Incident ID	NAB1910753863
District RP	1RP-5430
Facility ID	30-25-24136
Application ID	pAB1910753483

August 5, 2019

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

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: Kincheloe 2 State Battery
GPS: Latitude: 32.50517 Longitude: -103.23926
Legals: UL "K", Sec. 2, T21SS, R36EE
Lea County, New Mexico
NMOCD Ref. No. 1RP-5430

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 Kincheloe 2 State Battery. Details of the release are summarized on the table below:

Nature and Volume of Release			
Date Release Discovered	3/18/2019	**Source of Release**	Heater Treater
Type of Release	Crude Oil and Produced Water	**Volume Released (bbls)**	72
		Volume Recovered (bbls)	60
Cause of Release The release was attributed to a hole developing in the base of the heater treater.			
Affected Area The release affected an area within the earthen containment measuring approximately 500 sq. ft. A portion of the release flowed outside the containment toward the southeast approximately 35 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, Joel Lowry (LEA), Jim Griswold/NMOCD District 1 Spills & Ryan Mann, 3/18/2019 @ 5:20, Email.			

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?	50-100'
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?	Yes

A search of groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey 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 NMOSE database suggested the presence of 1 water well (CP 00690) approximately 2,300 Ft. from the site. A search of the USGS database identified one water well within a 1/2 Mile radius of the Site. Data from the USGS well was determined to be incorrect or invalid.

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	**2500 mg/kg**
Combined GRO and DRO	**1000 mg/kg**
Chloride	**10000 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 **March 26, 2019**, an initial site assessment was conducted. During the initial site assessment, eight (8) soil samples (V-1 @ 6", V-1 @ 24", V-2 @ 6", V-2 @ 24", V-3 @ 6" and V-3 @ 24") were collected from within the release margins in an effort to determine the vertical extent of impacted soil affected above the NMOCD Closure Criteria. In addition, fourteen (14) soil sample (NH-1 @ 6", NH-1 @ 24", EH-1 @ 6", EH-1 @ 24", SH-1 @ 6", SH-1 @ 24", WH-1 @ 6", WH-1 @ 24", NH-2 @ 6", NH-2 @ 24", EH-2 @ 6", EH-2 @ 24", SH-2 @ 6" and SH-2 @ 24") were collected from the inferred edges of the release in an effort to determine the horizontal extent of impacted soil affected above the NMOCD Closure Criteria.

The collected soil samples were submitted to an NMOCD approved 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. TPH and/or chloride concentrations exceeded the NMOCD Reclamation Standard in soil samples V-1 @ 6", V-1 @ 24", V-3 @ 6" and V-3 @ 24". A table summarizing laboratory analytical results from soil samples collected during the initial site assessment is provided below:

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.					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)
V-1 @ 6"	3/26/09	6"	In-Situ	<0.050	<0.300	<10.0	31.1	31.1	<10.0	31.1	5,520
V-1 @ 24"	3/26/19	24"	In-Situ	<0.050	<0.300	<10.0	391	391	74.2	465	1,040
V-2 @ 6"	3/26/19	6"	In-Situ	<0.050	<0.300	<10.0	48.4	48.4	13.2	61.6	416
V-2 @ 24"	3/26/19	24"	In-Situ	<0.050	<0.300	<10.0	19	19.2	<10.0	19.2	272
V-3 @ 6"	3/26/19	6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,320
V-3 @ 24"	3/26/19	24"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	608
NH-1 @ 6"	3/26/19	6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
NH-1 @ 24"	3/26/19	24"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
EH-1 @ 6"	3/26/19	6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
EH-1 @ 24"	3/26/19	24"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SH-1 @ 6"	3/26/19	6"	In-Situ	<0.050	<0.300	<10.0	25.8	25.8	<10.0	25.8	160
SH-1 @ 24"	3/26/19	24"	In-Situ	<0.050	<0.300	<10.0	88.5	88.5	42.8	131.3	176
WH-1 @ 6"	3/26/19	6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
WH-1 @ 24"	3/26/19	24"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
NH-2 @ 6"	3/26/19	6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
NH-2 @ 24"	3/26/19	24"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
EH-2 @ 6"	3/26/19	6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
EH-2 @ 24"	3/26/19	24"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SH-2 @ 6"	3/26/19	6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SH-2 @ 24"	3/26/19	24"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
Closure Criteria				**10**	**50**	**-**	**-**	**1,000**	**-**	**2,500**	**10,000**

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 within the eastern portion of the earthen containment to a depth of approximately 2 Ft. bgs, or until laboratory analytical results indicated concentrations of BTEX, TPH and chloride are below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard. Excavation sidewalls will be advanced horizontally until laboratory analtyical results from confirmation soil samples indicate BTEX, TPH and chloride concentrations are below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard.
•Utilizing mechanical equipment, excavate impacted soil within the western portion of the earthen containment to a depth of approximately 4 Ft. bgs, or until laboratory analytical results indicated concentrations of BTEX, TPH and chloride are below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard. Excavation sidewalls will be advanced horizontally until laboratory analtyical results from confirmation soil samples indicate BTEX, TPH and chloride concentrations are below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard.
•Impacted soil affected above the NMOCD Reclamation Standard present within the floor of the excavated area within the earthen containment will be remediated once the facility is no longer needed for production of subsequent drilling
•Impacted soil outside the earthen containment will be excavated to a depth beyond 2 Ft. bgs, or until laboratory analytical results from confirmaiton soil samples indicate BTEX, TPH and chloride concentrations are below the NMOCD Closure Criteria and Reclamation Standards.
• Excavated soil will be temporarily stockpiled on-site, pending transportation under manifest to 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 **250 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 **80 cubic yards** of soil has been affected above the NMOCD Closure Criteria.

Incident ID	NAB1910753863
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Application ID	pAB1910753483

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.

