



McNabb Partners, LLC
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July 31, 2024

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

RE: Revised Remediation and Reclamation Workplan
Incident ID: NAPP2307633795
Shahara State Unit #8 Inj. @30-025-01438
Project ID: 20230306-jjInvestments-shaharaState8
Unit Letter N; Sec. 16; T17S.R33E. Lea County
32.8289002, -103.6706601

NMOCD:

McNabb Partners LLC submits this remediation and reclamation workplan on behalf of J & J Investments, LLC. This report presents a revision to the remediation plans previously submitted by R.T. Hicks Consultants to NMOCD and denied.

We relied on relevant portions of the R.T. Hicks Consultants' June 2024 submission for setback criteria to determine closure criteria and depth-to-water determination. Appendix A includes the relevant portions from the R.T. Hicks June 2024 submission:

- Depth-to-water determination; Pages 11 - 15. Included in Appendix B (Communications) is Mr. Bratcher's June 11, 2024 email approval of R.T. Hicks' depth-to-water determination.
- Siting Criteria (nearby water courses, surface water, structures, & mines; wetlands; karst; and flood hazards. Pages 27 - 38.
- Soil characteristics within the release extent (soil samples). Pages 22, 25, 26.
- Laboratory Certificates of Analysis. Pages 84 - 144.

A variance request for a sample grid size not to exceed 300 square feet is also included.

This report also addresses the following rejection reasons dated July 2, 2024

- **1. Sample points A6, west perimeter at source area, B4, B3, B2, northern perimeter area, E6, E7, and D7 in Figure 1 of the submitted Site Characterization and Remediation Plan have not been horizontally delineated and did not meet the requirements of 19.15.29.11A (5b) which in turn does not comply with 19.15.29.12C (1c) NMAC. Proposing a final sampling plan for closure is not an applicable remediation method. Application (App) IDs 317805 and 340547 were rejected for**



Incident ID: NAPP2307633795
Shahara State Unit #8 Inj. @30-025-01438

the release not being horizontally delineated (fully delineated in App ID 317805) and this reason of rejection still has not been addressed. OCD will not approve any site characterization and remediation plan; deferral request; closure request; sampling variance request; or any other type of variance request without the site meeting the delineation requirements of 19.15.29.11 NMAC and any additional requirements that are specific to the type of request being made.

J & J Investments, LLC proposes to fully excavate impacted areas within the release extent until all bases and walls meet closure criteria per 19.15.29 NMAC, where depth to water is greater than 100-feet bgs, defined as:

- *Upper 4-feet (most stringent closure criteria)*
 - *Chloride < 600 mg/kg*
 - *TPH (GRO + DRO + MRO) < 100 mg/kg*
 - *BTEX < 50 mg/kg*
 - *Benzene < 10 mg/kg*
- *Below 4-feet*
 - *Chloride < 20,000 mg/kg*
 - *TPH (GRO + DRO + MRO) < 2,500 mg/kg*
 - *TPH (GRO + DRO) < 1,000 mg/kg*
 - *BTEX < 50 mg/kg*
 - *Benzene < 10 mg/kg*

Full horizontal and vertical delineation with confirmation soil sampling will be completed during remedial activities.

- **Be advised, by selecting “yes” to the “Have the lateral and vertical extents of contamination been fully delineated” question located under the Remediation Plan section on the digital C-141 when the release has not been fully delineated is falsifying information unless the operator is proposing to fully delineate the release through excavation. 2. Pursuant to 19.15.29.12C (3) NMAC, “The responsible party shall remediate the impacted surface area of a release not occurring on a lined, bermed, or otherwise contained exploration, development, production or storage site to meet the standards of Table I of 19.15.29.12 NMAC or other applicable remediation standards and restore and reclaim the area pursuant to 19.15.29.13 NMAC.” The upper four feet of the release area must meet the requirements of 19.15.29.13D NMAC at the time of remediation.**

The above bullet response applies to this reason.

- **The report does not propose a remediation technique; therefore, does not comply with 15.015.29.12C (1a through d) NMAC. Mechanical excavation and off-site disposal at an OCD approved facility (dig and haul) is the only remediation method that will always be approved without submitting a remediation plan to the OCD. It is not the only remediation technique that can be implemented, but any other remediation method must be approved by the OCD. Utilizing any other type of**



Incident ID: NAPP2307633795
Shahara State Unit #8 Inj. @30-025-01438

remediation methods and sampling plans without prior OCD approval may result in additional remediation. 3. J&J Investments has 30-days (August 1, 2024) to submit to OCD a complete, accurate, and approvable report. Failure to submit a complete and accurate remediation plan and/or closure report will result in OCD reviewing this incident for potential compliance and enforcement penalties pursuant to 19.15.5 NMAC.

J & J Investments, Inc proposes to dig-haul-dispose impacted material to meet the standards of Table I of 19.15.29.12 NMAC and restore and reclaim the area pursuant to 19.15.29.13 NMAC where the upper four feet of the release area meet the requirements of 19.15.29.13D NMAC at the time of remediation.



1. Characterization

The following sections address items as described in 19.15.29.11.A, paragraphs 1- 4. Please refer to attached table below for additional setback criteria and verification.

1.1. Site Map

The R.T. Hicks submission mapped the release extent based on review of Google Earth imagery and foot survey of impacted ground surface (Page 22 of Appendix A; Figure 1).

On July 25, 2024 McNabb Partners conducted an Electromagnetic Survey (EM Survey) to further define the horizontal release extent relative to saline soils caused by the subject produced water release.

- Exhibit A - The release horizontal extent was defined to where Effective Electrical Conductivity (ECe) < 2 dS/m and characterization and delineation sampling conducted by R.T. Hicks Consultants.
- Exhibit B - shows ECe calculated from the EM Survey averaged over the upper 4-feet.

The Natural Resources Conservation Service (NRCS) publishes salinity classes (Table A) to determine the salinity of soils based on ECe concentrations. The New Mexico State Land Office *Revegetation Guidelines Handbook for Southeastern NM, Soil Suitability Criteria* adopted the NRCS salinity class that establishes an ECe < 4 dS/m as suitable soils for surface reclamations.

NRCS Field Guide	
Salinity Class	ECe (dS/m)
Nonsaline	<2
Very Slightly Saline	2 - 4
Slightly Saline	4 - 8
Moderately Saline	8 - 16
Strongly Saline	>16

Table A: Salinity Classes as defined by Natural Resources Conservation Service (NRCS)

1.2. Depth to Ground Water

Estimated depth-to-water is 198-feet below ground surface. Please refer to:

- Mr. Bratcher's June 11, 2024 depth-to-water approval in Appendix B.
- Depth-to-Groundwater determination in Appendix A on Pages 11 - 15.
- Plate 1 in Appendix A on Page 27.

1.3. Wellhead Protection Area

Exhibit C shows that the release extent is:

Incident ID: NAPP2307633795

Shahara State Unit #8 Inj. @30-025-01438



- Not within incorporated municipal boundaries or within a defined municipal fresh water well field.
- Within ½-mile of a documented water sources (wells and springs). The water wells are identified as
 - USGS-13776 located 0.43 miles east-southeast of the release extent
 - Misc-440 (L-01391 POD 6) located 0.37 miles southwest of the release extent.
 Based on available OSE records the well is for commercial use.
- Not within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes.
- Not within 1000 feet of any other freshwater wells or springs.

