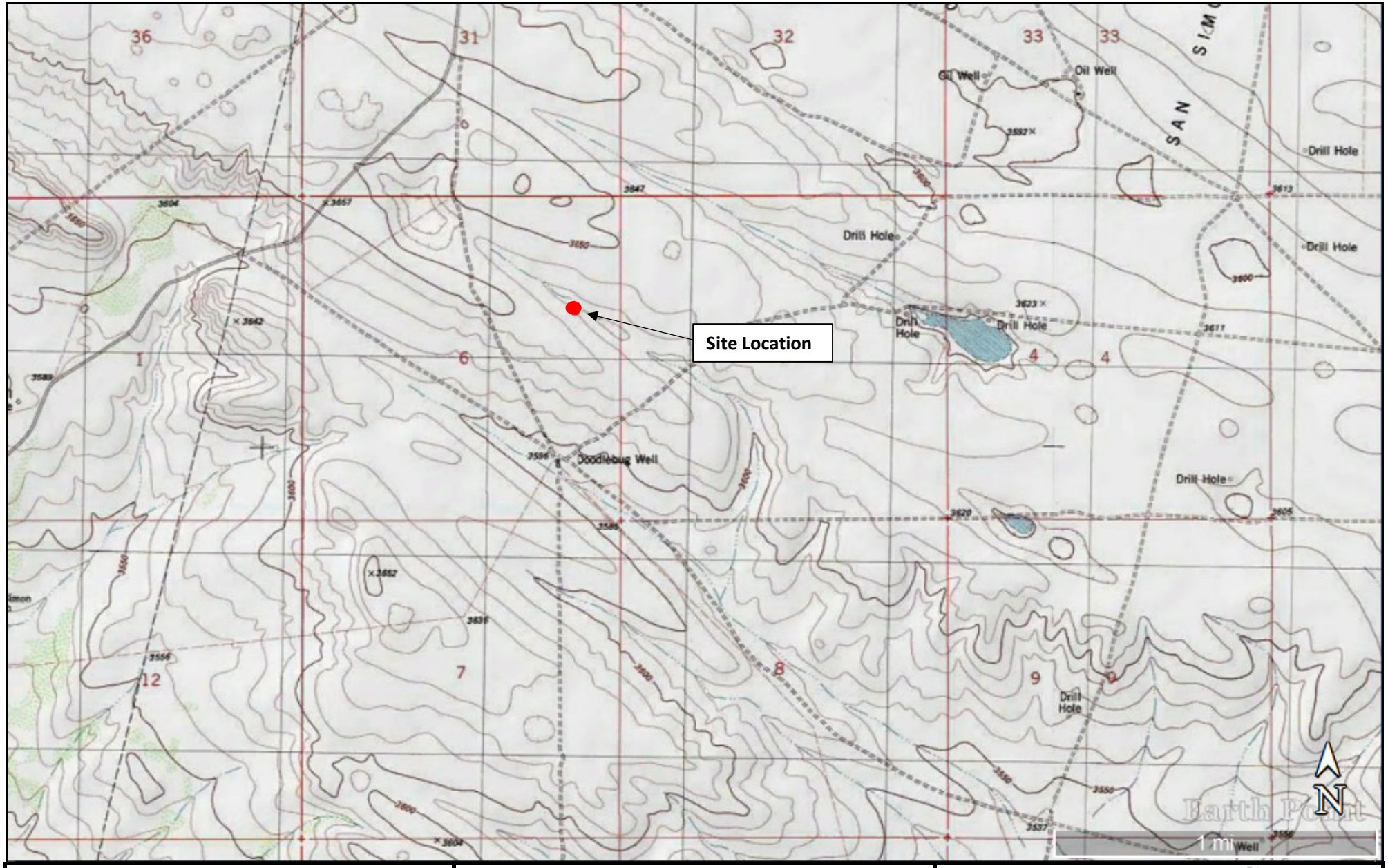
LIMITATIONS

This document has been prepared on behalf of Legacy Reserves Operating, LP. Use of information contained in this report, including exhibits and attachments, by any other party without the consent of LEA and/or Legacy Reserves Operating, LP is prohibited.

This document has been prepared in a professional manner, using the degree of skill and care exercised by similar environmental professionals. LEA notes that the facts and conditions referenced in this document may change over time and that the conclusions and recommendations are only applicable to the facts and conditions as described at the time this document was prepared.

LEA has prepared this report to the best of its ability. No other warranty, expressed or implied, is made or intended.

Attachment #1
Figure 1 - Topographic Map



LEGEND:

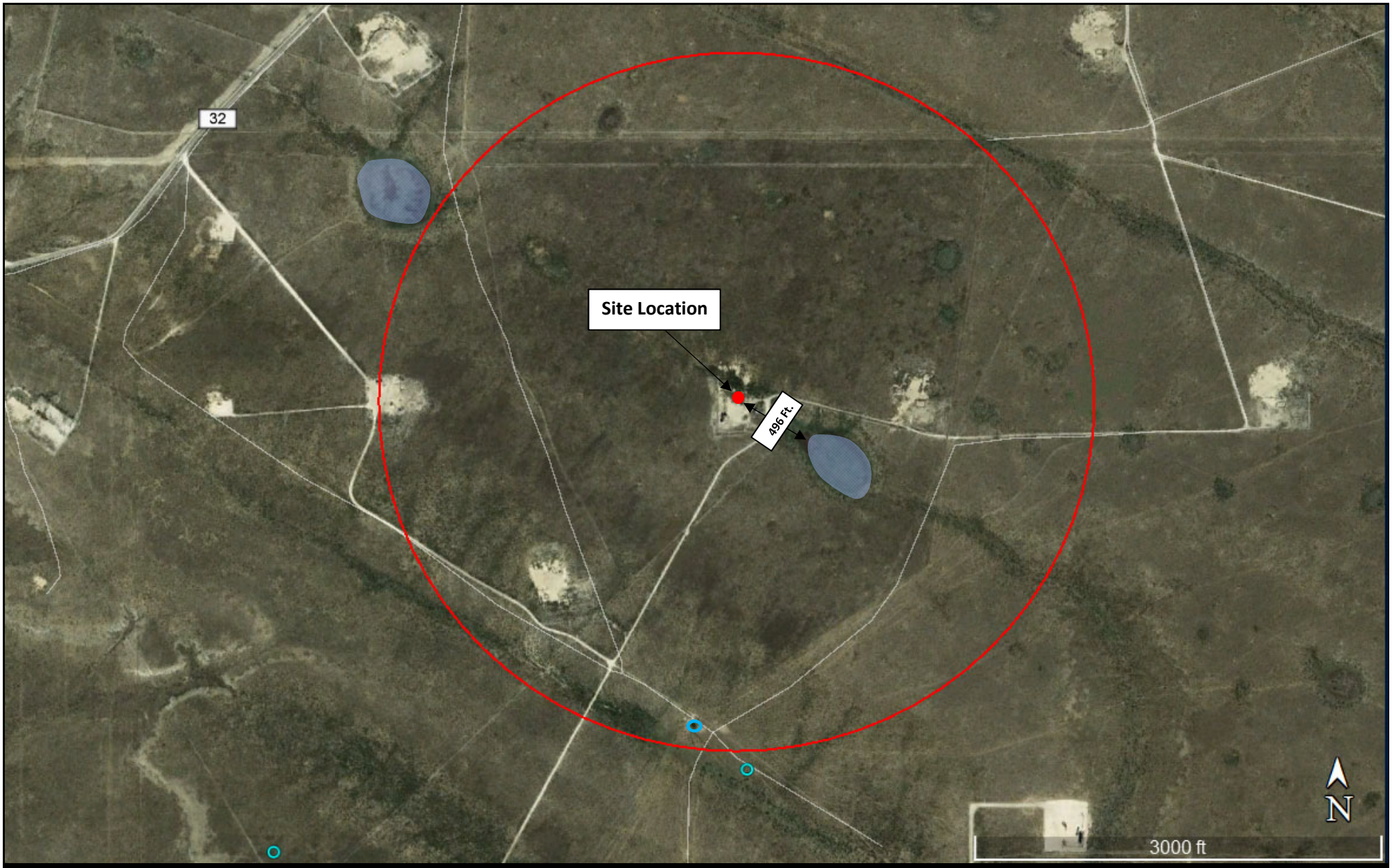
- Site Location

Figure 1
Topographic Map
Legacy Reserves Operating, LP
San Simon 6 State Battery
GPS: 32.422908, -103.400565
Lea County, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 6/4/2019

Attachment #2
Figure 2 - Aerial Map



LEGEND:

- Site Location
- Fresh Water Well
- 100-Year Floodplain
- High/Critical Karst
- Non-Industrial Building
- Subsurface Mine
- 1/2 Mile Radius
- Playa

