Introduction

We are confident that data presented herein demonstrates that depth to ground water beneath the release footprint exceeds 50-feet. However, the recent sampling event shows that the volume potentially subject to remediation is small and a dig-haul-dispose remedy to the most stringent standards (depth of 50-feet) provides better protection of groundwater and is financially more responsible than drilling a boring to generate high-quality data that provides the level of certainty preferred in OCD Guidance.

Chloride and BTEX concentrations in all samples meet the Table I closure criteria. In the remediation cell which received earth material impacted by pooled crude oil, one of two samples may exceed the closure criteria. Using the laboratory reporting limit to calculate the TPH concentration, total TPH is 106 mg/kg. Using the more accurate MQL (Minimum/Method Quantification Limit), the resultant TPH concentration of the composite sample for the East Cell is 94 mg/kg. The average concentration of the two samples from the remediation cell is 77 mg/kg.

After review of this submission, OCD may wish to approve the outlined final sampling of the release and use of the Method Quantification Limit rather than the reporting limit or zero (0.00 mg/kg) as we understand some excavation-disposal companies may do. If final sampling shows samples with concentrations above the most stringent Table 1 standards (employing the OCD preferred value for MDL), excavation-transport-disposal will proceed as outlined herein.

In accordance with Rule 29, Prima Exploration began communications with the BLM Carlsbad regarding a reclamation plan. Prima will transmit the reclamation plan to BLM for approval and OCD.

Initial Response

2016-2017 Agency Communications and Actions

Appendix C-141 describes the initial response

Appendix OCD/McElvain Communications

Appendix 2016-2017 Reports contains two reports that Hicks Consultants prepared for McElvain Energy submission to BLM and OCD. An email from Bradford Billings in 2021, also in the Appendix, suggests that correspondence or these reports exist in OCD files. Neither Hicks Consultants nor Prima Exploration have the email correspondence between McElvain Energy and BLM/OCD.

In the absence of a complete record of written communications, the memory of Mr. Hicks and the emails in this Appendix suggests the following is likely true:

- McElvain Energy submitted a timely C-141 notification
- Vacancies of environmental staff at NMOCD District I may required communication with an understaffed District II Office.
- McElvain also notified the surface owner's representative, BLM.
- Mr. Hicks explained to District II staff that the release was primarily crude mixed with fresh water and some produced water. BLM was involved with the response actions.
- Mr. Hicks remembers that District II allowed BLM to oversee the initial responses to the release due to
    - the lack of staff at District II,
    - the nature of the release, and
    - Staff of the Carlsbad office of BLM permitted a response
- Mr. Hicks met with Ms. Shelly Tucker of BLM on site on or about October 24, 2016. We toured the release footprint and discussed some possible remedial strategies.
- The November 8, 2016 document in the Appendix was a result of the sampling results and site visit with BLM. This document proposed to move crude-stained soil from the bottom of the caliche pit into a higher area with little vegetation.
- Sometime after submission of the November proposal, BLM approved the plan.
- In January 2017, Hicks Consultants prepared a modification to the November submission that called for construction of a remediation cell and a clean-up of the residual crude oil in the stormwater drainage. We do not know if McElvain submitted this report to BLM and OCD.
- In April of 2017, Hicks Consultants prepared a progress report that included some additional sampling data and additional instructions for responding to the release within the drainage, which had not been addressed at the time of the March 2017 sampling program.

Nature of Release and Specific Justification for Volume Estimate

The October 20, 2016 C-141 describes the basic elements of the incident. The notice of release stated:

> *The separator for the McElvain #2 well was overloaded with produced water sending the water through the separator to the crude oil (500 bbl.) & produced water (210 bbl.) tanks displacing*

all the fluid in the tanks. The displaced fluid from the tanks breached the secondary containment around the tanks eventually releasing the fluid off of the well pad. The stuffing box on the well head also released some fluid. However, the majority of the fluid that was released came through the separator and out the top of the tanks breaching the tank berms. The volume of fluid released by the McElvain #2 well was due to a treatment that was being performed on another McElvain well in close proximity to the McElvain #2 well at the time.

Initial C-141 Report reported total estimated spill volume of 455 bbl. of produced water and crude oil. Produced water 268 bbls released, 70 bbls recovered, Produced oil 187 bbls released, 8 bbls recovered.

Thus, the reported total volume released estimated at the time of the event was 455 bbl.

In our records, we found a November 8, 2016 communication that we believe McElvain submitted to OCD and BLM (See Appendix 11/8/16 submission). This document provided more description of the release:
Communication between fresh water reservoir stimulation of two nearby wells and the McElvain #2 well plus a failure of plumbing at the McElvain #2 well caused an overflow of crude and water within the tank battery. Fresh water from the stimulation displaced crude and a small volume of produced water from the tanks. The crude, produced water and a significant volume of fresh water ultimately breached the containment and flowed over the location then downhill along an abandoned road, crossed the lease road and pooled in a restored caliche pit.

As displayed in Appendix B, the spill footprint is limited to the drainage/gully created in the abandoned roadbed by runoff from the McElvain #2 location and flow along the abandoned road uphill from McElvain #2. When the flow intercepted the newer lease road, it flowed over the road to the ditch on the south side of the road. The flow followed the road ditch - then followed a storm water drainage to the restored caliche pit, where it collected in a dry pooling area. The flow path of the release is the same as surface water runoff.

The analyses of samples from the release footprint, presented in the November report, allowed us to understand that fresh water from the hydraulic stimulation of the nearby wells comprised much of the fluid flow from the well site to the reclaimed caliche pit.

For this submission we maintain that the volume of the release is 455 bbl. of produced water and crude as described above.

C-141 Application Details

Incident ID NKL 1631248077

Required Attachments (or Application Tags)

Initial Response

Pages 1-2	Calculations or Specific Justification for the Volumes

Site Characterization

Plate 7	Water Sources/Course Determinination
Plate 8	Scaled Site Map
Appendix	Field Data
Table 1	Soil Contaniminant Concentration
Pages 4-6	Water Depth Determination
None	Boring Logs
Plates 1, 4, 7-9	Topographic/Aerial Maps
Appendix	Laboratory Data

Remediation Plan

Page 1	Proposed Technique
Figure 2	Scaled Site Map
Page 2	Estimated Volume
Page 1	Closure Criteria
Page 2	Proposed Schedule

Remediation Closure Request - NOT APPLICABLE

Scaled Site Map
Photographs
Lab Analysis
Remediation Activities

Location of Release Source

Mcelvain Fed #2	Site Name
10/18/2016	Date Release Discovered
Federal	Surface Owner

Incident Details

Release	Incident Type
No	Did this release result in a fire or is the result of a fire
No	Did this release result in any injuries
No	Has this release reached or does it have a reasonable probability of reaching a watercourse
No	Has this release endangered or does it have a reasonable probability of endangering public health
No	Has this release substantially damaged or will it substantially damage property or the environment
No	Is this release of a volume that is or may with reasonable probability be detrimental to fresh water

Nature & Volume of Release

187	Crude Oil Released (bbls) Details
268	Produced Water Released (bbls) Details
Yes	Is the concentration of chloride in the produced water >10,000 mg/l
0	Condensate Released (bbls) Details
0	Natural Gas Vented (Mcf) Details
0	Natural Gas Flared (Mcf) Details
	Other Released Details -
No	Is this a gas only submission (i.e. only significant Mcf values reported)
Yes	Was this a major release as defined by Subsection A of 19.15.29.7 NMAC
Quantity	Reasons why this would be considered a submission for a notification of a major release

Initial Response

TRUE	The source of the release has been stopped
TRUE	The impacted area has been secured to protect human health and the environment
TRUE	Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices
TRUE	All free liquids and recoverable materials have been removed and managed appropriately

Site Characterization

50 What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)
Attached What method was used to determine the depth to ground water
No Did this release impact groundwater or surface water

Select one of the following for each question below:

1 Zero Feet, overlying, or within area
2 Between 1 and 100 ft
3 Between 100 and 200 ft
4 Between 200 and 300 ft
5 Between 300 and 500 ft
6 Between 500 and 1000 ft
7 Between 1000 ft and 1/2 mile
8 Between 1/2 mile and 1 mile
9 Between 1 and 5 miles
10 Greater than 5 miles

What is the minimum distance, between the closest lateral extents of the release and the following surface areas:

9	A continuously flowing watercourse or any other significant watercourse
9	Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)
8	An occupied permanent residence, school, hospital, institution, or church
8	A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes
7	Any other fresh water well or spring
10	Incorporated municipal boundaries or a defined municipal fresh water well field
9	A wetland
10	A subsurface mine
10	An (non-karst) unstable area
10	Categorize the risk of this well / site being in a karst geology (critical, high, medium, low or none)
10	A 100-year floodplain
Yes	Did the release impact areas not on an exploration, development, production, or storage site

C-141 REMEDIATION PLAN:

Yes	Requesting a remediation plan approval with this submission
	(Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have b
	determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.)
No	Have the lateral and vertical extents of contamination been fully delineated
No	Was this release entirely contained within a lined containment area

Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)

656	Chloride	(EPA 300.0 or SM4500 Cl B)
256	TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)
174	GRO+DRO	(EPA SW-846 Method 8015M)
<0.05	BTEX	(EPA SW-846 Method 8021B or 8260B)
<0.30	Benzene	(EPA SW-846 Method 8021B or 8260B)

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

9/30/2024	On what estimated date will the remediation commence
10/2/2024	On what date will (or did) the final sampling or liner inspection occur
10/15/2024	On what date will (or was) the remediation complete(d)
>10,000	What is the estimated surface area (in square feet) that will be reclaimed
>150	What is the estimated volume (in cubic yards) that will be reclaimed
>270	What is the estimated surface area (in square feet) that will be remediated
>20	What is the estimated volume (in cubic yards) that will be remediated

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:

(Select all answers below that apply.)

X	(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)
	Select one of the options below:
	Which OCD approved facility will be used for off-site disposal - Enter Facility ID
	OR which OCD approved well (API) will be used for off-site disposal
	OR is the off-site disposal site, to be used, out-of-state
	OR is the off-site disposal site, to be used, an NMED facility
	(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)
	(In Situ) Soil Vapor Extraction
	(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)
	(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)
	(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)
	Ground Water Abatement pursuant to 19.15.30 NMAC
	OTHER (Non-listed remedial process)

Deferral Requests Only - No

Requesting a deferral of the remediation closure due date with the approval of this submission
Have the lateral and vertical extents of contamination been fully delineated
Is the remaining contamination in areas immediately under or around production equipment where remediation could cause a major fa
(Not allowed to grant deferrals if remediation will not cause major deconstruction.)
What is the remaining surface area (in square feet) that will still need to be remediated if a deferral is granted
What is the remaining volume (in cubic yards) that will still need to be remediated if a deferral is granted
Per Paragraph (2) of Subsection C of 19.15.29.12 NMAC if contamination is located in areas immediately under or around production equipment such as production tanks, wellheads and pipelines where remediation could cause a major facility deconstruction, the remediation, restoration and may be deferred with division written approval until the equipment is removed during other operations, or when the well or facility is plugged or aba
Enter the facility ID (f#) on which this deferral should be granted
Enter the well API (30-) on which this deferral should be granted
Contamination does not cause an imminent risk to human health, the environment, or groundwater

Sampling Event Information - C-141N Recorded

Remediation Closure Request

No Requesting a remediation closure approval with this submission
Correction: Not allowed to submit an application requesting remediation closure without notification of liner inspection (C-141L) or sampling (C-141
Have the lateral and vertical extents of contamination been fully delineated
Was this release entirely contained within a lined containment area
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion
What was the total surface area (in square feet) remediated
What was the total volume (cubic yards) remediated
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene
What was the total surface area (in square feet) reclaimed
What was the total volume (in cubic yards) reclaimed
Summarize any additional remediation activities not included by answers (above)
**** Diesel fuel, no chlorides to test***

Reclamation Report - No

Only answer the questions in this group if all reclamation steps have been completed.

Requesting a reclamation approval with this submission
What was the total reclamation surface area (in square feet) for this site
What was the total volume of replacement material (in cubic yards) for this site
Per Paragraph (1) of Subsection D of 19.15.29.13 NMAC the reclamation must contain a minimum of four feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, or other test methods approved by the division. The soil cover must 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.
Is the soil top layer complete and is it suitable material to establish vegetation
On what (estimated) date will (or was) the reseeding commence(d)
Summarize any additional reclamation activities not included by answers (above)

Revegetation Report - No

Only answer the questions in this group if all surface restoration, reclamation and re-vegetation obligations have been satisfied.
Requesting a restoration complete approval with this submission
What was the total revegetation surface area (in square feet) for this site
Per Paragraph (2) of Subsection D of 19.15.29.13 NMAC the responsible party must reseed disturbed area in the first favorable growing season following closure of the site.
On what date did the reseeding commence
On what date was the vegetative cover inspected
What was the life form ratio compared to pre-disturbance levels
What was the total percent plant cover compared to pre-disturbance levels
Summarize any additional revegetation activities not included by answers (above)

The revegetation report requires the following attachments.
Revegetation Report: Scaled Site Map, Photographs, Revegetation Activities

Site Characterization

Water Sources/Course Determination
Plate 7

Scaled Site Map
Plate 8 & Remediation Plan Figures 1, 2

Field Data
Appendix Site Photographs

Soil Contaminant Concentration
Table 1

Water Depth Determination
We are confident that data presented herein demonstrates that depth to ground water beneath the release footprint exceeds 50-feet. However, the recent sampling event shows that the volume potentially subject to remediation is small and a dig-haul-dispose remedy to the most stringent standards (depth of 50-feet) provides better protection of groundwater and is financially more responsible than drilling a boring to generate high-quality data that provides the level of certainty preferred in OCD Guidance.

Hydrogeology
Plate 1 is a topographic map that shows:
1. The McElvain release flow path.
2. Water wells from the OSE database are plotted as a blue triangle inside colored circles that indicate well depth (see legend). OSE wells are often mis-located in the WATERS database as older wells are plotted in the center of the quarter, quarter, quarter, of the Section Township and Range.
3. The depth-to-water from the most recent available measurement for each well is provided adjacent to the well symbol. Note that OSE data points with a "0" depth to water are typically dry borings.

Plate 2a is a topographic and geologic map that shows:
A. The Ogallala Formation (To) exposed east of the Mescalero Ridge in the northeast quarter of the Plate.
B. Quaternary Piedmont deposits (Qp) are an alluvial apron on the west side of the Ridge.
C. Eolian and Piedmont deposits (Qe/Qp) cover the western two thirds of Plate 2a.
D. Water wells from the USGS database as large colored triangles that represent the unit in which the well was completed
E. One water well that is not documented in the public databases but was identified by field inspection (Hicks Consultants in this case) or other published reports as colored squares.

Plate 2b is a smaller scale map than Plate 2a with an overlay of the 1971 potentiometric surface map for Lea County from Open File Report 95. The elevation contours in the northeastern area

of the Plate represent water elevations in the Ogallala Aquifer. West of the Mescalero Ridge, water elevations are from wells completed in the Chinle as data suggest the thin alluvium overlying the red beds is not saturated.

Plate 2c is a larger scale map of Nicholson and Clebsch Geologic Map of Southern Lea County overlain on the geologic map of Plate 2a. As can be seen, agreement is quite close. Also shown on the Nicholson and Clebsch map are contours of the upper surface of the Chinle formation. We have added the groundwater divide (groundwater flow to southeast versus groundwater flow to from 1971 Open file Report 95 as a dashed blue line. This divide runs along the ridgeline defined by the Chinle formation contours as one would expect.

Plate 2d is a smaller scale map that shows the wells and borings closest to the release site plotted on a geologic/topographic map. We believe these data represent conditions on the eastern side of the groundwater divide.

Geology

As shown in Plates 1 and 2, about half a mile northeast of the origin of the release (McElvain Federal #2) and about 100 feet higher is the Mescalero Ridge (the Caprock). The ridge is the divide between the southern Great Plains to the east and the Pecos Valley to the west. East of the Mescalero Ridge, surface water, when present, flows to the southeast down the shallow slope of the Llano Estacado.

The Ogallala formation is the primary aquifer east of the Mescalero Ridge and, as shown in Plates 2a through 2d, is exposed east of the Ridge. The Ogallala Formation typically exhibits a caliche cap that is underlain by fine- to medium-grained sand and silt that coarsens with depth. A basal sand and gravel bed often lies unconformably upon the underlying Triassic age Chinle formation which dips to the southeast. As the Chinle is composed of indurated silts and clays, it acts as an aquiclude. Groundwater within the Ogallala is unconfined. The Ogallala has been removed by erosion west of the Ridge shown on Plate 2a.

The Ogallala formation is composed of erosional materials derived from uplands to the west (ancestral Rocky Mountains) and was deposited as an extensive and continuous alluvial surface sloping to the east and southeast.

The erosion of the ancestral Pecos River and tributaries removed most of the Ogallala formation west of the Mescalero Ridge and an upper portion of the Chinle formation. The west-flowing tributaries draining to the ancestral Pecos River deposited reworked Ogallala materials as a younger layer of alluvium over the eroded Chinle red bed surface now sloping southwest towards the Pecos River.

Appendix Well Logs and USGS Data presents the following data that support the description provided above, as does the classic work in Lea County (Nicholson and Clebsch, 1961). Well logs east of or on the Mescalero Ridge are described first:

- L-10436 is mis located as the well log indicates a location in Township 15S, Range 36E. Thus, it is about 12 miles or more north

- L-1582 it typical of Ogallala wells with caliche at the surface, sand below the caliche to a depth of 150 feet at this site, and the basal sand/gravel overlying the Chinle red bed.
- CP-1582 northeast of the site and lies just east of the edge of the Mescalero Ridge. The well log is nearly the same as the descriptions above with the top of the red bed at a depth of 175 feet and a saturated thickness exceeding 100 feet.
- L-10345 is the closest OSE well to the release site and the latitude/longitude is incorrect in the OSE database. It is located below the Mescalero ridge at or near the plotted location of L-10436, a ranch house and corral. Caliche beds are beneath 4-feet of topsoil with sandy material below. The water bearing bed is a sand on top of the red bed surface from 120-130 feet. The OSE data shows a water table aquifer thickness of 10 feet.
- CP-1584 lies west of the release site and is a dry hole to 500 feet. Because the boring was completed in one day, it was probably drilled by air-rotary, which can identify groundwater relatively easily. While the driller's log is not detailed, it records the top of the red bed at 28 feet and is probably correct.

Plate 2c shows the release site relative to the Ogallala Aquifer, the Pecos Valley alluvium (that may or may not be locally saturated), and the underlying Chinle Aquifer. The Mescalero Ridge is a surface expression of the hydraulic divide between these two aquifers (Ogallala and Chinle and/or alluvium). The red elevation contours on the Plate are the Tertiary erosional surface of the Chinle Formation. As described earlier, west of the Mescalero Ridge, the Chinle erosional surface slopes to the southwest and the Pecos Valley. East of the Mescalero Ridge, the surface slopes at a lesser gradient to the east-southeast. The basal unit of the Chinle formation is the Santa Rosa Sandstone. Groundwater from the Santa Rosa Sandstone may be confined and is the regional aquifer west of the Mescalero Ridge in this area. The Ogallala Aquifer is the principal source of groundwater east of the divide.

Estimated Depth to Groundwater

We relied upon the most recent data measured by the USGS and the MISC wells to create our estimate of depth to groundwater for the site. Both datasets can contain errors (generally of location) as described earlier. Water level data from the OSE database rely upon observed water levels by drillers during the completion of the water well. The OSE dataset provides some useful data in certain areas. The area of interest has sufficient high-quality data that we did not rely on OSE data.

We conclude:

- The McElvain Federal #2 release site lies west of the Ogallala Aquifer, on the western sloping erosional surface of the Chinle Formation.
- USGS and MISC water well data north of the site is in the Ogallala Aquifer and cannot be employed to determine depth to groundwater at the site.
- Driller's logs in the OSE database report that Quaternary piedmont deposits overlying the Chinle red beds are not saturated, and groundwater exists locally in sandstone of the Chinle at greater depths.
- The driller's logs west of the Ogallala Aquifer (CP-875, CP-1584, C-4548) report that the alluvium overlying the Chinle is less than 65 feet thick and unsaturated. We believe it is highly probable that these observations are accurate.