1.4. Distance to Nearest Significant Water Course

Plate 7 in Appendix A on Page 36 shows that the release extent is:

- Not within ½ mile of a significant water course. The closest watercourse is an intermittent stream located 2.72 miles southeast of the release extent.
- Not within 300 feet of a continuously flowing watercourse or any other significant watercourse.
- Not within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

Site Characterization	
What is the shallowest depth to groundwater (ft bgs) Page 15 Appendix A	198 ft
What measure was used to determine this?	OSE Database
Did this release impact ground 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. Plate 7 in Appendix A	2.72 miles SE
• Any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark). Plate 7 in Appendix A	824 ft north.
• An occupied permanent residence, school, hospital, institution or church. Plate 8 in Appendix A	Ranch 3.39 miles NNE
• A spring or private domestic fresh water well used by less than five households for domestic or stock watering purposes. Exhibit C	0.53 miles SW (OSE Well L-02875)
• Any other fresh water well or spring. Exhibit C	0.43 miles ESE
• Incorporated municipal boundaries or a defined municipal fresh water well field. Plate 3 in Appendix A	3 miles NW (not seen on map extent)
• A wetland. Plate 9 in Appendix A	824 ft N.
• A subsurface mine. Plate 4 in Appendix A	2.9 Miles W.
• A (non-karst) unstable area.	>1 miles



<ul style="list-style-type: none"> Categorize the risk of this well/site being in a karst geology. Plate 8 	Low
<ul style="list-style-type: none"> A 100-year floodplain. Plate 6 in Appendix A 	8.7 miles WNW
Did the release impact areas not on an exploration, development, production, or storage site?	Yes

1.5. *Soil/Waste Characteristics*

The USDA Natural Resources Conservation Service (NRCS) soil survey¹ describes the upper 6.5-feet of lithology as:

Northwest corner of release extent (14%) is within the Kimbrough gravelly loam (KO), 0 to 3% slopes with a composition of:

- o A - 0 to 3 inches: gravelly loam
- o Bw - 3 to 10 inches: loam
- o Bkkm1 - 10 to 16 inches: cemented material
- o Bkkm2 - 16 to 80 inches: cemented material

The remaining release area (86%) of the release extent is within the Kimbrough-Lea complex (KU), 0 to 3% slopes with a composition of:

- o A - 0 to 3 inches: *gravelly loam*
- o Bw - 3 to 10 inches: *loam*
- o Bkkm1 - 10 to 16 inches: *cemented material*
- o Bkkm2 - 16 to 80 inches: *cemented material*

Sampling events for site characterization and delineation were completed by R T Hicks Consultants. Summary of analytical is presented on Table 1 in Appendix A (Pages 25 and 26). Constituents exceeding Closure Criteria (Table B, below) are highlighted "Yellow". Refer to Exhibit A showing sample point locations that either 1) meet Closure Criteria or 2) exceeds Closure Criteria. No samples exceeded Closure Criteria below 4-feet.

Soil samples were analyzed for chloride, TPH, Benzene, and BTEX. Certificates of analysis are included in Appendix A.

Final horizontal and vertical delineation sampling will be achieved at the time of remediation, as discussed in Section 3 (Remediation and Reclamation).

Table B: Closure Criteria per 19.15.29 NMAC

DTW >100 ft	Chloride (mg/kg)	GRO+DRO (mg/kg)	TPH Ext. (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)
0 - 4 feet & "not in-use"	600	--	100	10	50
> 4 ft or "in-use"	20,000	1,000	2,500	10	50

¹ NRCS Field Guide and the NRCS web survey tool (<https://websoilsurvey.nrcs.usda.gov/app/>)



2. Sample Grid Variance Request

J & J Investments, LLC respectfully asks NMOCD for variance approval for a sampling grid not to exceed 300 sq ft for both base and wall confirmation samples.

The requested sample grid size will provide equal protection of fresh water, public health, and the environment according to the “10% Condition”² that states sample sizes should be no more than 10% of the population (release area) as long as it does not exceed 1,000³ samples. Applying the 10% Condition, a sample grid size of 300 sq ft meets this condition.

Population (sq ft area)	Sample Size (grid sq. ft.)	No. of Sample Grids	% of Population (sq. ft. area)	Representative of Population	Meets 10% Condition
9,769	200	49	2.0%	98.0%	Yes
9,769	300	33	3%	97%	Yes
9,769	600	16	6%	94%	Yes
9,769	900	11	9%	91%	Yes
9,769	1,000	10	10%	90%	Equal
9,769	1,200	8	12%	88%	No

The proposed 300 sq. ft. sampling grid statistically provides equal significance of laboratory results as a 200 sq. ft. sampling grid for the constituents listed in Table 1 of 19.15.29 NMAC, where

- The 10% Condition is met.
- The proposed sample grid size represents 97% of the population (release area; Exhibit A).

3. Remediation & Restoration Workplan

J & J Investments, LLC proposes to excavate the area within the release extent until all bases and walls meet closure criteria per 19.15.29.13.A-E NMAC, where depth to water is greater than 100-feet bgs, defined as:

- Upper 4-feet (most stringent closure criteria)
 - Chloride < 600 mg/kg
 - TPH (GRO + DRO + MRO) < 100 mg/kg
 - BTEX < 50 mg/kg
 - Benzene < 10 mg/kg
- Below 4-feet
 - Chloride < 20,000 mg/kg
 - TPH (GRO + DRO + MRO) < 2,500 mg/kg
 - TPH (GRO + DRO) < 1,000 mg/kg
 - BTEX < 50 mg/kg
 - Benzene < 10 mg/kg

² <https://web.ma.utexas.edu/users/mks/M358KInstr/TenPctCond.pdf>

³ <https://tools4dev.org/resources/how-to-choose-a-sample-size/>



Incident ID: NAPP2307633795
Shahara State Unit #8 Inj. @30-025-01438

Remediation Plan	
Requesting a remediation plan approval with this submission?	Yes
Have the lateral and vertical extents of the contamination been fully delineated?	Yes - Additional horizontal & vertical delineation will be obtained during remediation
Was this release entirely contained within a lined containment area?	No
Soil Contamination Sampling (Highest observable value for each in mg/kg)	
• Chloride	16,000 E6 0-2 ft
• TPH (DRO+GRO+MRO)	<30.1 E4 4.3 ft
• GRO+DRO	<20.1 E4 4.3 ft
• BTEX	<0.30
• Benzene	<0.05
On what estimated date will the remediation commence	Within 45 days of plan approval
On what date will (or did) the final sampling or liner inspection occur	Within 30 days of initiating excavation.
On what date will (or was) the remediation completed	Within 30 days of initiating excavation.
What is the estimated surface area (in square feet) that will be reclaimed	9,769
What is the estimated volume (in cubic yards) that will be reclaimed	1,520
What is the estimated surface area (in square ft) that will be remediated	9,769
What is the estimated volume (in cubic yards) that will be remediated	1,520
The remediation will (or is expected to) utilize the following processes to remediate/reduce contaminants:	
• Excavation and off-site disposal	Yes – Lea Land LLC

Based on available analytical data, the depth of excavation is estimated at 4.2 ft below ground surface.

An estimated 1,520 cubic yards of material will be excavated and hauled off-site to Lea Land LLC for proper disposal. Remediation will begin within 45-days of workplan approval. Anticipate that project will be completed within 30 days thereafter. Upon confirmation



Incident ID: NAPP2307633795
Shahara State Unit #8 Inj. @30-025-01438

horizontal and vertical delineation soil samples meeting the above closure criteria, we will submit a closure report within 45-days of laboratory results.

The area will be backfilled to 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 will include a top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site.

The location will be restored, reclaimed and revegetated as an area not in use per 19.15.29.13.A-E NMAC. Appendix C contains a copy of the proposed reclamation plan submitted to SLO-ECO. Final surface reclamation will occur after impacted soils have been remediated.

Please contact me with any questions at 970-570-9535.