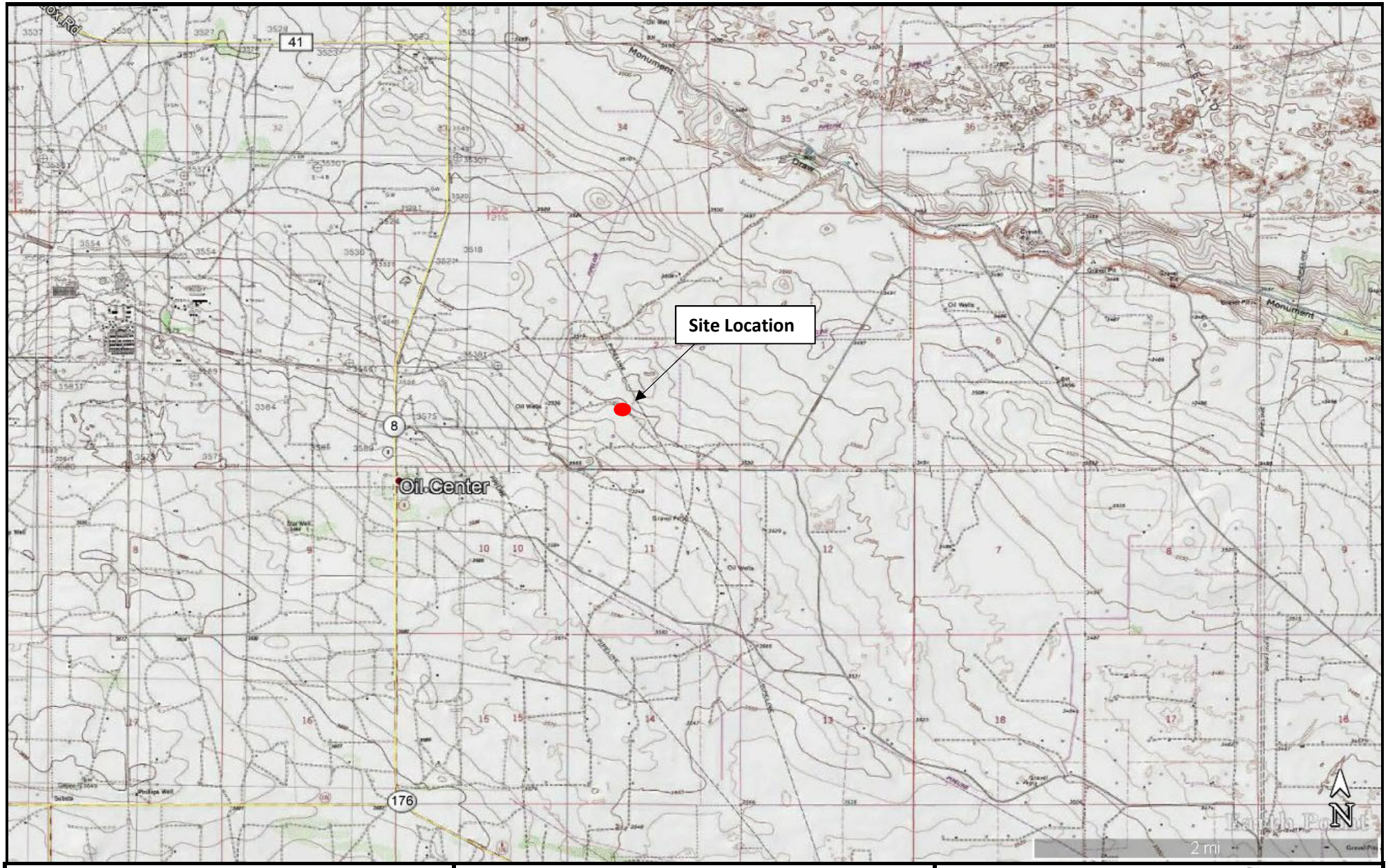
Respectfully,

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

Attachment #1
Figure 1 - Topographic Map



LEGEND:

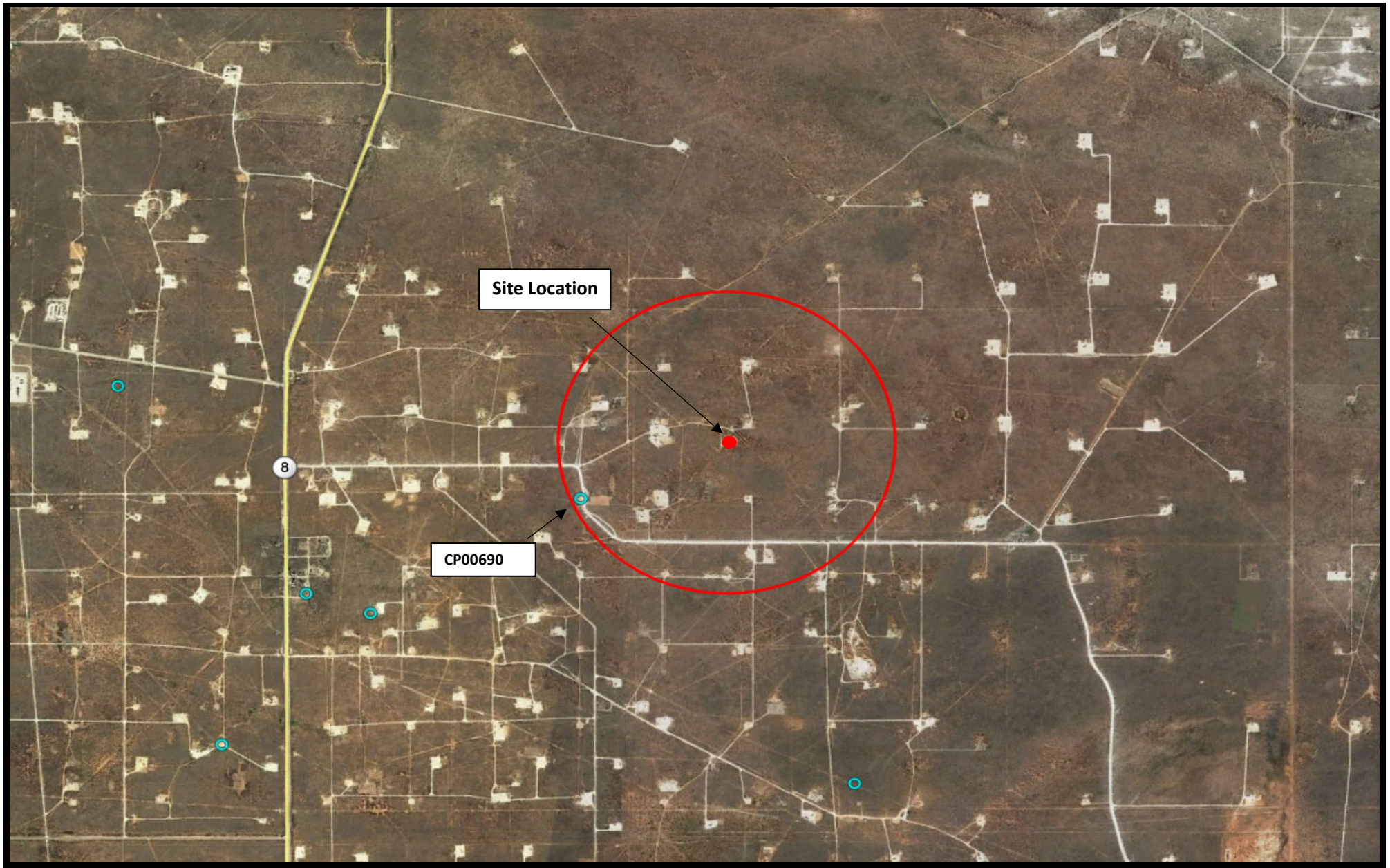
- Site Location

Figure 1
Topographic Map
Legacy Reserves Operating, LP
Kincheloe 2 State Battery
GPS: 32.50517, -103.23926
Lea County, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 4/10/2019