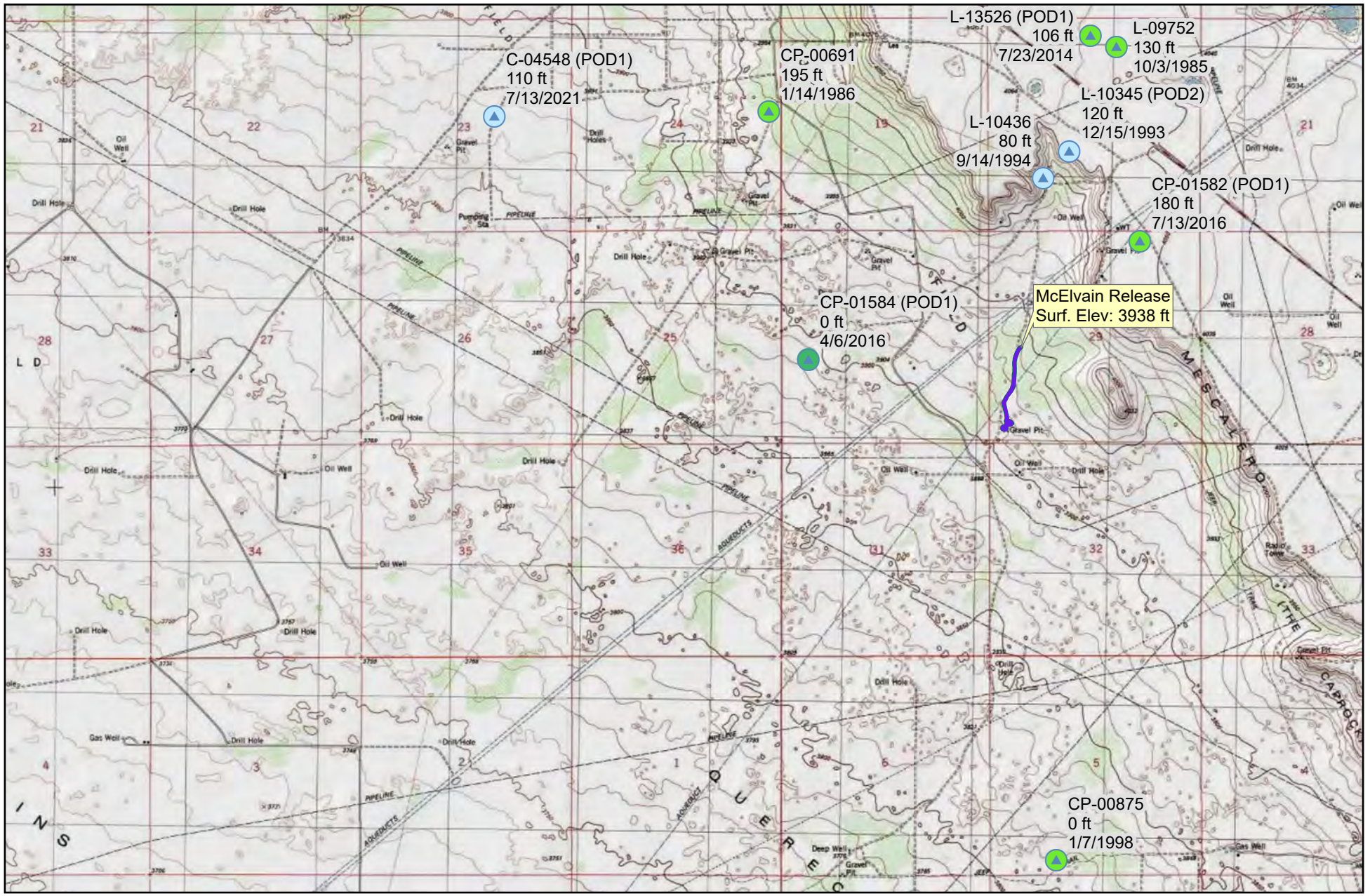
- At the southern end of the release, the ground surface elevation is about 3905 feet. The elevation of the top surface of the Chinle is 3850 feet (Plate 2c). The thickness of alluvium at this location is (3905-3850=) 55 feet. Should there be five feet of saturation present on top of the Chinle surface, depth to (unconfined) water at the southern end of the release is about 50 feet.

Boring Logs
We did not implement a boring program

Topographic/Aerial Maps
Plates 1, 4, 7-9

Laboratory Data
Appendix Laboratory Reports

P:\McElvain2\McElvainRelease2.aprx



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Nearby OSE Wells & Borings with Depth to Water	Plate 1
	McElvain #2 Release Prima Operating Company	August 2024

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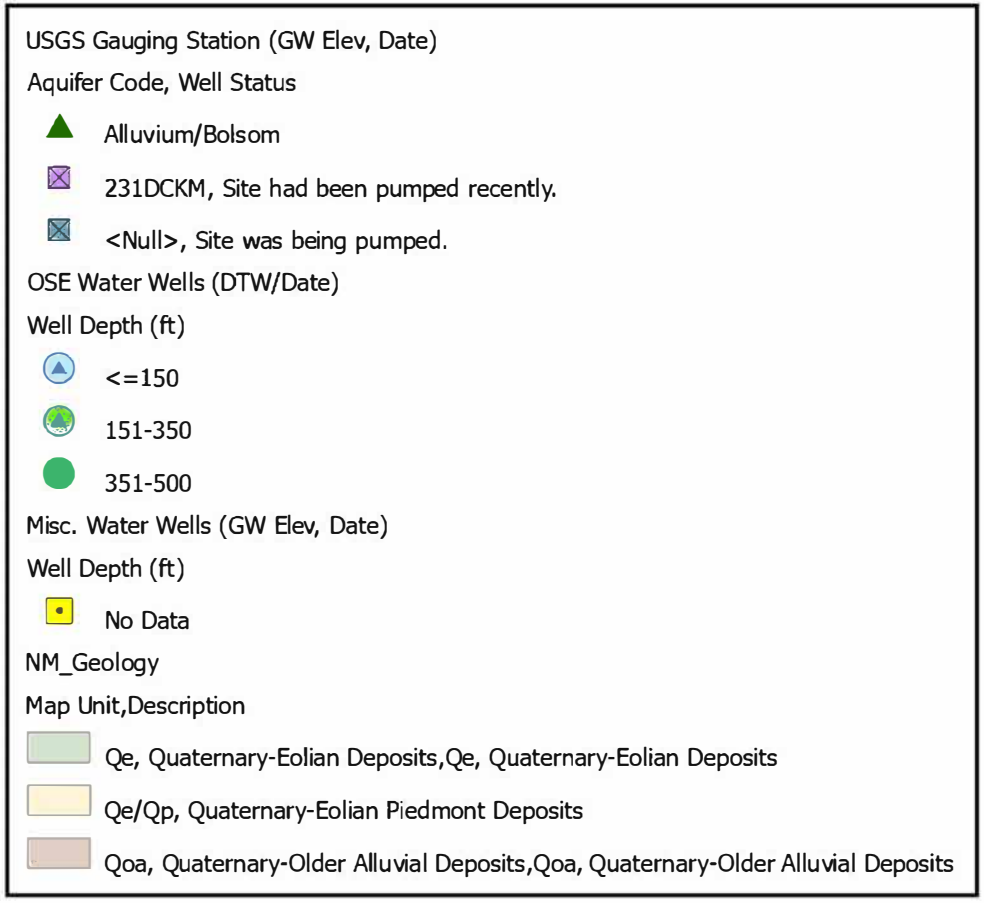
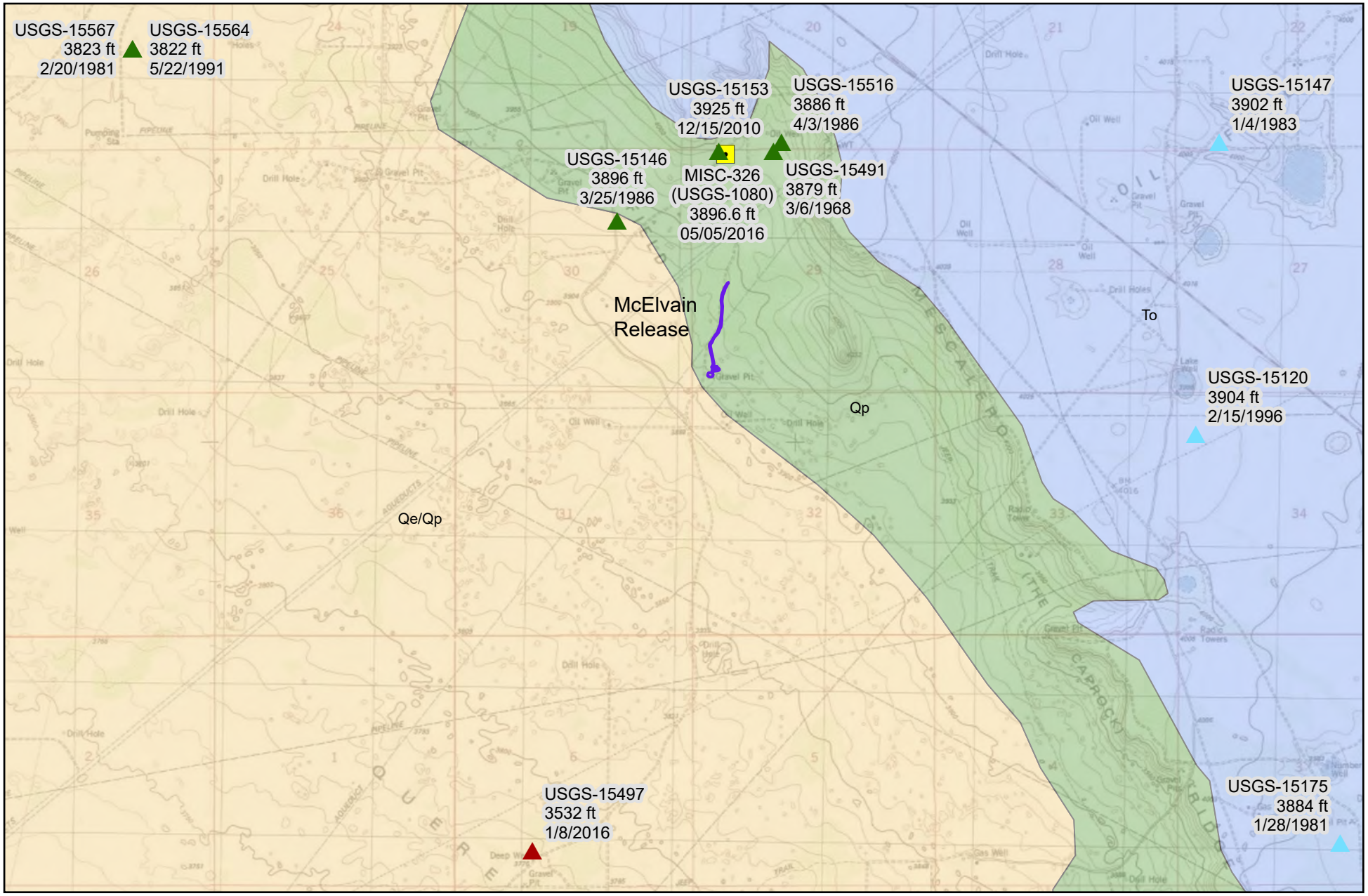


R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Plates 1 & 2 Legend McElvain #2 Release Prima Operating Company	August 2024

P:\McElvain2\McElvainRelease2.aprx



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Geology and USGS Wells with GW Elevation McElvain #2 Release Prima Operating Company	Plate 2a August 2024

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R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	USGS Wells with GW Elevation and OF-95 GW Contours	Plate 2b
	McElvain #2 Release Prima Operating Company	August 2024

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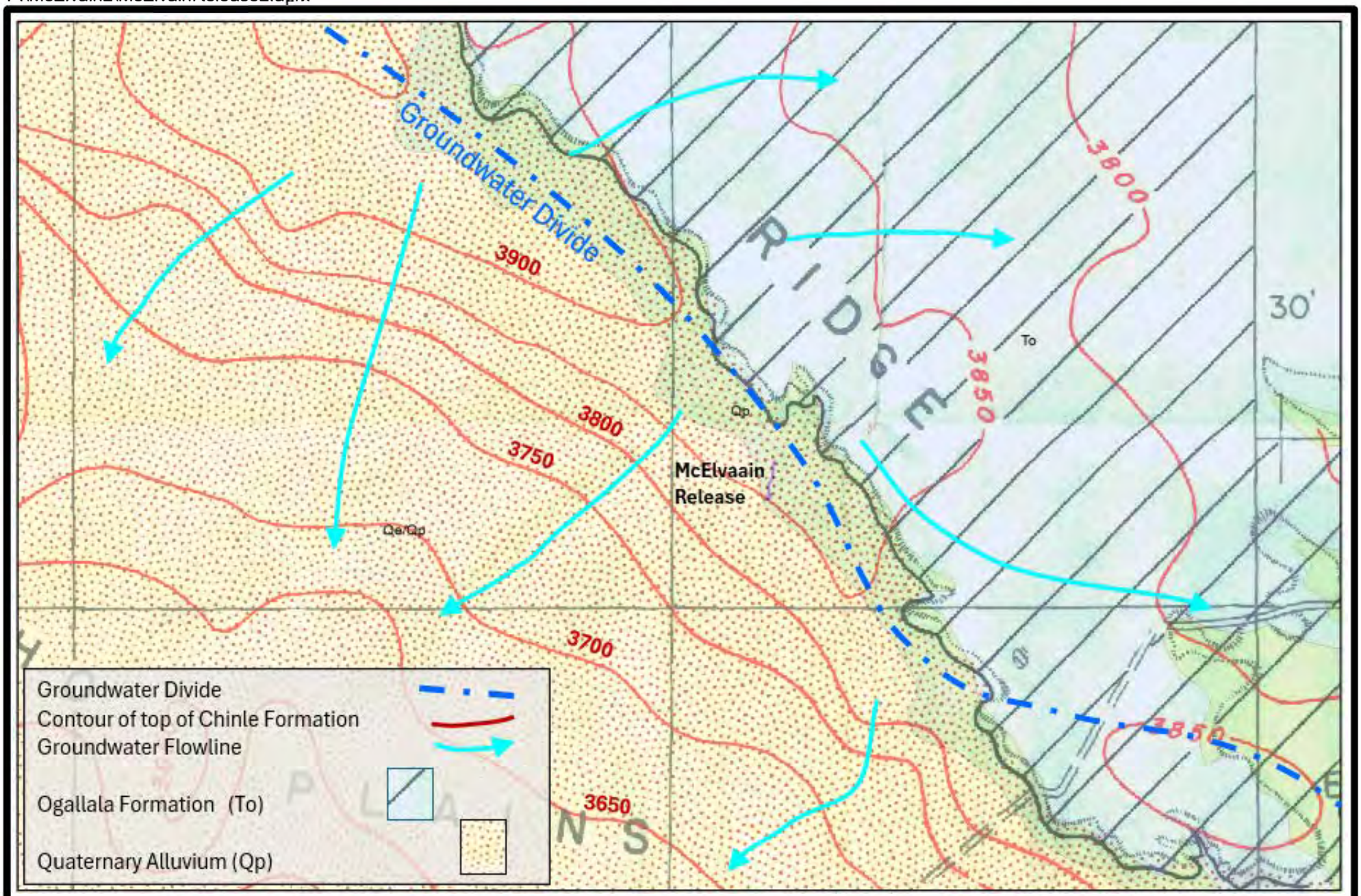

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Geology & Upper Contours (in Red) of Chinle Formation	Plate 2c
	McElvain #2 Release Prima Operating Company	August 2024

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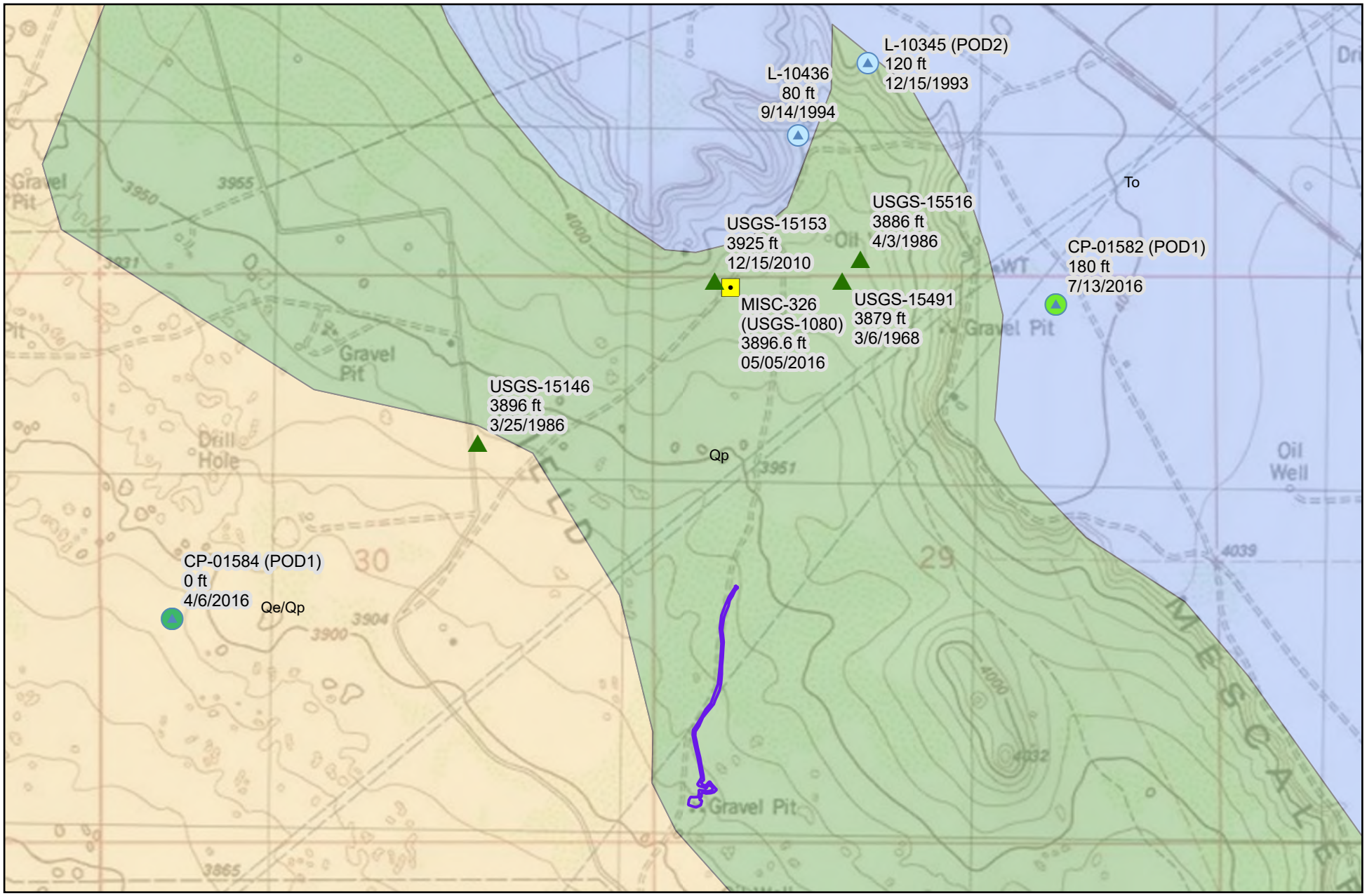

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Geology & Nearby Wells and Borings	Plate 2d
	McElvain #2 Release Prima Operating Company	August 2024

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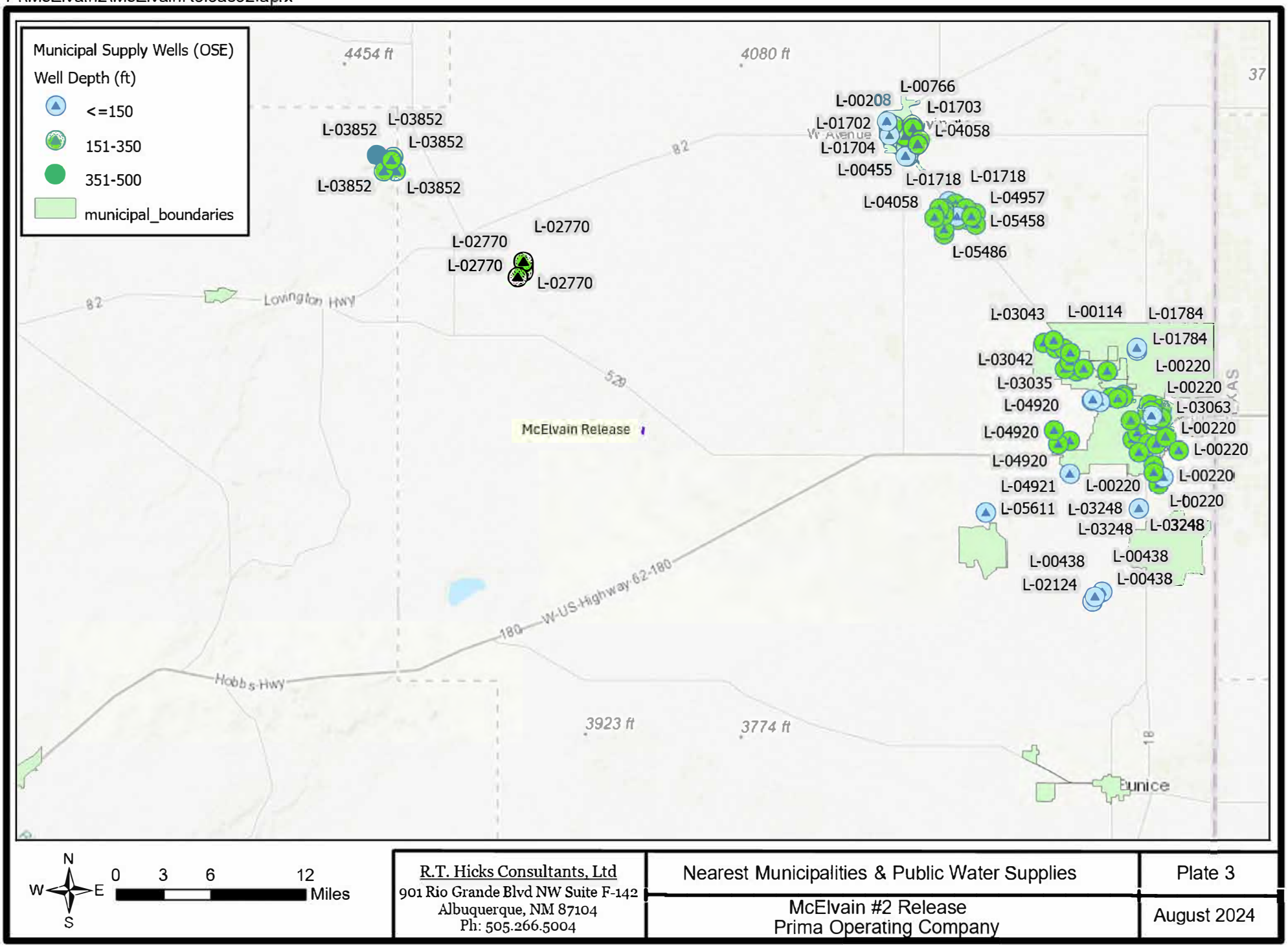

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Nearest Municipalities & Public Water Supplies McElvain #2 Release Prima Operating Company	Plate 3 August 2024