Sincerely,

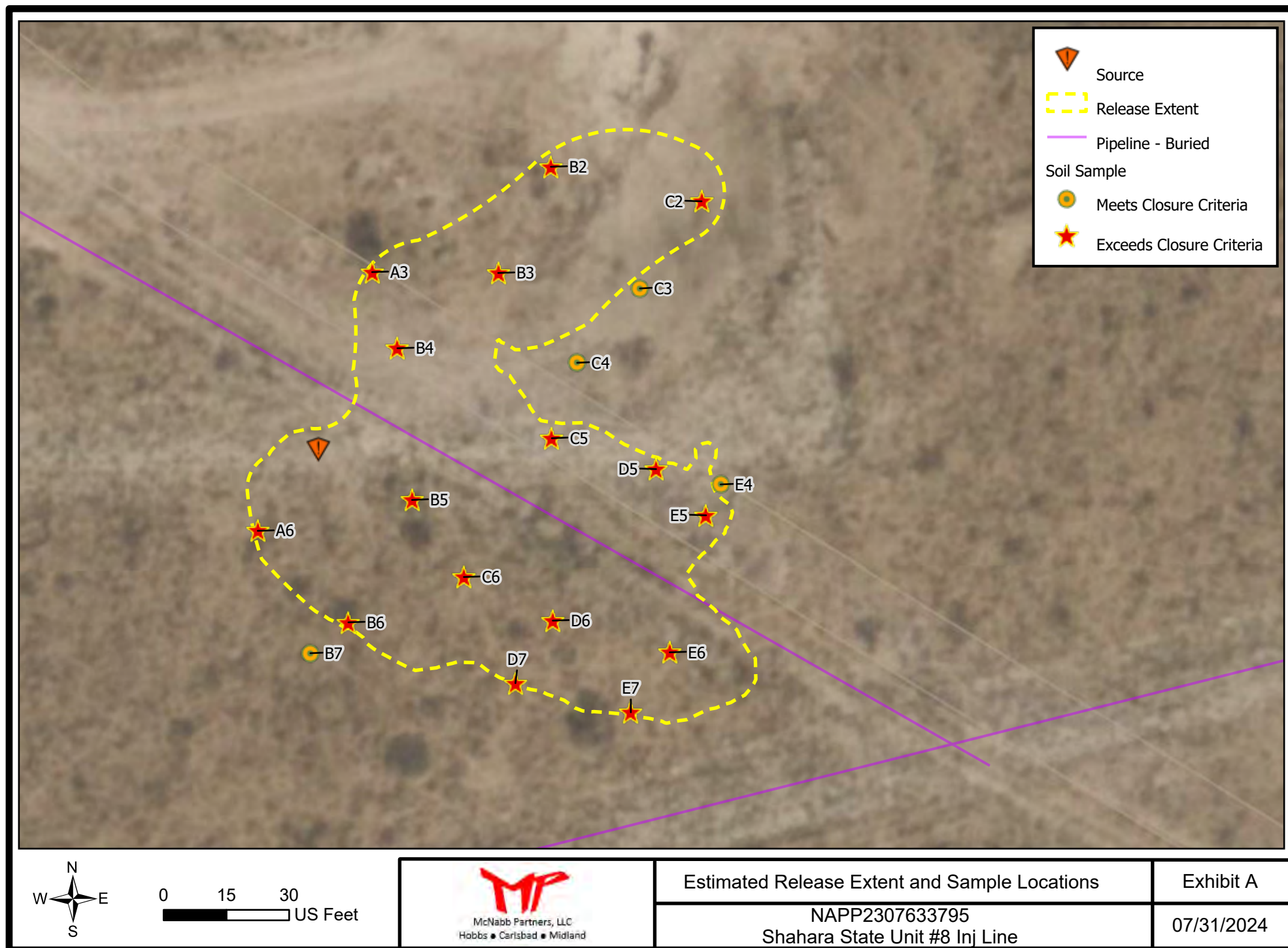
Andrew Parker
Environmental Manager
McNabb Partners
c: (970) 570-9535

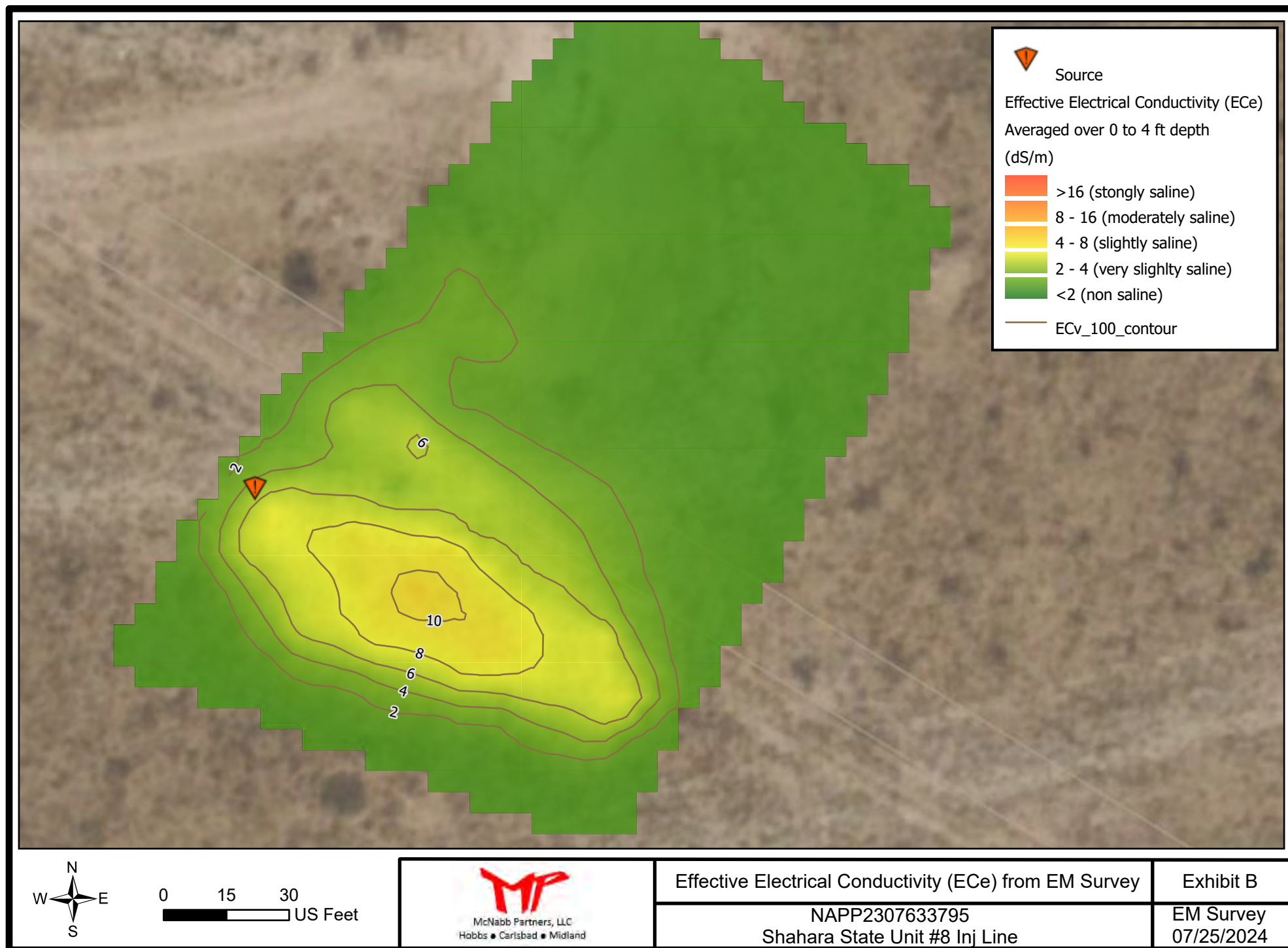
Copy: Jason Ciempa, J & J Investments, LLC
SLO-ECO