Figure 2

Aerial Map

Legacy Reserves Operating, LP

San Simon 6 State Battery

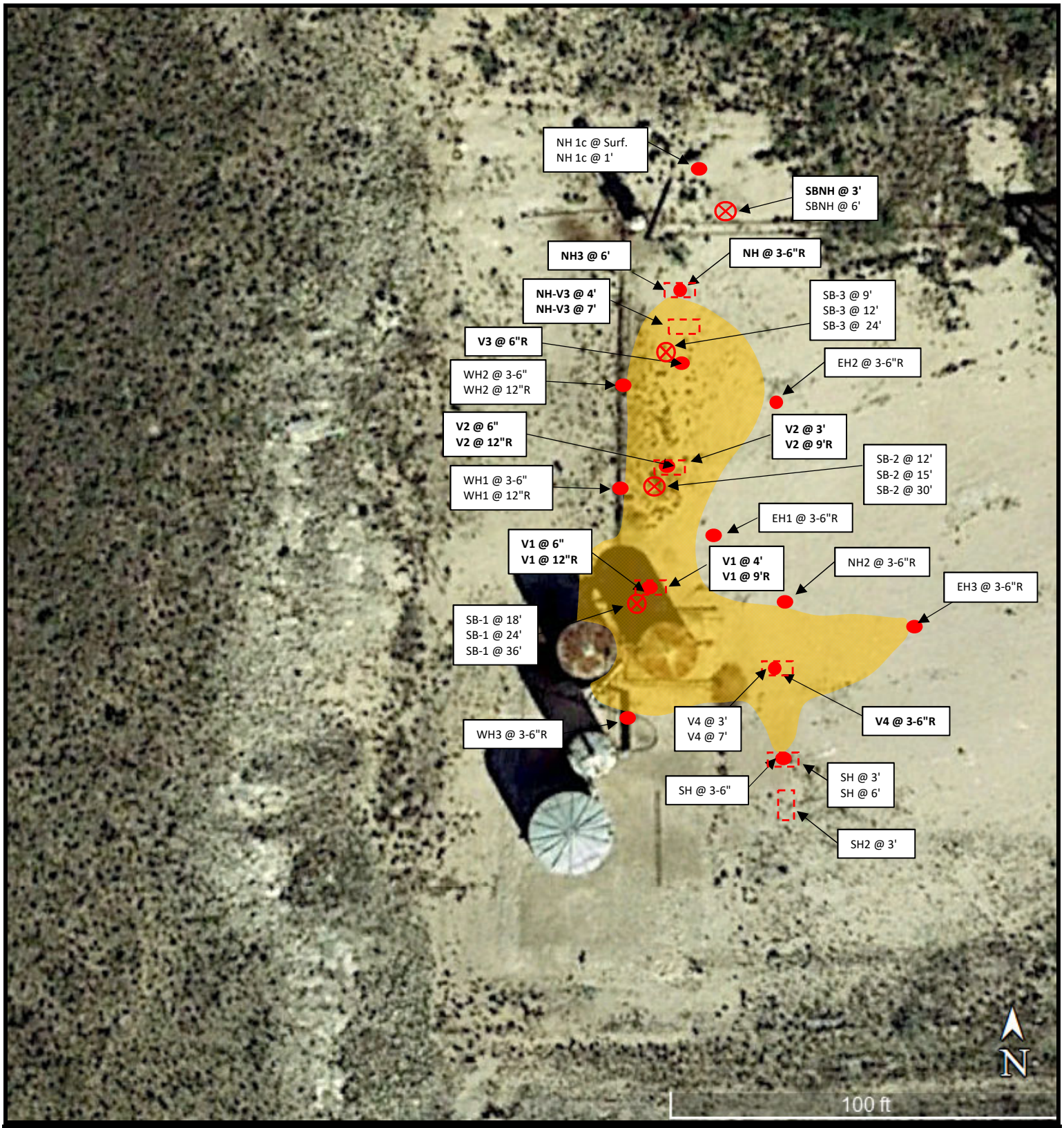
GPS: 32.422908, -103.400565

Lea County, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 6/4/2019

Attachment #3
Figure 3 - Site & Sample Location Map



LEGEND:

- Affected Area
- Sample Location
- Test Trench
- Soil Bore

Bold Text Denotes a Concentration that Exceeds NMOCD Standards

Figure 3

Site & Sample Location Map

Legacy Reserves Operating, LP

San Simon 6 State Battery

GPS: 32.422908, -103.400565

Lea County, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 6/5/2019

Attachment #4
Depth to Groundwater Information

LEGEND:

- Site Location

Figure 4

USGS Well Proximity Map
Legacy Reserves Operating, LP
San Simon 6 State Battery
GPS: 32.422908, -103.400565
Lea County, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 6/5/2019

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00593 POD1		CP	LE		4	4	06	22S	35E	650422	3587591*	848	62		
CC 00212 POD3		CU	CU	3	4	2	07	02N	34E	649365	3587386	1466	368		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 650386 **Northing (Y):** 3588439 **Radius:** 1610

***UTM location was derived from PLSS - see Help**

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- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322424103255801

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322424103255801 22S.34E.11.22442

Lea County, New Mexico
Latitude 32°24'24", Longitude 103°25'58" NAD27
Land-surface elevation 3,517 feet above NAVD88
The depth of the well is 62 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurem
1968-06-10		D	21.80			2	R	U		
1970-12-04		D	22.52			2		U		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Status	R	Site had been pumped recently.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Meas agen

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

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2019-06-04 13:38:03 EDT
0.49 0.46 nadww01

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322424103255801

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322424103255801 22S.34E.11.22442

Lea County, New Mexico
Latitude 32°24'24", Longitude 103°25'58" NAD27
Land-surface elevation 3,517 feet above NAVD88
The depth of the well is 62 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurem
1968-06-10		D	21.80			2	R	U		
1970-12-04		D	22.52			2		U		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Status	R	Site had been pumped recently.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322424103255801

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322424103255801 22S.34E.11.22442

Lea County, New Mexico
Latitude 32°24'24", Longitude 103°25'58" NAD27
Land-surface elevation 3,517 feet above NAVD88
The depth of the well is 62 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurem
1968-06-10		D	21.80			2	R	U		
1970-12-04		D	22.52			2		U		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Status	R	Site had been pumped recently.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322446103240501

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322446103240501 22S.35E.06.44114

Lea County, New Mexico
Latitude 32°25'00", Longitude 103°24'06" NAD27
Land-surface elevation 3,598.00 feet above NGVD29
The depth of the well is 62 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurem
1968-06-10		D	49.27			2	R	U		
1970-12-04		D	49.03			2		U		
1976-12-16		D	48.20			2		U		
1981-03-18		D	47.89			2		U		
1986-03-21		D	47.25			2		U		
1991-05-03		D	46.64			2		U		
1996-02-16		D	46.63			2		S		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Status	R	Site had been pumped recently.
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

Date	Time	?? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Meas agen

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

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

Page Last Modified: 2019-06-04 13:54:40 EDT
0.71 0.68 nadww01

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322642103242301

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322642103242301 21S.35E.30.41132

Lea County, New Mexico
Latitude 32°26'42", Longitude 103°24'23" NAD27
Land-surface elevation 3,614 feet above NAVD88
This well is completed in the Ogallala Formation (121OGLL) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurem
1968-03-28		D	32.81			2		U		
1971-02-10		D	32.97			2		U		
1976-12-15		D	31.71			2		U		
1981-03-05		D	30.68			2		U		
1986-03-20		D	30.80			2		U		
1991-05-02		D	31.97			2		U		
1996-02-13		D	31.58			2		S		

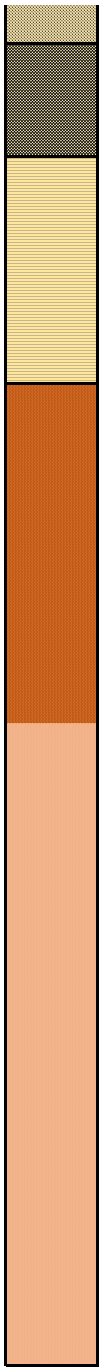
Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

Attachment #5
Soil Profile

Soil Bore Number: SB-1
GPS Coordinates: 32.42257, -103.40081
GL Elevation: 3635 Ft amsl
Method Drilled: Air Rotary

Depth	Description	PID/Odor	Chloride
1	*Imported Fill/Caliche 0-1' bgs*		
2			
3	*Fractured Caliche 1-4'bgs*		
4			
5			
6			
7	*Resilent Rock/Caliche 4-10' bgs*		
8			
9			
10			
11			
12		Moderate	
13			
14	*Reddish Brown Sand 10-23' bgs*		
15		Moderate	
16			
17			
18		VV Light	<108
19			
20			
21		None	
22			
23	*Tan Sand 23-36' bgs*		
24		None	<108
25			
26			
27		None	
28			
29			
30		None	
31			
32			
33		None	
34			
35			
36		VV. Light	<108



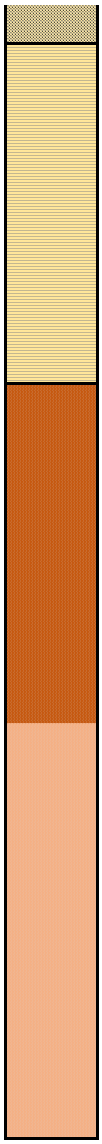
Soil Boring Log
SB-1
Legacy Reserves Operating, LP
San Simon 6 State Battery
GPS: 32.42257, -103.40084
Lea County, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 6/5/2019

Soil Bore Number: SB-2
GPS Coordinates: 32.42265, -103.40081
GL Elevation: 3635 Ft amsl
Method Drilled: Air Rotary

Depth	Description	PID/Odor	Chloride
1	*Imported Fill/Caliche 0-1' bgs*		
2			
3			
4			
5	*Resilent Rock/Caliche 1-10' bgs*		
6			
7			
8			
9			
10			
11			
12		V. Light	<108
13			
14	*Reddish Brown Sand 10-20' bgs*		
15		None	<108
16			
17			
18		VV Light	
19			
20			
21		None	
22			
23	*Tan Sand 20-30' bgs*		
24		VV Light	
25			
26			
27		None	
28			
29			
30		VV Light	<108
31			
32			
33			
34			
35			
36			



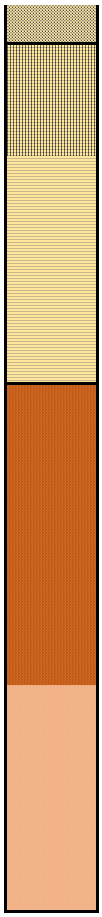
Soil Boring Log
SB-2
Legacy Reserves Operating, LP
San Simon 6 State Battery
GPS: 32.42265, -103.40081
Lea County, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 6/5/2019

Soil Bore Number: SB-3
GPS Coordinates: 32.42272, -103.40081
GL Elevation: 3635 Ft amsl
Method Drilled: Air Rotary

Depth	Description	PID/Odor	Chloride
1	*Imported Fill/Caliche 0-1' bgs*		
2			
3	*Fracture Caliche 1-4' bgs*		
4			
5			
6			
7	*Resilent Rock/Caliche 4-10' bgs*		
8			
9		VV Light	<108
10			
11			
12		VV Light	<108
13			
14	*Reddish Brown Sand 10-18' bgs*		
15		VV Light	
16			
17			
18		VV Light	
19			
20			
21		VV Light	
22			
23	*Tan Sand 18-24' bgs*		
24		None	<108
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			



Soil Boring Log
SB-2
Legacy Reserves Operating, LP
San Simon 6 State Battery
GPS: 32.42272, -103.40081
Lea County, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 6/5/2019

Attachment #6
Laboratory Analytical Reports

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

April 17, 2019

JOEL LOWRY

CAPROCK SERVICES

P.O. BOX 457

LOVINGTON, NM 88260

RE: SAN SIMON BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 04/12/19 13:41.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES
JOEL LOWRY
P.O. BOX 457
LOVINGTON NM, 88260
Fax To:

Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: V1 @ 6'' (H901359-01)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**2.77**	0.500	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	**41.2**	0.500	04/15/2019	ND	1.91	95.3	2.00	1.24	QM-07
Ethylbenzene*	**26.9**	0.500	04/15/2019	ND	2.03	102	2.00	2.39	QM-07
Total Xylenes*	**129**	1.50	04/15/2019	ND	6.33	106	6.00	2.63	QM-07
Total BTEX	**200**	3.00	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID	*122 %*	*73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1280**	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**2550**	50.0	04/13/2019	ND	205	102	200	3.08	QM-07
DRO >C10-C28*	**6950**	50.0	04/13/2019	ND	201	101	200	2.86	QM-07
EXT DRO >C28-C36	**954**	50.0	04/13/2019	ND					