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

Figure 2

Aerial Map

Legacy Reserves Operating, LP

Kincheloe 2 State Battery

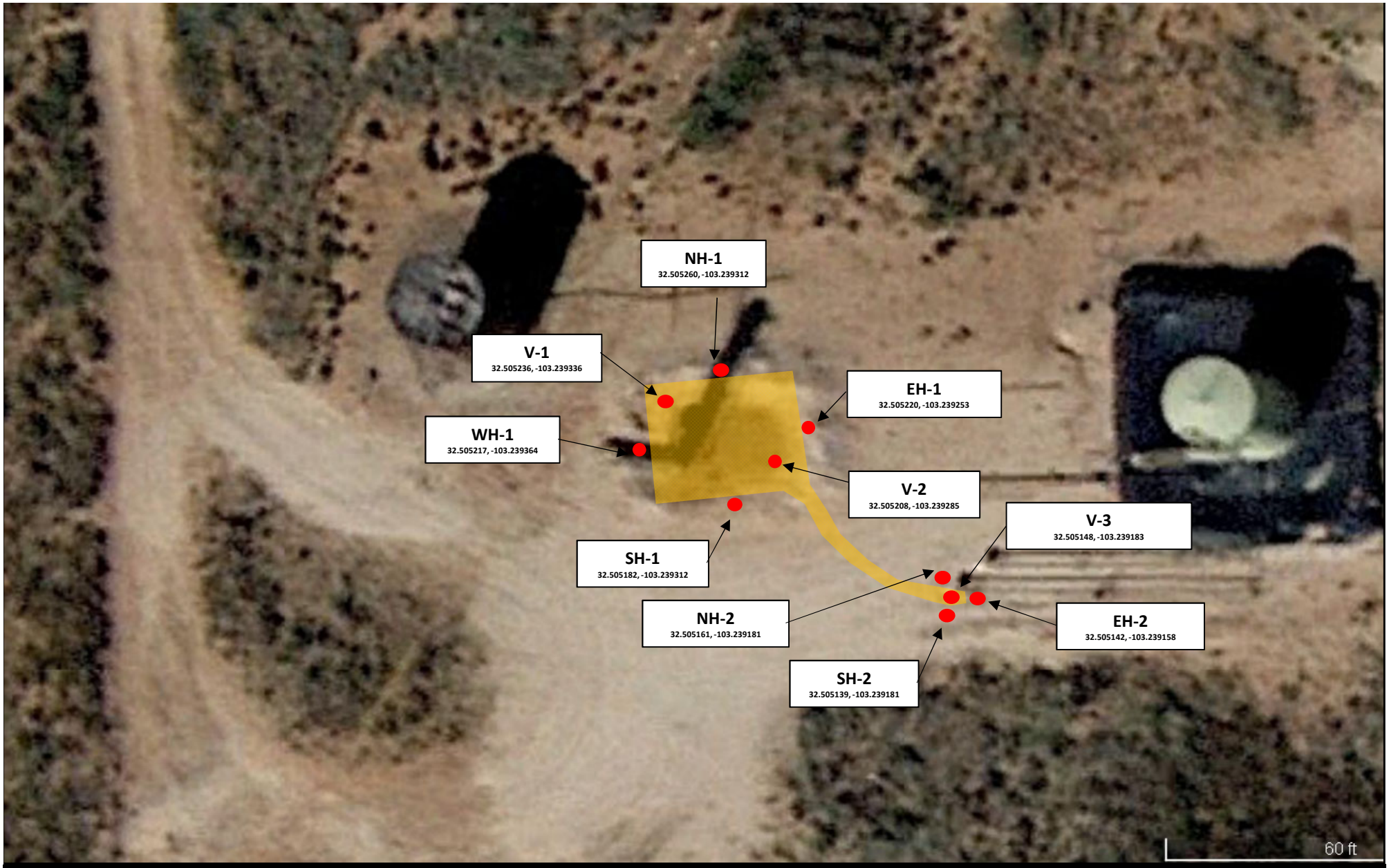
GPS: 32.50517, -103.23926

Lea County, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 4/10/2019

Attachment #3
Figure 3 - Site & Sample Location Map



LEGEND:

- Sample Location
- Affected Area

Figure 3

Site & Sample Location Map

Legacy Reserves Operating, LP

Kincheloe 2 State Battery

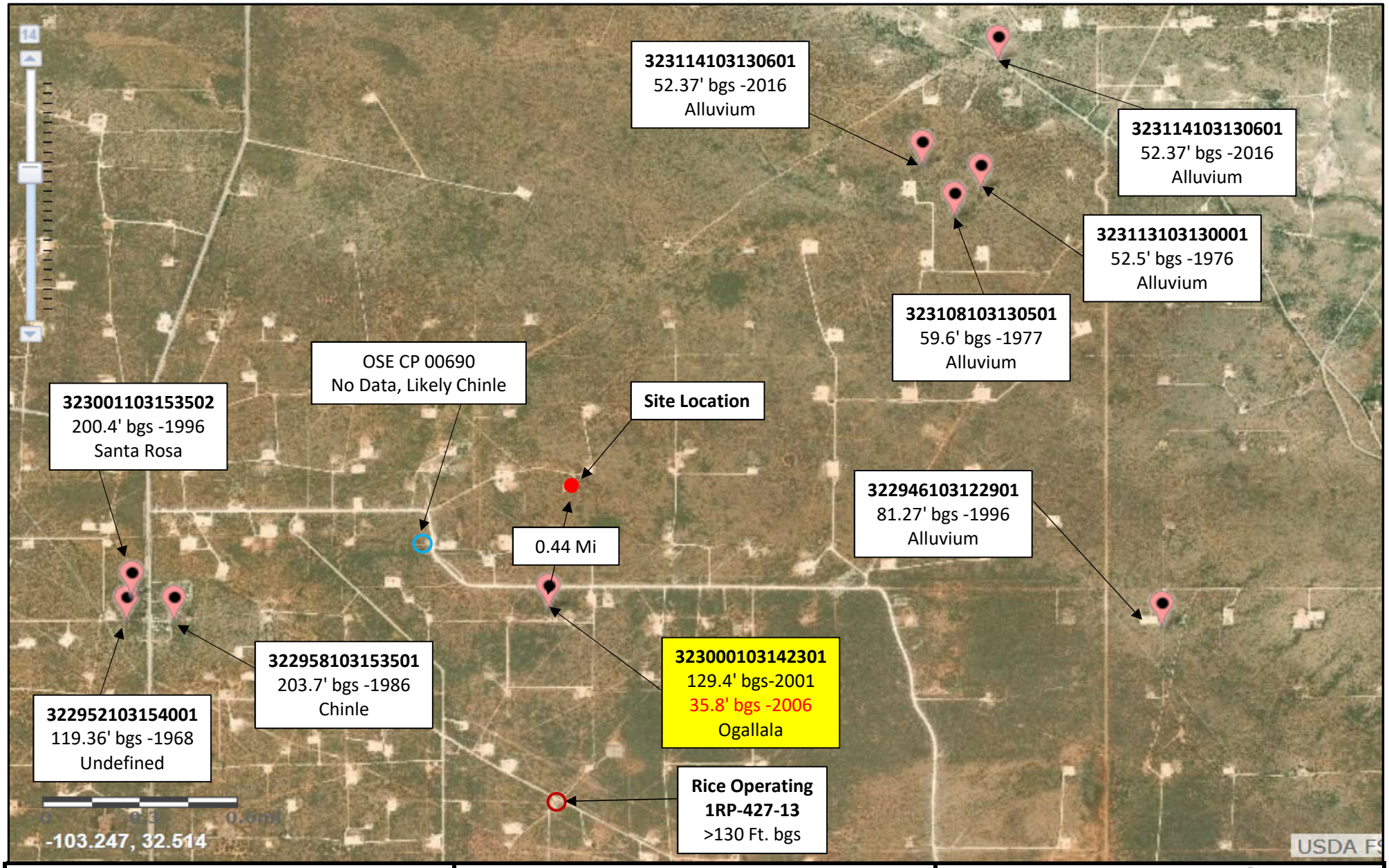
GPS: 32.50517, -103.23926

Lea County, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 4/10/2019

Attachment #4
Depth to Groundwater Information



LEGEND:

- Site Location
- USGS Well
- 1RP-427-13

Figure 5
Water Well Proximity Map
Legacy Reserves Operating, LP
Kincheloe 2 State Battery
GPS: 32.50517, -103.23926
Lea County, New Mexico

LOWRY environmental

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

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 00690		CP	LE	4	4		03	21S	36E	664706	3597487*	766	340		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 665406.5 **Northing (Y):** 3597797.8 **Radius:** 1610

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

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Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 323001103153502

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

USGS 323001103153502 21S.36E.09.22222

Lea County, New Mexico
Latitude 32°30'02", Longitude 103°15'43" NAD27
Land-surface elevation 3,590.00 feet above NGVD29
The depth of the well is 447 feet below land surface.
This well is completed in the Santa Rosa Sandstone (231SNRS) 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
1968-03-18		D	118.76			2		U		
1981-03-05		D	179.95			2		U		
1986-03-20		D	200.43			2		U		
1991-04-17		D	201.36			2		U		
1996-02-28		D	200.43			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.