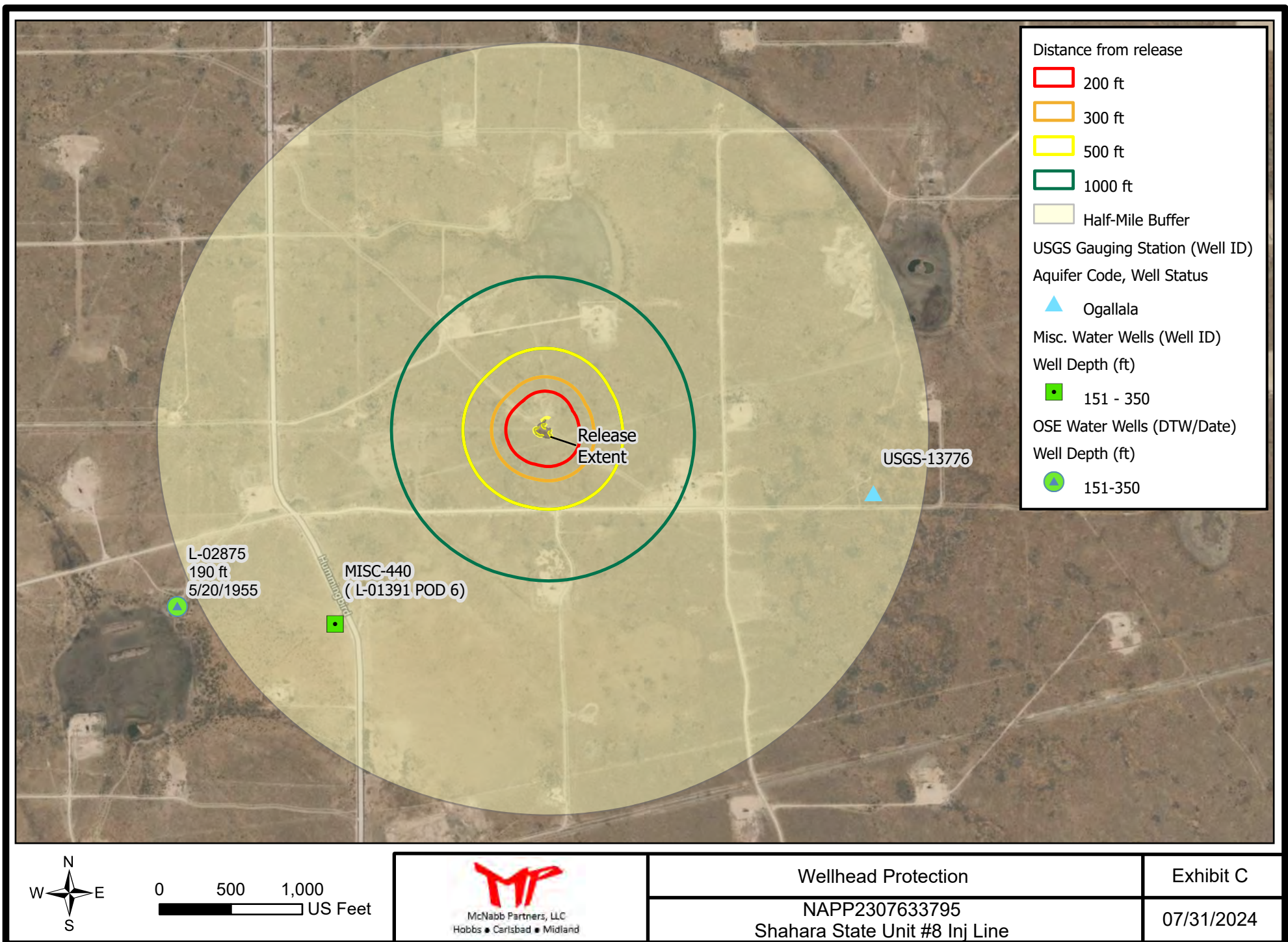
Exhibits



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Appendix A

R.T. Hicks June 2024 Remediation Plan



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~~April 2024~~

Revised June 2024

Site Characterization & Remediation Plan
Shahara State Unit # 008 Inj. @ 30-025-01438
Incident NAPP2307633795
Sec 16 T17S R33E UL N

Transmittal Letter
Digital Upload Data
Executive Summary
Responses to Digital Submission Requests for Site Characterization
Source & Nature of Release
Geology & Depth to Groundwater Discussion
Laboratory Analyses Results Observations
Remediation Plan
Figures, Tables & Plates
Appendices
Well Logs and USGS Data, Site Photos, Laboratory Reports



View of sampling location E4 (pin flags in center of image) and DCP Pipeline at yellow marker. Vegetation defines the release footprint as does the chloride concentration at E4. Release footprint lies between pipeline and pin flags.

Prepared for:
J & J Investments
Loco Hills, NM

Prepared by:
R.T. Hicks Consultants, Ltd.
901 Rio Grande NW F-142
Albuquerque, New Mexico



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Some portions removed as submission is on-file at NMOCD.

by J&J Investments confirmed that the cause of the release was the failure of the DCP/Contractor repair.

After months of efforts to cause DCP and/or their contractor to take responsibility for the failure of the Shahara pipeline repair, J&J elected to move forward with this characterization.

Geology

Plate 1 presents depth to groundwater data at nearby wells in the USGS, OSE, and Hicks Consultants (MISC) databases. Please note that logs from the OSE database exist for three nearby wells:

- ❖ L-2875 is about ½ mile west-southwest of the site. The 1955 driller's log does not provide any color of the cuttings, but the description of the water sand from 190-235 underlain by sandy clay suggests to us that the base of the Ogallala is at least 235 feet deep. We estimate 190-foot unsaturated zone that comprises consists of a mixture of caliche and sand (90%) that underlies an 8-foot thick caliche horizon.
- ❖ L-3528 is north of the Shahara DCP release site at the northern edge of Plate 1. The 1957 driller's log is more detailed and provides the base of the Ogallala/top of Chinle as 265 feet. The entire 158 foot unsaturated zone of 1957 is now about 180 feet due to the decline of the water table surface. The unsaturated zone is a mixture of caliche and sand, which is called "sand and sand rock and caliche." Like L-2875, caliche forms a thin zone that caps the unsaturated zone.
- ❖ L-3749 does not exhibit a detailed driller's log. This well lies about 1 mile north of the release site. Here, the caliche cap is 18-feet thick, and the remainder of the unsaturated zone (to 160-feet) is labeled "dry sand". We contend that lithology is a mixture of caliche and sand, as is described in the other well logs.

Plates 1 and 2 show that the release site lies on the Ogallala Formation. This unit consists of alluvial and eolian deposits with interbedded caliche, as described in the well logs provided in the Appendix Well Logs and USGS data and summarized above. The most important feature of the description of the lithology of the unsaturated zone is the lack of thick clay layers that could create a perched water body that might be beneficially used for stock. The uppermost groundwater in this area is the Ogallala Aquifer.

Depth to Groundwater

For the benefit of J & J Investments and their Counsel, the text of Rule 29 describing methods of determining depth to groundwater is presented below with emphasis added.

19.15.29.11

SITE ASSESSMENT/CHARACTERIZATION

(2) Depth to ground water. The responsible party must determine the depth to ground water where the release occurred. If the exact depth to ground water is unknown, the responsible party must provide a reasonable determination of probable ground water depth using data generated by numeric models, cathodic well lithology, water well data, published information or other tools as approved by the appropriate division district office. If the responsible party uses water well data, the responsible party must provide all pertinent well information

The following text presents a reasonable determination of probable groundwater depth using data generated by numeric models, well data, and published information.

Data from Water Wells

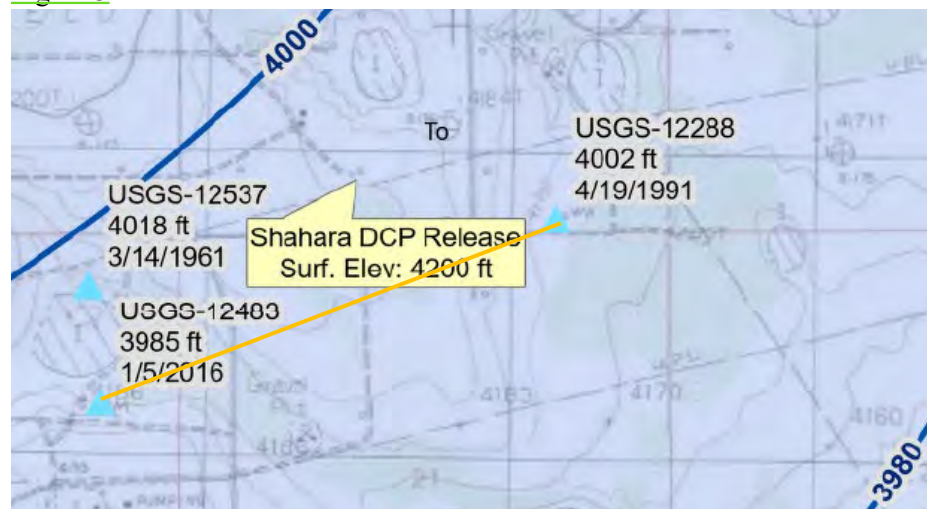
Plate 2a (same as the original submission) displays 12 water wells measured by the USGS that are completed in the Ogallala Aquifer, the uppermost groundwater zone in this area. Of these 12 wells, four USGS wells provide data that are less than 25 years old. The most recent data from these four wells are 2001, 2016 and 2024, as discussed below. Well data from these four wells and the closest well to the site is summarized below and presented in Appendix Well Logs and USGS Data. Note that for all wells listed below, the USGS database states they are completed in the Ogallala Aquifer, and unconfined water bearing unit.