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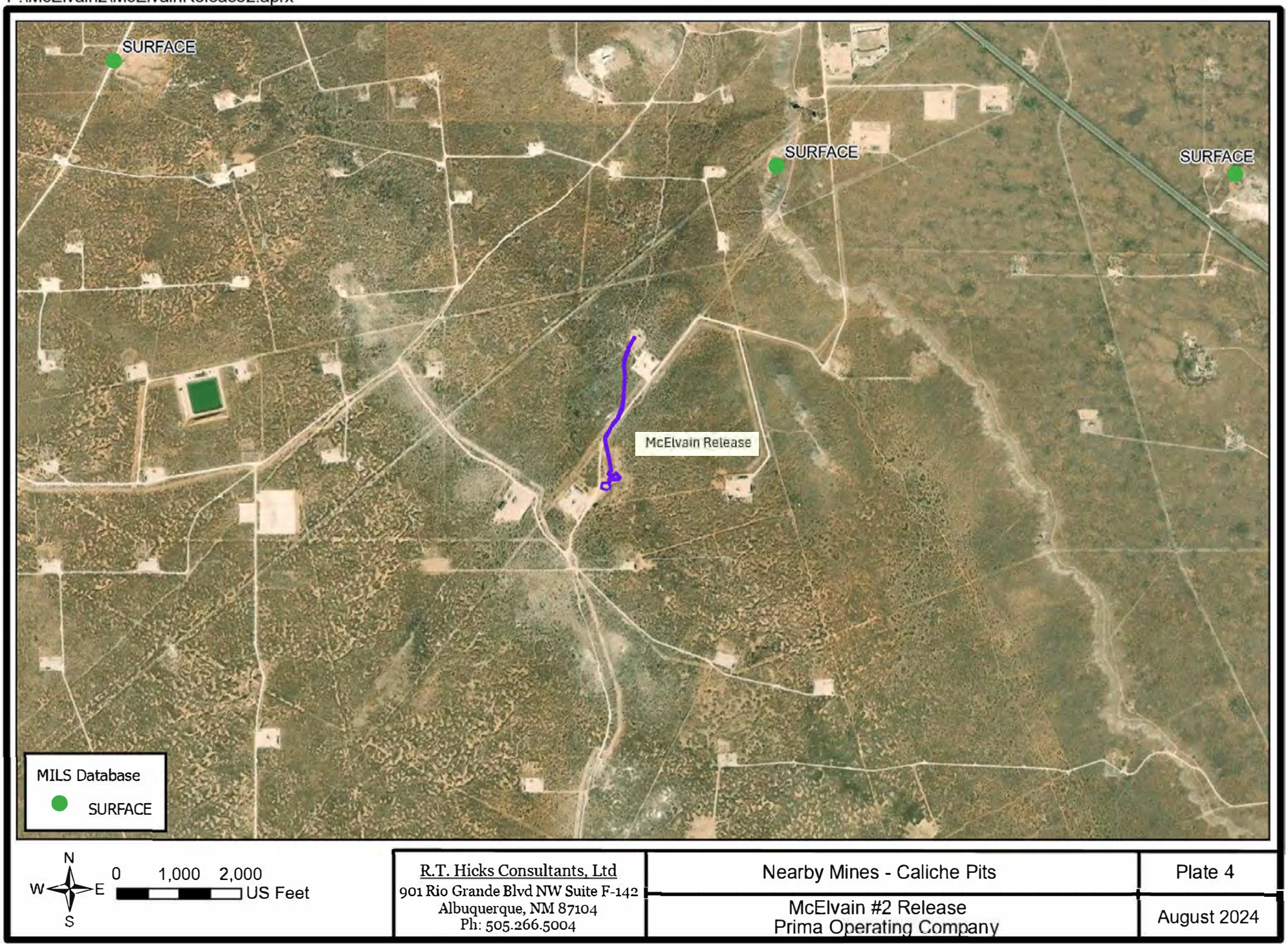
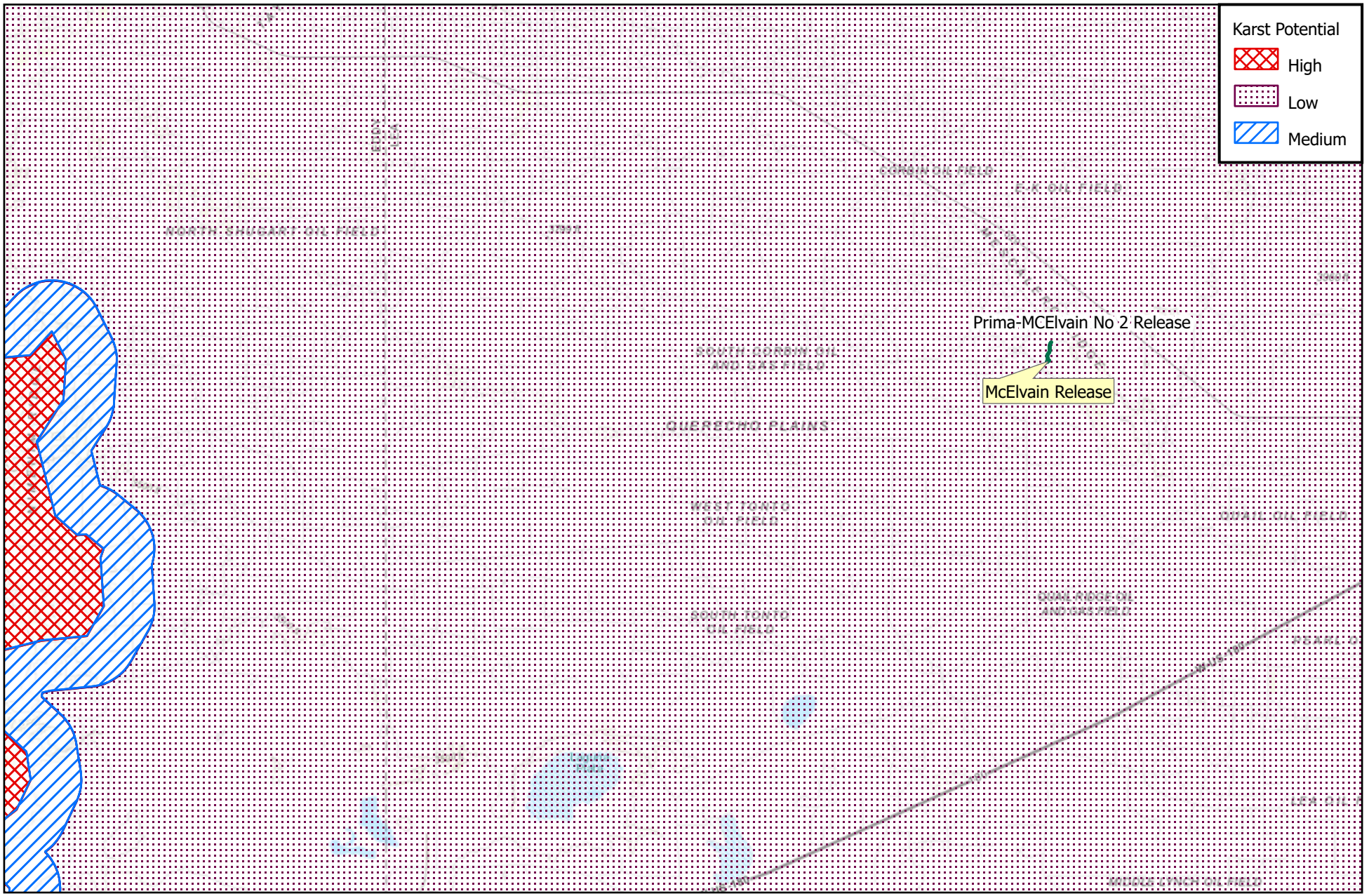


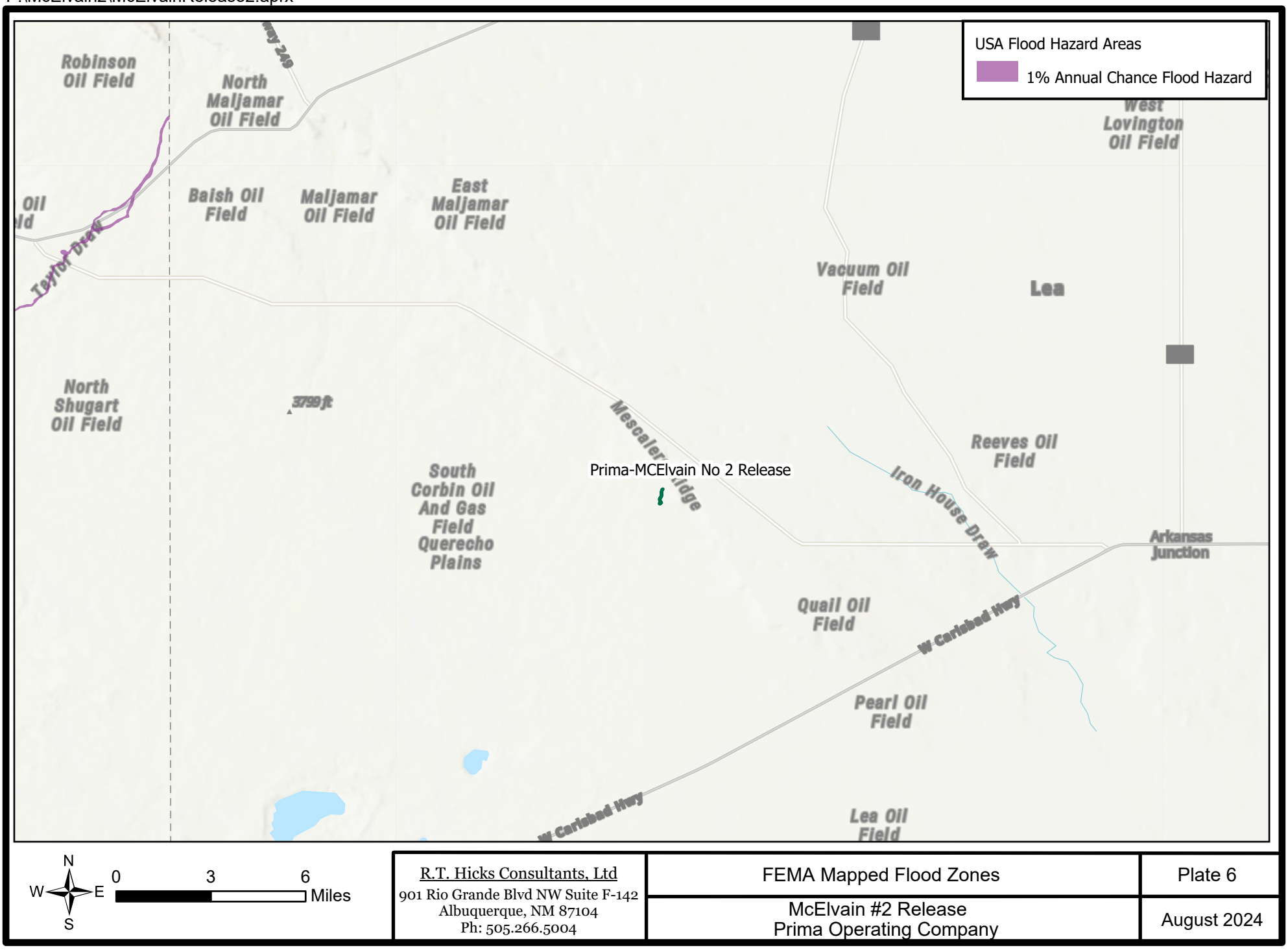
R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Nearby Mines - Caliche Pits McElvain #2 Release Prima Operating Company	Plate 4 August 2024

P:\McElvain2\McElvainRelease2.aprx



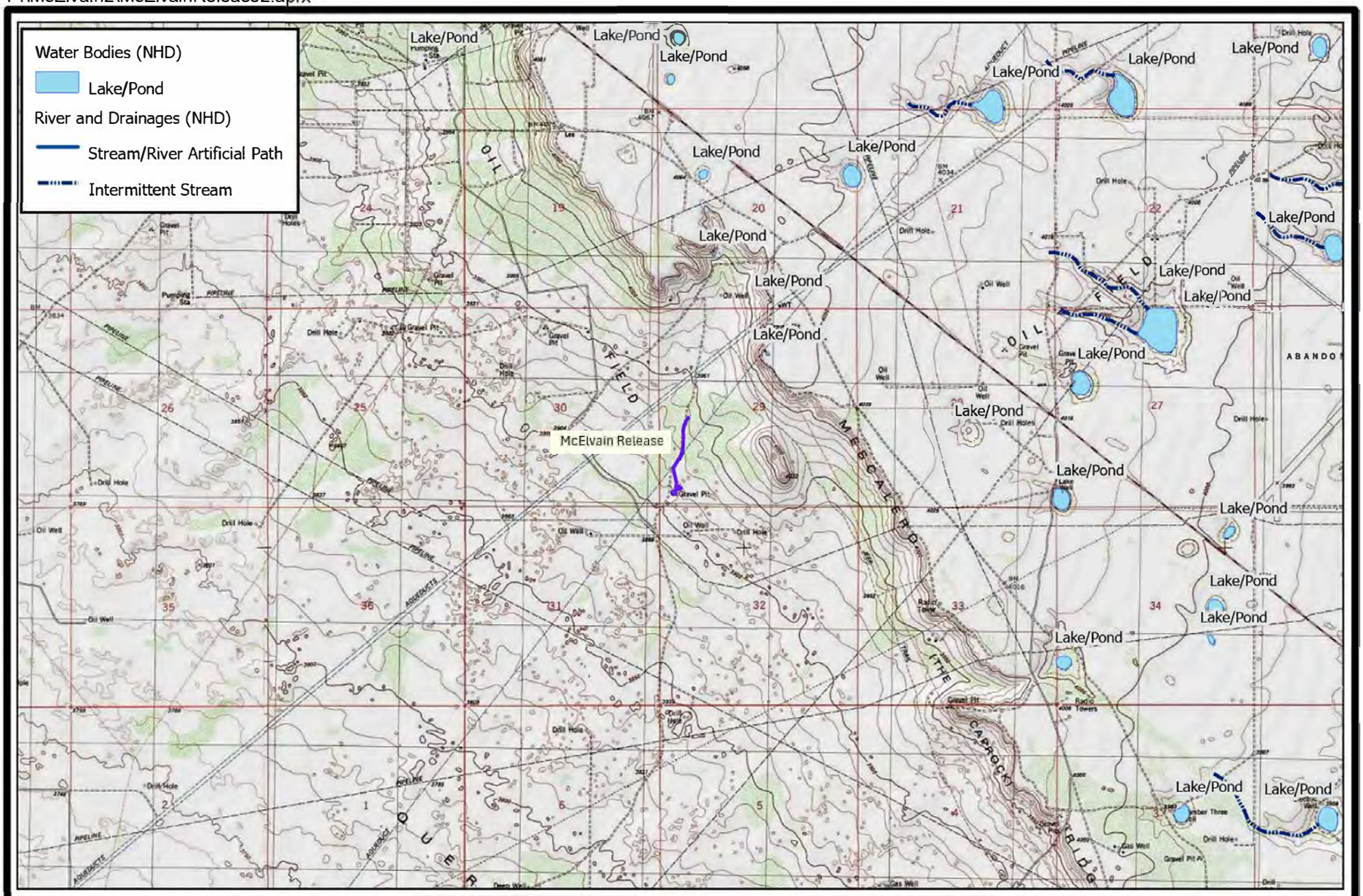
R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Karst Potential	Plate 5
	McElvain #2 Release Prima Operating Company	August 2024

P:\McElvain2\McElvainRelease2.aprx



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	FEMA Mapped Flood Zones	Plate 6
	McElvain #2 Release Prima Operating Company	August 2024

P:\McElvain2\McElvainRelease2.aprx

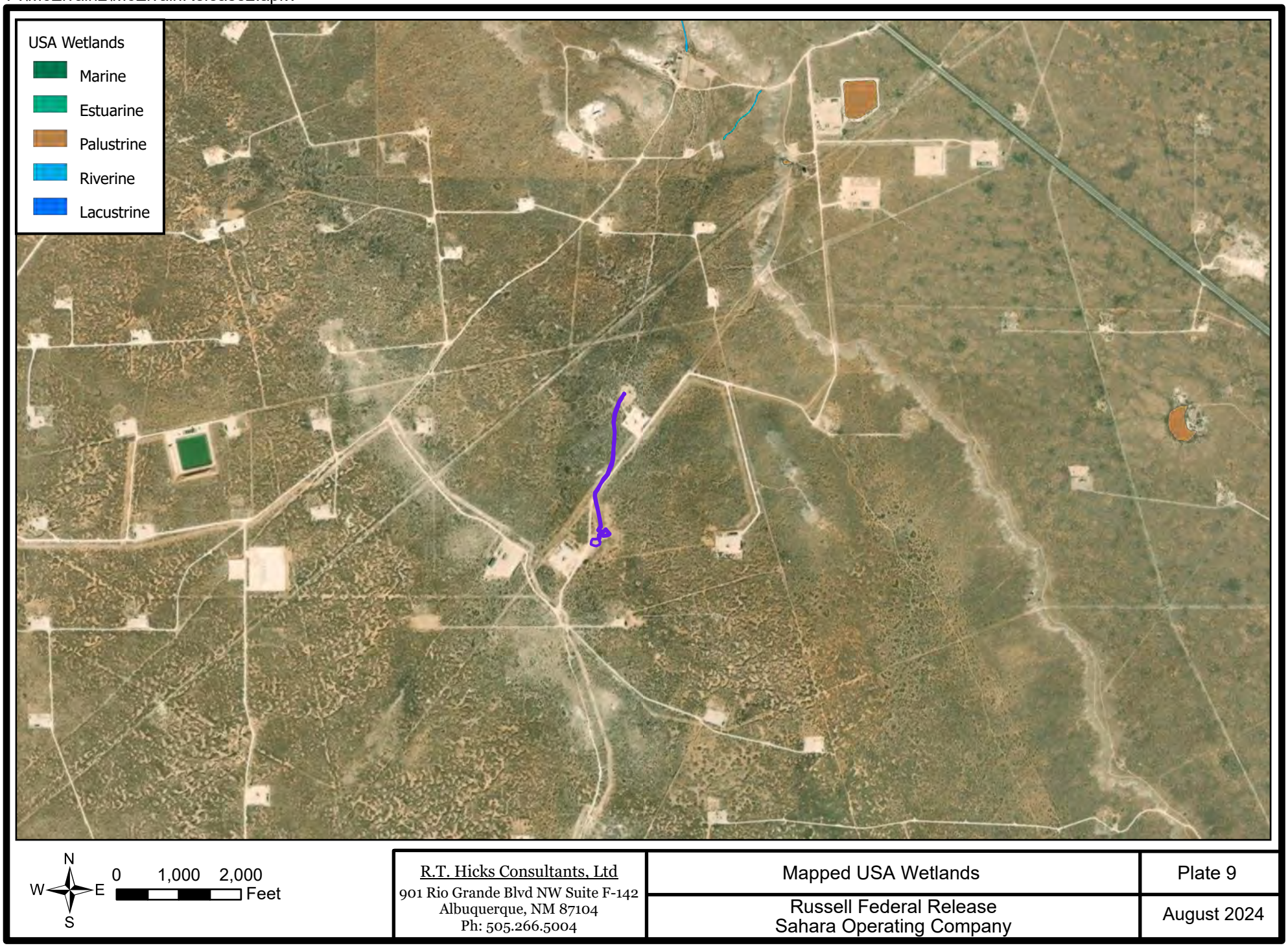


R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Mapped Surface Water Russell Federal Release Prima Operating Company	Plate 7 August 2024

P:\McElvain2\McElvainRelease2.aprx

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Nearest Residence- Section 20 UL K McElvain #2 Release Prima Operating Company	Plate 8 August 2024

P:\McElvain2\McElvainRelease2.aprx



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Mapped USA Wetlands	Plate 9
	Russell Federal Release Sahara Operating Company	August 2024

Figure 1
Scaled map showing McIlvain #2 Tanks, the origin of the release, and the flow path to the caliche pit pooling area. Sample locations presented in Table 1 are labeled on this map. Google Earth image 2/13/2014 prior to the release after reclamation of the caliche pit and two years prior to the release. The natural stormwater flow path is visible in this image.