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Search Results -- 1 sites found

site_no list =

- 322952103154001

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

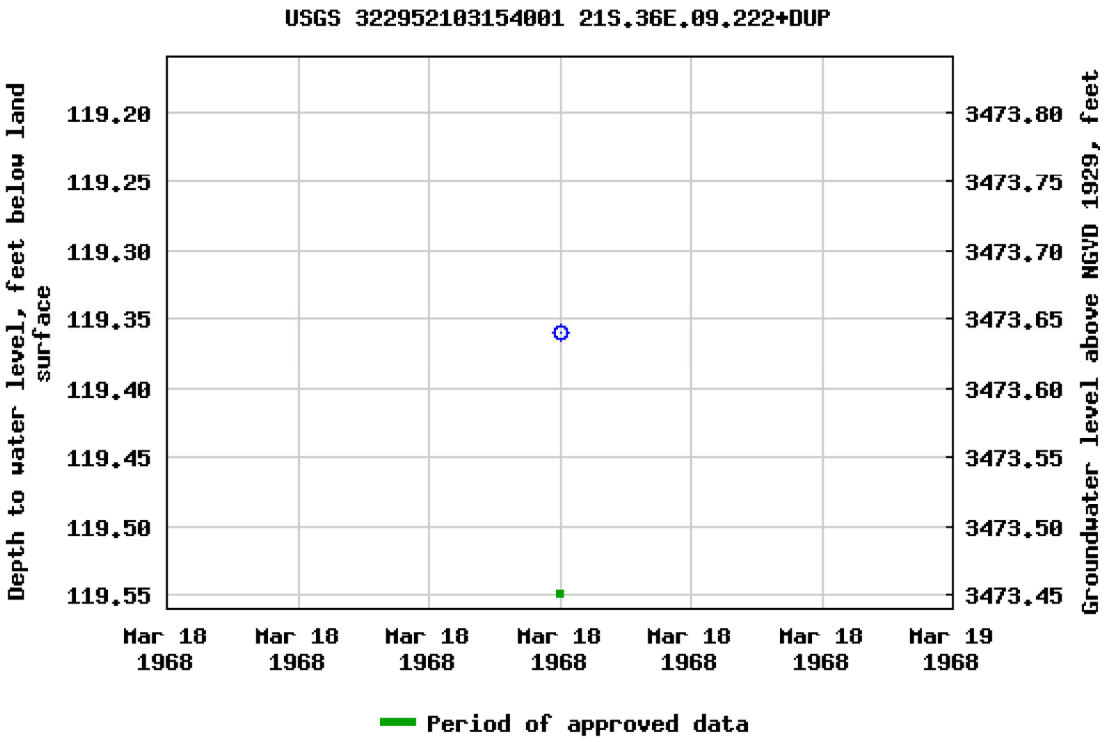
USGS 322952103154001 21S.36E.09.222+DUP

Available data for this site Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°29'58", Longitude 103°15'44" NAD27
Land-surface elevation 3,593 feet above NGVD29

Output formats

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



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

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Feedback on this web site
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Subscribe for system changes
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U.S. Department of the Interior | U.S. Geological Survey

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

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2019-04-06 18:49:42 EDT
1.12 1.06 nadww02

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Search Results -- 1 sites found

site_no list =

- 322958103153501

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

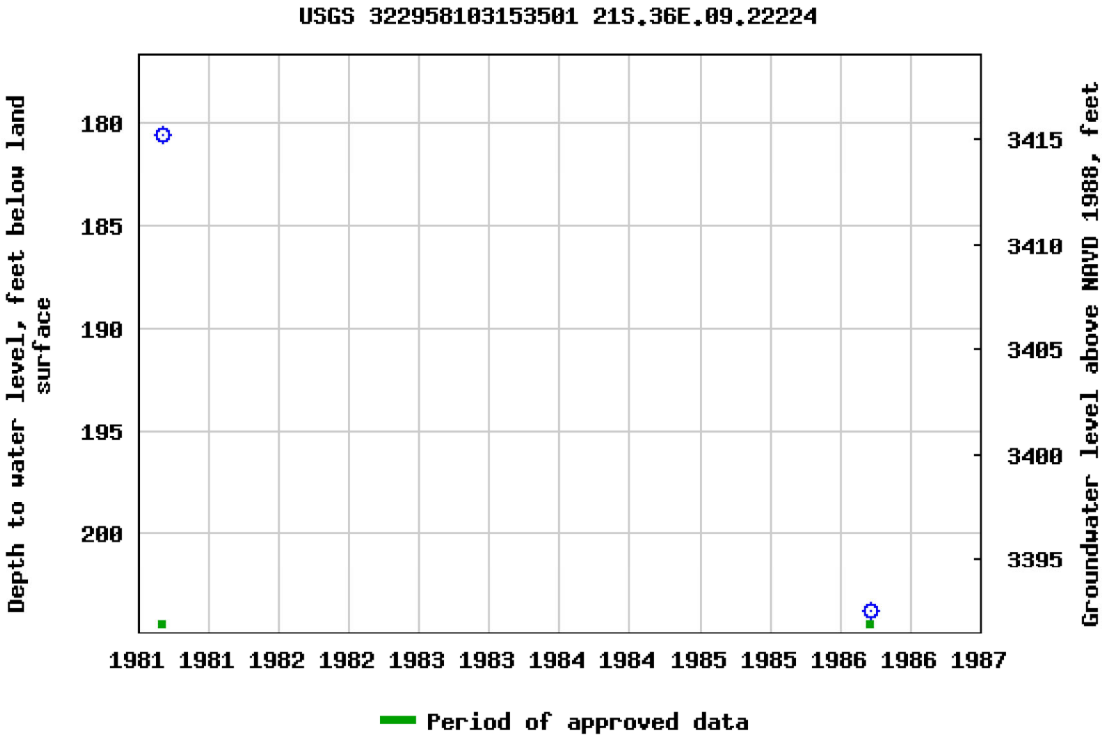
USGS 322958103153501 21S.36E.09.22224

Available data for this site Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code --
Latitude 32°29'58", Longitude 103°15'35" NAD27
Land-surface elevation 3,596 feet above NAVD88
The depth of the well is 500 feet below land surface.
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

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



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

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

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2019-04-06 18:48:27 EDT
0.95 0.91 nadww02

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Search Results -- 1 sites found

site_no list =

- 323000103142301

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

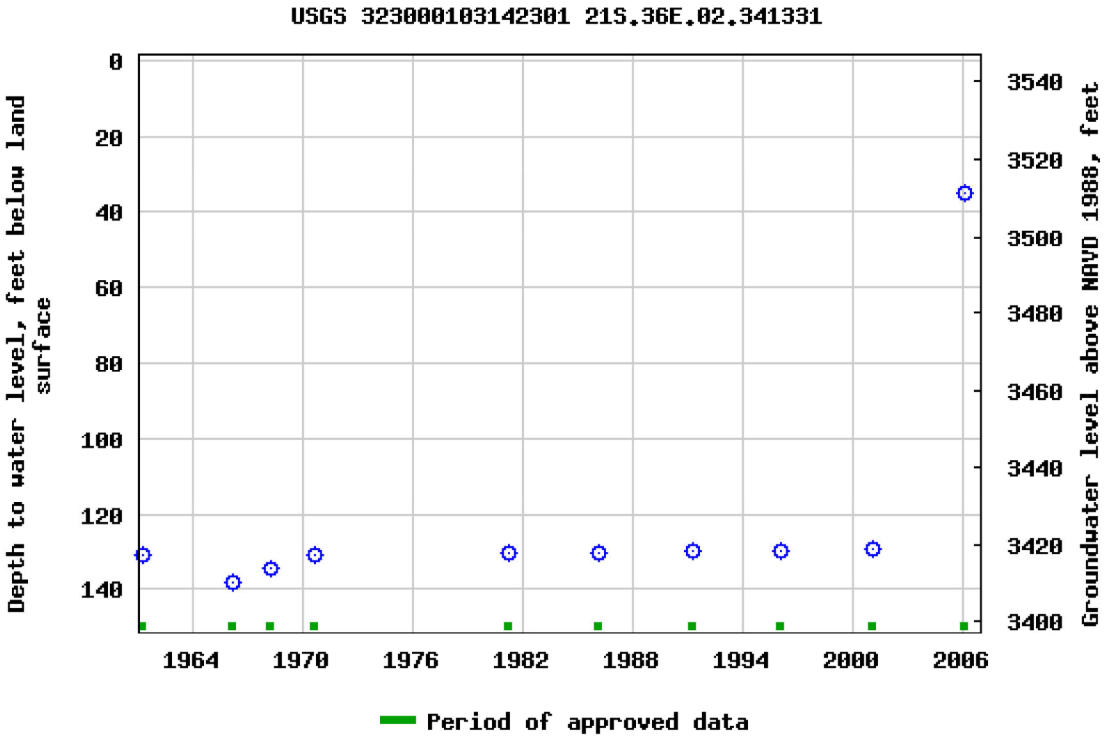
USGS 323000103142301 21S.36E.02.341331

Available data for this site Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 12080003
Latitude 32°30'00", Longitude 103°14'23" NAD27
Land-surface elevation 3,547 feet above NAVD88
This well is completed in the Ogallala Formation (121OGLL) local aquifer.