1. USGS-12483 (about 0.6 miles southwest) shows a record of measurements from 1966 to 2024. Although the 2024 data are provisional (groundwater elevation = 3998), the 2022 data are approved (groundwater elevation = 3981). This 2022 data does not register in the USGS database used to generate Plate 2a. We believe USGS-12483 is OSE well L-2875 with a total depth of 235 feet. While the OSE plots L-2875 near USGS-12537, the USGS database states USGS-12537 is 169 feet deep. We see evidence of a well north of the ephemeral lake as plotted by the USGS – but the well is clearly abandoned. The USGS database states that USGS-12483 is completed in the Ogallala Aquifer and shows depth to water measurements of 190 feet \pm suggesting that this well is L-2875. This is one of four wells used to estimate groundwater elevation in the numerical model discussed below.
2. USGS-12332 is in the northwest corner of Plate 2a and 2b about 2.4 miles from the release. This well is the same as L-4122 (see Appendix Well Logs and USGS Data). The period of record is 1961-2001. We used the data from this well in our numerical model.
3. USGS-12326 is one mile north of the site and is the same well as OSE L-3749. The USGS location is about 1500 feet east of the well observed in Google Earth. The period of record is 1961-2001. We used the 2001 groundwater elevation for our numerical model. Like all other wells, USGS-12332 is in the Ogallala Aquifer.
4. USGS-12145 has a record of measurements from 1961-2016 and is 1.6 miles southeast of the site. Groundwater elevation in 2001 is 3981. There is no OSE driller's log associated with this well, however, a reasonable person can conclude that it shares the completion details as the other wells discussed above.
5. USGS-12288 is less than $\frac{1}{2}$ mile east the site. USGS Data in the Appendix state the total depth of the well is 198 feet. Only one measurement is in the USGS database. The well is mapped on the USGS topographic map (WW) and is correctly located on Plate 2a. Google Earth images strongly suggest a well may be at this location. In 1991, the USGS measured a groundwater elevation of 4002. In 1990, the USGS also measured Well 12483 (0.7 miles southeast of the site as discussed above) and recorded a groundwater elevation of 4003. We suggest that the groundwater elevation at these two wells are similar in 2016 and 2024. We did not use this well in our numerical model described below.

USGS-12288 is less than $\frac{1}{2}$ mile east of the Shahara release location. USGS-12483 is 0.7 miles southwest of the site. The well construction data (see Appendix Well Logs and USGS Data)

permit a conclusion with a high degree of scientific certainty that these two wells measure water levels in the Ogallala Aquifer and share similar construction. The data also permit a conclusion that these two wells behaved similarly with respect to groundwater elevation in 1990-91. We conclude static levels of these two wells will be similar always. The light turquoise line between these two wells in Figure 3 (below) represents a groundwater elevation of $4006 \pm$ in 2024. The dark blue potentiometric surface contours represent the groundwater surface drawn by Hicks Consultants in between 2018 and 2022.

Figure 3



Evaluation of the water well data from these two wells permit a reasonable estimate of groundwater elevation beneath the Shahara release. We conclude 2024 groundwater beneath the site is higher than 4006 feet ASL and lower than 4020 feet. The minimum distance between groundwater and the spill site is $(4200 - 4020 =) 180$ feet based upon water well data.

When we re-sample the spill footprint for closure within the next month or two, we plan to obtain a water level measurement of USGS-12288 if possible.

Data from Published Information

Hicks Consultants used the potentiometric surface in the report by Tillery: SCIENTIFIC INVESTIGATIONS MAP 3044¹ to provide background to the geometry of the 2019 potentiometric surface presented in Plate 2b. The 2008 USGS map is reproduced for the site area as Plate 2b with our 2019 surface also plotted for reference. The methods used to create the 2008 map are described below verbatim.

Water-level measurements from 209 wells were used to generate the current ground-water-level map. All measurements were made between January 2004 and January 2007, with preference given to the most recent measurement made in each well. The current ground-water data are broadly distributed throughout the study area except for some data gaps in the northeast corner, the northwest edge, and a region in the north-central part of

¹ <https://pubs.usgs.gov/sim/3044/>

the study area that is surrounded by unsaturated areas. The water-level change throughout the area from 2004 to 2007 ranged from a decline of 21.2 ft to an increase of 5.2 ft. The average decline was 2.4 ft, and the median decline was 0.76 ft.

To create the water-level contour maps, the ground-water-level data were plotted by using a geographic information system (GIS). A triangular irregular network (TIN) was generated representing the water-level data points, and potentiometric contours were generated in GIS by linear interpolation from the TIN. The interpolated contour lines calculated by GIS were smoothed by hand to remove contour irregularities unsupported by data and checked for inconsistencies with base of aquifer and topographic contours. .

This peer-reviewed USGS publication shows a 2004-2007 groundwater elevation contours at 20-foot intervals and the thick black line at the center is the 4000 foot ASL elevation. At the site, the 2004-07 groundwater elevation is less than 4010. Thus, the 2004-07 depth to groundwater beneath the site based upon published data is (4200-4010=) 190 feet.

Numerical Model

As shown in the Appendix Well Logs and USGS data, the groundwater elevation measurement in 2001 are

4035 ft. ASL for USGS-12332
 4013 ft. ASL for USGS-12326
 4006 ft. ASL for USGS-12483
 3981 ft. ASL for USGS-12145

We used these elevation data with the well locations to calculate the location of the 4010 elevation (2001) between the various wells. The inserted spreadsheet in Plate 2c provides the data and the results. The model is simple:

Measurement from/to	Distance (ft)	GW Elev in 2001		Elev Difference	Feet per Unit	Distance to 4010 Elevation From Lowest Well
		at 12332	at 12483			
12332 to 12483	12250	4035	4006	29	422	1689.655
		at 12326	at 12483			
12326 to 12483	8900	4013	4006	7	1271	5085.714
		at 12326	at 12145			
12326 to 12145	13100	4013	3981	32	409	11871.88
		at 12332	at 12145			
12145 to 12332	21150	4035	3981	54	392	11358.33

1. Measure the distance between two wells with measured groundwater elevations within a reasonable timeframe. The four wells above were measured on the same date: 2/20/21.

2. The difference in groundwater elevation divided by the distance between two given wells provides a slope. For example, in the case of 12332 to 12483, the slope is 1 foot of elevation (loss or gain) for every 422 feet of distance between the two wells.
3. Subtract or add elevation along the line connecting any two of the wells until the calculated elevation is 4010. For the example, by moving 1670 feet up gradient (northwest) from 12483 toward 12332, one arrives at the calculated elevation of 4010.

Plate 2c shows four points along the lines between the four wells where the numerical model predicts groundwater elevation of 4010-foot ASL (turquoise line with orange dots) and 4000-foot elevation (green line with yellow dots). The Shahara release site is located almost half way between the 4000-ft elevation contour line and the 4010 ft. contour line. The table below provides the data and the results.

Measurement from/to	Distance (ft)	GW Elev in 2001		Elev Difference	Feet per Unit	Distance to 4010 Elevation From Lowest Well	Distance to 4000 Elevation From Lowest Well
		at 12332	at 12483				
12332 to 12483	12250	4035	4006	29	422	1689.655	-2534.48
		at 12326	at 12483				
12326 to 12483	8900	4013	4006	7	1271	5085.714	-7628.57
		at 12326	at 12145				
12326 to 12145	13100	4013	3981	32	409	11871.88	7778.125
		at 12332	at 12145				
12145 to 12332	21150	4035	3981	54	392	11358.33	7441.667

Thus, the predicted groundwater elevation beneath the site is about 4004 feet ASL. With a surface elevation of 4200, a reasonable estimate of the probable depth to groundwater is $(4200 - 4004) = 196$ feet.