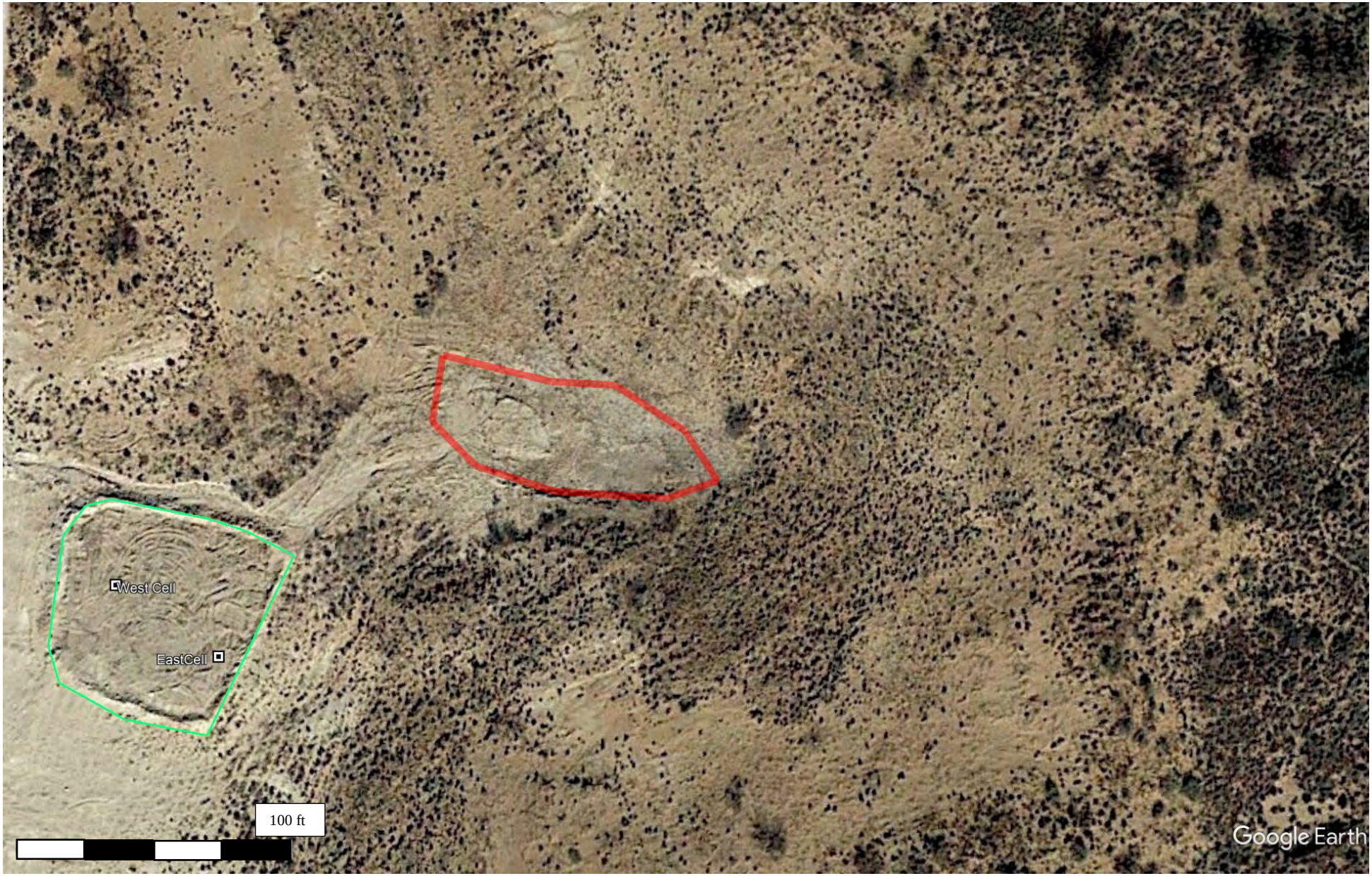


Figure 2
Google Earth image from 2/1/2017, four months after the release. McElvain removed crude oil pooling in the caliche pit (red polygon) to the square phyto-remediation cell shown in green. The approximate location of the two sampling points within the cell are displayed.

Table 1 - Soil Analytical Results - McElvain #2 Release

sampleID	date_cltd	matrix	discDepth_fbgs	topDepth_fbgs	botDepth_fbgs	Cl_mg/kg 600	GRO_mg/kg	DRO_mg/kg	EXT DRO_mg/kg	TPH_mg/kg 100	Benz_mg/kg 10	Average TPH	Average TPH mg/kg
24-1	8/1/2024	Soil		0.0	2.0	112	ND	ND	ND	ND	ND	ND	
24-1	8/1/2024	Soil		2.0	4.0	144	ND	ND	ND	ND	ND	ND	
24-1	8/1/2024	Soil	4.20			128	ND	ND	ND	ND	ND	ND	
24-2	8/1/2024	Soil		0.0	2.0	32.0	ND	ND	ND	ND	ND	ND	
24-2	8/1/2024	Soil		2.0	4.0	32.0	ND	ND	ND	ND	ND	ND	
24-2	8/1/2024	Soil	4.20			656	ND	ND	ND	ND	ND	ND	
24-3	8/1/2024	Soil		0.0	2.0	32	ND	ND	ND	ND	ND	ND	
24-3	8/1/2024	Soil		2.0	4.0	64	ND	ND	ND	ND	ND	ND	
24-3	8/1/2024	Soil	4.20			96	ND	ND	ND	ND	ND	ND	
21-4	8/1/2024	Soil		0.0	2.0	32	ND	ND	ND	ND	ND	ND	
21-4	8/1/2024	Soil		2.0	4.0	16	ND	ND	ND	ND	ND	ND	
21-4	8/1/2024	Soil	4.20			32	ND	ND	ND	ND	ND	ND	
Cell W	8/1/2024	Soil		0.0	2.0	16	***6.25***	62	14.1	82.35	ND	ND	
Cell W	8/1/2024	Soil		2.0	4.0	32	***6.25***	***4.26***	***4.26***	***14.77***	ND	ND	**37**
Cell W	8/1/2024	Soil	4.20			16	***6.25***	***4.26***	***4.26***	***14.77***	ND	ND	
Cell E	8/1/2024	Soil		0.0	2.0	48.0	***6.25***	164	83.6	253.85	ND	ND	
Cell E	8/1/2024	Soil		2.0	4.0	240.0	***6.25***	***4.26***	***4.26***	***14.77***	ND	ND	**94**
Cell E	8/1/2024	Soil	4.20			48.0	***6.25***	***4.26***	***4.26***	***14.77***	ND	ND	
RQ	8/1/2024	Soil		0.0	2.0	32	***6.25***	ND	ND	ND	ND	ND	
RQ	8/1/2024	Soil		2.0	4.0	16	***6.25***	ND	ND	ND	ND	ND	
RQ	8/1/2024	Soil	4.20			32	***6.25***	ND	ND	ND	ND	ND	

Sample values in bold italics are theMinimum Detection Limits to allow for calculation of TPH

CARDINAL Laboratories

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

August 07, 2024

KRISTIN POPE

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: MCELVAIN #2 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 08/01/24 14:02.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: 24-1 @ 0-2 FT (H244621-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/02/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/02/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/02/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *115 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	08/06/2024	ND	432	108	400	3.64	

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	08/02/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane *77.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *90.6 %* *49.1-148*

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:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: 24-1 @ 2-4 FT (H244621-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/02/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/02/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/02/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	08/06/2024	ND	432	108	400	3.64	

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	08/03/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/03/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/03/2024	ND					

Surrogate: 1-Chlorooctane *50.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *55.0 %* *49.1-148*

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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:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: 24-1 @ 4.2 FT (H244621-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/02/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/02/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/02/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *121 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	08/06/2024	ND	432	108	400	3.64	

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	08/02/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane *70.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *78.6 %* *49.1-148*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: 24-2 @ 0-2 FT (H244621-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/02/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/02/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/02/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *115 %* *71.5-134*

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	08/06/2024	ND	432	108	400	3.64	

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	08/02/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane *82.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *93.8 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: 24-2 @ 2-4 FT (H244621-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/02/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/02/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/02/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *117 %* *71.5-134*

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	08/06/2024	ND	432	108	400	3.64	

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	08/02/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane *80.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *94.3 %* *49.1-148*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: 24-2 @ 4.2 FT (H244621-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/02/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/02/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/02/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *117 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**656**	16.0	08/06/2024	ND	432	108	400	3.64	

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	08/02/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane *80.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.3 %* *49.1-148*

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:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: 24-3 @ 0-2 FT (H244621-07)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/02/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/02/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/02/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *112 %* *71.5-134*

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	08/06/2024	ND	432	108	400	3.64	

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	08/02/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane *68.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *83.0 %* *49.1-148*

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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:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: 24-3 @ 2-4 FT (H244621-08)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/03/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/03/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/03/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/03/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *115 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	08/06/2024	ND	432	108	400	3.64	

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	08/02/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane *64.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *76.3 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: 24-3 @ 4.2 FT (H244621-09)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/03/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/03/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/03/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/03/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	08/06/2024	ND	432	108	400	3.64	

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	08/02/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane *73.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *83.9 %* *49.1-148*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: 24-4 @ 0-2 FT (H244621-10)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/03/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/03/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/03/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/03/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *71.5-134*

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	08/06/2024	ND	432	108	400	3.64	

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	08/02/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane *73.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *83.8 %* *49.1-148*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: 24-4 @ 2-4 FT (H244621-11)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/03/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/03/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/03/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/03/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *71.5-134*

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	08/06/2024	ND	432	108	400	3.64	

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	08/02/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane *68.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *78.1 %* *49.1-148*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: 24-4 @ 4.2 FT (H244621-12)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/03/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/03/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/03/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/03/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *71.5-134*

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	08/06/2024	ND	432	108	400	3.64	

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	08/03/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/03/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/03/2024	ND					

Surrogate: 1-Chlorooctane *56.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *65.1 %* *49.1-148*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: CELL - W @ 0-2 FT (H244621-13)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2024	ND	2.05	102	2.00	5.52	QM-07
Toluene*	<0.050	0.050	08/05/2024	ND	1.97	98.5	2.00	5.38	QM-07
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.08	104	2.00	5.39	QM-07
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.09	101	6.00	4.95	QM-07
Total BTEX	<0.300	0.300	08/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.1 %* *71.5-134*

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	08/06/2024	ND	432	108	400	3.64	

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	08/03/2024	ND	209	104	200	2.72	
DRO >C10-C28*	**62.0**	10.0	08/03/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	**14.1**	10.0	08/03/2024	ND					

Surrogate: 1-Chlorooctane *53.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *63.7 %* *49.1-148*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: CELL - W @ 2-4 FT (H244621-14)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2024	ND	2.05	102	2.00	5.52	
Toluene*	<0.050	0.050	08/05/2024	ND	1.97	98.5	2.00	5.38	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.08	104	2.00	5.39	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.09	101	6.00	4.95	
Total BTEX	<0.300	0.300	08/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.8 %* *71.5-134*

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	08/06/2024	ND	432	108	400	3.64	

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	08/03/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/03/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/03/2024	ND					

Surrogate: 1-Chlorooctane *54.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *62.5 %* *49.1-148*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: CELL - W @ 4.2 FT (H244621-15)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2024	ND	2.05	102	2.00	5.52	
Toluene*	<0.050	0.050	08/05/2024	ND	1.97	98.5	2.00	5.38	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.08	104	2.00	5.39	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.09	101	6.00	4.95	
Total BTEX	<0.300	0.300	08/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.6 %* *71.5-134*

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	08/06/2024	ND	432	108	400	3.64	

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	08/03/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/03/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/03/2024	ND					

Surrogate: 1-Chlorooctane *69.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *79.1 %* *49.1-148*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: CELL - E @ 0-2 FT (H244621-16)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2024	ND	2.05	102	2.00	5.52	
Toluene*	<0.050	0.050	08/05/2024	ND	1.97	98.5	2.00	5.38	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.08	104	2.00	5.39	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.09	101	6.00	4.95	
Total BTEX	<0.300	0.300	08/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.2 %* *71.5-134*

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	08/06/2024	ND	432	108	400	7.14	

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	08/03/2024	ND	209	104	200	2.72	
DRO >C10-C28*	**164**	10.0	08/03/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	**83.6**	10.0	08/03/2024	ND					

Surrogate: 1-Chlorooctane *67.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *84.3 %* *49.1-148*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: CELL - E @ 2-4 FT (H244621-17)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2024	ND	2.05	102	2.00	5.52	
Toluene*	<0.050	0.050	08/05/2024	ND	1.97	98.5	2.00	5.38	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.08	104	2.00	5.39	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.09	101	6.00	4.95	
Total BTEX	<0.300	0.300	08/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.8 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**240**	16.0	08/06/2024	ND	432	108	400	7.14	

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	08/05/2024	ND	197	98.4	200	3.03	
DRO >C10-C28*	<10.0	10.0	08/05/2024	ND	211	106	200	14.1	
EXT DRO >C28-C36	<10.0	10.0	08/05/2024	ND					

Surrogate: 1-Chlorooctane *62.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *75.0 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: CELL - E @ 4.2 FT (H244621-18)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2024	ND	2.05	102	2.00	5.52	
Toluene*	<0.050	0.050	08/05/2024	ND	1.97	98.5	2.00	5.38	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.08	104	2.00	5.39	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.09	101	6.00	4.95	
Total BTEX	<0.300	0.300	08/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.6 %* *71.5-134*

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	08/06/2024	ND	432	108	400	7.14	

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	08/05/2024	ND	197	98.4	200	3.03	
DRO >C10-C28*	<10.0	10.0	08/05/2024	ND	211	106	200	14.1	
EXT DRO >C28-C36	<10.0	10.0	08/05/2024	ND					

Surrogate: 1-Chlorooctane *68.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *85.4 %* *49.1-148*

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:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: RQ @ 0-2 FT (H244621-19)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2024	ND	2.05	102	2.00	5.52	
Toluene*	<0.050	0.050	08/05/2024	ND	1.97	98.5	2.00	5.38	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.08	104	2.00	5.39	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.09	101	6.00	4.95	
Total BTEX	<0.300	0.300	08/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.3 %* *71.5-134*

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	08/06/2024	ND	432	108	400	7.14	

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	08/05/2024	ND	197	98.4	200	3.03	
DRO >C10-C28*	<10.0	10.0	08/05/2024	ND	211	106	200	14.1	
EXT DRO >C28-C36	<10.0	10.0	08/05/2024	ND					

Surrogate: 1-Chlorooctane *85.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *105 %* *49.1-148*

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:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: RQ @ 2-4 FT (H244621-20)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2024	ND	2.05	102	2.00	5.52	
Toluene*	<0.050	0.050	08/05/2024	ND	1.97	98.5	2.00	5.38	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.08	104	2.00	5.39	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.09	101	6.00	4.95	
Total BTEX	<0.300	0.300	08/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.4 %* *71.5-134*

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	08/06/2024	ND	432	108	400	7.14	

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	08/05/2024	ND	197	98.4	200	3.03	
DRO >C10-C28*	<10.0	10.0	08/05/2024	ND	211	106	200	14.1	
EXT DRO >C28-C36	<10.0	10.0	08/05/2024	ND					

Surrogate: 1-Chlorooctane *66.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *82.4 %* *49.1-148*

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:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	08/01/2024	Sampling Date:	08/01/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	MCELVAIN #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PRIMA - LEA CO.		

Sample ID: RQ @ 4.2 FT (H244621-21)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2024	ND	2.05	102	2.00	5.52	
Toluene*	<0.050	0.050	08/05/2024	ND	1.97	98.5	2.00	5.38	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.08	104	2.00	5.39	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.09	101	6.00	4.95	
Total BTEX	<0.300	0.300	08/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.6 %* *71.5-134*

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	08/06/2024	ND	432	108	400	7.14	

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	08/05/2024	ND	197	98.4	200	3.03	
DRO >C10-C28*	<10.0	10.0	08/05/2024	ND	211	106	200	14.1	
EXT DRO >C28-C36	<10.0	10.0	08/05/2024	ND					

Surrogate: 1-Chlorooctane *77.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *95.1 %* *49.1-148*

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.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
BS1	Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: R.T. Hicks Consultants	**BILL TO**
Project Manager: Kristin Pope	P.O. #:
Address: 901 Rio Grande Blvd NW, Suite F-142	Company: R.T. Hicks Consultants
City: Albuquerque State: NM Zip: 87104	Attn: Randy Hicks
Phone #: 575-302-6755 Fax #:	Address:
Project #: Project Owner: Prima	City:
Project Name: McElvain #2 release	State: Zip:
Project Location: Lea Co.	Phone #: 505-266-5004
Sampler Name: Kristin Pope	Fax #:

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	Chloride	BTEX	TPH 8015M
H244621																	
1	24-1 @ 0-2 ft	G	1			✓					✓		8-1-24	0842	✓	✓	✓
2	24-1 @ 2-4 ft	G	1			✓					✓			0846			
3	24-1 @ 4.2 ft	G	1			✓					✓			0853			
4	24-2 @ 0-2 ft	G	1			✓					✓			0905			
5	24-2 @ 2-4 ft	G	1			✓					✓			0909			
6	24-2 @ 4.2 ft	G	1			✓					✓			0915			
7	24-3 @ 0-2 ft	G	1			✓					✓			0929			
8	24-3 @ 2-4 ft	G	1			✓					✓			0935			
9	24-3 @ 4.2 ft	G	1			✓					✓			0945			
10	24-4 @ 0-2 ft	G	1			✓					✓			1006			

Relinquished By: Kristin Pope	Date: 8-1-24 Time: 1402	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	#140 2.9°C	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) TO

REMARKS: kristin@rthicksconsult.com, R@rthicksconsult.com

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

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:	RT Hicks	P.O. #:	
Project Manager:		Company:	
Address:		Attn:	
City:	State: Zip:	Address:	
Phone #:	Fax #:	City:	
Project #:	Project Owner:	State: Zip:	
Project Name:		Phone #:	
Project Location:		Fax #:	
Sampler Name:			

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	Chloride	BTEX	TPH 8015M
H244621																	
11	24-4 @ 2-4 ft	G	1			~					~		8-1-24	1013	~	~	~
12	24-4 @ 4.2 ft.	G	1			~					~			1017	~	~	~
13	Cell-W @ 0-2 ft	G	1			~					~			1043	~	~	~
14	Cell-W @ 2-4 ft	G	1			~					~			1052	~	~	~
15	Cell-W @ 4.2 ft	G	1			~					~			1059	~	~	~
16	Cell-E @ 0-2 ft	G	1			~					~			1110	~	~	~
17	Cell-E @ 2-4 ft	G	1			~					~			1112	~	~	~
18	Cell-E @ 4.2 ft	G	1			~					~			1118	~	~	~
19	RQ @ 0-2 ft	G	1			~					~			1147	~	~	~
20	RQ @ 2-4 ft	G	1			~					~			1157	~	~	~

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 consequential 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: Kaitlin Pope	Date: 8-1-24 Time: 1402	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address:	
Relinquished By:	Date: Time:	Received By:	REMARKS:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C #140 Corrected Temp. °C 2.9	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	Turnaround Time: Standard ☑ Rush ☐ Thermometer ID #140 Correction Factor 0°C
				Bacteria (only) Sample Condition Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.4 07/11/23

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: R.T. Hicks Consultants	**BILL TO**
Project Manager: Kristin Pope	P.O. #:
Address: 901 Rio Grande Blvd NW, Suite F-142	Company: R.T. Hicks Consultants
City: Albuquerque State: NM Zip: 87104	Attn: Randy Hicks
Phone #: 575-302-6755 Fax #:	Address:
Project #: Project Owner: Prima	City:
Project Name: McElvain #2 release	State: Zip:
Project Location: Lea Co.	Phone #: 505-266-5004
Sampler Name: Kristin Pope	Fax #:

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	Chloride	BTEX	TPH 8015M
H244621 21	RQ @ 4.2 ft	G	1			✓					✓		8-1-24	1200	✓	✓	✓

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: Kristin Pope	Date: 8-1-24 Time: 1402	Received By: Tamara Oldaker	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	#140 2.9	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)

REMARKS: kristin@rthicksconsult.com, R@rthicksconsult.com

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

Appendix C-141

Appendix OCD/McElvain Communications

Appendix 2016-2017 Reports

Appendix Cardinal Lab Communication

Appendix Soil Sampling Method

Appendix Well Logs

REVIEWED
By Kristen Lynch at 1:56 pm, Nov 07, 2016

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

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

x☐ Initial Report ☐ Final Report

Name of Company McElvain Energy Inc.	Contact Tony Cooper
Address 1050 17th Street Denver Colorado 80265	Telephone No. 303-501-0004
Facility Name McElvain #2	Facility Type- Oil well pad

Surface Owner BLM	Mineral Owner BLM	API No. 025-27543

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	29	18S	34E	2310	S	660	W	Lea

Latitude_____ **Longitude**_____

NATURE OF RELEASE

Type of Release – Oil and Produced Water	Volume of Release 187 BO & > 268 BPW (PW vol is best est.)	Volume Recovered 78 bbls of water oil emulsion
Source of Release – McElvain #2 well	Date and Hour of Occurrence During the night of 10-18-2016	Date and Hour of Discovery -10-19-2016 5:30 am
Was Immediate Notice Given? x☐ Yes ☐ No ☐ Not Required	If YES, To Whom? Shelly Tucker BLM & Kristen Lynch NMOCD	
By Whom? Tony Cooper	Date and Hour…. 10-19-2016…. 8:21am	
Was a Watercourse Reached? ☐ Yes x☐ No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*

The separator for the McElvain #2 well was overloaded with produced water sending the water through the separator to the crude oil (500 bbl) & produced water (210 bbl) tanks displacing all of the fluid in the tanks. The displaced fluid from the tanks breached the secondary containment around the tanks eventually releasing the fluid off of the well pad. The stuffing box on the well head also released some fluid. However, the majority of the fluid that was released came through the separator and out the top of the tanks breaching the tank berms. The volume of fluid released by the McElvain #2 well, was due to a treatment that was being performed on another McElvain well in close proximity to the McElvain #2 well at the time.

Describe Area Affected and Cleanup Action Taken.*

All free standing fluid (oil and water) was vacuumed up. Hot water was then flushed down a ditch that carried much of the released fluid to an abandoned caliche pit. All fluid from the flushing operation was then vacuumed up. Crews then used absorbents and hand tools to clean up any residual oil that remained onsite and on the edges of the ditch. Sampling for site characterization will begin on Tuesday 10-25 and will be performed by RT Hicks Consulting.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Tony G. Cooper	OIL CONSERVATION DIVISION
Printed Name: Tony G Cooper	Approved by Environmental Specialist: Kristen Lynch
Title: Sr. EHS Specialist	Approval Date: 11/7/2016 Expiration Date: 1/7/2017
E-mail Address: tony.cooper@mcelvain.com	Conditions of Approval: See attached Directive ☐ Attached 1RP 4496
Date: 10-20-2016 Phone: 303-501-0004	

* Attach Additional Sheets If Necessary

nKL1631248077
pKL1631248934

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 10/20/2016 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1RP 4496 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 1 office in Hobbs on or before 12/7/2016. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

● Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

● Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

● Nominal detection limits for field and laboratory analyses must be provided.

● Composite sampling is not generally allowed.

● Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

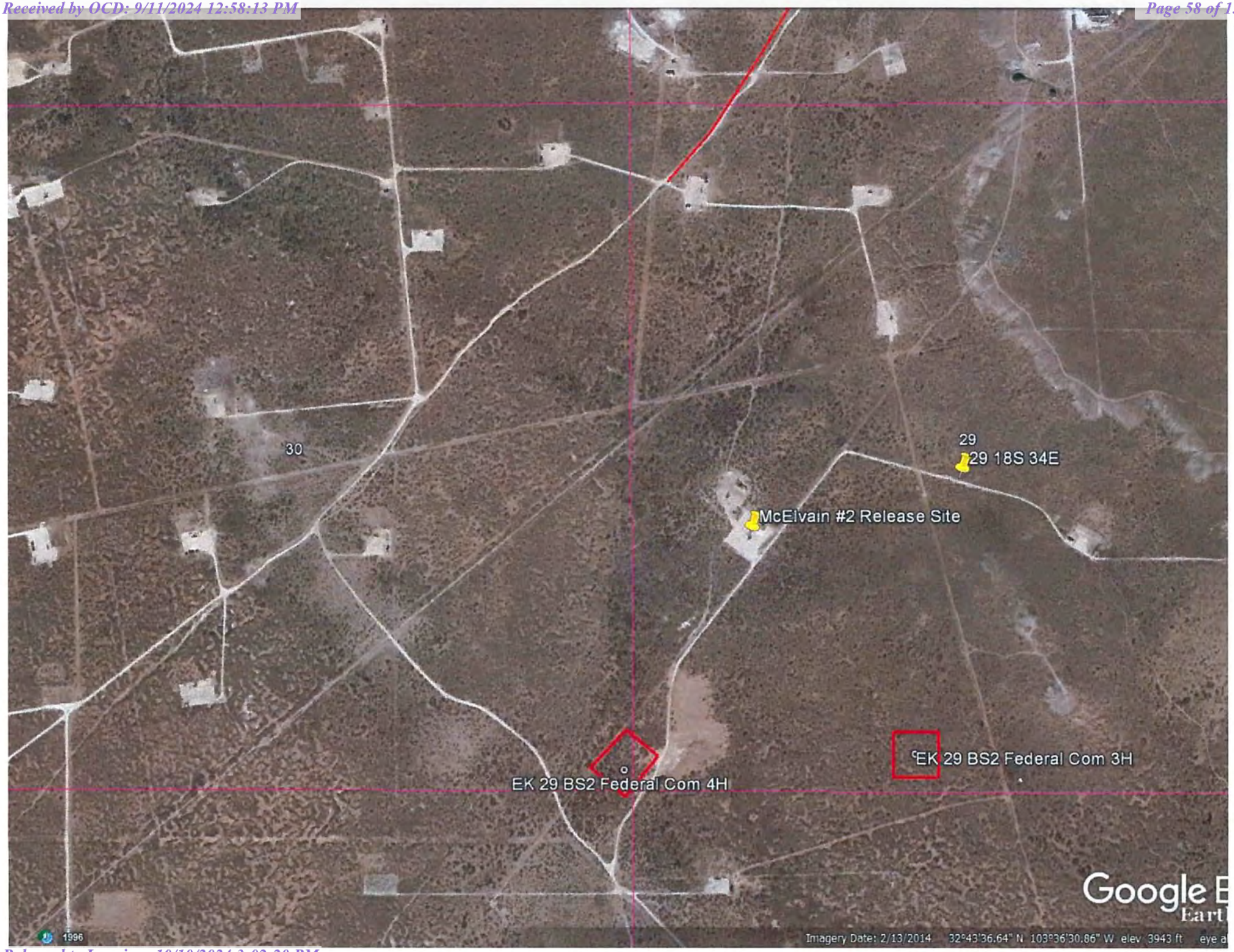
●Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

● If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

● Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us


30
29
29 18S 34E
McElvain #2 Release Site
EK 29 BS2 Federal Com 4H
EK 29 BS2 Federal Com 3H
Google E
Eart
1996
Imagery Date: 2/13/2014 32°43'36.64" N 103°36'30.86" W elev 3943 ft eye a

From: Jacqueline Buczek
To: r@rthicksconsult.com
Subject: FW: Follow-up on McElvain 2 - Remedial Plan Amendment history -nKL1631248077
Date: Thursday, February 4, 2021 2:21:29 PM

From: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Sent: Thursday, February 4, 2021 2:04 PM
To: Jacqueline Buczek <jbuczek@primaex.com>
Subject: RE: Follow-up on McElvain 2 - Remedial Plan Amendment history -nKL1631248077

Hi,

I see what you are referring to, I think, and what I see is a letter approval of the amended work plan BUT by BLM, which does not mean OCD approved or disapproved. And to proceed with older plan it needs to have been approved by OCD, of which I cannot find as of now.

I note in Mr. Hicks blued report mention of an approved work plan by OCD, but I cannot find any approval note or letter from OCD. You might want to contact Mr. Hicks to see if he has something signed by way of signed approval.

Nonetheless, if you would like, send along the remedial data you have, it might help me in decision process.

Bradford

From: Jacqueline Buczek <jbuczek@primaex.com>
Sent: Thursday, February 4, 2021 1:33 PM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Subject: [EXT] Follow-up on McElvain 2 - Remedial Plan Amendment history -nKL1631248077

Brad,

Thank you for your time today. I had the people at McElvain look through there emails and they found more information.

Fortunately, the below emails shows the approval of the modify remediation plan. I will also forward you the original email with the referred to modify remediation plan. Based on this information can Prima proceed with closing out the McElvain 2 spill under the old rules and modify remediation plan?

Thank You

Jacqueline Buczek
Petroleum Engineer

PRIMA EXPLORATION, INC.

250 Fillmore Street, Suite 500
Denver, CO 80206
Direct: (303) 755-5681 x 109
Cell: (720)-614-2854
jbuczek@primaex.com

From: Tucker, Shelly <stucker@blm.gov>
Sent: Tuesday, January 17, 2017 3:28 PM
To: Tony Cooper <Tony.Cooper@McElvain.com>
Cc: kristen.lynch@state.nm.us; r@rthicksconsult.com; Joe McManes; Chris Caplis <Chris.Caplis@McElvain.com>; Joe H. Kelloff <Joe.Kelloff@McElvain.com>
Subject: Re: McElvain 2 - Remedial Plan Amendment

BLM accepts your modification to the original approved proposal. Please note, area will not be released until regulatory limits have been obtained. Thank you!

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Shelly J Tucker
Environmental Protection Specialist
O&G Spill/Release Coordinator

Bureau of Land Management
620 E. Greene St
Carlsbad, NM 88220

575.234.5905 - Direct
575.361.0084 - Cellular
575.234.6235 - Emergency Spill Number

stucker@blm.gov

The **BLM acceptance/approval does not** relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment or if the location fails to reclaim properly. In such an event that the location does not revegetate, or future issues with contaminants are encountered, the operator will be asked to address the issues until the contaminant issues are fully mitigated and the location is successfully reclaimed. In addition, BLM approval does not relieve the operator of responsibility for compliance with any other federal, state or local laws/regulations.

On Fri, Jan 6, 2017 at 9:59 AM, Tony Cooper <Tony.Cooper@mcelvain.com> wrote:

> Ms. Tucker, please see the attached C-141/remedial plan amendment, reflecting a slight change in the approach of the remediation to the McElvain #2 release. The hand work has been completed on the drainage ditch leading from the well pad to the caliche pit. The pooling area in the caliche pit has been excavated and the material placed on the surface in the north east area of the pit. Everything is looking good so far. We plan on doing confirmation sampling and analysis at the site sometime in late January. I will follow up with another report at that time.
>
> Respectfully,
>
> Tony Cooper
> Sr EHS Specialist
> McElvain Energy Inc.
> 1050 17th Street Suite 2500
> Denver CO 80265
> 303-501-0004
> tony.cooper@mcelvain.com

R. T. HICKS CONSULTANTS, LTD.
901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Since 1996

November 8, 2016

Tony Cooper
Sr. EHS Specialist
McElvain Energy Inc.
1050 17th St. Suite 2500
Denver, CO 80265

RE: Remediation Plan McElvain #2 Release
McElvain #2 –30-025-27543, UL L Section 29 18S 34E

Dear Mr. Cooper:

We propose that McElvain Energy submit this document as the remediation plan for the above-referenced site. The plan should be submitted to BLM, who has taken the lead on this project, as well as NMOCD Hobbs Office. Appendix A summarizes the environmental conditions of the McElvain lease area. Appendix B contains photographs of the release footprint as well as Google Earth images of the release and sample locations. Appendix C provides:

- remediation goals and closure criteria
- instructions for the remediation contractor to implement the proposed remedy,
- proposed monitoring and sampling

Appendix D is the reports from Cardinal Laboratory for the samples obtained from the site.

Incident Description

The C-141 describes the basic elements of the incident. Communication between fresh water reservoir stimulation of two nearby wells and the McElvain #2 well plus a failure of plumbing at the McElvain #2 well caused an overflow of crude and water within the tank battery. Fresh water from the stimulation displaced crude and a small volume of produced water from the tanks. The crude, produced water and a significant volume of fresh water ultimately breached the containment and flowed over the location then downhill along an abandoned road, crossed the lease road and pooled in a restored caliche pit.

As displayed in Appendix B, the spill footprint is limited to the drainage/gully created in the abandoned roadbed by runoff from the McElvain #2 location and flow along the abandoned road uphill from McElvain #2. When the flow intercepted the newer lease road, it flowed over the road to the ditch on the south side of the road. The flow followed the road ditch - then followed a storm water drainage to the restored caliche pit, where it collected in a dry pooling area. The flow path of the release is the same as surface water runoff.

Sampling and Analytical Results

The initial chemical characterization of the release consisted of hand auger sampling at five locations inside of the release footprint and one background sample in the restored caliche pit, adjacent to crude on the surface. After excavation of stained soil from the reclaimed caliche pit bottom, McElvain collected a second set of samples. Table 1, below, presents the analytical results of sampling. Figure1 plots the sample locations along the abandoned road on a Google Earth image and the groundwater elevation reproduced from Figure A-2b (see Appendix A). As described in Appendix A, the 3800-foot elevation of groundwater defines the approximate western limit of saturation of the

alluvial material. West of the 3800-foot equipotential line, we are confident that shallow groundwater does not exist. Figure 2 plots the sample locations on a topographic base map.

Borings SB-1 and SB-2 are both within the crude footprint created by the release. The locations are near each other to provide an estimate of the variability of results in the same area of the release. Salt, as measured by chloride ion concentration, is very low and poses no threat to the environment. The similarity of chloride concentrations within the same depth horizons suggests that the release impacted each location to the same extent. Benzene, Toluene, Ethylbenzene and Xylene (BTEX) and Total Petroleum Hydrocarbon (TPH) concentrations are highest in the near surface samples and decrease with depth. The decrease in concentration is more profound at SB-2. All samples from the auger were moist, but not saturated.

Given the variability of hydrocarbon concentrations observed in all soil samples, the results of the SB-3 sample matches the 8-inch deep horizon at SB-1 and SB-2. This sample was also moist.

SB-4 was drilled within the channel created by storm water flow and impacted by the crude/water release. At SB-4, the surface sample of stained soil was discarded, as this horizon would be removed the next day. The samples tested the impact of salt and hydrocarbons with depth. While the difference between 0.61 and 0.10 mg/kg in a soil sample may not be large enough to support a conclusion of decreasing concentration with depth, the difference in total BTEX between the 6-9 inch horizon and 20-23 inch horizon is convincing evidence of the expected decreasing concentration with depth. These samples were both relatively moist.

SB-5 represents the area of the reclaimed caliche pit where the crude/water pooled after the release. These samples display the same relationship described above for SB-4, albeit with higher concentrations of BTEX and TPH. Both samples were almost saturated with water.

Table 1
McElvain Wells No. 2 Spill Site
Laboratory Data (Hand Auger Samples)

Sample Location	Depth (inches)	Sample Date	Chloride (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)
SB-1	0-8	10/25/16	48.0	54.9	414	281	277	1,030	5,410	11,700
	8-14	10/25/16	32.0	21.8	187	160	202	571	3,680	7,830
	14-16	10/25/16	48.0	13.9	142	130	151	436	2,190	6,320
SB-2	Surface	10/25/16	272	164	657	374	358	1,550	8,880	62,300
	2-8	10/25/16	48.0	23.8	234	184	197	639	3,740	7,250
	8-12	10/25/16	64.0	0.418	2.38	1.49	1.71	5.99	24.9	146
	12-17	10/25/16	64.0	0.424	3.10	2.61	3.22	9.36	26.2	141
	24-28	10/25/16	48.0	0.167	0.741	0.502	0.584	1.99	14.5	91.9
SB-3	4-8	10/25/16	160	88.1	508	323	343	1,260	5,570	8,250
SB-4	6-9	10/25/16	<16.0	0.609	1.46	0.421	0.393	2.88	<10	<10
	20-23	10/25/16	32.0	0.102	0.323	0.141	<0.15	0.566	<10	<10
SB-5	12-15	10/25/16	<16.0	0.663	3.46	1.60	3.09	8.81	28.2	284
	21-24	10/25/16	<16.0	0.260	0.962	0.501	0.609	2.33	<10	<10
SB-6	9-12	10/25/16	<16.0	0.130	0.349	0.133	<0.15	0.611	<10	<10
Post-Excavation Samples - Caliche Pit Bottom										
Northeast	Surface	11/2/16		<0.05	<0.05	<0.05	<0.15		<10	333
South	Surface	11/2/16		<0.05	<0.05	<0.05	<0.15		<10	<10
West	Surface	11/2/16		<0.05	<0.05	<0.05	<0.15		<10	47.5

SB-6 lay inside the reclaimed caliche pit floor are but outside of the crude footprint, was completely dry and presented no hydrocarbon odor. That BTEX is 0.61 mg/kg at the 9-12 inch depth was a little surprising as we expected a result below the reporting limit of 0.3 mg/kg. However, at such low concentrations, a small mass of carryover of residual on the auger may be responsible or vapor phase transport from the impact area, the edge of which was only a few inches from the auger boring.

We directed McElvain to remove stained soil and soil with obvious odor from the bottom of the caliche pit to an area of the reclaimed pit that was poorly vegetated and was higher in elevation that where the crude pooled. After removal of stained soil, McElvain collected samples from the northeast, south and western areas where the crude had stained the soil. The laboratory did not detect BTEX above reporting limits. With the removal of the stained soil, the average TPH concentrations are less than measured at the 12-15 inch depth at SB-5.

The observations and analytical results support, in our opinion, the remedy protocols outlined in Appendix C. Please contact me if you have questions or comments.

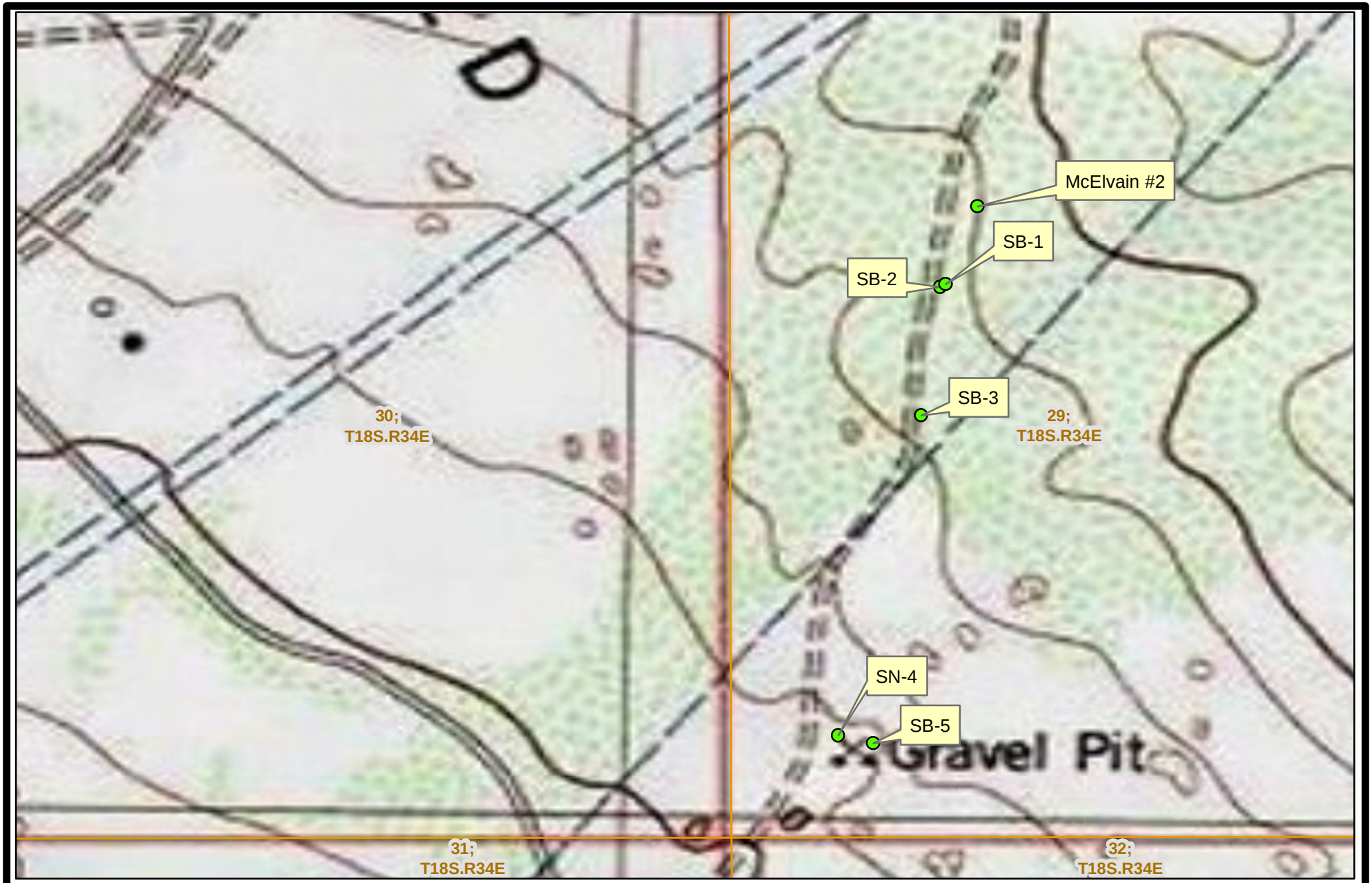
Sincerely,
R.T. Hicks Consultants

Randall Hicks
Principal

N
W
E
S

0 500 Feet

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Google Earth Image and Groundwater Surface	Figure 1
	McElvain Energy - Fed #2 Release	Nov 2016



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Topographic Map/Sample Locations	Figure 2
	McElvain Energy - Fed #2 Release	Nov 2016

Appendix B

Overview of Spill Area: The stained soil extends from the McElvain No. 2 well tank battery containment berm, across the well pad and down slope along an old dirt road (2-track) to the intersection of the current lease road. Evidence of the flow follows along both sides of the lease road for a short distance, then primarily along the east side of the road to a short drainage feature that extends from the lease road to the former caliche pit (see detail photograph of the pit area).

Sample locations along the flow path (yellow shading) and at the pit, where the flow terminates, are shown on the adjacent February 2014 satellite image.

This portion of the USGS topographic map covers approximately the same area as the 2014 satellite image (above). It shows a slope of approximately 0.02 ft/ft along the former dirt road, which served at the primary flow path for the released fluids.

Appendix B

Termination point of the release flow path is a restored BLM depression, which was dry on the date of inspection. The 2014 satellite photograph does not show the current surface conditions but the flow area (yellow) and sample locations are correctly geo-referenced.

Fluid was forced through the stuffing box at the wellhead to the tank battery containment. The fluid escaped the containment at the low point in the berm near the separator.

Appendix B

Fluid from the release extended approximately 40 feet to the north along the old dirt road (right photo) and to the south across the well location (left photo). Clean sand was placed on the well pad to allow continued access to the well.

These photographs indicate the character of the stained soil along the old dirt road that served as the primary flow path from the McElvain No. 2 well location to the lease road. They indicate that the hydrocarbons penetrated only an inch or two into the sandy soil.

Appendix B

The adjacent photograph shows a cross-section in the primary flow path with unstained soil at the bottom, a thin layer of hydrocarbon staining in the middle, and a layer of sand at the surface. The sand was deposited by the final (and dominant) portion of the released fluid.

View to the south, just north of the pit, where the released fluid crossed the current lease road and continued down slope to the pit at the bottom of the hill to the left.

Appendix B

On the left is a photograph showing the flow path from the current lease road to the pit. The photograph on the right is a view back to the west from the pit toward the lease road.

Photograph inside the pit (view to the east) demonstrating that the release was of an insufficient volume cover the entire pit, filling only the low spots in the pit floor.

APPENDIX C

Environmental Threats and Proposed Closure Criteria

Soil salinity (chloride in soil) caused by the release is not an environmental threat.

The residual crude represents a potential threat to vegetation. If the crude hardens, the soil permeability will be reduced and plants may not propagate through an asphalt layer. There is no groundwater standard for TPH. The proposed remedy addresses TPH (crude) within the uppermost few inches of soil to mitigate any potential threat to vegetation.

The concentrations of volatile hydrocarbon constituents (BTEX) will decrease naturally over a short time frame through off-gassing and biodegradation. These constituents will not pose a threat to re-vegetation of the release footprint. In fact, phytoremediation (using green plants to remove hydrocarbon contaminants from soil or groundwater) is one protocol proposed to address the residual hydrocarbons released by the McElvain #2 well.

The regional environmental data presented in Appendix A suggest that if localized shallow groundwater exists in this area, such a groundwater zone would not exhibit sufficient saturated thickness to be available for beneficial use. An active shallow water supply well is about ½ mile north and east of the McElvain #2 well. An exploratory water well boring 1.5 miles west showed no shallow water. The line of zero saturation of the shallow water zone (groundwater elevation of 3800 feet) transects the release footprint (see Appendix A and Figure 2 of the Remediation Plan). If any shallow water exists beneath the footprint, the elevation of the water table would be about 3830. The surface elevation at SB-3 is about 3930, which calculates to a depth to water of 100 feet – if such water exists. Beneath the abandoned road, AMIGO[1] simulations suggest a recharge rate of 3-4 feet/year. API's AMIGO decision tool generally provides a maximum recharge rate in order to provide conservative predictions of impacts to groundwater quality. Our experience and examination of published literature suggests the residual BTEX would biodegrade decades before the 30-40 year time frame required for the first released molecules to reach groundwater. Nevertheless, implementing a remedy to reduce BTEX concentrations is proposed.