Surrogate: 1-Chlorooctane	*155 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*239 %*	*37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES
JOEL LOWRY
P.O. BOX 457
LOVINGTON NM, 88260
Fax To:

Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: V1 @ 12''R (H901359-02)

TPH 8015M **mg/kg** **Analyzed By: MS** **S-06**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**1980**	50.0	04/13/2019	ND	205	102	200	3.08	
DRO >C10-C28*	**7600**	50.0	04/13/2019	ND	201	101	200	2.86	
EXT DRO >C28-C36	**1120**	50.0	04/13/2019	ND					

Surrogate: 1-Chlorooctane	*159 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*255 %*	*37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES
JOEL LOWRY
P.O. BOX 457
LOVINGTON NM, 88260
Fax To:

Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: V2 @ 6'' (H901359-03)

BTEX 8021B mg/kg Analyzed By: ms S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**3.93**	0.200	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	**61.6**	0.200	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	**50.9**	0.200	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	**196**	0.600	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	**312**	1.20	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *191 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**8520**	50.0	04/13/2019	ND	205	102	200	3.08	
DRO >C10-C28*	**17000**	50.0	04/13/2019	ND	201	101	200	2.86	
EXT DRO >C28-C36	**2170**	50.0	04/13/2019	ND					

Surrogate: 1-Chlorooctane *261 %* *41-142*

Surrogate: 1-Chlorooctadecane *432 %* *37.6-147*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES
JOEL LOWRY
P.O. BOX 457
LOVINGTON NM, 88260
Fax To:

Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: V2 @ 12''R (H901359-04)

TPH 8015M **mg/kg** **Analyzed By: MS** **S-06**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**7420**	50.0	04/13/2019	ND	205	102	200	3.08	
DRO >C10-C28*	**14300**	50.0	04/13/2019	ND	201	101	200	2.86	
EXT DRO >C28-C36	**1730**	50.0	04/13/2019	ND					

Surrogate: 1-Chlorooctane	*255 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*350 %*	*37.6-147*

Cardinal Laboratories

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES
JOEL LOWRY
P.O. BOX 457
LOVINGTON NM, 88260
Fax To:

Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: V3 @ 6'' R (H901359-05)

BTEX 8021B mg/kg Analyzed By: ms S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**1.05**	0.200	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	**29.2**	0.200	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	**32.0**	0.200	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	**135**	0.600	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	**198**	1.20	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *183 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**3300**	10.0	04/15/2019	ND	198	99.1	200	4.68	QM-07
DRO >C10-C28*	**8050**	10.0	04/15/2019	ND	188	93.9	200	5.65	QM-07
EXT DRO >C28-C36	**1510**	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *467 %* *41-142*

Surrogate: 1-Chlorooctadecane *276 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES
JOEL LOWRY
P.O. BOX 457
LOVINGTON NM, 88260
Fax To:

Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: NH @ 3-6'' R (H901359-06)

BTEX 8021B mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.074**	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	**2.45**	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	**1.85**	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	**9.71**	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	**14.1**	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**95.2**	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	**820**	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	**723**	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *85.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *105 %* *37.6-147*

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Fax To:

Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: WH2 @ 3-6'' (H901359-07)

BTEX 8021B mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	**0.167**	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	**0.185**	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	**1.04**	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	**1.40**	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.0 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	**12.2**	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	**29.0**	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *92.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *91.0 %* *37.6-147*

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Fax To:

Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: WH2 @ 12" R (H901359-08)

BTEX 8021B mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	<0.050	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	**0.224**	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.8 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *89.2 %* *41-142*

Surrogate: 1-Chlorooctadecane *89.8 %* *37.6-147*

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LOVINGTON NM, 88260
Fax To:

Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: WH1 @ 3-6'' (H901359-09)

BTEX 8021B mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	**0.143**	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	**0.167**	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	**0.891**	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	**1.20**	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.8 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *84.7 %* *41-142*

Surrogate: 1-Chlorooctadecane *83.5 %* *37.6-147*

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LOVINGTON NM, 88260
Fax To:

Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: WH1 @ 12" R (H901359-10)

BTEX 8021B mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	<0.050	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	**0.095**	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	**0.485**	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	**0.580**	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID	*96.8 %*	*73.3-129*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane	*87.6 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*87.4 %*	*37.6-147*

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Fax To:

Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: EH1 @ 3-6'' R (H901359-11)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	<0.050	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.4 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *79.3 %* *41-142*

Surrogate: 1-Chlorooctadecane *77.9 %* *37.6-147*

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Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: EH2 @ 3-6'' R (H901359-12)

BTEX 8021B mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	<0.050	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	**0.118**	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	**0.702**	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	**0.820**	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.2 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *83.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *81.1 %* *37.6-147*

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Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: V4 @ 3-6'' R (H901359-13)

BTEX 8021B mg/kg Analyzed By: ms S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**1.44**	0.500	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	**43.1**	0.500	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	**54.3**	0.500	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	**260**	1.50	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	**359**	3.00	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *161 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1300**	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**7270**	50.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	**28500**	50.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	**4930**	50.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *799 %* *41-142*

Surrogate: 1-Chlorooctadecane *769 %* *37.6-147*

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Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: SH @ 3-6'' R (H901359-14)

BTEX 8021B mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	**1.79**	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	**1.34**	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	**7.26**	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	**10.4**	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**57.6**	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	**149**	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	**143**	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *84.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *86.4 %* *37.6-147*

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Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: EH3 @ 3-6'' R (H901359-15)

BTEX 8021B mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	<0.050	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	**0.069**	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	**0.335**	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	**0.404**	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID	*96.1 %*	*73.3-129*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	**10.6**	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane	*84.4 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*84.6 %*	*37.6-147*

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Fax To:

Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: NH2 @ 3-6'' R (H901359-16)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/16/2019	ND	2.12	106	2.00	0.356	
Toluene*	**0.064**	0.050	04/16/2019	ND	2.26	113	2.00	0.640	
Ethylbenzene*	**0.123**	0.050	04/16/2019	ND	2.26	113	2.00	0.214	
Total Xylenes*	**0.699**	0.150	04/16/2019	ND	6.52	109	6.00	0.243	
Total BTEX	**0.886**	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**336**	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	**16.9**	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *80.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *77.8 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES
JOEL LOWRY
P.O. BOX 457
LOVINGTON NM, 88260
Fax To:

Received:	04/12/2019	Sampling Date:	04/09/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: WH3 @ 3-6'' R (H901359-17)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/16/2019	ND	2.12	106	2.00	0.356	
Toluene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.640	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.214	
Total Xylenes*	**0.250**	0.150	04/16/2019	ND	6.52	109	6.00	0.243	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *114 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *87.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *86.6 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Legacy Reserves Operating, LP
Project Manager:	Joel Lowry
Address:	303 W. Wall St. Midland, TX 79701
Phone #:	Fax #:
Project Owner:	Legacy Reserves Operating, LP
Project Name:	San Simon Battery
Project Location:	Lea Co, NM
Sampler Name:	Jordyne Taylor

BILL TO

P.O. #:	
Company:	Caprock Services LLC
Attn:	Steve Taylor

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH 8015 M. Ext (New Mexico)	Chloride 4500 Cl-B	BTEX 8021	TPH TX 1005							RUSH	
H901359																										
1	V1 @6"	G	1			x					x		4/9/19	9:20	x	x	x									
2	V1 @ 12"R	G	1			x					x		4/9/19	9:22	x											
3	V2 @ 6"	G	1			x					x		4/9/19	9:25	x	x	x									
4	V2 @ 12"R	G	1			x					x		4/9/19	9:28	x											
5	V3 @ 6"R	G	1			x					x		4/9/19	9:32	x	x	x									
6	NH @ 3-6"R	G	1			x					x		4/9/19	9:35	x	x	x									
7	WH2 @ 3-6"	G	1			x					x		4/9/19	9:38	x	x	x									
8	WH2 @ 12"R	G	1			x					x		4/9/19	9:42	x	x	x									
9	WH1 @ 3-6"	G	1			x					x		4/9/19	9:46	x	x	x									
10	WH1 @ 12"R	G	1			x					x		4/9/19	9:50	x	x	x									

Relinquished By: Jordyne Taylor	Date: 4/12/19	Received By: Tamara Oldaker	
	Time: 1341		
Relinquished By:	Date:	Received By:	
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 1.7°c #97

Sample Condition: Cool: ☑ Yes ☐ No — Intact: ☐ Yes ☑ No

CHECKED BY: (Initials) TO.

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

joel@lowryenviromental.com

FORM-006 R 2.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Legacy Reserves Operating, LP
Project Manager:	Joel Lowry
Address:	303 W. Wall St. Midland, TX 79701
Phone #:	Fax #:
Project Owner:	Legacy Reserves Operating, LP
Project Name:	San Simon Battery
Project Location:	Lea Co, NM
Sampler Name:	Jordyne Taylor

BILL TO

P.O. #:	
Company:	Caprock Services LLC
Attn:	Steve Taylor

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH 8015 M. Ext (New Mexico)	Chloride 4500 Cl-B	BTEX 8021	TPH TX 1005	RUSH
H901359																			
11	EH1 @ 3-6"R	G	1			x					x		4/9/19	9:55	x	x	x		
12	EH2 @ 3-6"R	G	1			x					x		4/9/19	10:00	x	x	x		
13	V4 @ 3-6"R	G	1			x					x		4/9/19	10:04	x	x	x		
14	SH @ 3-6"R	G	1			x					x		4/9/19	10:06	x	x	x		
15	EH3 @ 3-6"R	G	1			x					x		4/9/19	10:10	x	x	x		
16	NH2 @ 3-6"R	G	1			x					x		4/9/19	10:12	x	x	x		
17	WH3 @3-6"R	G	1			x					x		4/9/19	10:15	x	x	x		

Relinquished By: Jordyne Taylor	Date: 4/12/19	Received By: Tamara Oldaker	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Time: 1342	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
	Date:		REMARKS:
	Time:		joel@lowryenviromental.com

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 1.7c #97

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials) TO

FORM-006 R 2.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

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

May 09, 2019

Joel Lowry

Caprock Services, LLC
PO Box 457
Lovington, NM 88260
TEL:
FAX

RE: Legacy San Simon OrderNo.: 1905111

Dear Joel Lowry:

Hall Environmental Analysis Laboratory received 12 sample(s) on 5/2/2019 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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Caprock Services, LLC
Client Sample ID: V1@4'
Project: Legacy San Simon
Collection Date: 4/30/2019 1:15:00 PM
Lab ID: 1905111-001 **Matrix:** SOIL **Received Date:** 5/2/2019 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	5800	96		mg/Kg	10	5/6/2019 1:33:13 PM
Motor Oil Range Organics (MRO)	2100	480		mg/Kg	10	5/6/2019 1:33:13 PM
Surr: DNOP	0	70-130	S	%Rec	10	5/6/2019 1:33:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	1100	96		mg/Kg	20	5/6/2019 6:39:33 PM
Surr: BFB	325	73.8-119	S	%Rec	20	5/6/2019 6:39:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	0.61	0.48		mg/Kg	20	5/6/2019 6:39:33 PM
Toluene	7.9	0.96		mg/Kg	20	5/6/2019 6:39:33 PM
Ethylbenzene	5.6	0.96		mg/Kg	20	5/6/2019 6:39:33 PM
Xylenes, Total	38	1.9		mg/Kg	20	5/6/2019 6:39:33 PM
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	20	5/6/2019 6:39:33 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	1200	60		mg/Kg	20	5/3/2019 6:24:43 PM

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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Caprock Services, LLC
Client Sample ID: V1@9' R
Project: Legacy San Simon
Collection Date: 4/30/2019 1:30:00 PM
Lab ID: 1905111-002 **Matrix:** SOIL
Received Date: 5/2/2019 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	4800	100		mg/Kg	10	5/6/2019 1:57:29 PM
Motor Oil Range Organics (MRO)	1600	500		mg/Kg	10	5/6/2019 1:57:29 PM
Surr: DNOP	0	70-130	S	%Rec	10	5/6/2019 1:57:29 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	1800	24		mg/Kg	5	5/6/2019 7:02:56 PM
Surr: BFB	1180	73.8-119	S	%Rec	5	5/6/2019 7:02:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	1.5	0.12		mg/Kg	5	5/6/2019 7:02:56 PM
Toluene	19	0.24		mg/Kg	5	5/6/2019 7:02:56 PM
Ethylbenzene	12	0.24		mg/Kg	5	5/6/2019 7:02:56 PM
Xylenes, Total	58	0.47		mg/Kg	5	5/6/2019 7:02:56 PM
Surr: 4-Bromofluorobenzene	181	80-120	S	%Rec	5	5/6/2019 7:02:56 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	59		mg/Kg	20	5/3/2019 6:37:08 PM

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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Caprock Services, LLC
Client Sample ID: V2@3'
Project: Legacy San Simon
Collection Date: 4/30/2019 1:40:00 PM
Lab ID: 1905111-003 **Matrix:** SOIL **Received Date:** 5/2/2019 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	5600	97		mg/Kg	10	5/6/2019 2:21:45 PM
Motor Oil Range Organics (MRO)	1700	480		mg/Kg	10	5/6/2019 2:21:45 PM
Surr: DNOP	0	70-130	S	%Rec	10	5/6/2019 2:21:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	670	240		mg/Kg	50	5/7/2019 9:40:57 PM
Surr: BFB	165	73.8-119	S	%Rec	50	5/7/2019 9:40:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	1.8	1.2		mg/Kg	50	5/7/2019 9:40:57 PM
Toluene	17	2.4		mg/Kg	50	5/7/2019 9:40:57 PM
Ethylbenzene	14	2.4		mg/Kg	50	5/7/2019 9:40:57 PM
Xylenes, Total	42	4.8		mg/Kg	50	5/7/2019 9:40:57 PM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	50	5/7/2019 9:40:57 PM

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Caprock Services, LLC
Client Sample ID: V2@9'R
Project: Legacy San Simon
Collection Date: 4/30/2019 1:50:00 PM
Lab ID: 1905111-004 **Matrix:** SOIL
Received Date: 5/2/2019 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	1600	47		mg/Kg	5	5/7/2019 11:06:27 AM
Motor Oil Range Organics (MRO)	480	240		mg/Kg	5	5/7/2019 11:06:27 AM
Surr: DNOP	128	70-130		%Rec	5	5/7/2019 11:06:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	200	4.9		mg/Kg	1	5/6/2019 8:13:18 PM
Surr: BFB	1150	73.8-119	S	%Rec	1	5/6/2019 8:13:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	0.031	0.024		mg/Kg	1	5/6/2019 8:13:18 PM
Toluene	0.42	0.049		mg/Kg	1	5/6/2019 8:13:18 PM
Ethylbenzene	0.69	0.049		mg/Kg	1	5/6/2019 8:13:18 PM
Xylenes, Total	3.9	0.098		mg/Kg	1	5/6/2019 8:13:18 PM
Surr: 4-Bromofluorobenzene	147	80-120	S	%Rec	1	5/6/2019 8:13:18 PM

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Caprock Services, LLC
Client Sample ID: NH-V3@4'
Project: Legacy San Simon
Collection Date: 4/30/2019 2:00:00 PM
Lab ID: 1905111-005 **Matrix:** SOIL
Received Date: 5/2/2019 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	2000	97		mg/Kg	10	5/6/2019 2:46:06 PM
Motor Oil Range Organics (MRO)	1000	490		mg/Kg	10	5/6/2019 2:46:06 PM
Surr: DNOP	0	70-130	S	%Rec	10	5/6/2019 2:46:06 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	280	4.8		mg/Kg	1	5/6/2019 8:37:00 PM
Surr: BFB	1590	73.8-119	S	%Rec	1	5/6/2019 8:37:00 PM

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Caprock Services, LLC
Client Sample ID: NH-V3@7'
Project: Legacy San Simon
Collection Date: 4/30/2019 2:15:00 PM
Lab ID: 1905111-006 **Matrix:** SOIL
Received Date: 5/2/2019 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	100	9.7		mg/Kg	1	5/8/2019 1:32:30 PM
Motor Oil Range Organics (MRO)	250	49		mg/Kg	1	5/8/2019 1:32:30 PM
Surr: DNOP	115	70-130		%Rec	1	5/8/2019 1:32:30 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/6/2019 9:00:25 PM
Surr: BFB	122	73.8-119	S	%Rec	1	5/6/2019 9:00:25 PM

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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Caprock Services, LLC
Client Sample ID: V4@3'
Project: Legacy San Simon
Collection Date: 4/30/2019 12:40:00 PM
Lab ID: 1905111-007 **Matrix:** SOIL
Received Date: 5/2/2019 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	520	9.9		mg/Kg	1	5/7/2019 4:51:26 PM
Motor Oil Range Organics (MRO)	180	49		mg/Kg	1	5/7/2019 4:51:26 PM
Surr: DNOP	83.8	70-130		%Rec	1	5/7/2019 4:51:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	11	5.0		mg/Kg	1	5/6/2019 10:57:07 PM
Surr: BFB	151	73.8-119	S	%Rec	1	5/6/2019 10:57:07 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	130	60		mg/Kg	20	5/5/2019 3:02:35 PM

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Caprock Services, LLC
Client Sample ID: V4@7'
Project: Legacy San Simon
Collection Date: 4/30/2019 12:50:00 PM
Lab ID: 1905111-008 **Matrix:** SOIL
Received Date: 5/2/2019 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	10	9.7		mg/Kg	1	5/7/2019 5:13:35 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/7/2019 5:13:35 PM
Surr: DNOP	90.3	70-130		%Rec	1	5/7/2019 5:13:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/6/2019 11:20:46 PM
Surr: BFB	91.1	73.8-119		%Rec	1	5/6/2019 11:20:46 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	140	60		mg/Kg	20	5/5/2019 4:04:39 PM

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Caprock Services, LLC
Client Sample ID: SH@3'
Project: Legacy San Simon
Collection Date: 4/30/2019 10:30:00 AM
Lab ID: 1905111-009 **Matrix:** SOIL
Received Date: 5/2/2019 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/7/2019 5:35:50 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/7/2019 5:35:50 PM
Surr: DNOP	88.0	70-130		%Rec	1	5/7/2019 5:35:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/6/2019 11:44:18 PM
Surr: BFB	86.8	73.8-119		%Rec	1	5/6/2019 11:44:18 PM

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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Caprock Services, LLC
Client Sample ID: SH@6'
Project: Legacy San Simon
Collection Date: 4/30/2019 10:45:00 AM
Lab ID: 1905111-010 **Matrix:** SOIL
Received Date: 5/2/2019 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/7/2019 5:58:09 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/7/2019 5:58:09 PM
Surr: DNOP	87.0	70-130		%Rec	1	5/7/2019 5:58:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/7/2019 12:07:46 AM
Surr: BFB	89.3	73.8-119		%Rec	1	5/7/2019 12:07:46 AM

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Caprock Services, LLC
Client Sample ID: SH2@3'
Project: Legacy San Simon
Collection Date: 4/30/2019 10:15:00 AM
Lab ID: 1905111-011 **Matrix:** SOIL
Received Date: 5/2/2019 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	84	9.8		mg/Kg	1	5/7/2019 6:20:31 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/7/2019 6:20:31 PM
Surr: DNOP	91.6	70-130		%Rec	1	5/7/2019 6:20:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/7/2019 12:31:05 AM
Surr: BFB	92.3	73.8-119		%Rec	1	5/7/2019 12:31:05 AM

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Caprock Services, LLC
Client Sample ID: NH3@6'
Project: Legacy San Simon
Collection Date: 4/30/2019 2:30:00 PM
Lab ID: 1905111-012 **Matrix:** SOIL
Received Date: 5/2/2019 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	8500	99		mg/Kg	10	5/7/2019 12:26:43 PM
Motor Oil Range Organics (MRO)	3000	500		mg/Kg	10	5/7/2019 12:26:43 PM
Surr: DNOP	0	70-130	S	%Rec	10	5/7/2019 12:26:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	48	4.9		mg/Kg	1	5/7/2019 12:54:24 AM
Surr: BFB	245	73.8-119	S	%Rec	1	5/7/2019 12:54:24 AM

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#: **1905111**

09-May-19

Client: Caprock Services, LLC

Project: Legacy San Simon

Sample ID: **MB-44716**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **44716**	RunNo: **59642**							
Prep Date: **5/3/2019**	Analysis Date: **5/3/2019**	SeqNo: **2010555**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44716**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **44716**	RunNo: **59642**							
Prep Date: **5/3/2019**	Analysis Date: **5/3/2019**	SeqNo: **2010556**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	90	110			

Sample ID: **MB-44722**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **44722**	RunNo: **59653**							
Prep Date: **5/5/2019**	Analysis Date: **5/5/2019**	SeqNo: **2010922**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44722**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **44722**	RunNo: **59653**							
Prep Date: **5/5/2019**	Analysis Date: **5/5/2019**	SeqNo: **2010923**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.5	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#: **1905111**

09-May-19

Client: Caprock Services, LLC

Project: Legacy San Simon

Sample ID: **MB-44648**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **44648**	RunNo: **59657**
Prep Date: **5/3/2019**	Analysis Date: **5/6/2019**	SeqNo: **2011095** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		89.7	70	130			