In summary, depth to groundwater exceeds 100 feet. Because we suspect the 2024 groundwater elevation of USGS-12483 is valid, the most reasonable estimate of current depth to groundwater at the release site is $(4200 - (3998 + 4)) = 198$ feet. The addition of 4-feet in the equation is to account for the fact that the measured well lies slightly down gradient (and cross-gradient) from the release site.

Laboratory Analysis Result Observations

Table 1 (attached) shows all laboratory results. Hydrocarbons were not detected above Rule 29 Standards. Thus, only chloride concentrations are germane to remediation/reclamation requirements.

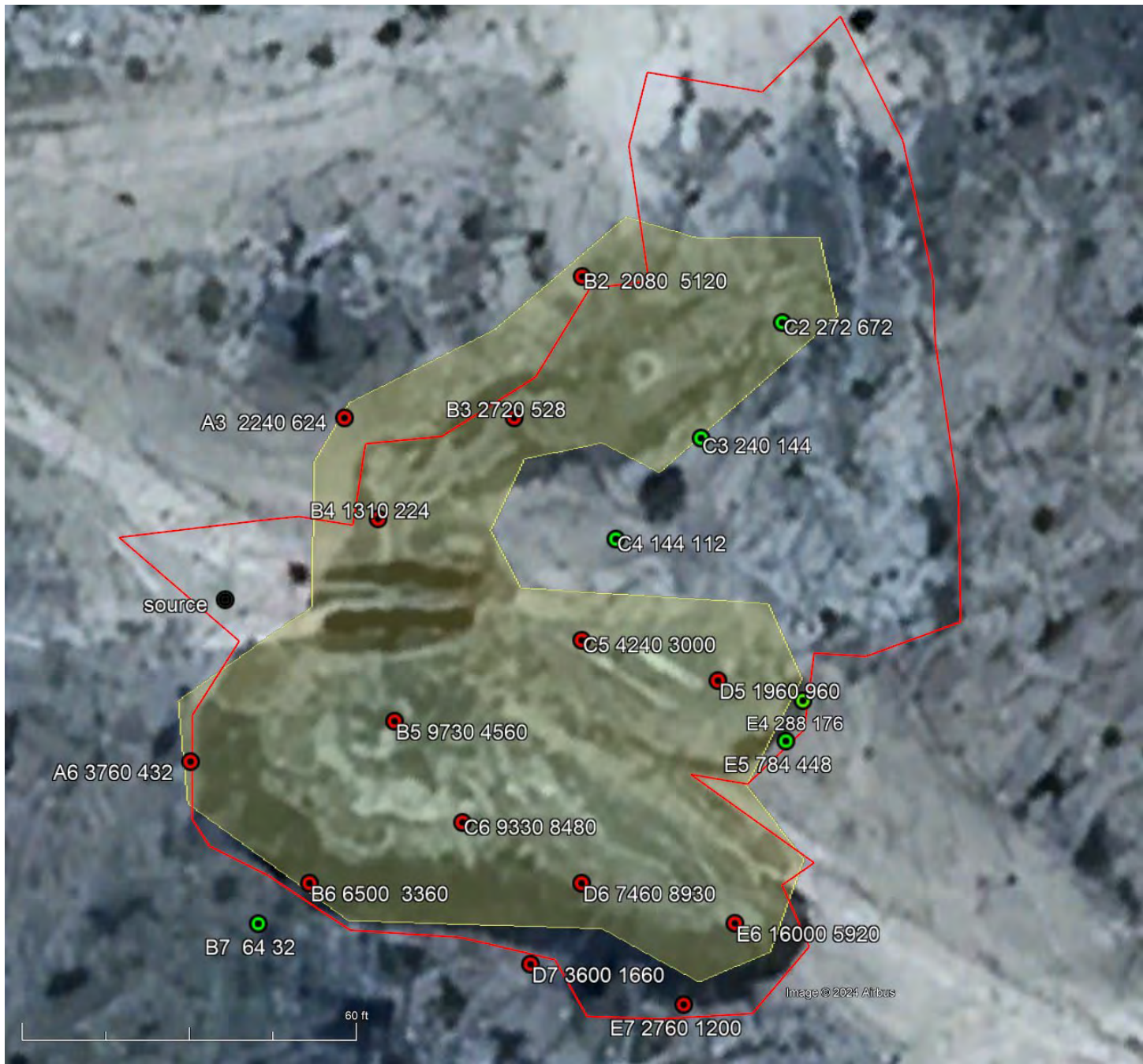


Figure 1 - Location of Samples & Chloride Concentrations on Google Earth Image 3/7/2023

Legend

Sample ID	0-2 ft	2-4 ft.
B6	6500	3360
Results in mg/kg		

Red outline –	Extent of potential release based upon Google Earth imagery
Yellow outline	Extent of release based upon foot survey of stained and impacted ground surface

Sample ED (H240132-XX)	Date	SampleID	Discrete Depth _fbs	Top Depth _fbs	Bottom Depth fbs	GRO mg/kg	DRO mg/kg	EXT DRO Mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Total Xylenes mg/kg	Total BTEX	Cl mg/kg	TPH mg/kg	GRO+DRO	BTEX mg/kg
	1/4/2024	A3		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	2240	<30.0	<20.0	<0.3
	1/4/2024	A3		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	624	<30.0	<20.0	<0.3
	1/4/2024	A3	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	1250	<30.0	<20.0	<0.3
	1/3/2024	A6		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	3760	<30.0	<20.0	<0.3
	1/3/2024	A6		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	432	<30.0	<20.0	<0.3
	1/3/2024	A6	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	544	<30.0	<20.0	<0.3
49	1/4/2024	B2		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	2080	<30.0	<20.0	<0.3
50	1/4/2024	B2		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	5120	<30.0	<20.0	<0.3
51	1/4/2024	B2	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	2680	<30.0	<20.0	<0.3
	1/4/2024	B3		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	2720	<30.0	<20.0	<0.3
	1/4/2024	B3		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	528	<30.0	<20.0	<0.3
	1/4/2024	B3	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	208	<30.0	<20.0	<0.3
	1/4/2024	B4		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	1310	<30.0	<20.0	<0.3
	1/4/2024	B4		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	224	<30.0	<20.0	<0.3
	1/4/2024	B4	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	2520	<30.0	<20.0	<0.3
	1/3/2024	B5		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	9730	<30.0	<20.0	<0.3
	1/3/2024	B5		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	4560	<30.0	<20.0	<0.3
	1/3/2024	B5	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	2200	<30.0	<20.0	<0.3
7	1/3/2024	B6		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	6500	<30.0	<20.0	<0.3
8	1/3/2024	B6		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	3360	<30.0	<20.0	<0.3
9	1/3/2024	B6	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	4640	<30.0	<20.0	<0.3
10	1/3/2024	B7		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	64	<30.0	<20.0	<0.3
11	1/3/2024	B7		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	32	<30.0	<20.0	<0.3
12	1/3/2024	B7	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	128	<30.0	<20.0	<0.3
	1/4/2024	C2		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	272	<30.0	<20.0	<0.3
	1/4/2024	C2		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	672	<30.0	<20.0	<0.3
	1/4/2024	C2	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	1140	<30.0	<20.0	<0.3
	1/4/2024	C3		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	240	<30.0	<20.0	<0.3
	1/4/2024	C3		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	144	<30.0	<20.0	<0.3
	1/4/2024	C3	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	192	<30.0	<20.0	<0.3
	1/4/2024	C4		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	144	<30.0	<20.0	<0.3
	1/4/2024	C4		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	112	<30.0	<20.0	<0.3
	1/4/2024	C4	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	80	<30.0	<20.0	<0.3
	1/3/2024	C5		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	4240	<30.0	<20.0	<0.3

Samples B2, B6 and B7 are confused in the Cardinal Laboratory Report.