Given these potential environmental threats, the proposed closure criteria are:

1. No observed asphalt layer or asphalt particles greater than ¼ inch in diameter within the spill footprint by November 2017.
2. BTEX concentrations obtained at locations SB-1 and SB-2 from 6- and 24-inches below surface are lower than currently observed, demonstrating that natural restoration of these compounds is proceeding. These samples will be taken in April 2017, six months after the release.
3. BTEX concentrations in the excavated area of the caliche pit floor are sufficiently low that there is no potential for impairment of any underlying groundwater
4. 70% vegetation cover on the proposed phytoremediation cell in the restored caliche pit.

[1] http://www.api.org/oil-and-natural-gas/environment/clean-water/surface-water-quality/api-amigo-online-decision-support-tool

APPENDIX C
Instructions for Remediation Contractor

1. At the restored caliche pit floor, remove all stained soil and soil exhibiting hydrocarbon odor to the "phytoremediation cell" near the lease road as shown in Figure C-1 below. Berms along the edges of the phytoremediation cell will prevent erosion and redistribution of the impacted material as well as run-on of storm water. .
2. Along the flow path of the release
    a. Apply Micro-Blaze® Emergency Liquid Spill Control to the crude staining on the ground surface at the recommended "rule of thumb" rate of 1 gallon of concentrate per 10 cubic yards of material to be treated. Because the thickness of the crude layer is about 0.05 foot and the average width of the footprint is about 1.5 foot, 1 gallon of Micro-Blaze will treat about 130 linear feet of the spill footprint. Dilute the 1 gallon of concentrate with about 300 gallons of fresh water and apply about 2 gallons for every liner foot of spill footprint that is 1.5 feet wide.
    b. After wetting the crude footprint with Micro-Blaze, disaggregate the crude-stained soil to a depth of 12 inches except where the crude footprint lies on hard caliche and where disaggregation to a depth of12 inches is not possible. This process should result in a mixture of crude plus sand particles that are less than ½ inch in diameter.
    c. Distribute the disaggregated crude/sand from the footprint to areas adjacent to the crude footprint as suggested by Figures C-2 and C-3. This "thin spread" material should be 2-4 inches thick.
    d. In areas where crude lies on exposed caliche, do the best you can.
3. The phytoremediation cell will not undergo Micro-Blaze treatment. When construction is complete, should have the following characteristics
    a. The impacted soil in the cell should be more than 6-inches thick and less than 18 inches thick
    b. Berms should surround the cell to prevent run-on of storm water and erosion and redistribution of the impacted soil
    c. The surface of the cell should be relatively level
    d. The top soil surface should be furrowed and loose to maximize infiltration of precipitation
    e. The impacted soil should be seeded with the specified BLM seed mix

APPENDIX C

Figure C-1 – Location of phyto-remediation cell (green outline) in restored caliche pit. This area is exposed caliche and would benefit from the addition of sand/soil and seeding as proposed. Phytoremediation, not Micro-Blaze treatment is proposed for this cell.

APPENDIX C

Figure C-2 – Crude footprint in abandoned road "drainage" is limited in extent. After disaggregation of the surface crude and mixing with underlying sand, the mixed material should be dispersed along the sides of the flow path. Areas outlined in blue can be covered with a 2-4 inch layer of the excavated crude/sand.

Figure C-3 Footprint of crude in highly vegetated area of abandoned road "drainage". In these areas, mixing the crude with sand and disaggregation to less than ¼ inch size particles, which is the closure criteria, is critical. Once distributed into the vegetation, the crude/sand particles cannot be easily re-worked to meet closure criteria.

APPENDIX C

Appendix D – Laboratory Reports

CARDINAL Laboratories

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

October 28, 2016

RANDALL HICKS

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: MCELVAIN: WELL #2 SPILL

Enclosed are the results of analyses for samples received by the laboratory on 10/26/16 7:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 1 0-8" (H602392-01)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**54.9**	10.0	10/26/2016	ND	1.84	91.8	2.00	3.04	QM-07
Toluene*	**414**	10.0	10/26/2016	ND	2.23	111	2.00	2.06	QM-07
Ethylbenzene*	**281**	10.0	10/26/2016	ND	2.32	116	2.00	2.11	QM-07
Total Xylenes*	**277**	30.0	10/26/2016	ND	7.10	118	6.00	2.14	QM-07
Total BTEX	**1030**	60.0	10/26/2016	ND					QM-07

Surrogate: 4-Bromofluorobenzene (PID *107 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	10/26/2016	ND	416	104	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	**5410**	50.0	10/26/2016	ND	197	98.3	200	3.72	
DRO >C10-C28	**11700**	50.0	10/26/2016	ND	213	107	200	5.60	

Surrogate: 1-Chlorooctane *206 %* *35-147*

Surrogate: 1-Chlorooctadecane *293 %* *28-171*

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:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 1 8-14'' (H602392-02)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**21.8**	5.00	10/26/2016	ND	1.84	91.8	2.00	3.04	
Toluene*	**187**	5.00	10/26/2016	ND	2.23	111	2.00	2.06	
Ethylbenzene*	**160**	5.00	10/26/2016	ND	2.32	116	2.00	2.11	
Total Xylenes*	**202**	15.0	10/26/2016	ND	7.10	118	6.00	2.14	
Total BTEX	**571**	30.0	10/26/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	10/26/2016	ND	416	104	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	**3680**	50.0	10/26/2016	ND	197	98.3	200	3.72	
DRO >C10-C28	**7830**	50.0	10/26/2016	ND	213	107	200	5.60	

Surrogate: 1-Chlorooctane *166 %* *35-147*

Surrogate: 1-Chlorooctadecane *187 %* *28-171*

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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:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 1 14-16" (H602392-03)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**13.9**	5.00	10/26/2016	ND	1.84	91.8	2.00	3.04	
Toluene*	**142**	5.00	10/26/2016	ND	2.23	111	2.00	2.06	
Ethylbenzene*	**130**	5.00	10/26/2016	ND	2.32	116	2.00	2.11	
Total Xylenes*	**151**	15.0	10/26/2016	ND	7.10	118	6.00	2.14	
Total BTEX	**436**	30.0	10/26/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *108 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	10/26/2016	ND	416	104	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	**2190**	50.0	10/26/2016	ND	197	98.3	200	3.72	
DRO >C10-C28	**6320**	50.0	10/26/2016	ND	213	107	200	5.60	

Surrogate: 1-Chlorooctane *152 %* *35-147*

Surrogate: 1-Chlorooctadecane *170 %* *28-171*

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Analytical Results For:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 2 SURFACE (H602392-04)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**164**	10.0	10/26/2016	ND	1.84	91.8	2.00	3.04	
Toluene*	**657**	10.0	10/26/2016	ND	2.23	111	2.00	2.06	
Ethylbenzene*	**374**	10.0	10/26/2016	ND	2.32	116	2.00	2.11	
Total Xylenes*	**358**	30.0	10/26/2016	ND	7.10	118	6.00	2.14	
Total BTEX	**1550**	60.0	10/26/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**272**	16.0	10/26/2016	ND	416	104	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	**8880**	100	10/27/2016	ND	164	82.0	200	0.684	QM-07
DRO >C10-C28	**62300**	100	10/27/2016	ND	186	92.8	200	0.227	QM-07, QR-03

Surrogate: 1-Chlorooctane *436 %* *35-147*

Surrogate: 1-Chlorooctadecane *2280 %* *28-171*

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Analytical Results For:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 2 2-8" (H602392-05)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**23.8**	10.0	10/26/2016	ND	1.84	91.8	2.00	3.04	
Toluene*	**234**	10.0	10/26/2016	ND	2.23	111	2.00	2.06	
Ethylbenzene*	**184**	10.0	10/26/2016	ND	2.32	116	2.00	2.11	
Total Xylenes*	**197**	30.0	10/26/2016	ND	7.10	118	6.00	2.14	
Total BTEX	**639**	60.0	10/26/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	10/26/2016	ND	416	104	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	**3740**	50.0	10/27/2016	ND	164	82.0	200	0.684	
DRO >C10-C28	**7250**	50.0	10/27/2016	ND	186	92.8	200	0.227	

Surrogate: 1-Chlorooctane *139 %* *35-147*

Surrogate: 1-Chlorooctadecane *180 %* *28-171*

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Analytical Results For:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 2 8-12'' (H602392-06)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.418**	0.050	10/26/2016	ND	1.84	91.8	2.00	3.04	
Toluene*	**2.38**	0.050	10/26/2016	ND	2.23	111	2.00	2.06	
Ethylbenzene*	**1.49**	0.050	10/26/2016	ND	2.32	116	2.00	2.11	
Total Xylenes*	**1.71**	0.150	10/26/2016	ND	7.10	118	6.00	2.14	
Total BTEX	**5.99**	0.300	10/26/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	10/26/2016	ND	416	104	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	**24.9**	10.0	10/27/2016	ND	164	82.0	200	0.684	
DRO >C10-C28	**146**	10.0	10/27/2016	ND	186	92.8	200	0.227	

Surrogate: 1-Chlorooctane *82.8 %* *35-147*

Surrogate: 1-Chlorooctadecane *97.5 %* *28-171*

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Analytical Results For:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 2 12-17'' (H602392-07)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.424**	0.050	10/26/2016	ND	1.84	91.8	2.00	3.04	
Toluene*	**3.10**	0.050	10/26/2016	ND	2.23	111	2.00	2.06	
Ethylbenzene*	**2.61**	0.050	10/26/2016	ND	2.32	116	2.00	2.11	
Total Xylenes*	**3.22**	0.150	10/26/2016	ND	7.10	118	6.00	2.14	
Total BTEX	**9.36**	0.300	10/26/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	10/26/2016	ND	416	104	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	**26.2**	10.0	10/27/2016	ND	164	82.0	200	0.684	
DRO >C10-C28	**141**	10.0	10/27/2016	ND	186	92.8	200	0.227	

Surrogate: 1-Chlorooctane *83.3 %* *35-147*

Surrogate: 1-Chlorooctadecane *108 %* *28-171*

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Analytical Results For:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 2 24-28'' (H602392-08)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.167**	0.050	10/26/2016	ND	1.84	91.8	2.00	3.04	
Toluene*	**0.741**	0.050	10/26/2016	ND	2.23	111	2.00	2.06	
Ethylbenzene*	**0.502**	0.050	10/26/2016	ND	2.32	116	2.00	2.11	
Total Xylenes*	**0.584**	0.150	10/26/2016	ND	7.10	118	6.00	2.14	
Total BTEX	**1.99**	0.300	10/26/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	10/26/2016	ND	416	104	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	**14.5**	10.0	10/27/2016	ND	164	82.0	200	0.684	
DRO >C10-C28	**91.9**	10.0	10/27/2016	ND	186	92.8	200	0.227	

Surrogate: 1-Chlorooctane *84.3 %* *35-147*

Surrogate: 1-Chlorooctadecane *104 %* *28-171*

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Analytical Results For:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 5 12-15'' (H602392-09)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.663**	0.050	10/26/2016	ND	1.84	91.8	2.00	3.04	
Toluene*	**3.46**	0.050	10/26/2016	ND	2.23	111	2.00	2.06	
Ethylbenzene*	**1.60**	0.050	10/26/2016	ND	2.32	116	2.00	2.11	
Total Xylenes*	**3.09**	0.150	10/26/2016	ND	7.10	118	6.00	2.14	
Total BTEX	**8.81**	0.300	10/26/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *110 %* *73.6-140*

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	10/26/2016	ND	416	104	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	**28.2**	10.0	10/26/2016	ND	197	98.3	200	3.72	
DRO >C10-C28	**284**	10.0	10/26/2016	ND	213	107	200	5.60	

Surrogate: 1-Chlorooctane *88.7 %* *35-147*

Surrogate: 1-Chlorooctadecane *103 %* *28-171*

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Analytical Results For:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 5 21-24'' (R) (H602392-10)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.260**	0.050	10/26/2016	ND	1.84	91.8	2.00	3.04	
Toluene*	**0.962**	0.050	10/26/2016	ND	2.23	111	2.00	2.06	
Ethylbenzene*	**0.501**	0.050	10/26/2016	ND	2.32	116	2.00	2.11	
Total Xylenes*	**0.609**	0.150	10/26/2016	ND	7.10	118	6.00	2.14	
Total BTEX	**2.33**	0.300	10/26/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/26/2016	ND	416	104	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	10/26/2016	ND	197	98.3	200	3.72	
DRO >C10-C28	<10.0	10.0	10/26/2016	ND	213	107	200	5.60	

Surrogate: 1-Chlorooctane *81.8 %* *35-147*

Surrogate: 1-Chlorooctadecane *94.5 %* *28-171*

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Analytical Results For:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 3 4-8" (H602392-11)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**88.1**	10.0	10/27/2016	ND	1.84	91.8	2.00	3.04	
Toluene*	**508**	10.0	10/27/2016	ND	2.23	111	2.00	2.06	
Ethylbenzene*	**323**	10.0	10/27/2016	ND	2.32	116	2.00	2.11	
Total Xylenes*	**343**	30.0	10/27/2016	ND	7.10	118	6.00	2.14	
Total BTEX	**1260**	60.0	10/27/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	10/26/2016	ND	416	104	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	**5570**	50.0	10/27/2016	ND	164	82.0	200	0.684	
DRO >C10-C28	**8250**	50.0	10/27/2016	ND	186	92.8	200	0.227	

Surrogate: 1-Chlorooctane *162 %* *35-147*

Surrogate: 1-Chlorooctadecane *208 %* *28-171*

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Analytical Results For:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 4 6-9" (H602392-12)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.609**	0.050	10/27/2016	ND	1.84	91.8	2.00	3.04	
Toluene*	**1.46**	0.050	10/27/2016	ND	2.23	111	2.00	2.06	
Ethylbenzene*	**0.421**	0.050	10/27/2016	ND	2.32	116	2.00	2.11	
Total Xylenes*	**0.393**	0.150	10/27/2016	ND	7.10	118	6.00	2.14	
Total BTEX	**2.88**	0.300	10/27/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/26/2016	ND	416	104	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	10/27/2016	ND	164	82.0	200	0.684	
DRO >C10-C28	<10.0	10.0	10/27/2016	ND	186	92.8	200	0.227	

Surrogate: 1-Chlorooctane *79.4 %* *35-147*

Surrogate: 1-Chlorooctadecane *89.6 %* *28-171*

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Analytical Results For:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 4 20-23 (H602392-13)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.102**	0.050	10/27/2016	ND	1.84	91.8	2.00	3.04	
Toluene*	**0.323**	0.050	10/27/2016	ND	2.23	111	2.00	2.06	
Ethylbenzene*	**0.141**	0.050	10/27/2016	ND	2.32	116	2.00	2.11	
Total Xylenes*	<0.150	0.150	10/27/2016	ND	7.10	118	6.00	2.14	
Total BTEX	**0.566**	0.300	10/27/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	10/26/2016	ND	416	104	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	10/27/2016	ND	164	82.0	200	0.684	
DRO >C10-C28	<10.0	10.0	10/27/2016	ND	186	92.8	200	0.227	

Surrogate: 1-Chlorooctane *81.7 %* *35-147*

Surrogate: 1-Chlorooctadecane *98.3 %* *28-171*

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:

R T HICKS CONSULTANTS
RANDALL HICKS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/26/2016	Sampling Date:	10/25/2016
Reported:	10/28/2016	Sampling Type:	Soil
Project Name:	MCELVAIN: WELL #2 SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 6 9-12'' (H602392-14)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.130**	0.050	10/27/2016	ND	1.84	91.8	2.00	3.04	
Toluene*	**0.349**	0.050	10/27/2016	ND	2.23	111	2.00	2.06	
Ethylbenzene*	**0.133**	0.050	10/27/2016	ND	2.32	116	2.00	2.11	
Total Xylenes*	<0.150	0.150	10/27/2016	ND	7.10	118	6.00	2.14	
Total BTEX	**0.611**	0.300	10/27/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/26/2016	ND	416	104	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	10/27/2016	ND	164	82.0	200	0.684	
DRO >C10-C28	<10.0	10.0	10/27/2016	ND	186	92.8	200	0.227	

Surrogate: 1-Chlorooctane *83.1 %* *35-147*

Surrogate: 1-Chlorooctadecane *99.8 %* *28-171*

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.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside if QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

1

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	R T Hicks Consultants Ltd
Project Manager:	Dale Littlejohn
Address:	901 Rio Grande BLVD, Suite F-142
City:	Albuquerque State: NM Zip: 87104
Phone #:	(432) 528-3878 Fax #: dale@rthicksconsult.com
Project #:	Project Owner:
Project Name:	McElvain: Well #2 Spill
Project Location:	
Sampler Name:	Dale Littlejohn

BILL TO

P.O. #:	
Company:	RT Hicks Consult.
Attn:	Krista
Address:	901 Rio G. F-142
City:	Albuquerque
State:	NM Zip: 87104
Phone #:	(505) 266-5004
Fax #:	k@rthicksconsult.com

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	Chloride (300.1)	BTEX (8021B or 8260B)	DRO (8015M)	GRO (8015M)	TPH (418.1)
H602392																			
1	SB 1 0-8"		2			X					X		10/25	1440	X	X	X	X	X
2	SB 1 8-14"		2			X					X		10/25	1441	X	X	X	X	X
3	SB 1 14-16"		2			X					X		10/25	1442	X	X	X	X	X
4	SB 2 SURFACE		2			X					X			1447	X	X	X	X	X
5	SB 2 2-8"		2			X					X			1448	X	X	X	X	X
6	SB 2 8-12"		2			X					X			1449	X	X	X	X	X
7	SB 2 12-17"		2			X					X			1450	X	X	X	X	X
8	SB 2 24-28"		2			X					X			1451	X	X	X	X	X

Relinquished By:	Date: 10/26/16	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 7:45		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: -0.8°C #75

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

CHECKED BY: (Initials)

+ Cardinal cannot accept verbal changes. Please fax written

2

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	R T Hicks Consultants Ltd
Project Manager:	Dale Littlejohn
Address:	901 Rio Grande BLVD, Suite F-142
City:	Albuquerque State: NM Zip: 87104
Phone #:	(432) 528-3878 Fax #: dale@rthicksconsult.com
Project #:	Project Owner:
Project Name:	McElvain: Well #2 Spill
Project Location:	
Sampler Name:	Dale Littlejohn

BILL TO

P.O. #:	
Company:	RT Hicks Consult.
Attn:	Krista
Address:	901 Rio G. F-142
City:	Albuquerque
State:	NM Zip: 87104
Phone #:	(505) 266-5004
Fax #:	k@rthicksconsult.com

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	Chloride (300.1)	BTEX (8021B or 8260B)	DRO (8015M)	GRO (8015M)	TPH (418.1)
H602392																			
9	SB 5	12-15"	2			X					X		10/25	1530	X	X	X	X	X
10	SB 5	21-24" (R)	2			X					X			1531	X	X	X	X	X
11	SB 3	4-8"	2			X					X			1509	X	X	X	X	X
12	SB 4	6-9"	2			X					X			1512	X	X	X	X	X
13	SB 4	20-23	4			X				X				1510	X	X	X	X	X
14	SB 6	9-12"	2			X					X			1540	X	X	X	X	X

Relinquished By:	Date: 10/26/16	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1:45		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: || RUSH SB 5 12-15 SB 5 21-24 ||
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: -0.8°C #79

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

CHECKED BY: (Initials)

CARDINAL Laboratories

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

November 07, 2016

TONY COOPER

MCELVAIN ENERGY INC.