Output formats

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



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

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

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Search Results -- 1 sites found

site_no list =

- 322946103122901

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

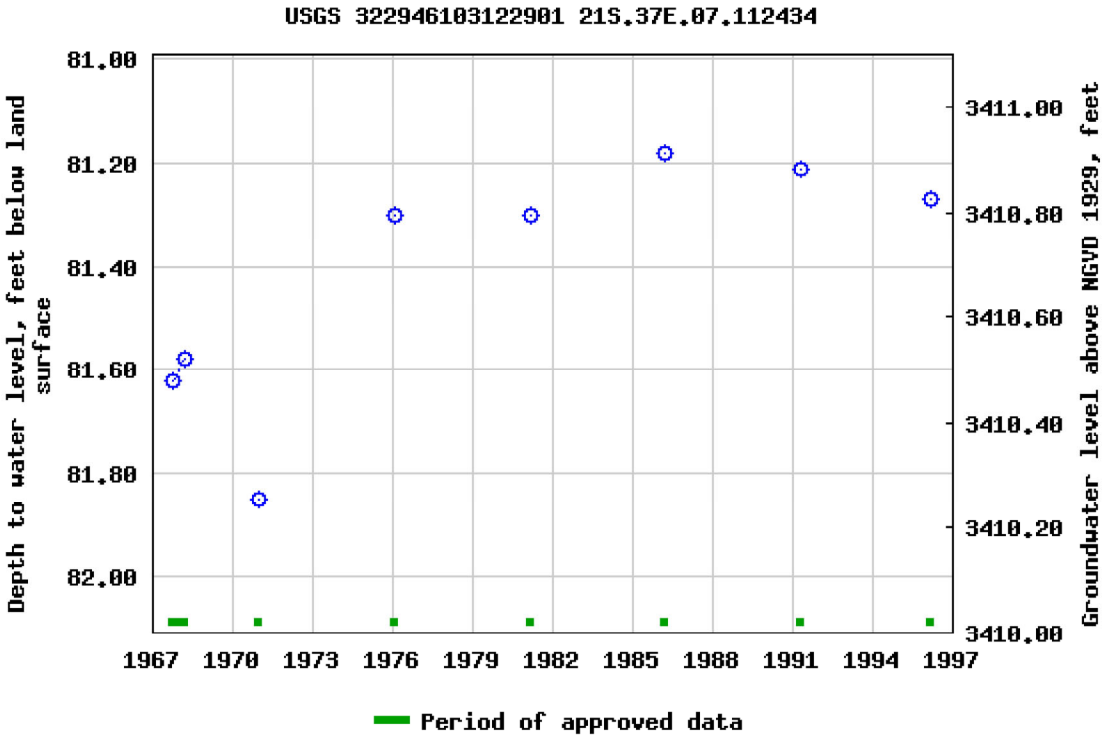
USGS 322946103122901 21S.37E.07.112434

Available data for this site Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°29'57", Longitude 103°12'25" NAD27
Land-surface elevation 3,492.10 feet above NGVD29
The depth of the well is 91 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



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

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

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 323108103130501

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

USGS 323108103130501 20S.37E.35.432232

Lea County, New Mexico
Latitude 32°31'08", Longitude 103°13'05" NAD27
Land-surface elevation 3,495 feet above NAVD88
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
1970-03-18		D	61.76			2		U		
1976-02-04		D	54.08			2		U		
1977-05-24		D	60.58			2		U		
1977-07-07		D	59.65			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
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 =
- 323113103130001

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

USGS 323113103130001 20S.37E.35.423433

Lea County, New Mexico
Latitude 32°31'13", Longitude 103°13'00" NAD27
Land-surface elevation 3,495 feet above NAVD88
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
1961-02-28		D	57.24			2	S	U		
1966-03-04		D	59.72			2	S	U		
1971-01-15		D	53.19			2	S	U		
1976-02-04		D	52.55			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	S	Nearby site that taps the same aquifer was being pumped.
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.

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

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 323114103130601

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

USGS 323114103130601 20S.37E.35.414234

Lea County, New Mexico
Latitude 32°31'35.5", Longitude 103°12'58.4" NAD83
Land-surface elevation 3,475.00 feet above NGVD29
The depth of the well is 63 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
1954-03-23		D	55.96			2		U		
1967-09-20		D	54.29			2		U		
1968-04-09		D	54.01			2		U		
1969-12-12		D	53.65			2		U		
1971-01-15		D	53.80			2		U		
1976-02-04		D	53.21			2		U		
1981-02-10		D	53.02			2		U		
1986-03-27		D	53.46			2		U		
1991-01-25		D	53.46			2		U		
1996-01-23		D	52.81			2		S		
2001-02-01		D	52.87			2		S		
2006-02-22		D	52.10			2		S	USGS	
2011-01-13	16:20 MST	m	60.06			2		S	USGS	
2011-12-20	09:00 MST	m	61.6			1		S	USGS	
2012-12-17	16:45 MST	m	53.09			2		S	USGS	
2016-01-07	11:45 MST	m	52.37			2		V	USGS	

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day

Date	Time	?	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	?	?	?	?
Section		Water-level date-time accuracy	Code	Description		Water-level accuracy	Status	Method of measurement	Meas agen
Water-level date-time accuracy			m	Date is accurate to the minute					
Water-level accuracy			1	Water level accuracy to nearest tenth of a foot					
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.					
Method of measurement			V	Calibrated electric-tape measurement.					
Measuring agency				Not determined					
Measuring agency			USGS	U.S. Geological Survey					
Source of measurement			S	Measured by personnel of reporting agency.					
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 =
- 323114103130601

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

USGS 323114103130601 20S.37E.35.414234

Lea County, New Mexico
Latitude 32°31'35.5", Longitude 103°12'58.4" NAD83
Land-surface elevation 3,475.00 feet above NGVD29
The depth of the well is 63 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
1954-03-23		D	55.96			2		U		
1967-09-20		D	54.29			2		U		
1968-04-09		D	54.01			2		U		
1969-12-12		D	53.65			2		U		
1971-01-15		D	53.80			2		U		
1976-02-04		D	53.21			2		U		
1981-02-10		D	53.02			2		U		
1986-03-27		D	53.46			2		U		
1991-01-25		D	53.46			2		U		
1996-01-23		D	52.81			2		S		
2001-02-01		D	52.87			2		S		
2006-02-22		D	52.10			2		S	USGS	
2011-01-13	16:20 MST	m	60.06			2		S	USGS	
2011-12-20	09:00 MST	m	61.6			1		S	USGS	
2012-12-17	16:45 MST	m	53.09			2		S	USGS	
2016-01-07	11:45 MST	m	52.37			2		V	USGS	

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day

Section	Code	Description
Water-level date-time accuracy	m	Date is accurate to the minute
Water-level accuracy	1	Water level accuracy to nearest tenth of a foot
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.
Method of measurement	V	Calibrated electric-tape measurement.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement	S	Measured by personnel of reporting agency.
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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

Accessibility Plug-Ins FOIA Privacy Policies and Notices
U.S. Department of the Interior | U.S. Geological Survey