Examination of Chain of Custody Date/Time Permitting Sorting Out Correct Reports by Sample ID #

Red Bold is above Rule 29 Table 1 Limits

Sample ED (H240132-XX)	Date	SampleID	Discrete Depth _fbs	Top Depth _fbs	Bottom Depth fbs	GRO mg/kg	DRO mg/kg	EXT DRO Mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Total Xylenes mg/kg	Total BTEX	Cl mg/kg	TPH mg/kg	GRO+DRO	BTEX mg/kg
	1/3/2024	C5		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	3000	<30.0	<20.0	<0.3
	1/3/2024	C5	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	2600	<30.0	<20.0	<0.3
	1/3/2024	C6		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	9330	<30.0	<20.0	<0.3
	1/3/2024	C6		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	8480	<30.0	<20.0	<0.3
	1/3/2024	C6	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	8200	<30.0	<20.0	<0.3
	1/3/2024	D5		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	1960	<30.0	<20.0	<0.3
	1/3/2024	D5		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	960	<30.0	<20.0	<0.3
	1/3/2024	D5	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	448	<30.0	<20.0	<0.3
	1/3/2024	D6		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	7460	<30.0	<20.0	<0.3
	1/3/2024	D6		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	8930	<30.0	<20.0	<0.3
	1/3/2024	D6	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	8000	<30.0	<20.0	<0.3
	1/3/2024	D7		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	3600	<30.0	<20.0	<0.3
	1/3/2024	D7		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	1660	<30.0	<20.0	<0.3
	1/3/2024	D7	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	1600	<30.0	<20.0	<0.3
	1/4/2024	E4		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	288	<30.0	<20.0	<0.3
	1/4/2024	E4		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	176	<30.0	<20.0	<0.3
	1/4/2024	E4	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	112	<30.1	<20.1	<0.4
	1/3/2024	E5		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	784	<30.0	<20.0	<0.3
	1/3/2024	E5		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	448	<30.0	<20.0	<0.3
	1/3/2024	E5	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	256	<30.0	<20.0	<0.3
	1/3/2024	E6		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	16000	<30.0	<20.0	<0.3
	1/3/2024	E6		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	5920	<30.0	<20.0	<0.3
	1/3/2024	E6	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	7040	<30.0	<20.0	<0.3
	1/3/2024	E7		0	2	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	2760	<30.0	<20.0	<0.3
	1/3/2024	E7		2	4	<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	1200	<30.0	<20.0	<0.3
	1/3/2024	E7	4.3			<10	<10	<10	<0.05	<0.05	<0.05	<0.150	<0.30	672	<30.0	<20.0	<0.3

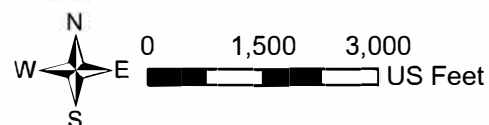
Samples B2, B6 and B7 are confused in the Cardinal Laboratory Report.

Examination of Chain of Custody Date/Time Permitting Sorting Out Correct Reports by Sample ID #

Red Bold is above Rule 29 Table 1 Limits

Page 26

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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 Wells and Borings with Depth to Water

Plate 1

J&J Investments - Shahara DCP Release

February 2024
Page 27

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USGS Gauging Station (GW Elev, Date)	
Aquifer Code, Well Status	
	Alluvium/Bolsom
	Ogallala
	Not Defined
OSE Water Wells (DTW/Date)	
Well Depth (ft)	
	<=150
	151-350
Misc. Water Wells (GW Elev, Date)	
Well Depth (ft)	
	<= 150
NM_Geology	
Map Unit,Description	
	Qe/Qp, Quaternary-Eolian Piedmont Deposits
	Qp, Quaternary-Piedmont Alluvial Deposits,Qp, Quaternary-Piedmont Alluvial Deposits
	To, Tertiary-Ogallala Formation,To, Tertiary-Ogallala Formation

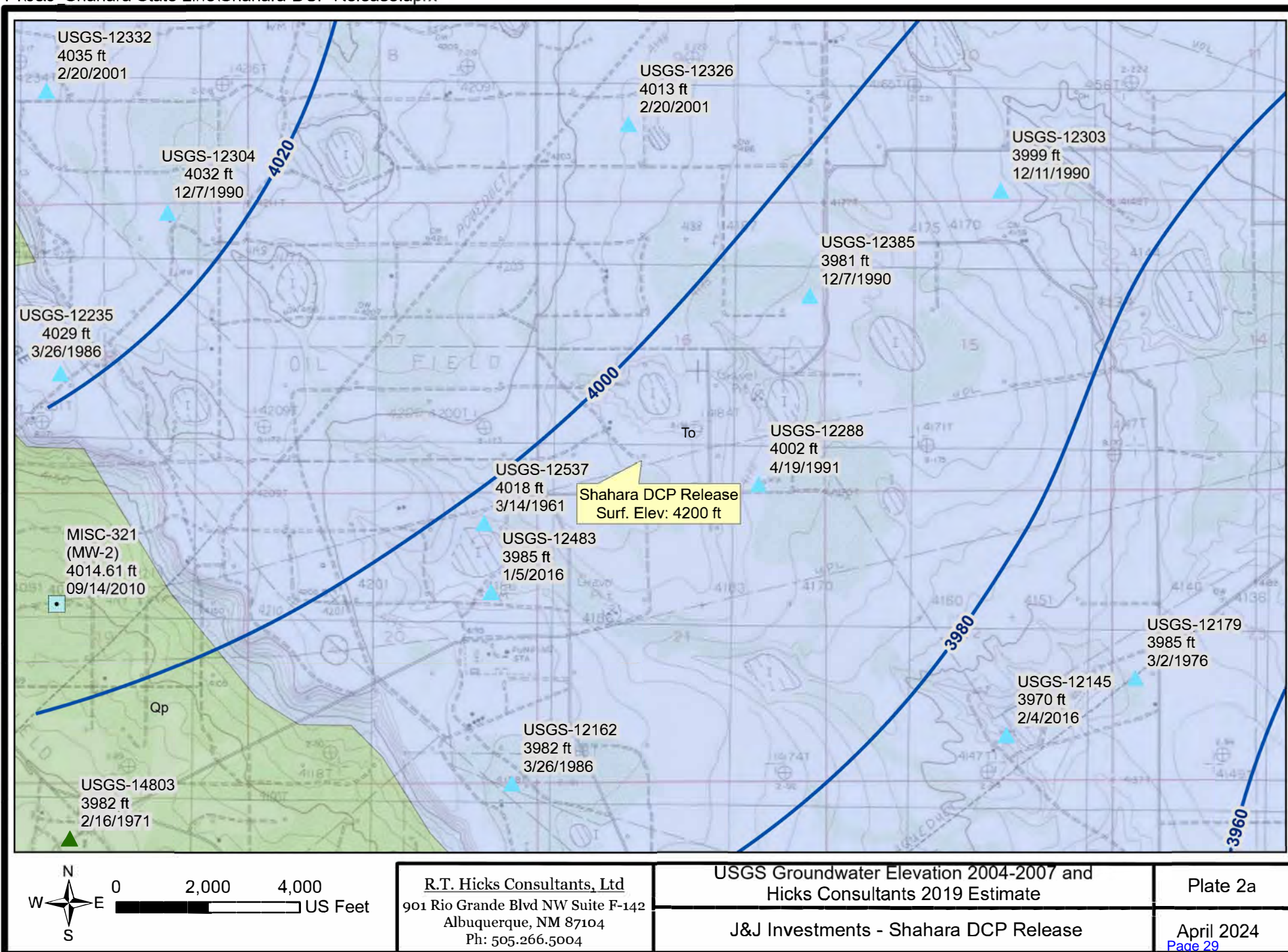
R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

Plates 1 & 2 Legend

J&J Investments - Shahara DCP Release

February 2024
[Page 28](#)