Sample ID: **LCS-44648**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **44648**	RunNo: **59657**
Prep Date: **5/3/2019**	Analysis Date: **5/6/2019**	SeqNo: **2011096** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.6	63.9	124			
Surr: DNOP	4.3		5.000		86.1	70	130			

Sample ID: **LCS-44736**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **44736**	RunNo: **59674**
Prep Date: **5/6/2019**	Analysis Date: **5/7/2019**	SeqNo: **2012068** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.9	63.9	124			
Surr: DNOP	4.0		5.000		79.8	70	130			

Sample ID: **MB-44736**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **44736**	RunNo: **59674**
Prep Date: **5/6/2019**	Analysis Date: **5/7/2019**	SeqNo: **2012069** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.7		10.00		97.0	70	130			

Sample ID: **LCS-44744**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **44744**	RunNo: **59674**
Prep Date: **5/6/2019**	Analysis Date: **5/7/2019**	SeqNo: **2012775** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.5		5.000		70.1	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#: **1905111**

09-May-19

Client: Caprock Services, LLC

Project: Legacy San Simon

Sample ID: **MB-44744** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **44744** RunNo: **59674**

Prep Date: **5/6/2019** Analysis Date: **5/7/2019** SeqNo: **2012776** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.6		10.00		86.0	70	130			

Sample ID: **MB-44748** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **44748** RunNo: **59713**

Prep Date: **5/6/2019** Analysis Date: **5/7/2019** SeqNo: **2013451** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.1		10.00		81.1	70	130			

Sample ID: **MB-44745** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **44745** RunNo: **59713**

Prep Date: **5/6/2019** Analysis Date: **5/7/2019** SeqNo: **2013457** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		106	70	130			

Sample ID: **LCS-44748** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **44748** RunNo: **59713**

Prep Date: **5/6/2019** Analysis Date: **5/7/2019** SeqNo: **2013466** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.4		5.000		68.8	70	130			S

Sample ID: **LCS-44745** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **44745** RunNo: **59713**

Prep Date: **5/6/2019** Analysis Date: **5/7/2019** SeqNo: **2013472** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.4	70	130			

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#: **1905111**

09-May-19

Client: Caprock Services, LLC

Project: Legacy San Simon

Sample ID: **LCS-44701** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **44701** RunNo: **59659**

Prep Date: **5/2/2019** Analysis Date: **5/6/2019** SeqNo: **2011490** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.5	80.1	123			
Surr: BFB	1000		1000		101	73.8	119			

Sample ID: **MB-44701** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **44701** RunNo: **59659**

Prep Date: **5/2/2019** Analysis Date: **5/6/2019** SeqNo: **2011492** 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	920		1000		91.8	73.8	119			

Sample ID: **LCS-44717** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **44717** RunNo: **59700**

Prep Date: **5/3/2019** Analysis Date: **5/7/2019** SeqNo: **2012793** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		107	73.8	119			

Sample ID: **MB-44717** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **44717** RunNo: **59700**

Prep Date: **5/3/2019** Analysis Date: **5/7/2019** SeqNo: **2014337** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	900		1000		90.1	73.8	119			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1905111**

09-May-19

Client: Caprock Services, LLC

Project: Legacy San Simon

Sample ID: **LCS-44701** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **44701** RunNo: **59659**

Prep Date: **5/2/2019** Analysis Date: **5/6/2019** SeqNo: **2011514** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.025	1.000	0	81.8	80	120			
Toluene	0.85	0.050	1.000	0	84.8	80	120			
Ethylbenzene	0.85	0.050	1.000	0	84.6	80	120			
Xylenes, Total	2.5	0.10	3.000	0	84.8	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		92.7	80	120			

Sample ID: **MB-44701** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **44701** RunNo: **59659**

Prep Date: **5/2/2019** Analysis Date: **5/6/2019** SeqNo: **2011517** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		90.2	80	120			

Sample ID: **LCS-44717** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **44717** RunNo: **59700**

Prep Date: **5/3/2019** Analysis Date: **5/7/2019** SeqNo: **2012799** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.97		1.000		97.2	80	120			

Sample ID: **MB-44717** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **44717** RunNo: **59700**

Prep Date: **5/3/2019** Analysis Date: **5/7/2019** SeqNo: **2012801** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.88		1.000		88.0	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: CAPROCK SERVICES, L Work Order Number: 1905111 RcptNo: 1

Received By: **Jevon Campisi** 5/2/2019 10:30:00 AM Jevon Campisi

Completed By: **Victoria Zellar** 5/2/2019 3:38:03 PM Victoria Zellar

Reviewed By: JVM 5-2-19

labeled by JJC 5-2-19

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 ☐

Samples Not Frozen

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: JJC 5-2-19

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	-0.6	Good	Yes			
2	3.6	Good	Yes			

Chain-of-Custody Record

Client: Caprock Services, LLC

Mailing Address: P.O. Box 457
Lovington NM 88260

Phone #: (575) 704-2718

email or Fax#: Caprockservices56@gmail.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☒ Other NMOCD Eq.
☐ EDD (Type)

Turn-Around Time: 5 day
☒ Standard ☐ Rush

Project Name: Legacy San Simon

Project #:

Project Manager: Joel Lowry

Sampler: Jordyne Taylor
On Ice: ☒ Yes ☐ No
# of Coolers: 2
Cooler Temp (including CF): -0.6°c / 3.6°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. 1905111	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)
4-30-19	1315	Soil	V1@4'	4oz glass	ICE	-001	X	X					X			
	1330		V1@9'R			-002	X						X			
	1340		V2@3'			-003	X									
	1350		V2@9'R			-004	X									
	1400		NH-V3@4'			-005										
	1415		NH-V3@7'			-006										
	1240		V4@3'			-007							X			
	1250		V4@7'			-008							X			
	1030		SH@3'			-009										
	1045		SH@6'			-010										
	1015		SH2@3'			-011										
	1430		NH3@6'			-012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
5-1-19	1445	Jordyne Taylor			5/1/19	1445
5/1/19	1900			Courier	5-2-19	10:30

Remarks: Please email results to:
joel@lowryenvironmental.com
jordyne.caprockservices@gmail.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.

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

May 24, 2019

JOEL LOWRY

CAPROCK SERVICES

P.O. BOX 457

LOVINGTON, NM 88260

RE: SAN SIMON 6

Enclosed are the results of analyses for samples received by the laboratory on 05/17/19 12:34.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON 6 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 24-May-19 14:49

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB NH @ 3'	H901797-01	Soil	13-May-19 13:15	17-May-19 12:34
SB NH @ 6'	H901797-02	Soil	13-May-19 13:30	17-May-19 12:34
SB-1 @ 18'	H901797-03	Soil	13-May-19 11:25	17-May-19 12:34
SB-1 @ 24'	H901797-04	Soil	13-May-19 11:30	17-May-19 12:34
SB-2 @ 12'	H901797-05	Soil	13-May-19 11:00	17-May-19 12:34
SB-2 @ 15'	H901797-06	Soil	13-May-19 11:05	17-May-19 12:34
SB-3 @ 9'	H901797-07	Soil	13-May-19 10:20	17-May-19 12:34
SB-3 @ 12'	H901797-08	Soil	13-May-19 10:25	17-May-19 12:34

Joel added chloride to sample 05 and 07 on 05/22/19. This is the revised report and will replace the one sent on 05/22/19.

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON 6 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 24-May-19 14:49

SB NH @ 3'

H901797-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
DRO >C10-C28*	**963**		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
EXT DRO >C28-C36	**240**		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
Surrogate: 1-Chlorooctane			*83.9 %*	*41-142*		*9051716*	MS	*20-May-19*	*8015B*	
Surrogate: 1-Chlorooctadecane			*111 %*	*37.6-147*		*9051716*	MS	*20-May-19*	*8015B*	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON 6 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 24-May-19 14:49

SB NH @ 6'

H901797-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
Surrogate: 1-Chlorooctane			*86.8 %*	*41-142*		*9051716*	MS	*20-May-19*	*8015B*	
Surrogate: 1-Chlorooctadecane			*88.7 %*	*37.6-147*		*9051716*	MS	*20-May-19*	*8015B*	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON 6 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 24-May-19 14:49

SB-1 @ 18'

H901797-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**48.0**		16.0	mg/kg	4	9052122	AC	21-May-19	4500-Cl-B	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
DRO >C10-C28*	**64.3**		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
Surrogate: 1-Chlorooctane			*83.0 %*	*41-142*		*9051716*	MS	*20-May-19*	*8015B*	
Surrogate: 1-Chlorooctadecane			*87.1 %*	*37.6-147*		*9051716*	MS	*20-May-19*	*8015B*	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON 6 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 24-May-19 14:49

SB-1 @ 24'

H901797-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
DRO >C10-C28*	**18.3**		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
Surrogate: 1-Chlorooctane			*90.8 %*	*41-142*		*9051716*	MS	*20-May-19*	*8015B*	
Surrogate: 1-Chlorooctadecane			*94.1 %*	*37.6-147*		*9051716*	MS	*20-May-19*	*8015B*	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON 6 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 24-May-19 14:49

SB-2 @ 12'

H901797-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**32.0**		16.0	mg/kg	4	9052207	AC	24-May-19	4500-Cl-B	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
DRO >C10-C28*	**45.4**		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
Surrogate: 1-Chlorooctane			*83.2 %*	*41-142*		*9051716*	MS	*20-May-19*	*8015B*	
Surrogate: 1-Chlorooctadecane			*87.1 %*	*37.6-147*		*9051716*	MS	*20-May-19*	*8015B*	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON 6 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 24-May-19 14:49

SB-2 @ 15'

H901797-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
DRO >C10-C28*	**21.6**		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
Surrogate: 1-Chlorooctane			*79.2 %*	*41-142*		*9051716*	MS	*20-May-19*	*8015B*	
Surrogate: 1-Chlorooctadecane			*86.6 %*	*37.6-147*		*9051716*	MS	*20-May-19*	*8015B*	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON 6 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 24-May-19 14:49

SB-3 @ 9'

H901797-07 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**16.0**		16.0	mg/kg	4	9052207	AC	24-May-19	4500-Cl-B	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
DRO >C10-C28*	**10.7**		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
Surrogate: 1-Chlorooctane			*94.5 %*	*41-142*		*9051716*	MS	*20-May-19*	*8015B*	
Surrogate: 1-Chlorooctadecane			*102 %*	*37.6-147*		*9051716*	MS	*20-May-19*	*8015B*	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON 6 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 24-May-19 14:49

SB-3 @ 12'