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

Attachment #5
Soil Profile

SOIL PROFILE

Site Name: Kinchelue 2 State Battery

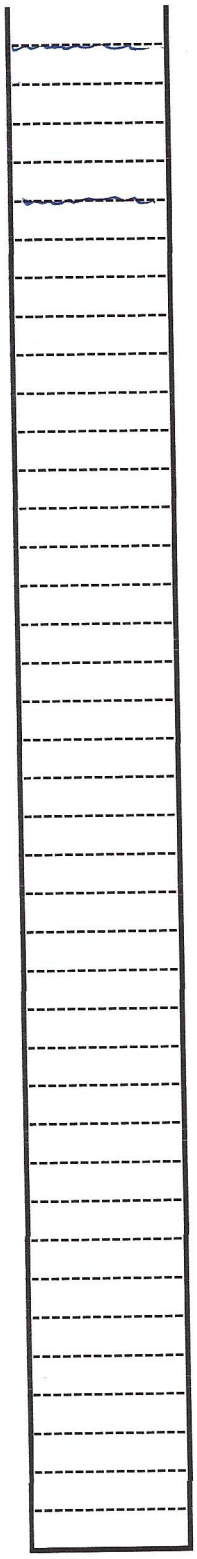
Date: 4/10/2019

Description

Imported Fill/Caliche

Reddish Brown Sand

Rock



Depth (ft. bgs)

1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
0

Attachment #6
Laboratory Analytical Reports

CARDINAL Laboratories

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

April 01, 2019

JOEL LOWRY

LOWRY ENVIROMENTAL & ASSOCIATES

PO BOX 296

LOVINGTON, NM 88260

RE: KINCHELOE 2 STATE BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 03/27/19 8:45.

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: V - 1 @ 6'' (H901141-01)

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	03/27/2019	ND	2.01	100	2.00	1.52	
Toluene*	<0.050	0.050	03/27/2019	ND	1.87	93.4	2.00	0.844	
Ethylbenzene*	<0.050	0.050	03/27/2019	ND	1.95	97.3	2.00	0.164	
Total Xylenes*	<0.150	0.150	03/27/2019	ND	5.94	98.9	6.00	0.317	
Total BTEX	<0.300	0.300	03/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.9 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5520**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/27/2019	ND	214	107	200	2.29	
DRO >C10-C28*	**31.1**	10.0	03/27/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/27/2019	ND					

Surrogate: 1-Chlorooctane *91.5 %* *41-142*

Surrogate: 1-Chlorooctadecane *91.3 %* *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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: V - 1 @ 24" (H901141-02)

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	03/27/2019	ND	2.01	100	2.00	1.52	
Toluene*	<0.050	0.050	03/27/2019	ND	1.87	93.4	2.00	0.844	
Ethylbenzene*	<0.050	0.050	03/27/2019	ND	1.95	97.3	2.00	0.164	
Total Xylenes*	<0.150	0.150	03/27/2019	ND	5.94	98.9	6.00	0.317	
Total BTEX	<0.300	0.300	03/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.1 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1040**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	**391**	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	**74.2**	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *96.3 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.7 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: V - 2 @ 6'' (H901141-05)

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	03/27/2019	ND	2.01	100	2.00	1.52	
Toluene*	<0.050	0.050	03/27/2019	ND	1.87	93.4	2.00	0.844	
Ethylbenzene*	<0.050	0.050	03/27/2019	ND	1.95	97.3	2.00	0.164	
Total Xylenes*	<0.150	0.150	03/27/2019	ND	5.94	98.9	6.00	0.317	
Total BTEX	<0.300	0.300	03/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.6 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**416**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	**48.4**	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	**13.2**	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *95.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *94.4 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: V - 2 @ 24" (H901141-06)

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	03/27/2019	ND	2.01	100	2.00	1.52	
Toluene*	<0.050	0.050	03/27/2019	ND	1.87	93.4	2.00	0.844	
Ethylbenzene*	<0.050	0.050	03/27/2019	ND	1.95	97.3	2.00	0.164	
Total Xylenes*	<0.150	0.150	03/27/2019	ND	5.94	98.9	6.00	0.317	
Total BTEX	<0.300	0.300	03/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.6 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**272**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	**19.2**	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

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

Surrogate: 1-Chlorooctadecane *93.2 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: V - 3 @ 6'' (H901141-08)

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	04/01/2019	ND	1.92	96.2	2.00	0.922	
Toluene*	<0.050	0.050	04/01/2019	ND	2.01	101	2.00	0.711	
Ethylbenzene*	<0.050	0.050	04/01/2019	ND	2.14	107	2.00	0.231	
Total Xylenes*	<0.150	0.150	04/01/2019	ND	6.00	100	6.00	0.740	
Total BTEX	<0.300	0.300	04/01/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.5 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3320**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *95.6 %* *41-142*

Surrogate: 1-Chlorooctadecane *92.6 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: V - 3 @ 24" (H901141-09)

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	03/28/2019	ND	1.92	96.2	2.00	0.922	
Toluene*	<0.050	0.050	03/28/2019	ND	2.01	101	2.00	0.711	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	2.14	107	2.00	0.231	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	6.00	100	6.00	0.740	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**608**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *93.6 %* *41-142*

Surrogate: 1-Chlorooctadecane *91.3 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

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

		BILL TO	
Company Name:	Legacy Reserves Operating, LP	P.O. #:	
Project Manager:	Joel Lowry	Company:	Lowry Environmental
Address:	303 W. Wall St. Midland, TX 79701	~~Attn:~~	
Phone #:	Fax #:		
Project Owner:	Legacy Reserves Operating, LP		
Project Name:	Kincheloe 2 State Battery		
Project Location:	Lea	Attn:	Joel Lowry
Sampler Name:	Jordyne Taylor		~~Brian Cunningham~~

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
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	TPH 8015 M. Ext (New Mexico)	Chloride 4500 Cl-B	BTEX 8021	TPH TX 1005	Hold for all						RUSH
H901141																									
1	V-1 at 6"	G	1			x					x		3/26/19	10:30	x	x	x								
2	V-1 at 24"	G	1			x					x		3/26/19	10:35	x	x	x								
3	V-1 at 5'	G	1			x					x		3/26/19	10:40	x	x	x		X						
4	V-1 at 8'	G	1			x					x		3/26/19	10:45	X	X	X		X						
5	V-2 at 6"	G	1			x					x		3/26/19	10:50	x	x	x								
6	V-2 at 24"	G	1			x					x		3/26/19	10:55	x	x	x								
7	V-2 @ 4'	G	1			x					x		3/26/19	1100	x	x	x		X						
8	V-3 at 6"	G	1			x					x		3/26/19	1105	x	x	x								
9	V-3 at 24"	G	1			x					x		3/26/19	1110	x	x	x								
10	V-3 at 30"	G	1			x					x		3/26/19	1115	X	X	X		X						

Relinquished By: Jordyne Taylor	Date: 3-27-19	Received By: Tamara Oldaker	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 0845		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: Release samples on Hold if Previous Bast 600 Cl⁻ or 1000 GRO+DRO
	Time:		joel@lowrvenviromental.com
Delivered By: (Circle One)	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	jordyne.caprockservices@gmail.com
Sampler - UPS - Bus - Other: -1.4°C #67		JO	

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

April 01, 2019

JOEL LOWRY

LOWRY ENVIROMENTAL & ASSOCIATES

PO BOX 296

LOVINGTON, NM 88260

RE: KINCHELOE 2 STATE BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 03/27/19 8:44.