1050 17TH ST. SUITE 1800

DENVER, CO 80265

RE: MCELVAIN #2

Enclosed are the results of analyses for samples received by the laboratory on 11/02/16 9:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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:

MCELVAIN ENERGY INC.
TONY COOPER
1050 17TH ST. SUITE 1800
DENVER CO, 80265
Fax To:

Received:	11/02/2016	Sampling Date:	11/02/2016
Reported:	11/07/2016	Sampling Type:	Soil
Project Name:	MCELVAIN #2	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: NORTHEAST (H602453-01)

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	11/04/2016	ND	2.23	112	2.00	1.94	
Toluene*	<0.050	0.050	11/04/2016	ND	2.26	113	2.00	1.94	
Ethylbenzene*	<0.050	0.050	11/04/2016	ND	2.10	105	2.00	2.91	
Total Xylenes*	<0.150	0.150	11/04/2016	ND	6.37	106	6.00	2.78	
Total BTEX	<0.300	0.300	11/04/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *110 %* *73.6-140*

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	11/03/2016	ND	200	100	200	0.268	
DRO >C10-C28	**333**	10.0	11/03/2016	ND	217	108	200	5.65	
EXT DRO >C28-C35	**85.8**	10.0	11/03/2016	ND					

Surrogate: 1-Chlorooctane *87.8 %* *35-147*

Surrogate: 1-Chlorooctadecane *81.6 %* *28-171*

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:

MCELVAIN ENERGY INC.
TONY COOPER
1050 17TH ST. SUITE 1800
DENVER CO, 80265
Fax To:

Received:	11/02/2016	Sampling Date:	11/02/2016
Reported:	11/07/2016	Sampling Type:	Soil
Project Name:	MCELVAIN #2	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SOUTH (H602453-02)

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	11/04/2016	ND	2.23	112	2.00	1.94	
Toluene*	<0.050	0.050	11/04/2016	ND	2.26	113	2.00	1.94	
Ethylbenzene*	<0.050	0.050	11/04/2016	ND	2.10	105	2.00	2.91	
Total Xylenes*	<0.150	0.150	11/04/2016	ND	6.37	106	6.00	2.78	
Total BTEX	<0.300	0.300	11/04/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *73.6-140*

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	11/03/2016	ND	200	100	200	0.268	
DRO >C10-C28	<10.0	10.0	11/03/2016	ND	217	108	200	5.65	
EXT DRO >C28-C35	**11.8**	10.0	11/03/2016	ND					

Surrogate: 1-Chlorooctane *98.9 %* *35-147*

Surrogate: 1-Chlorooctadecane *112 %* *28-171*

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:

MCELVAIN ENERGY INC.
TONY COOPER
1050 17TH ST. SUITE 1800
DENVER CO, 80265
Fax To:

Received:	11/02/2016	Sampling Date:	11/02/2016
Reported:	11/07/2016	Sampling Type:	Soil
Project Name:	MCELVAIN #2	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: WEST (H602453-03)

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	11/04/2016	ND	2.23	112	2.00	1.94	
Toluene*	<0.050	0.050	11/04/2016	ND	2.26	113	2.00	1.94	
Ethylbenzene*	<0.050	0.050	11/04/2016	ND	2.10	105	2.00	2.91	
Total Xylenes*	<0.150	0.150	11/04/2016	ND	6.37	106	6.00	2.78	
Total BTEX	<0.300	0.300	11/04/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *108 %* *73.6-140*

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	11/03/2016	ND	200	100	200	0.268	
DRO >C10-C28	**47.5**	10.0	11/03/2016	ND	217	108	200	5.65	
EXT DRO >C28-C35	**14.9**	10.0	11/03/2016	ND					

Surrogate: 1-Chlorooctane *96.1 %* *35-147*

Surrogate: 1-Chlorooctadecane *107 %* *28-171*

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

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: McElvain
Project Manager:
Address:
City: State: Zip:
Phone #: Fax #:
Project #: Project Owner:
Project Name: McElvain #2R
Project Location: Lea County, NM
Sampler Name: Joe McManes

BILL TO
P.O. #:
Company:
Attn:
Address:
City:
State: Zip:
Phone #:
Fax #:

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	BTEX	TPH Ext.
H602453																
1	Northeast					✓							11/2/16	16:30	✓	✓
2	South					✓									✓	✓
3	West					✓									✓	✓

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: Joe McManes	Date: 11/2/16 Time: 9:00	Received By: Jodi Henson	
Relinquished By:	Date: Time:	Received By:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: #75	27.4°C	Sample Condition Cool: Yes / No; Intact: Yes / No	CHECKED BY: (Initials)

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS: Tony.Cooper@mcelvain.com

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Since 1996

January 3, 2017

Tony Cooper
Sr. EHS Specialist
McElvain Energy Inc.
1050 17th St. Suite 2500
Denver, CO 80265

RE: Remediation Plan MODIFICATION - McElvain #2 Release
McElvain #2 –30-025-27543,UL L Section 29 18S 34E

Dear Mr. Cooper:

We propose that McElvain Energy submit this document as a modification to the approved remediation plan for the above-referenced site. The plan should be submitted to BLM, who has taken the lead on this project, as well as NMOCD Hobbs Office. As shown in the attached Instructions to the Remediation Contractor, which are attached hereto, we propose a relatively minor change to the approach: elimination of the application of Micro-Blaze to the spill footprint. The proposed changes to the approved plan are presented in strike-out. The phyoto-remediation cell is constructed with material from the ponding area placed within the berms.

The rationale for this change is simple: natural processes have reduced the impact of hydrocarbons on soil that the addition of microbes no longer provides a meaningful benefit. This observation is based upon a field visit of December 13, 2017. As the photographs below show, the visual impact has been minimized by natural biodegradation, oxidation/volatilization and some disturbance due to storm water flow. Most important is the lack of an asphaltic hardpan created by the release. In hindsight, we should have remembered that crude from the Bone Springs Formation generally lacks the long-string hydrocarbons typical of asphalt and the formation of an asphaltic hard pan has not generally been observed in these types of spills.

We are confident that the proposed modification will achieve the desired results. The key is to disaggregate the soil within the footprint of the spill in order to expose more surface area of soil that remains coated with the crude. The action is best accomplished by hand tools and less than 8 man-hours of effort.

We will return to the site to sample the phyto-remediation cell soils and the area of the spill footprint in April or when your field foreman suggests that seeding the phyto-remediation cell is appropriate due to favorable temperatures for germination. We believe this second sampling event will document complete remediation and allow closure of the regulatory file. Please contact me with any questions concerning this proposed modification.

Sincerely,
R.T. Hicks Consultants

Randall Hicks
Principal

Figure 1A – Image from 10-25-17 showing impact to drainage ditch adjacent to lease road.

Figure 1B – Image taken 12-13-16 of the same area. Note that rock and small plant in the lower right corner of this image is the same rock/plant in the lower right part of image 1A. The staining and impact has been mitigated over the 6 weeks by natural processes.

Figure 2A – Image from 10-25-17 showing impact downhill from the location.

Figure 2B – Image from 10-25-17 showing area of the spill footprint within the red circle of image 2A. The stained soil footprint downhill of this image (in the foreground of image 2 A) remains visible but significantly reduced in color with no evidence of asphalt formation.

Figure 3 – Constructed phyto-remediation cell on 12-13-16.

Instructions for Remediation Contractor

1. At the restored caliche pit floor, remove all stained soil and soil exhibiting hydrocarbon odor to the "phytoremediation cell" near the lease road as shown in Figure C-1 below. Berms along the edges of the phytoremediation cell will prevent erosion and redistribution of the impacted material as well as run-on of storm water. .
2. Along the flow path of the release
    a. ~~Apply Micro-Blaze® Emergency Liquid Spill Control to the crude staining on the ground surface at the recommended "rule of thumb" rate of 1 gallon of concentrate per 10 cubic yards of material to be treated. Because the thickness of the crude layer is about 0.05 foot and the average width of the footprint is about 1.5 foot, 1 gallon of Micro-Blaze will treat about 130 linear feet of the spill footprint. Dilute the 1 gallon of concentrate with about 300 gallons of fresh water and apply about 2 gallons for every liner foot of spill footprint that is 1.5 feet wide~~.
    b. ~~After wetting the crude footprint with Micro-Blaze~~, disaggregate the crude-stained soil to a depth of 12 inches except where the crude footprint lies on hard caliche and where disaggregation to a depth of 12 inches is not possible. This process should result in a mixture of crude plus sand particles that are less than ½ inch in diameter.
    c. Distribute the disaggregated crude/sand from the footprint to areas adjacent to the crude footprint as suggested by Figures C-2 and C-3. This "thin spread" material should be 2-4 inches thick.
    d. In areas where crude lies on exposed caliche, do the best you can.
3. ~~The phytoremediation cell will not undergo Micro-Blaze treatment.~~ When construction is complete, should have the following characteristics
    a. The impacted soil in the cell should be more than 6-inches thick and less than 18 inches thick
    b. Berms should surround the cell to prevent run-on of storm water and erosion and redistribution of the impacted soil
    c. The surface of the cell should be relatively level
    d. The top soil surface should be furrowed and loose to maximize infiltration of precipitation
    e. The impacted soil should be seeded with the specified BLM seed mix

Figure C-1 – Location of phyto-remediation cell (green outline) in restored caliche pit. This area is exposed caliche and would benefit from the addition of sand/soil and seeding as proposed. Phytoremediation, not Micro-Blaze treatment is proposed for this cell.

Figure C-2 – Crude footprint in abandoned road “drainage” is limited in extent. After disaggregation of the surface crude and mixing with underlying sand, the mixed material should be dispersed along the sides of the flow path. Areas outlined in blue can be covered with a 2-4 inch layer of the excavated crude/sand.

Figure C-3 Footprint of crude in highly vegetated area of abandoned road “drainage”. In these areas, mixing the crude with sand and disaggregation to less than ¼ inch size particles, which is the closure criteria, is critical. Once distributed into the vegetation, the crude/sand particles cannot be easily re-worked to meet closure criteria.

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Since 1996

April 19, 2017

Tony Cooper
Sr. EHS Specialist
McElvain Energy Inc.
1050 17th St. Suite 2500
Denver, CO 80265

RE: Remediation Plan Report - McElvain #2 Release
McElvain #2 –30-025-27543,UL L Section 29 18S 34E

Dear Mr. Cooper:

We propose that McElvain Energy submit this progress report for the above-referenced site to BLM, who has taken the lead on this project, as well as NMOCD Hobbs Office. As shown in the attached Instructions to the Remediation Contractor, we propose one additional tilling event followed by hand raking and seeding with the BLM seed mix approved for this area. We are confident that the proposed final will achieve the desired results: revegetation of the site without formation of an asphaltic hardpan.

The attached photographs of our field inspection and the results of the chemical analyses (see Table 1 and the attached laboratory report) permit the following conclusions:

1. Figure 1a and 1b show that the release from the tank overflow is on the southwest side of the containment berm and absent on the northwest side. Figures 2a and 2b show the residual staining on and off the location. Analyses in Table 1 demonstrate that salt was not present in the released water and the release was composed of crude and fresh water. Revegetation is not desired within the tank containment area or the location. An asphaltic hardpan, if one should form, would lower the permeability of the underlying earth. A decrease in earth permeability is an advantage within the spill containment berm and poses no environmental threat on the location. We conclude
    a. the residual crude within the containment does not pose any threat to the environment
    b. when the tank battery is removed or rehabilitated as part of normal operations, the containment area should be characterized and, if necessary, a remediation plan should be submitted to the BLM and OCD to address any documented threat to fresh water or the environment.
    c. Disaggregation of the residual crude off-location on the northwest side should be implemented in accordance with the Contractor Instructions
2. Figure 3 and the analyses of SB-1 and SB-2 confirm that residual crude staining remains, concentration of BTEX is minimal, GRO concentrations have declined by more than 70% and DRO concentrations have not materially changed. We conclude
    a. The only environmental threat remaining within the spill footprint is the potential that asphaltic hardpan could form in certain areas and thereby impair re-vegetation
    b. Additional disaggregation of the crude staining within the spill foot print pursuant to the Contractor Instructions should be implemented.
3. The table of analyses shows the same relationships described above for the stained soil removed from the restored caliche pit to the phytoremediation cell. We conclude that the Contractor Instructions should be implemented for the phytoremediation cell.

We will return to the site during the second quarter of 2018 (April-June) to verify revegetation. Re-vegetation will cause microbial activity within the root zone and further degrade any residual hydrocarbons.

When revegetation is acceptable, we will notify BLM and provide for a final inspection that should allow closure of the regulatory file. Please contact me with any questions concerning this proposed modification.

Sincerely,
R.T. Hicks Consultants

Randall Hicks
Principal

Table 1
McElvain Wells No. 2 Spill Site
Laboratory Data (Hand Auger Samples)

Sample Location	Depth (inches)	Sample Date	Chloride (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)
SB-1	0-8	10/25/16	48.0	54.9	414	281	277	1,027	5,410	11,700
SB-1	8-14	10/25/2016	32.0	21.8	187	160	202	571	3,680	7,830
SB-1	14-16	10/25/2016	48.0	13.9	142	130	151	437	2,190	6,320
SB-1	0-2	3/23/2017	NS	0.6	19	11	28	59	570	62,000
SB-1	4-12	3/23/2017	NS	3.6	140	120	99	363	2,000	11,000
SB-2	Surface	10/25/2016	272	164	657	374	358	1,553	8,880	62,300
SB-2	2-8	10/25/2016	48.0	23.8	234	184	197	639	3,740	7,250
SB-2	8-12	10/25/2016	64.0	0.418	2.38	1.49	1.71	6	24.9	146
SB-2	12-17	10/25/2016	64.0	0.424	3.10	2.61	3.22	9	26.2	141
SB-2	24-28	10/25/2016	48.0	0.167	0.741	0.502	0.584	2	14.5	91.9
SB-2	0-4	3/23/2017		4.900	180.00	120.00	160.00		2,200.0	17,000
SB-3	4-8	10/25/2016	160	88.1	508	323	343	1,262	5,570	8,250
SB-3	0-3	3/23/2017	NS		22	41	44	107	560	21,000
SB-4	6-9	10/25/2016	<16.0	0.609	1.46	0.421	0.393	3	<10	<10
	20-23	10/25/2016	32.0	0.102	0.323	0.141		1	<10	<10
SB-5	12-15	10/25/2016	<16.0	0.663	3.46	1.60	3.09	9	28.2	284
	21-24	10/25/2016	<16.0	0.260	0.962	0.501	0.609	2	<10	<10
SB-6	9-12	10/25/2016	<16.0	0.130	0.349	0.133		1	<10	<10
Post-Excavation Samples - Caliche Pit Bottom										
Northeast	Surface	11/2/16		<0.05	<0.05	<0.05	<0.15		<10	333
South	Surface	11/2/2016		<0.05	<0.05	<0.05	<0.15		<10	<10
West	Surface	11/2/2016		<0.05	<0.05	<0.05	<0.15		<10	47.5
Phytoremediation Cell										
#1	0-6	3/23/17	NS			0.89	9.40	10	320.00	4100.00
#2	0-6	3/23/17	NS				4.90	5	180.00	7000.00

Contractor Instructions

1. Using hoes, shovels and rakes, disaggregate all residual crude-stained soil such that all crude stained soil passes through the tines of a standard garden rake.

2. Mix the disaggregated stained soil with underlying un-stained soil and distribute some of the material over areas adjacent to the release footprint – such as the areas outlined in blue in the attached photograph. After spreading and mixing, stained soil should not be present at the ground surface.

3. Broadcast the BLM seed mix prescribed below and rake the seeds into the earth.

4. At the phytoremediation cell, smooth the surface, broadcast the prescribed seed mix and rake seeds into the earth.

Plains Bristlegrass	10 1bs/A
Sand Bluestem	10 lbs/A
Little Bluestem	6 lbs/A
Big Bluestem	12 lbs/A
Plains Coreopsis	4 lbs/A
Sand Dropseed	2 lbs/A

Figure 1: Southwest side of the tank battery showing the residual crude within the spill containment area. The fluids from the spill accumulated on this side of the containment and overflowed onto the location from the northwest side of the containment.

Figure 1b: Northeast side of spill containment area, which is slightly uphill from the southwest side where the fluids from the release accumulated then overflowed to the northwest.

Figure 2 – This recent Google Earth image shows crude staining on the location as well as some staining off location on the abandoned dirt road on the northwest side of the image.

Figure 3 – This 3/23/17 image shows the location of sample SB-2. While the location of this sample relative to the of 10/25/2016 is not exact, the samples lie within feet of each other. Note that some residual staining remains.

From: Celey Keene <Celey.Keene@cardinallabsnm.com>
Sent: Wednesday, September 4, 2024 10:42 AM
To: Randy Hicks (r@rthicksconsult.com) <r@rthicksconsult.com>
Subject: RE: GRO-DRO-MRO Reporting Limits - lower?

Hi Randy,

The MDL (Minimum/Method Detection Limit) is defined as the following:

The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero. (SW846-8000B R2, 1996, Section 9.1)
MDLs are matrix dependent and are determined in water and solid matrices.

The Minimum Reporting Limit (MRL) or Limit of Quantitation (LOQ) is defined as:

The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. (TNI Standard, EL-V1M2-2016-R2.1, Section 3.1)

This is usually the lowest calibration point.

For these particular samples (H244621), the MDL/MRL for TPH 8015B is as follows:
GRO 6.25 mg/kg / 10 mg/kg
DRO 4.26 mg/kg / 10 mg/kg
EXT DRO 4.26 mg/kg / 10 mg/kg

Samples can be reported to the MDL when requested by the client. However, this is not our normal practice. If an analyte is reported to the MDL and is detected between the MDL and RL, then it is reported with a "J" flag. A "J" flag is defined as the following:
Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

If you have any questions, please let me know.

Thank you,

Celey Keene
Lab Director / Owner
Cardinal Laboratories
101 East Marland
Hobbs, NM 88240
T: (575) 393-2326
F: (575) 393-2476
e-mail: celey.keene@cardinallabsnm.com

Soil Sampling for Oilfield Releases in New Mexico

Our sampling plans employ modifications of the soil sampling procedure outlined in 2023 EPA Document LSASDPROC-300-R5, available from the link below. www.epa.gov/sites/default/files/2015-06/documents/Soil-Sampling.pdf&ved=2ahUKEwjk-r6WjuCGAxUWGDQIHRUUBroQFnoECBIQAQ&usg=AOvVaw1ZVZFuBE41haEfW-0uD4Hd .

We employ the Backhoe Sampling – Direct from Bucket Method, which are on pages 22-23 of the EPA Standard Operating Procedure (SOP). We also use a modification of the backhoe method to allow sample collection from a skid-steer auger.

The referenced EPA soil sampling procedure is not designed for collecting samples from oilfield releases. Rather, the focus of the EPA document is sampling for trace concentrations of Volatile Organic Compounds (VOC) or Per- and Polyfluoroalkyl Substances (PFAS). The soil sampling protocol identifies two levels of trace concentrations on pages 8 of 30 and 9 of 30:

- 3.2.2 Sampling Methodology - Low Concentrations (<200 µg/kg)
- 3.2.3 Sampling Methodology - High Concentrations (>200 µg/kg)

Comparing closure criteria of Rule 17, Rule 29 or Rule 34 to the high/low limit listed above illustrates the difference in data quality objectives (DQO) between the EPA procedure and sampling oilfield releases in New Mexico. Given that 200 µg/kg = 0.2 mg/kg, a measure of the DQO difference between the EPA SOP and the plan for the subject site is illustrated below using Table I of Rule 29.

Table 1 Constituent	**Table 1 Standard** (GW>100 ft) mg/kg	**EPA High/Low** mg/kg	**Multiplication Factor of High/Low v. Table 1**
Chloride	20,000	0.2	100,000
TPH (GRO+DRO+MRO)	2,500	0.2	12,500
GRO+DRO	1,000	0.2	5,000
BTEX	50	0.2	250
Benzene	10	0.2	50

Thus, the “high” concentrations in the EPA plan are 50 times lower than the benzene closure criteria of Table 1 and 100,000 times lower than the chloride closure criteria.

Direct from Bucket Sample Collection Protocol

The backhoe Sampling Method is presented below verbatim with our deletions in ~~strikeout~~ and additions in *italics*. Modifications from the EPA protocol are appropriate because the data quality objectives established in the EPA document are 50 to 100,000 times more stringent than is required by Rule 29.

8 Backhoe Sampling Method

8.1 General

Backhoes may be used in the collection of surface and shallow subsurface soil samples. The trenches created by excavation with a backhoe offer the capability of collecting samples from very specific intervals and allow visual correlation with vertically and horizontally adjacent material. If possible, the sample should be collected without entering the trench. Samples may be obtained from the trench wall, or they may be obtained directly from the bucket at the surface. The following sections describe various techniques for safely collecting representative soil samples with the aid of a backhoe.

The depth measurement for the sample begins at the top of the soil horizon.

8.2 ~~Scoop-and-Bracket Method (Deletion)~~

8.3 Direct-from-Bucket Method

It is also possible to collect soil samples directly from the backhoe bucket at the surface. Some precision with respect to actual depth or location may be lost with this method but if the soil to be sampled is uniquely distinguishable from the adjacent or nearby soils, it may be possible to characterize the material as to location and depth. To ensure representativeness, it is also advisable to dress the surface to be sampled by scraping off any smeared material that may cross-contaminate the sample.

Specific protocol:

1. *Excavate a small sampling trench (e.g., 4-6 feet long and bucket width) to 6-8 feet depth with the trench oriented to allow sunlight onto a long wall if possible.*
2. *Obtain photo and written description of soil column.*
3. *Construct benches/steps in the trench from*
    a. *0-2 feet*
    b. *2-4 feet*
    c. *4-6 feet*
4. *Cause the bucket to carefully insert the top step into the bucket with the least disturbance possible.*
5. *Identify the interior of the "step" that was not touched by the bucket and collect the sample with nitrile/latex examination gloves and a clean stainless steel spoon directly into the sample jar supplied by the laboratory. Quickly seal the labeled jar and place it in cooler with ice for transport to laboratory.*

8.4 Special Considerations When Sampling with a Backhoe

- Do not physically enter backhoe excavations to collect a sample. Use ~~either procedure 8.2, Scoop-and-Bracket Method, or~~ procedure 8.3, Direct-from- Bucket Method to obtain soil for sampling.
- Smearing is an important issue when sampling with a backhoe. Measures must be taken, such as dressing the surfaces to be sampled (see Section 2.3), to mitigate problems with smearing.
- ~~Paint, grease and rust must be removed and the bucket decontaminated prior to sample collection.~~
- ~~Observe precautions for volatile organic compound and PFAS sample collection found in Section 3.~~

Skid-Steer Auger Sample Collection Protocol

General

Skid-steers equipped with an auger attachment may be used in the collection of surface and shallow subsurface soil samples in oilfields of the Permian Basin of New Mexico. Advantages of this method are speed of sampling, minimal disturbance, and less risk of injury compared to other methods. The method is well suited for collecting samples for chloride. Sampling petroleum hydrocarbons regulated by the New Mexico Oil Conservation Division require more care as described herein. The sampling objectives described below are for the analysis of 2-feet intervals, each collected in a 4-ounce glass jar, but the methods may be adjusted for other sampling objectives.

Slow rotation method, 0-2 ft sample

Direct-from-Auger Method

Advancing the auger and bit at a rate such that the auger is essentially "screwed into the ground" can yield the best samples from soft earth material (soil or sand). The adjacent image illustrates this slow rotation method, collected from 0-2 feet. This method maximizes the amount of cuttings on the auger and minimizes slough on the surface around the borehole. This slow rotation method does not generate excessive heat nor mix the sample intervals.

To avoid heating or mixing a sample of hard caliche or highly cemented soil, where slow rotation with sample retrieval is not possible, auger withdrawal at 1-foot intervals minimizes heat generation and mixing.