H901797-08 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
DRO >C10-C28*	**14.5**		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9051716	MS	20-May-19	8015B	
Surrogate: 1-Chlorooctane			*94.2 %*	*41-142*		*9051716*	MS	*20-May-19*	*8015B*	
Surrogate: 1-Chlorooctadecane			*101 %*	*37.6-147*		*9051716*	MS	*20-May-19*	*8015B*	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON 6 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 24-May-19 14:49

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052122 - 1:4 DI Water										
Blank (9052122-BLK1)				Prepared & Analyzed: 21-May-19						
Chloride	ND	16.0	mg/kg							
LCS (9052122-BS1)				Prepared & Analyzed: 21-May-19						
Chloride	416	16.0	mg/kg	400		104	80-120			
LCS Dup (9052122-BSD1)				Prepared & Analyzed: 21-May-19						
Chloride	400	16.0	mg/kg	400		100	80-120	3.92	20	
Batch 9052207 - 1:4 DI Water										
Blank (9052207-BLK1)				Prepared & Analyzed: 22-May-19						
Chloride	ND	16.0	mg/kg							
LCS (9052207-BS1)				Prepared & Analyzed: 22-May-19						
Chloride	432	16.0	mg/kg	400		108	80-120			
LCS Dup (9052207-BSD1)				Prepared & Analyzed: 22-May-19						
Chloride	400	16.0	mg/kg	400		100	80-120	7.69	20	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON 6 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 24-May-19 14:49

Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9051716 - General Prep - Organics										
Blank (9051716-BLK1)				Prepared: 17-May-19 Analyzed: 20-May-19						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	*47.7*		mg/kg	*50.0*		*95.4*	*41-142*			
Surrogate: 1-Chlorooctadecane	*49.8*		mg/kg	*50.0*		*99.7*	*37.6-147*			
LCS (9051716-BS1)				Prepared: 17-May-19 Analyzed: 21-May-19						
GRO C6-C10	200	10.0	mg/kg	200		100	76.5-133			
DRO >C10-C28	217	10.0	mg/kg	200		108	72.9-138			
Total TPH C6-C28	417	10.0	mg/kg	400		104	78-132			
Surrogate: 1-Chlorooctane	*54.9*		mg/kg	*50.0*		*110*	*41-142*			
Surrogate: 1-Chlorooctadecane	*51.6*		mg/kg	*50.0*		*103*	*37.6-147*			
LCS Dup (9051716-BSD1)				Prepared: 17-May-19 Analyzed: 21-May-19						
GRO C6-C10	212	10.0	mg/kg	200		106	76.5-133	5.88	20.6	
DRO >C10-C28	232	10.0	mg/kg	200		116	72.9-138	6.82	20.6	
Total TPH C6-C28	445	10.0	mg/kg	400		111	78-132	6.37	18	
Surrogate: 1-Chlorooctane	*59.2*		mg/kg	*50.0*		*118*	*41-142*			
Surrogate: 1-Chlorooctadecane	*53.0*		mg/kg	*50.0*		*106*	*37.6-147*			

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Diamondback Energy	**BILL TO**	
Project Manager:	Joel Lowry	**P.O. #:**	
Address:	PO 896, Lovington, NM 88260	**Company:**	Caprock Services
Phone #:	**Fax #:**		
Project Owner:	Legacy Reserves		
Project Name:	San Simon 6		
Project Location:	Lea Co, NM	**Attn:**	Steve Taylor
Sampler Name:	Joel Lowry		

ANALYSIS REQUEST

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		TPH 8015 M. Ext (New Mexico)	Chloride 4500 Cl-B	BTEX 8021	TPH TX 1005	Chloride added 5/21/19						RUSH	
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME												
H901797																									
1	SB1N @3'	6	1			1					1		5/13/19	1:15	X										
2	SB1N @6'													1:30	X										
3	SB-1 @10'													11:25	X	X									
4	SB-1 @24'													11:30	X										
5	SB-2 @ 12'													11:00				X							
6	SB-2 @15'													11:05											
7	SB-3 @9'													10:20				X							
8	SB-3 @12'													10:25											

Relinquished By: Joel Lowry	**Date:** 5/17/19 **Time:** 12:34	**Received By:** Jodi Henson	
Relinquished By:	**Date:** **Time:**	**Received By:**	

Delivered By: (Circle One) Sampler - UPS - Bus - Other: 3.3°C / #97

Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No

CHECKED BY: (Initials) JH

Phone Result:	☐ Yes	☐ No	**Add'l Phone #:**
Fax Result:	☐ Yes	☐ No	**Add'l Fax #:**
REMARKS:			

FORM-006 R 2.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

May 22, 2019

JOEL LOWRY

CAPROCK SERVICES

P.O. BOX 457

LOVINGTON, NM 88260

RE: SAN SIMON BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 05/14/19 13:48.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON BATTERY Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 22-May-19 17:29

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB 3 @ 24'	H901746-01	Soil	13-May-19 10:50	14-May-19 13:48
SB 2 @ 30'	H901746-02	Soil	13-May-19 11:20	14-May-19 13:48
SB 1 @ 36'	H901746-03	Soil	13-May-19 11:45	14-May-19 13:48

Joel added BTEX and Chloride to the samples on 05/16/19. This is the revised report and will replace the one sent on 05/15/19.

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON BATTERY Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 22-May-19 17:29

SB 3 @ 24'

H901746-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	<16.0		16.0	mg/kg	4	9051703	AC	22-May-19	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	9051701	ms	17-May-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9051701	ms	17-May-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9051701	ms	17-May-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9051701	ms	17-May-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9051701	ms	17-May-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*95.9 %*	*73.3-129*		*9051701*	ms	*17-May-19*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9051409	MS	15-May-19	8015B	
DRO >C10-C28*	**10.4**		10.0	mg/kg	1	9051409	MS	15-May-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9051409	MS	15-May-19	8015B	
Surrogate: 1-Chlorooctane			*97.9 %*	*41-142*		*9051409*	MS	*15-May-19*	*8015B*	
Surrogate: 1-Chlorooctadecane			*106 %*	*37.6-147*		*9051409*	MS	*15-May-19*	*8015B*	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON BATTERY Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 22-May-19 17:29

SB 2 @ 30'

H901746-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	<16.0		16.0	mg/kg	4	9051703	AC	22-May-19	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	9051701	ms	17-May-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9051701	ms	17-May-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9051701	ms	17-May-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9051701	ms	17-May-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9051701	ms	17-May-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*95.7 %*	*73.3-129*		*9051701*	ms	*17-May-19*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9051409	MS	15-May-19	8015B	
DRO >C10-C28*	**32.6**		10.0	mg/kg	1	9051409	MS	15-May-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9051409	MS	15-May-19	8015B	
Surrogate: 1-Chlorooctane			*97.3 %*	*41-142*		*9051409*	MS	*15-May-19*	*8015B*	
Surrogate: 1-Chlorooctadecane			*103 %*	*37.6-147*		*9051409*	MS	*15-May-19*	*8015B*	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON BATTERY Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 22-May-19 17:29

SB 1 @ 36'

H901746-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	<16.0		16.0	mg/kg	4	9051703	AC	22-May-19	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	9051701	ms	17-May-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9051701	ms	17-May-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9051701	ms	17-May-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9051701	ms	17-May-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9051701	ms	17-May-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*95.4 %*	*73.3-129*		*9051701*	ms	*17-May-19*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9051409	MS	15-May-19	8015B	
DRO >C10-C28*	**22.6**		10.0	mg/kg	1	9051409	MS	15-May-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9051409	MS	15-May-19	8015B	
Surrogate: 1-Chlorooctane			*94.8 %*	*41-142*		*9051409*	MS	*15-May-19*	*8015B*	
Surrogate: 1-Chlorooctadecane			*102 %*	*37.6-147*		*9051409*	MS	*15-May-19*	*8015B*	

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CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON BATTERY Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 22-May-19 17:29

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9051703 - 1:4 DI Water										
Blank (9051703-BLK1)				Prepared & Analyzed: 17-May-19						
Chloride	ND	16.0	mg/kg							
LCS (9051703-BS1)				Prepared & Analyzed: 17-May-19						
Chloride	416	16.0	mg/kg	400		104	80-120			
LCS Dup (9051703-BSD1)				Prepared & Analyzed: 17-May-19						
Chloride	400	16.0	mg/kg	400		100	80-120	3.92	20	

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CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON BATTERY Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 22-May-19 17:29

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9051701 - Volatiles										
Blank (9051701-BLK1)				Prepared & Analyzed: 17-May-19						
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	*0.0982*		mg/kg	*0.100*		*98.2*	*73.3-129*			
LCS (9051701-BS1)				Prepared & Analyzed: 17-May-19						
Benzene	1.98	0.050	mg/kg	2.00		98.9	72.2-131			
Toluene	2.14	0.050	mg/kg	2.00		107	71.7-126			
Ethylbenzene	2.05	0.050	mg/kg	2.00		103	68.9-126			
Total Xylenes	6.18	0.150	mg/kg	6.00		103	71.4-125			
Surrogate: 4-Bromofluorobenzene (PID)	*0.0962*		mg/kg	*0.100*		*96.2*	*73.3-129*			
LCS Dup (9051701-BSD1)				Prepared & Analyzed: 17-May-19						
Benzene	1.97	0.050	mg/kg	2.00		98.5	72.2-131	0.479	6.91	
Toluene	2.11	0.050	mg/kg	2.00		106	71.7-126	1.37	7.12	
Ethylbenzene	2.04	0.050	mg/kg	2.00		102	68.9-126	0.643	7.88	
Total Xylenes	6.18	0.150	mg/kg	6.00		103	71.4-125	0.0911	7.46	
Surrogate: 4-Bromofluorobenzene (PID)	*0.0947*		mg/kg	*0.100*		*94.7*	*73.3-129*			

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CARDINAL Laboratories

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Analytical Results For:

CAPROCK SERVICES P.O. BOX 457 LOVINGTON NM, 88260	Project: SAN SIMON BATTERY Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:	Reported: 22-May-19 17:29

Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9051409 - General Prep - Organics										
Blank (9051409-BLK1)				Prepared: 14-May-19 Analyzed: 15-May-19						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	*50.1*		mg/kg	*50.0*		*100*	*41-142*			
Surrogate: 1-Chlorooctadecane	*53.2*		mg/kg	*50.0*		*106*	*37.6-147*			
LCS (9051409-BS1)				Prepared & Analyzed: 14-May-19						
GRO C6-C10	206	10.0	mg/kg	200		103	76.5-133			
DRO >C10-C28	206	10.0	mg/kg	200		103	72.9-138			
Total TPH C6-C28	412	10.0	mg/kg	400		103	78-132			
Surrogate: 1-Chlorooctane	*56.2*		mg/kg	*50.0*		*112*	*41-142*			
Surrogate: 1-Chlorooctadecane	*57.9*		mg/kg	*50.0*		*116*	*37.6-147*			
LCS Dup (9051409-BSD1)				Prepared: 14-May-19 Analyzed: 15-May-19						
GRO C6-C10	206	10.0	mg/kg	200		103	76.5-133	0.00242	20.6	
DRO >C10-C28	196	10.0	mg/kg	200		98.2	72.9-138	4.87	20.6	
Total TPH C6-C28	403	10.0	mg/kg	400		101	78-132	2.41	18	
Surrogate: 1-Chlorooctane	*58.3*		mg/kg	*50.0*		*117*	*41-142*			
Surrogate: 1-Chlorooctadecane	*57.5*		mg/kg	*50.0*		*115*	*37.6-147*			

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name:	Legacy Reserves Operating, LP
Project Manager:	Joel Lowry
Address:	303 W. Wall St. Midland, TX 79701
Phone #:	**Fax #:**
Project Owner:	Legacy Reserves Operating, LP
Project Name:	San Simon Battery
Project Location:	Lea
Sampler Name:	Jordyne Taylor

BILL TO

P.O. #:	
Company:	Caprock Services, LLC
Attn:	Steve Taylor

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH 8015 M. Ext (New Mexico)	Chloride 4500 Cl-B (added 5/10/19)	BTEX 8021	TPH TX 1005	RUSH (NOT Rush)
H901746																			
1	SB3 @ 24'	G	1			X					X		5-13-19	1050	X	X	X		X
2	SB2 @ 30'	G	1			X					X		5-13-19	1120	X	X	X		X
3	SB1 @ 36'	G	1			X					X		5-13-19	1145	X	X	X		X

Relinquished By: Jordyne Taylor	**Date:** 5-14-19 **Time:** 1:48	**Received By:** Tamara Oldaker	
Relinquished By:	**Date:** **Time:**	**Received By:**	

Delivered By: (Circle One) Sampler - UPS - Bus - Other: -6.9°C #197

Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No

CHECKED BY: (Initials) TO

Phone Result: ☐ Yes ☐ No **Add'l Phone #:**
Fax Result: ☐ Yes ☐ No **Add'l Fax #:**
REMARKS:

joel@lowrvenviromental.com
jordyne.caprockservices@gmail.com

FORM 006 R 2.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

May 31, 2019

JOEL LOWRY

CAPROCK SERVICES

P.O. BOX 457

LOVINGTON, NM 88260

RE: SAN SIMON BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 05/29/19 11:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CAPROCK SERVICES
JOEL LOWRY
P.O. BOX 457
LOVINGTON NM, 88260
Fax To:

Received:	05/29/2019	Sampling Date:	05/24/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	SAN SIMON BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OP. - LEA CO NM		

Sample ID: NH 1C @ SURFACE (H901880-01)

TPH 8015M **mg/kg** **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/29/2019	ND	200	99.8	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/29/2019	ND	208	104	200	4.22	
EXT DRO >C28-C36	<10.0	10.0	05/29/2019	ND					

Surrogate: 1-Chlorooctane	*74.0 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*72.6 %*	*37.6-147*

Sample ID: NH 1C @ (H901880-02)

TPH 8015M **mg/kg** **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/29/2019	ND	200	99.8	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/29/2019	ND	208	104	200	4.22	
EXT DRO >C28-C36	<10.0	10.0	05/29/2019	ND					

Surrogate: 1-Chlorooctane	*88.2 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*87.2 %*	*37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Legacy Reserves Operating, LP
Project Manager:	Joel Lowry
Address:	303 W. Wall St. Midland, TX 79701
Phone #:	Fax #:
Project Owner:	Legacy Reserves Operating, LP
Project Name:	San Simon Battery
Project Location:	Lea
Sampler Name:	Jordyne Taylor

BILL TO

P.O. #:	
Company:	Caprock Services
Attn:	Steve Taylor

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH 8015 M. Ext (New Mexico)	Chloride 4500 Cl-B	BTEX 8021	TPH TX 1005	RUSH
H901880																			
1	NHIC @ Surf.	G	1			X					X		5-24-19	12:00	X				
2	NHIC @	G	1			X					X		5-24-19	12:10	X				

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Joel Lowry	Date: 5-29-19	Received By: Tamara Oldaker	
	Time: 11:10		
Relinquished By:	Date:	Received By:	
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: -2.4C #97

Sample Condition: Cool: ☒ Yes ☐ No; Intact: ☐ Yes ☐ No

CHECKED BY: (Initials) TO

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

joel@lowrvenviromental.com
jordyne.caprockservices@gmail.com

FORM 006 R 2.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

Attachment #7
Photographic Log

PHOTOGRAPHIC LOG

Figure 1 View of surface staining from the initial release, facing South.

Figure 2 View of surface staining from the initial release, facing Southwest.

Figure 3 View of surface staining from the initial release, facing Southeast.

Figure 4 View of delineation activities, facing Northeast.

Figure 5 View of delineation activities, facing Southwest.

Figure 6 View of drilling activities, facing Northwest.

Attachment #8
Release Notification (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

**In the future, please leave this section blank. Much appreciated

Incident ID	pending nAB1912958012
District RP	pending 1RP-5475
Facility ID	pending
Application ID	pending pAB1912957391

Release Notification

Responsible Party

Responsibly Party	Legacy Reserves Operating, LP	OGRID	240974
Contact Name	Brian Cunningham	Contact Telephone	432-234-9450
Contact Email	bcunningham@legacylp.com	Incident # *(assigned by OCD)*	
Contact Mailing Address	303 W. Wall St. Midland, TX 79701		

Location of Release Source

Latitude 32.422908 Longitude -103.400565

(Nad 83 in decimal degrees to 5 decimal places)

Site Name	San Simon 6 State Battery **	Site Type	Tank Battery
Date Release Discovered	04/08/19	API# *(if applicable)* N/A	30-025-26949** AB

Unit Letter	Section	Township	Range	County
** "H"	6	22S	35E	Lea

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

Nature and Volume of Release

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

☑ Crude Oil	Volume Released (bbls) 157	Volume Recovered (bbls) 0
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☑ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was attributed to a hole developing in the oil storage tank.

State of New Mexico
Oil Conservation Division

Incident ID	pending NAB1912958012
District RP	pending 1RP-5475
Facility ID	pending
Application ID	pending pAB1912957391

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? Greater than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means? (phone, email, etc)? Yes, Clyde Wilhoit, Jim Griswold/NMOCD District 1 Spills, 4/8/2019 @ 5:20, Phone Message	

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.
- ☑ Release materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☑ All free liquids and recoverable materials have been removed and managed appropriately.

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

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

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: Clyde Wilhoit
Title: Maintenance Foreman
Signature: Clyde Wilhoit
Date: 4-11-19
email: cwilhoit@legacylp.com
Telephone: 432-425-4137

OCD Only

Received by: Amalia Barrameda
Date: 5/9/2019

Attachment #9
Field Data

Site Name: San Simon

SAMPLE LOG

Date: 4/9/19 - 4/30/19

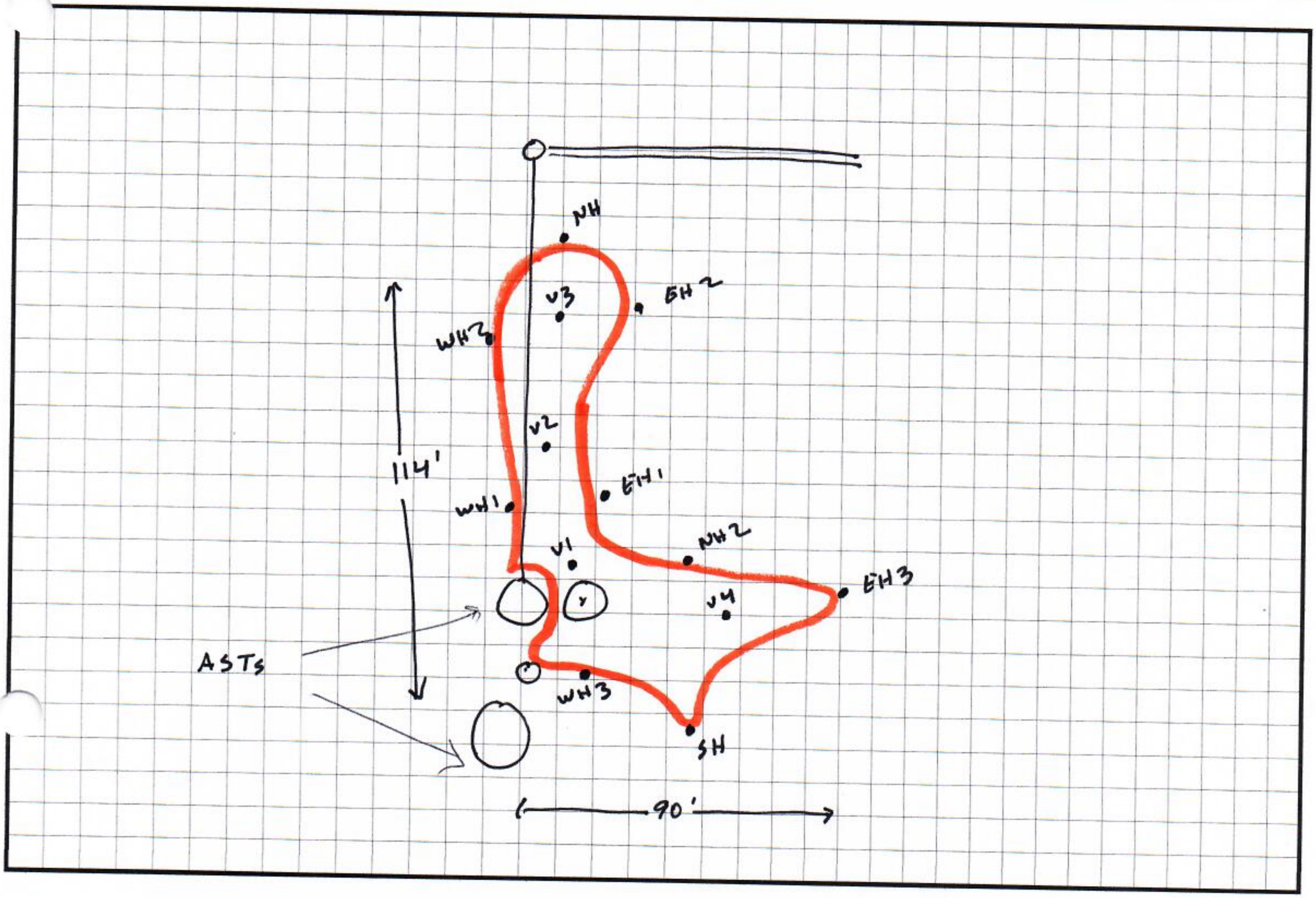
Sample ID	Latitude	Longitude	Chloride	Odor
V1 @ 6"	32.42259	-103.40082	1,280	Strong
V1 @ 12" R	"	"	—	Strong
V2 @ 6"	32.42270	-103.40079	32.0	Strong
V2 @ 12" R	"	"	—	Strong
V3 @ 6" R	32.42278	-103.40080	<16.0	Strong
NH @ 3-6" R	32.42279	-103.40082	32.0	Light
WH 2 @ 3-6"	32.42271	-103.40084	<16.0	None
WH 2 @ 12" R	"	"	<16.0	None
WH 1 @ 3-6"	32.42261	-103.40080	<16.0	None
WH 1 @ 12" R	"	"	<16.0	None
EH 1 @ 3-6" R	32.42261	-103.40080	48.0	None
EH 2 @ 3-6" R	32.42275	-103.40077	48.0	None
V4 @ 3-6" R	32.42250	-103.40077	1300	Strong
SH @ 3-6" R	32.42242	-103.40074	48.0	None
EH 3 @ 3-6" R	32.42251	-103.40060	<160	None
NH 2 @ 3-6" R	32.42255	-103.40072	336	None
WH 3 @ 3-6" R	32.42250	-103.40078	32.0	None
V1 @ 4'	32.42259	-103.40083	—	heavy
V1 @ 9' R	"	"	<108	heavy
V2 @ 3'	32.42270	-103.40079	—	heavy
V2 @ 9' R	"	"	<108	heavy
NH-V3 @ 4'	32.42278	-103.40080	—	Light
NH-V3 @ 7'	"	"	<108	—
V4 @ 3'	32.42254	-103.40076	—	moderate
V4 @ 7'	"	"	136	—
SH @ 3'	32.42245	-103.40076	—	Light
SH @ 6'	"	"	<108	—
SH 2 @ 3'	32.42242	-103.40079	<108	—
NH 3 @ 6'	32.42282	-103.40083	<108	—
NHIC @ Surf.	32.42289	-103.40081	—	None
NHIC @ 14"	"	"	—	None
SB-1 @ 18'	32.42257	-103.40084	<108	V. Light
SB-1 @ 24'	"	"	"	None
SB-1 @ 36'	"	"	"	VV Light
SB-2 @ 12'	32.42265	-103.40081	<108	V. Light
SB-2 @ 15'	"	"	"	None
SB-2 @ 30'	"	"	"	VV Light
SB-3 @ 9'	32.42272	-103.40081	<108	V. Light
SB-3 @ 12'	"	"	"	V. V. Light
SB-3 @ 24'	"	"	"	None