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: NH - 1 @ 6'' (H901142-01)

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	03/28/2019	ND	1.92	96.2	2.00	0.922	
Toluene*	<0.050	0.050	03/28/2019	ND	2.01	101	2.00	0.711	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	2.14	107	2.00	0.231	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	6.00	100	6.00	0.740	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**224**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *95.2 %* *41-142*

Surrogate: 1-Chlorooctadecane *94.9 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: NH - 1 @ 24" (H901142-02)

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	03/28/2019	ND	1.92	96.2	2.00	0.922	
Toluene*	<0.050	0.050	03/28/2019	ND	2.01	101	2.00	0.711	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	2.14	107	2.00	0.231	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	6.00	100	6.00	0.740	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**224**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *97.4 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.2 %* *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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: EH - 1 @ 6" (H901142-03)

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	03/28/2019	ND	1.92	96.2	2.00	0.922	
Toluene*	<0.050	0.050	03/28/2019	ND	2.01	101	2.00	0.711	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	2.14	107	2.00	0.231	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	6.00	100	6.00	0.740	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *97.1 %* *41-142*

Surrogate: 1-Chlorooctadecane *95.4 %* *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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: EH - 1 @ 24'' (H901142-04)

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	03/28/2019	ND	1.92	96.2	2.00	0.922	
Toluene*	<0.050	0.050	03/28/2019	ND	2.01	101	2.00	0.711	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	2.14	107	2.00	0.231	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	6.00	100	6.00	0.740	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *85.0 %* *41-142*

Surrogate: 1-Chlorooctadecane *84.1 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

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Analytical Results For:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: SH - 1 @ 6'' (H901142-05)

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	03/28/2019	ND	1.92	96.2	2.00	0.922	
Toluene*	<0.050	0.050	03/28/2019	ND	2.01	101	2.00	0.711	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	2.14	107	2.00	0.231	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	6.00	100	6.00	0.740	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	**25.8**	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *90.3 %* *41-142*

Surrogate: 1-Chlorooctadecane *92.2 %* *37.6-147*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: SH - 1 @ 24" (H901142-06)

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	03/28/2019	ND	1.97	98.7	2.00	0.445	
Toluene*	<0.050	0.050	03/28/2019	ND	1.84	91.8	2.00	1.59	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	1.94	96.9	2.00	1.23	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	5.87	97.8	6.00	1.22	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.1 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	**88.5**	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	**42.7**	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *91.1 %* *41-142*

Surrogate: 1-Chlorooctadecane *95.1 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: WH - 1 @ 6" (H901142-07)

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	03/28/2019	ND	1.97	98.7	2.00	0.445	
Toluene*	<0.050	0.050	03/28/2019	ND	1.84	91.8	2.00	1.59	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	1.94	96.9	2.00	1.23	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	5.87	97.8	6.00	1.22	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.2 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *92.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *93.4 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: WH - 1 @ 24" (H901142-08)

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	03/28/2019	ND	1.97	98.7	2.00	0.445	
Toluene*	<0.050	0.050	03/28/2019	ND	1.84	91.8	2.00	1.59	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	1.94	96.9	2.00	1.23	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	5.87	97.8	6.00	1.22	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.4 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *91.0 %* *41-142*

Surrogate: 1-Chlorooctadecane *87.1 %* *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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: NH - 2 @ 6'' (H901142-09)

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	03/28/2019	ND	1.92	96.2	2.00	0.922	
Toluene*	<0.050	0.050	03/28/2019	ND	2.01	101	2.00	0.711	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	2.14	107	2.00	0.231	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	6.00	100	6.00	0.740	
Total BTEX	<0.300	0.300	03/28/2019	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *91.7 %* *41-142*

Surrogate: 1-Chlorooctadecane *89.5 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: NH - 2 @ 24" (H901142-10)

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	03/28/2019	ND	1.92	96.2	2.00	0.922	
Toluene*	<0.050	0.050	03/28/2019	ND	2.01	101	2.00	0.711	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	2.14	107	2.00	0.231	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	6.00	100	6.00	0.740	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *96.0 %* *41-142*

Surrogate: 1-Chlorooctadecane *92.4 %* *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

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:	Kincheloe 2 State Battery
Project Location:	Lea
Sampler Name:	Jordyne Taylor

BILL TO

P.O. #:	
Company:	Lowry Enviromental
~~Owner~~	
Attn:	Joel Lowry
	~~Brian Cunningham~~

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
H961142																			
1	NH-1 at 6"	G	1			x					x		3/26/19	1120	X	X	X		
2	NH-1 at 24"	G	1			x					x		3/26/19	1125	X	X	X		
3	EH-1 at 6"	G	1			x					x		3/26/19	1130	X	X	X		
4	EH-1 at 24"	G	1			x					x		3/26/19	1135	X	X	X		
5	SH-1 at 6"	G	1			x					x		3/26/19	1140	X	X	X		
6	SH-1 at 24"	G	1			x					x		3/26/19	1145	X	X	X		
7	WH-1 at 6"	G	1			x					x		3/26/19	1150	X	X	X		
8	WH-1 at 24"	G	1			x					x		3/26/19	1155	X	X	X		
9	NH-2 at 6"	G	1			x					x		3/26/19	1200	X	X	X		
10	NH-2 at 24"	G	1			x					x		3/26/19	1205	X	X	X		

Relinquished By: Jordyne Taylor	Date: 3-27-19	Received By: Tamara Oldaker	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 0844		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: joel@lowrvenviromental.com jordyne.caprockservices@gmail.com
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: -1.4°C #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

CARDINAL Laboratories

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

April 01, 2019

JOEL LOWRY

LOWRY ENVIROMENTAL & ASSOCIATES

PO BOX 296

LOVINGTON, NM 88260

RE: KINCHELOE 2 STATE BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 03/27/19 8:45.

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: EH - 2 @ 6" (H901143-01)

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	03/28/2019	ND	1.92	96.2	2.00	0.922	
Toluene*	<0.050	0.050	03/28/2019	ND	2.01	101	2.00	0.711	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	2.14	107	2.00	0.231	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	6.00	100	6.00	0.740	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	214	107	200	2.29	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	213	106	200	7.74	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *92.5 %* *41-142*

Surrogate: 1-Chlorooctadecane *90.9 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: EH - 2 @ 24'' (H901143-02)

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	03/28/2019	ND	1.97	98.7	2.00	0.445	
Toluene*	<0.050	0.050	03/28/2019	ND	1.84	91.8	2.00	1.59	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	1.94	96.9	2.00	1.23	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	5.87	97.8	6.00	1.22	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.0 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	169	84.3	200	6.46	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	191	95.4	200	7.83	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

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

Surrogate: 1-Chlorooctadecane *89.4 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: SH - 2 @ 6'' (H901143-03)

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	03/28/2019	ND	1.97	98.7	2.00	0.445	
Toluene*	<0.050	0.050	03/28/2019	ND	1.84	91.8	2.00	1.59	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	1.94	96.9	2.00	1.23	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	5.87	97.8	6.00	1.22	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.9 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	169	84.3	200	6.46	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	191	95.4	200	7.83	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *88.4 %* *41-142*

Surrogate: 1-Chlorooctadecane *90.5 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

LOWRY ENVIROMENTAL & ASSOCIATES
JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	03/27/2019	Sampling Date:	03/26/2019
Reported:	04/01/2019	Sampling Type:	Soil
Project Name:	KINCHELOE 2 STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEGACY RESERVES OPERATING - LEA CC		

Sample ID: SH - 2 @ 24" (H901143-04)

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	03/28/2019	ND	1.97	98.7	2.00	0.445	
Toluene*	<0.050	0.050	03/28/2019	ND	1.84	91.8	2.00	1.59	
Ethylbenzene*	<0.050	0.050	03/28/2019	ND	1.94	96.9	2.00	1.23	
Total Xylenes*	<0.150	0.150	03/28/2019	ND	5.87	97.8	6.00	1.22	
Total BTEX	<0.300	0.300	03/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.1 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	03/28/2019	ND	400	100	400	3.92	

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	03/28/2019	ND	169	84.3	200	6.46	
DRO >C10-C28*	<10.0	10.0	03/28/2019	ND	191	95.4	200	7.83	
EXT DRO >C28-C36	<10.0	10.0	03/28/2019	ND					