Withdrawing the auger after each penetration of 1 foot of depth, use a clean, decontaminated spoon or trowel to retrieve the sample from the auger in the following manner:

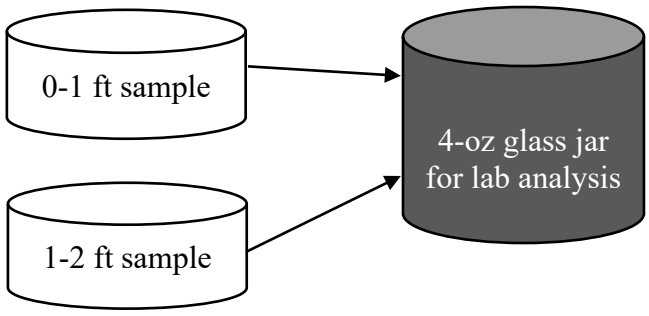
1. Scrape the surface material that was in contact with the borehole to expose underlying soil/subsoil.
2. Remove 1-2 oz. of material and place in laboratory-supplied sample container, labeled appropriately. Do not collect earth in contact with the steel auger.
3. Close jar lid, place in zip-lock bag and place on ice in cooler for delivery to laboratory.
4. Re-enter the borehole and advance the auger 1 additional foot of depth. Withdraw the auger and repeat steps 1 and 2 to collect a sample representative of the next interval.

After sample collection:

1. Spin auger away from hole to remove remaining material and to prevent the material from re-entering the hole.

2. Use a clean rock hammer, trowel, or other tool to remove earth adhering to the auger. The bottom 2-feet of the auger should be as clean as possible. Do not use water or materials for cleaning.
3. After final sampling trip, backfill hole with cuttings.

*Example of composition of **0-2 ft** sample for laboratory analysis*



Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Denver L Dunlap Owner's Well No. L-10-4396
Street or Post Office Address 327 W Ave J
City and State Lovington NM 88260

Well was drilled under Permit No. L-10-4396 and is located in the:

a. ____ ¼ SW ¼ NW ¼ ____ ¼ of Section 27 Township 15 S Range 36 E N.M.P.M.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. ____ of Block No. ____ of the ____
Subdivision, recorded in Lea County.

d. X= ____ feet, Y= ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

(B) Drilling Contractor J & K Drilling License No. WD 1235

Address Box 1493 Lovington NM 88260

Drilling Began 9/10/94 Completed 9/14/94 Type tools Cable Size of hole 8 3/4 in.

Elevation of land surface or ____ at well is ____ ft. Total depth of well 120 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 80 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
87	95	8	Red Sand	20-25
100	120	20	White sand with sandstone gravel	100 - 150

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6	PVC	PVC	0	120	120	PVC Cap	80	110

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor ____
Address ____
Plugging Method ____
Date Well Plugged ____
Plugging approved by:
____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 09/20/94

510145

Quad ____ FWL ____ FSL ____

File No. L-10,436 Use Domestic Location No. 15S.36E.27.13342

Depth in Feet		Thickness in Feet	Color and Type of Material Encountered
From	To		
0	2	2	Sandy loam - white
2	10	8	Caliche - white
10	30	20	Hard white sand with white limestone
30	65	35	White sand
65	87	22	White and red sand
87	95	8	Red sand
95	120	25	White sand with small sandstone gravel

'94 SEP 20 AM 11 25

Section 7. REMARKS AND ADDITIONAL INFORMATION

Ran 6" PVC in well, perforated from 80 to 110 feet. Pipe set on bottom and gravel packed to surface with 5/8 size gravel.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Earl Ellison
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. Al[illegible]ons, ex[illegible]t Section 5, shall be answered as completely and accuratel[illegible]ossible when any well is drilled, repaired or deepen[illegible]en this[illegible]n is used as a plugging record, only Section 1[illegible]nd Section[illegible] be completed.

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NUMBER (WELL NUMBER)	OSE FILE NUMBER(S)
CP-1582 POD 1	CP-1582
WELL OWNER NAME(S)	PHONE (OPTIONAL)
CHRIS CAPLIS, VP DRILL & COMPLETION	
WELL OWNER MAILING ADDRESS	CITY / STATE / ZIP
1050 17TH STREET, STE 2500	DENVER / CO / 80265

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	32	43	30.6624	N
LONGITUDE	103	34	44.49	W

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

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

NE/4, NE/4, NW/4, NE/4 SECTION 29, TOWNSHIP 18S, RANGE 34E

2. DRILLING & CASING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1611	JOHN GOERTZEN	GOERTZEN DRILLING

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
7/12/16	7/1316	180	180	108

COMPLETED WELL IS: ○ ARTESIAN ○ DRY HOLE ○ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT): 108

DRILLING FLUID: ○ AIR ○ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ○ ROTARY ○ HAMMER ○ CABLE TOOL ○ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	180	14	STEEL		10 3/4		1/4

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	20		CEMENT	14 8LB BAGS	

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	CP-1582	POD NUMBER	1	TRN NUMBER	
LOCATION	18S-34E-29	2.1.2		Exploratory	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	35		CALICHE	○ Y ◉ N	
35	48		SAND STONE	○ Y ◉ N	
48	52		ROCK	○ Y ◉ N	
52	150		SAND	◉ Y ○ N	
150	175		SAND & GRAVEL	◉ Y ○ N	
175	180		RED BED	◉ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: ○ PUMP ○ AIR LIFT ○ BAILER ○ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm):

5. TEST; RIG SUPERVISION

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

MISCELLANEOUS INFORMATION:

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

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

SIGNATURE OF DRILLER / PRINT SIGNEE NAME

7/20/16
DATE

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	CP-1582	POD NUMBER	1	TRN NUMBER	
LOCATION	18S.34E.29	2.1.2	Exp 1.		PAGE 2 OF 2

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well KENNETH SMITH Owner's Well No. _____
Street or Post Office Address BOX 764
City and State CARLSBAD, NM 88220

Well was drilled under Permit No. L-10,345 and is located in the:

a. ____ ¼ ____ ¼ NE ¼ SW ¼ of Section 20 Township 18 S Range 34 E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in LEA County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor W. L. VAN NOY License No. W. D. #-208
Address BOX 2, OIL CENTER, NM 88266

Drilling Began 12-2-93 Completed 12-15-93 Type tools rotary Size of hole 8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 130 ft.

Completed well is [X] shallow [ ] artesian. Depth to water upon completion of well 120 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
120	130	10	water bearing shale	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
5"	PVC		0	130			108	128

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:
_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY 510742

Date Received 03/01/94

Quad _____ FWL _____ FSL _____

File No. L-10,345 Use Stock (CLW) Location No. 18S.34E.20.32333

Section 6. LOG OF HOLE

Depth in Feet		Thickness in Feet	Color and Type of Material Encountered
From	To		
0	4	4	~~TOP SOIL~~
4	75	71	caliche
75	120	45	SANDY SHALE
120	130	10	WATER BEARING SAND
	130		RED BED

Section 7. REMARKS AND ADDITIONAL INFORMATION

'94 MAR 1 AM 11 25

ROSWELL, NEW MEXICO

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

W L [signature]

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NUMBER (WELL NUMBER): POD 1	OSE FILE NUMBER(S): CP-1584
WELL OWNER NAME(S): TH MCELVAIN OIL & GAS LLLP/CHRIS CAPLIS VP DRILLING	PHONE (OPTIONAL):
WELL OWNER MAILING ADDRESS: 1050 17TH ST. STE 2500	CITY: DENVER STATE: CO ZIP: 80265

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	32	43	1.6788	N
LONGITUDE	103	36	21.1212	W

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

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE:
SW 1/4 OF NE 1/4 OF NW 1/4 OF SW 1/4 OF SECTION 30, TOWNSHIP 18S, RANGE 34E

2. DRILLING & CASING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1611	JOHN GOERTZEN	GOERTZEN DRILLING

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
4/5/16	4/6/16	500		NA--DRY HOLE

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

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

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

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	500	7 7/78	N/A				

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
			N/A		

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 10.29/15)

FILE NUMBER	CP-1584	POD NUMBER	1	TRN NUMBER	606640
LOCATION	Expl	18S.34E.30.312			PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	4		TOP SOIL	Y ✔ N	
4	28		CALICHE	Y ✔ N	
28	52		SANDY CLAY	Y ✔ N	
52	500		RED BED	Y ✔ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER - SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

MISCELLANEOUS INFORMATION:

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

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE-DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

JOHN GOERTZEN — 4/8/2016

SIGNATURE OF DRILLER / ~~PRINT~~ SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	CP-1584	POD NUMBER	1	TRN NUMBER	604640
LOCATION	Exp1	185.34E.30.312			PAGE 2 OF 2

Remediation Plan – McElvain Federal #2 Release

Proposed Technique For Excavation/Removal/Final Sampling

Chloride and BTEX concentrations in all samples meet the Table I closure criteria. In the remediation cell that received earth material impacted by pooled crude oil, one of two samples may exceed the closure criteria. Using the laboratory lower limit of detection (reporting limit) to calculate the TPH concentration, total TPH is 106 mg/kg. If a more precise analytical method provided a reporting limit of 5 mg/kg, the resultant TPH concentration of the composite sample for the East Cell is 94 mg/kg .

Unless OCD determines that excavation/transport/disposal is not appropriate, the technique to remediate the entire remediation cell is presented below.

A. Define 16 equal "excavation areas" that are approximately 17 feet long by 17 feet wide
B. For the 272 square ft area that contains the East Cell sample,
    a. Excavate the upper 2-feet from a 16.5 ft x 16.5 ft area that includes the sample
    b. Stockpile the 20 yards dirt in a place to facilitate future loading for disposal
    c. Cover the stockpile with a liner and
    d. Weight the liner so it says over the dirt in a wind.
C. Use a bobcat or backhoe to collect samples from the four corners and bottom of the excavation in accordance with the sampling SOP and test for Table I hydrocarbons and chloride. Each sample tests the depth zone from 0-4 feet.

D. Collect one sample from the center of each of the remaining 14 excavation areas. Sample from 0-2 feet and 0-4 feet for all Table I constituents.
E. Transport all samples to Cardinal Laboratories in Hobbs for analysis of Table I constituents.

We request that OCD consider any sample from this task that are below Table 1 criteria as final sampling for the areas represented by said sample. The sample density for the proposed final sampling is 19 samples/4356 square feet (1 samples/217 square feet as displayed in Figure 3).

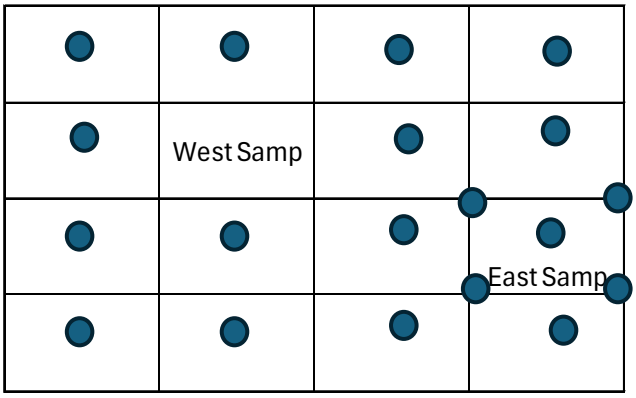


Figure 3 Proposed sampling grid of remediation cell

Upon receipt of analytical results, identify all samples that exceed Table I closure criteria. Repeat the protocol B and C for the excavation cell that includes these samples.

After completion of excavation of all soil exceeding Table I criteria and OCD review and approval of final sampling results, remove all excavated material to [Lea Land or Where?]

Scaled Site Map – Figure 2

Estimated Volume for Remediation

The 2024 sampling event identified one of two composite samples within the remediation cell that require remediation (excavation/transport/disposal). No evidence suggests that soil/subsoil within the flow path of the release exceeds Table I closure criteria. The East Remediation Cell sample exceeds the most stringent closure criteria by 6 mg/kg if the reporting limit is employed to calculate TPH concentration. Using the reporting limit for hydrocarbon concentrations, the West Remediation Cell composite sample results was about 50% of the closure criteria (49 mg/kg). The average concentration of these two samples is 77 mg/kg.

Based upon available data, the volume of material proposed for excavation, transport and disposal is 20 cubic yards. After evaluation of the results of the proposed sampling, we may recommend additional material for excavation/transport/disposal. Alternatively, OCD may conclude that additional data is required to determine if remediation is required.

Proposed Closure Criteria

We propose to use the most stringent closure criteria in lieu of drilling a boring to determine exact depth to groundwater. This criteria is presented below.

≤ 50 feet	Chloride***	EPA 300.0 or SM4500 Cl B	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

The maximum horizontal extent of impacted soil is the berm boundary of the remediation cell. The maximum vertical extent is more than 2 feet but, based upon previous results, less than 4 feet. Sampling as described below will provide more certainty to the vertical extent. Because McElvain Energy Inc removed soil/subsoil impacted by crude to the remediation cell, the horizontal boundary of potential impact is limited to the cell.

Proposed Schedule

Although Dig-Haul-Dispose remediation does not require OCD approval. Prima prefers to commence excavation and removal 1-3 weeks after OCD reviews and comments on this submission.

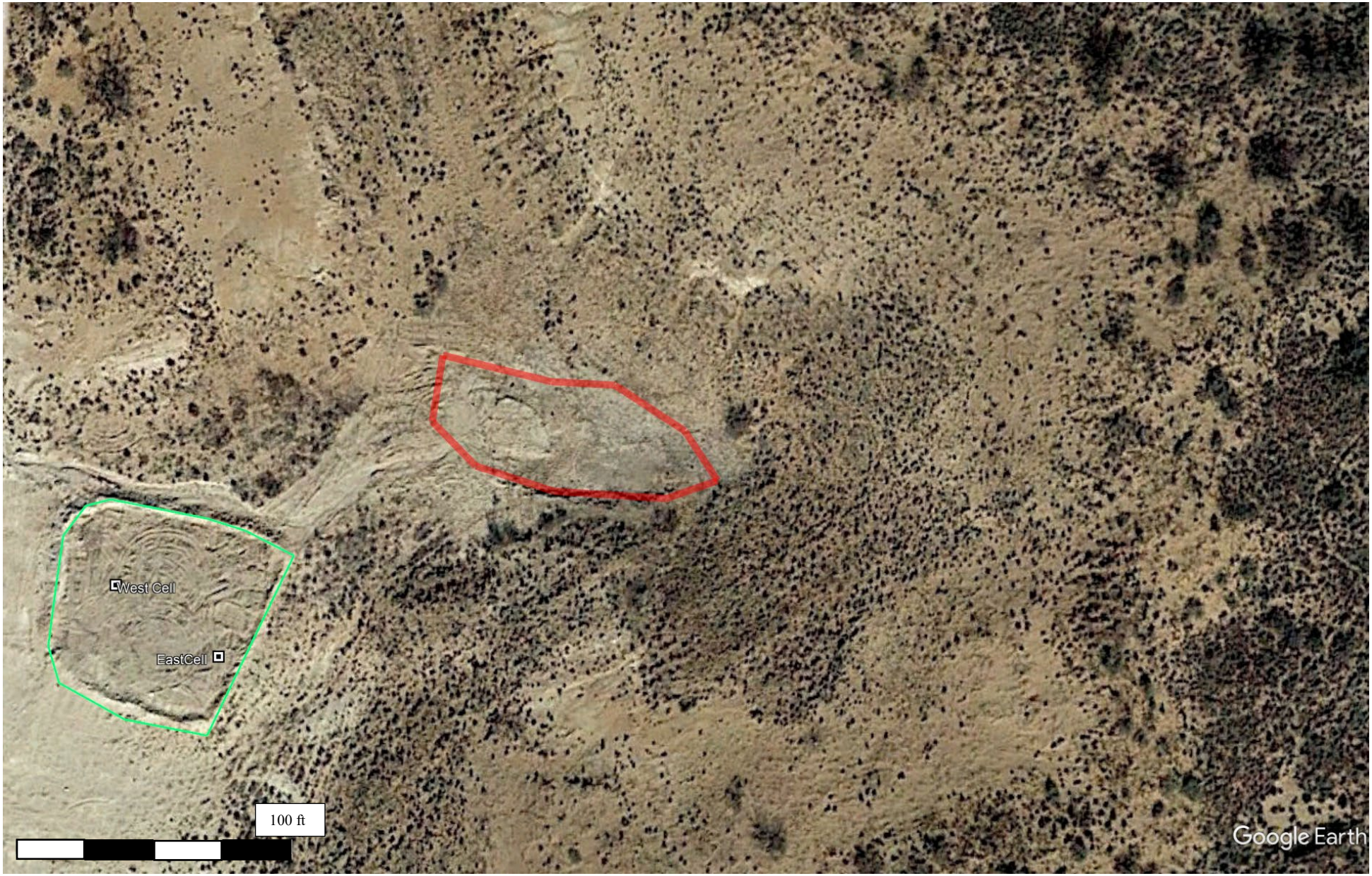


Figure 2
Google Earth image from 2/1/2017, four months after the release. McElvain removed crude oil pooling in the caliche pit (red polygon) to the square phyto-remediation cell shown in green. The approximate location of the two sampling points within the cell are displayed.

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QUESTIONS

Action 371842

QUESTIONS

Operator: Prima Exploration, Inc. 250 Fillmore Street, Ste. 500 Denver, CO 80206	OGRID: 329344
	Action Number: 371842
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nKL1631248077**
Incident Name	**NKL1631248077 MCELVAIN #2 @ 30-025-27543**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Plan Received**
Incident Well	**[30-025-27543] MCELVAIN #002**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	MCELVAIN #2
Date Release Discovered	10/18/2016
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Normal Operations | Separator | Crude Oil | Released: 187 BBL | Recovered: 8 BBL | Lost: 179 BBL.
Produced Water Released (bbls) Details	Cause: Normal Operations | Separator | Produced Water | Released: 268 BBL | Recovered: 70 BBL | Lost: 198 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

Operator: Prima Exploration, Inc. 250 Fillmore Street, Ste. 500 Denver, CO 80206	OGRID: 329344
	Action Number: 371842
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

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	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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.

I hereby agree and sign off to the above statement	Name: Chris Stevenson Title: Petroleum Engineer Email: cstevenson@primaex.com Date: 09/11/2024

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QUESTIONS (continued)

Operator: Prima Exploration, Inc. 250 Fillmore Street, Ste. 500 Denver, CO 80206	OGRID: 329344
	Action Number: 371842
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	Attached Document
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between ½ and 1 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	None
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	656
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	256
GRO+DRO (EPA SW-846 Method 8015M)	174
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0.3
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	09/30/2024
On what date will (or did) the final sampling or liner inspection occur	10/02/2024
On what date will (or was) the remediation complete(d)	10/15/2024
What is the estimated surface area (in square feet) that will be reclaimed	10000
What is the estimated volume (in cubic yards) that will be reclaimed	150
What is the estimated surface area (in square feet) that will be remediated	270
What is the estimated volume (in cubic yards) that will be remediated	20
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: Prima Exploration, Inc. 250 Fillmore Street, Ste. 500 Denver, CO 80206	OGRID: 329344
	Action Number: 371842
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
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.	
I hereby agree and sign off to the above statement	Name: Chris Stevenson Title: Petroleum Engineer Email: cstevenson@primaex.com Date: 09/11/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: Prima Exploration, Inc. 250 Fillmore Street, Ste. 500 Denver, CO 80206	OGRID: 329344
	Action Number: 371842
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Deferral Requests Only *Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.*	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS (continued)

Operator: Prima Exploration, Inc. 250 Fillmore Street, Ste. 500 Denver, CO 80206	OGRID: 329344
	Action Number: 371842
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	***{Unavailable.}***

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	No

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CONDITIONS

Action 371842

CONDITIONS

Operator: Prima Exploration, Inc. 250 Fillmore Street, Ste. 500 Denver, CO 80206	OGRID: 329344
	Action Number: 371842
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
nvelez	OCD approves the remediation plan with the following conditions; 1. OCD approves vertical and horizontal delineation will be completed through excavation and confirmation sampling pursuant to 19.15.29.12 NMAC. At a minimum, the delineation and remediation must adhere to the remediation closure criteria established within this approval. 2. Due to incomplete delineation information, the excavation may need to be extended past the proposed excavation extents contingent upon the results of the remediation confirmation samples. Remediation confirmation samples must adhere to the remediation closure criteria established within this approval.	10/7/2024
nvelez	3. Due to incomplete delineation data, the volumes and square footages of the questions "What is the estimated surface area (in square feet) that will be reclaimed", "What is the estimated volume (in cubic yards) that will be reclaimed", "What is the estimated surface area (in square feet) that will be remediated", and "What is the estimated volume (in cubic yards) that will be remediated" must be updated when the next report is submitted to correctly reflect the amount of soil that was remediated and reclaimed. 4. Must remediate impacted soils that exceeds the Table 1 of 19.15.29.12 NMAC closure standards including the flow path area recorded in 2016 (SB-1 to SB-5). 5. OCD accepts the reporting limits for all samples. 6. Must submit sampling notification(s) per 19.15.29.12D (1a) NMAC.	10/9/2024
nvelez	7. Alternative sampling plan submitted is not approved (identified within filename App_371842_1076159_rp_COA.pdf). Must collect final sampling per 19.15.2912D (1) and/or (1c) NMAC. Delineation (discrete) samples must be accompanied with bullet #6 if the intent is to utilize those samples toward final closure. 8. The responsible party must remediate and collect final samples in the area described as the “caliche pit” and the “phyto-remediation cell” to meet Table 1 of 19.15.29.12 NMAC. 9. Must adhere to the closure reporting as stipulated in 19.15.29.12E NMAC. 10. Must provide the name and location of the approved OCD permitted facility which the impacted soils are disposed to along with the total soil quantity amount. 11. Responsible party has 60-days (December 9, 2024) to submit to OCD its appropriate or final remediation closure report. Failure to submit an appropriate or final remediation closure report may result in compliance and enforcement penalties pursuant to 19.15.5 NMAC.	10/10/2024