TPH BTEX Cl⁻
BTEX Cl⁻
BTEX
BTEX
Cl⁻
Cl⁻

FIELD NOTES

Site Name: San Simon 6 TB

Date: 4/9/2019



Conduct initial investigation
Attempt to delineate site. Hard Rock! @ 6-10"
Need Backhoe

Field ID	Odor/PID	Chloride

Field ID	Odor/PID	Chloride

Field ID	Odor/PID	Chloride

Field ID	Odor/PID	Chloride

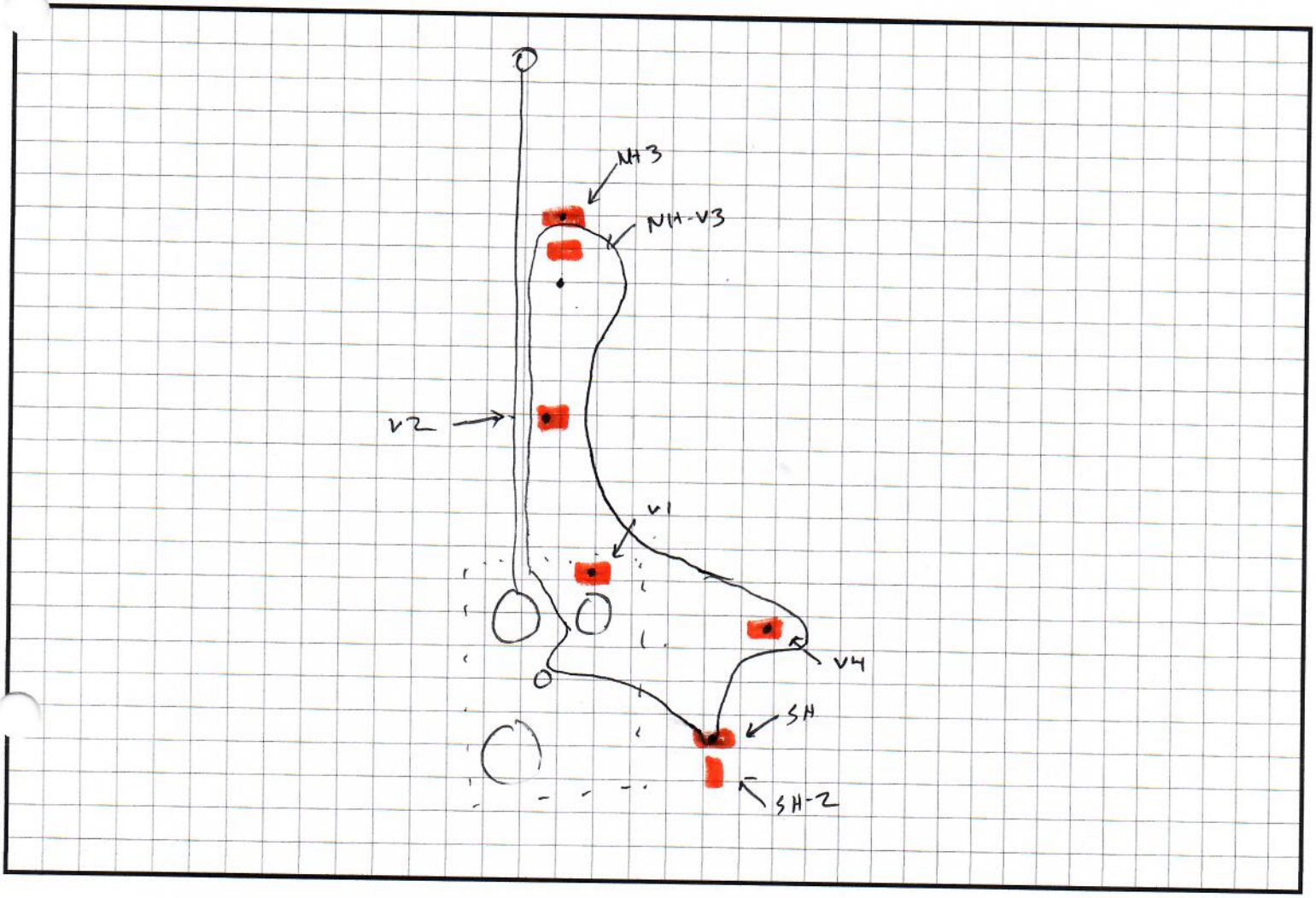
Field ID	Odor/PID	Chloride

Field ID	Odor/PID	Chloride

FIELD NOTES

Site Name: San Simon 6 State

Date: 4/30/2019



Cut delineation Trenches w/ backhoe
Refusal @ 9', need to Drill

Field ID	Odor/PID	Chloride
V1@4'	Strong	—
V1@9'R	Strong	<10B

Field ID	Odor/PID	Chloride
NH-V3@4'	Moderate	—
NH-V3@7'	Moderate	<10B

Field ID	Odor/PID	Chloride
SH@3'	V.light	—
SH@6'	None	<10B
SH2@3'	None	<10B
NH3@6'	None	

Field ID	Odor/PID	Chloride
V2@3'	Strong	—
V2@9'R	Strong	<10B

Field ID	Odor/PID	Chloride
V4@3'	Moderate	—
V4@7'	None	136

Field ID	Odor/PID	Chloride

SOIL PROFILE

Site Name: San Simon 6 State SB-1 Date: 5/13/19

Description	Depth (ft. bgs)
Imported Fill	1
Fractured Caliche	2
	3
	4
Rock / Caliche	5
	6
	7
	8
	9
	10
Reddish Brown Sand / Moist	1
	2
Moderate Moisture	3
V. light Odor	4
	5
	6
	7
Brownish Sand	8
	9
	20
	1
	2
	3
Tan Sand / Dry VV Light Odor	4
	5
	6 TD
	7
	8
	9
	30
Tan Sand / Dry	1
	2
	3
	4
	5
	36 TP
	7
	8
	9
	0

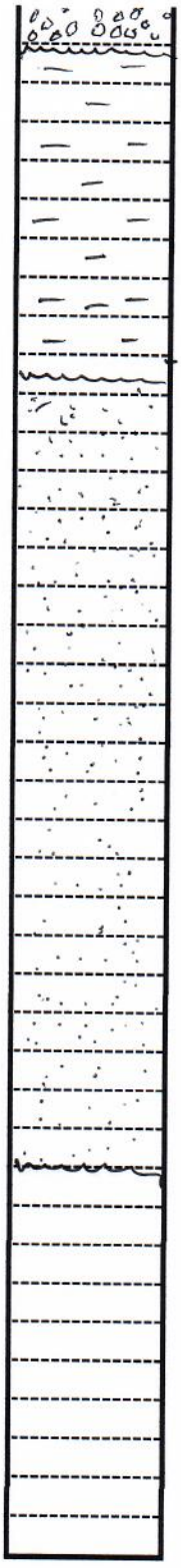
SOIL PROFILE

SB-2

Site Name: San Simeon State

Date: 5/13/19

Description	Depth (ft. bgs)
Imported Fill	1
	2
Resilent Rock	3
	4
	5
	6
	7
Moderate Odor	8
	9
	10
Brownish Red Sand	1
	2
	3
	4
	5
	6
	7
VV. Light Odor	8
	9
Tan Sand / Dry	20
	1
	2
	3
	4
	5
	6
	7
	8
	9
	30 TD
	1
	2
	3
	4
	5
	6
	7
	8
	9
	0



SOIL PROFILE

SB-3

Site Name: San Simon 6 State

Date: 5/13/19

Description	Depth (ft. bgs)
Imported Fill / Caliche	1
	2
Fracture Rock	3
	4
Resilent Rock layer	5
Moderate Odor	6
	7
	8
	9
	10
Brownish Red Sand	11
	12
VV. light Odor	13
	14
	15
	16
	17
Tannish Sand	18
	19
	20
	21
	22
	23
	24 TD
	25
	26
	27
	28
	29
	30
	31
	32
	33
	34
	35
	36 ~~TD~~
	37
	38
	39
	40