Surrogate: 1-Chlorooctane *92.0 %* *41-142*

Surrogate: 1-Chlorooctadecane *94.0 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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	**BILL TO**	
Project Manager:	Joel Lowry	**P.O. #:**	
Address:	303 W. Wall St. Midland, TX 79701	**Company:**	Lowry Enviromental
Phone #:	**Fax #:**		
Project Owner:	Legacy Reserves Operating, LP		
Project Name:	Kincheloe 2 State Battery		
Project Location:	Lea	**Attn:**	Joel Lowry
Sampler Name:	Jordyne Taylor		~~Brian Cunningham~~

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST											
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	TPH 8015 M. Ext (New Mexico)	Chloride 4500 Cl-B	BTEX 8021	TPH TX 1005							RUSH	
H901143																									
1	EH-2 at 6"	G	1			x					x		3/26/19	1210	X	X	X								
2	EH-2 at 24"	G	1			x					x		3/26/19	1215	X	X	X								
3	SH-2 at 6"	G	1			x					x		3/26/19	1220	X	X	X								
4	SH-2 at 24"	G	1			x					x		3/26/19	1225	X	X	X								

Relinquished By:	**Date:** 3-27-19	**Received By:**	
Jordyne Taylor	**Time:** 0845	Tamara Oldaker	
Relinquished By:	**Date:**	**Received By:**	
	Time:		

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

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

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: -1.4° #97

Sample Condition		CHECKED BY: (Initials)
Cool	Intact	
☑ Yes	☑ Yes	TO
☐ No	☐ No	

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 affected area and sample location, facing Northeast.

Figure 2 View of affected area and sample location, facing West.

PHOTOGRAPHIC LOG

Figure 3 View of affected area and sample location, facing East.

Figure 4 View of affected area and sample location, facing East.

PHOTOGRAPHIC LOG

Figure 5 View of affected area and sample location, facing Northeast.

Figure 6 View of affected area and sample location, facing Northeast.

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

Incident ID	pending
District RP	pending
Facility ID	pending
Application ID	pending

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 32.50517 Longitude -103.23926

(Nad 83 in decimal degrees to 5 decimal places)

Site Name	Kincheloe 2 State Battery	Site Type	Heater Treater
Date Release Discovered	03/18/19	API# *(if applicable)*	N/A

Unit Letter	Section	Township	Range	County
"K"	2	21S	36E	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) 3.4	Volume Recovered (bbls)	2.22
☑	Produced Water	Volume Released (bbls) 27.2	Volume Recovered (bbls)	17.78
		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 base of the heater treater.

State of New Mexico
Oil Conservation Division

Incident ID	pending
District RP	pending
Facility ID	pending
Application ID	pending

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, Joel Lowry (LEA), Jim Griswold/NMOCD District 1 Spills & Ryan Mann, 3/18/2019 @ 5:20, Email.	

Initial Response

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

- ☑ The source of the release has been stopped.
- ☑ The impacted area has been secured to protect human health and the environment.
- ☑ 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: 3-19-19

email: cwilhoit@legacylp.com Telephone: 432-425-4137

OCD Only

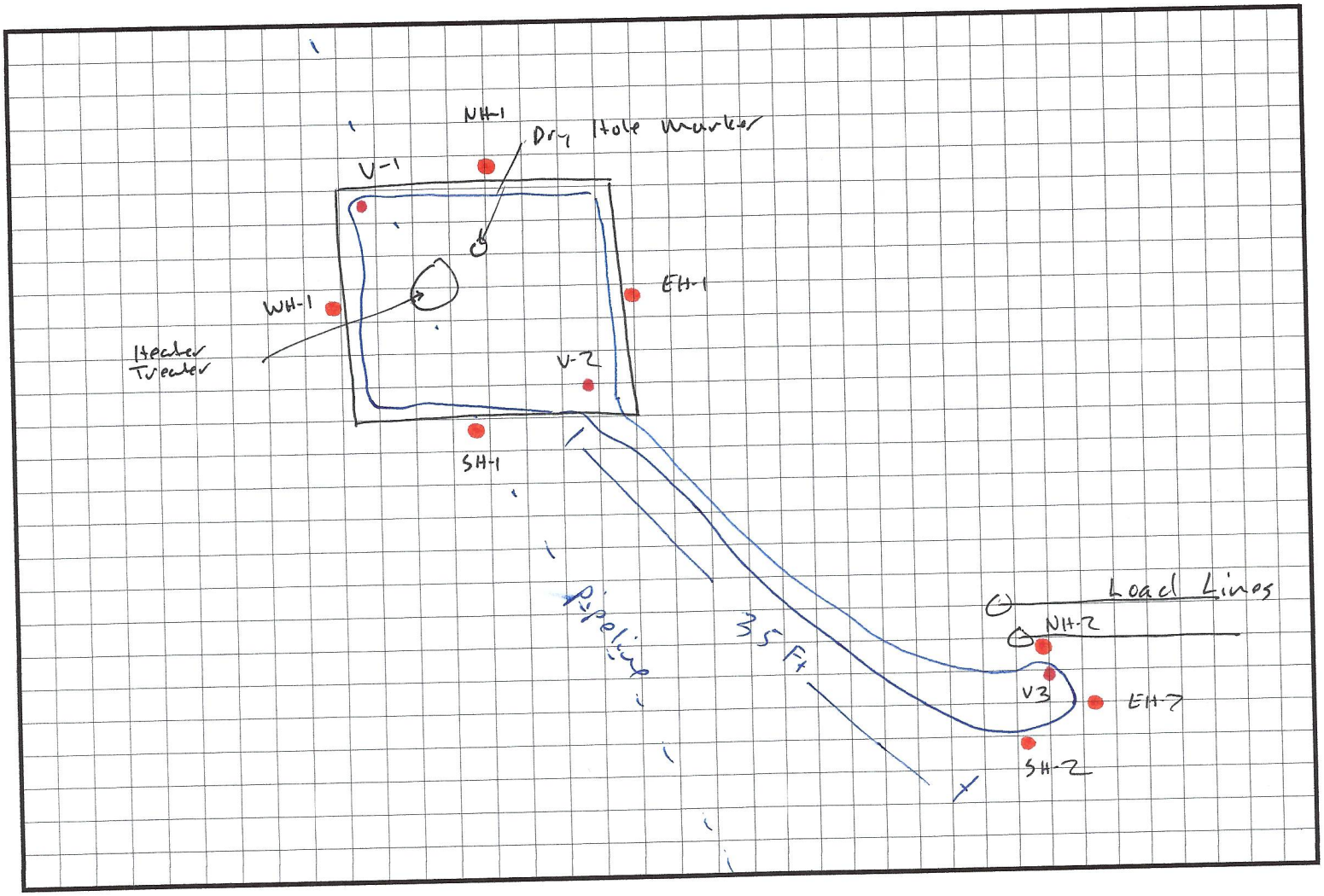
Received by: _____ Date: _____

Attachment #9
Field Data

FIELD NOTES

Site Name: Kinchelve 2 State

Date: 4/10/2019



Map site, Use Hand auger to delineate, Collect Samples @ 6" : 24", Field Screen
Looks good since initial response
Pipeline goes THROUGH heater

Field ID	Odor/PID	Chloride
V-1 @ 6"	Slight	>2600
V-1 @ 24	Slight	996
V-2 @ 6"	Light	348
V-2 @ 24"	Light	196

Field ID	Odor/PID	Chloride
EH-1 @ 6"	None	<108
EH-1 @ 24"	"	<108
SH-1 @ 6"	"	132
SH-1 @ 24"	"	132

Field ID	Odor/PID	Chloride
NH-2 @ 6"	None	<108
NH-2 @ 24"	"	<108
EH-2 @ 6"	"	<108
EH-2 @ 24	"	<108

Field ID	Odor/PID	Chloride
V-3 @ 6"	None	>2600
V-3 @ 24"	None	528
NH-1 @ 6"	None	196
NH-1 @ 24"	"	196

Field ID	Odor/PID	Chloride
WH-1 @ 6"	None	108
WH-1 @ 24"	"	<108

Field ID	Odor/PID	Chloride
SH-2 @ 6"	None	<108
SH-2 @ 24"	"	<108