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 Albuquerque, NM 87104
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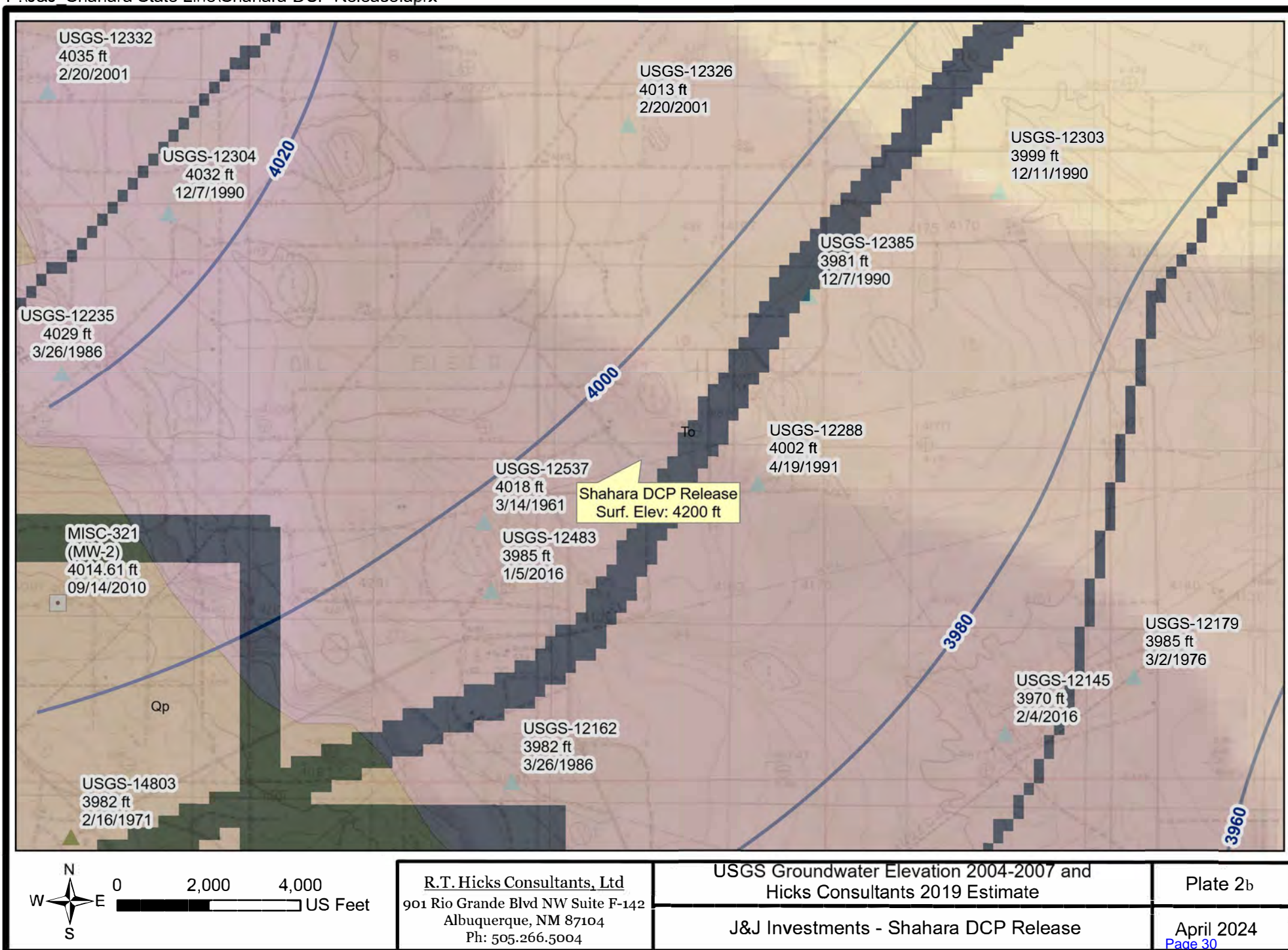
USGS Groundwater Elevation 2004-2007 and
 Hicks Consultants 2019 Estimate

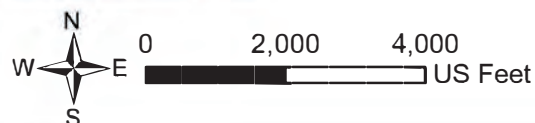
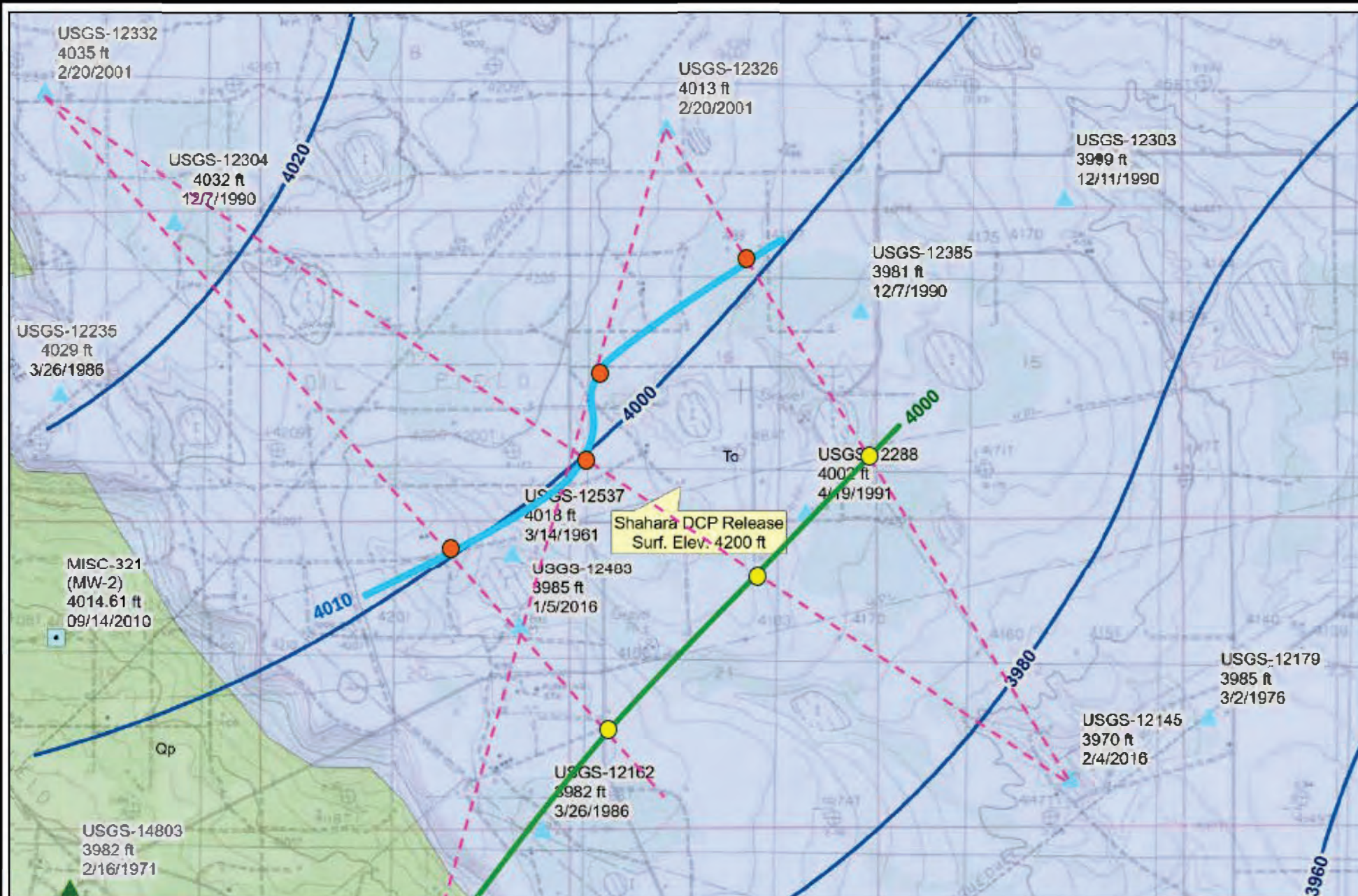
Plate 2a

J&J Investments - Shahara DCP Release

April 2024
 Page 29

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Albuquerque, NM 87104
Ph: 505.266.5004

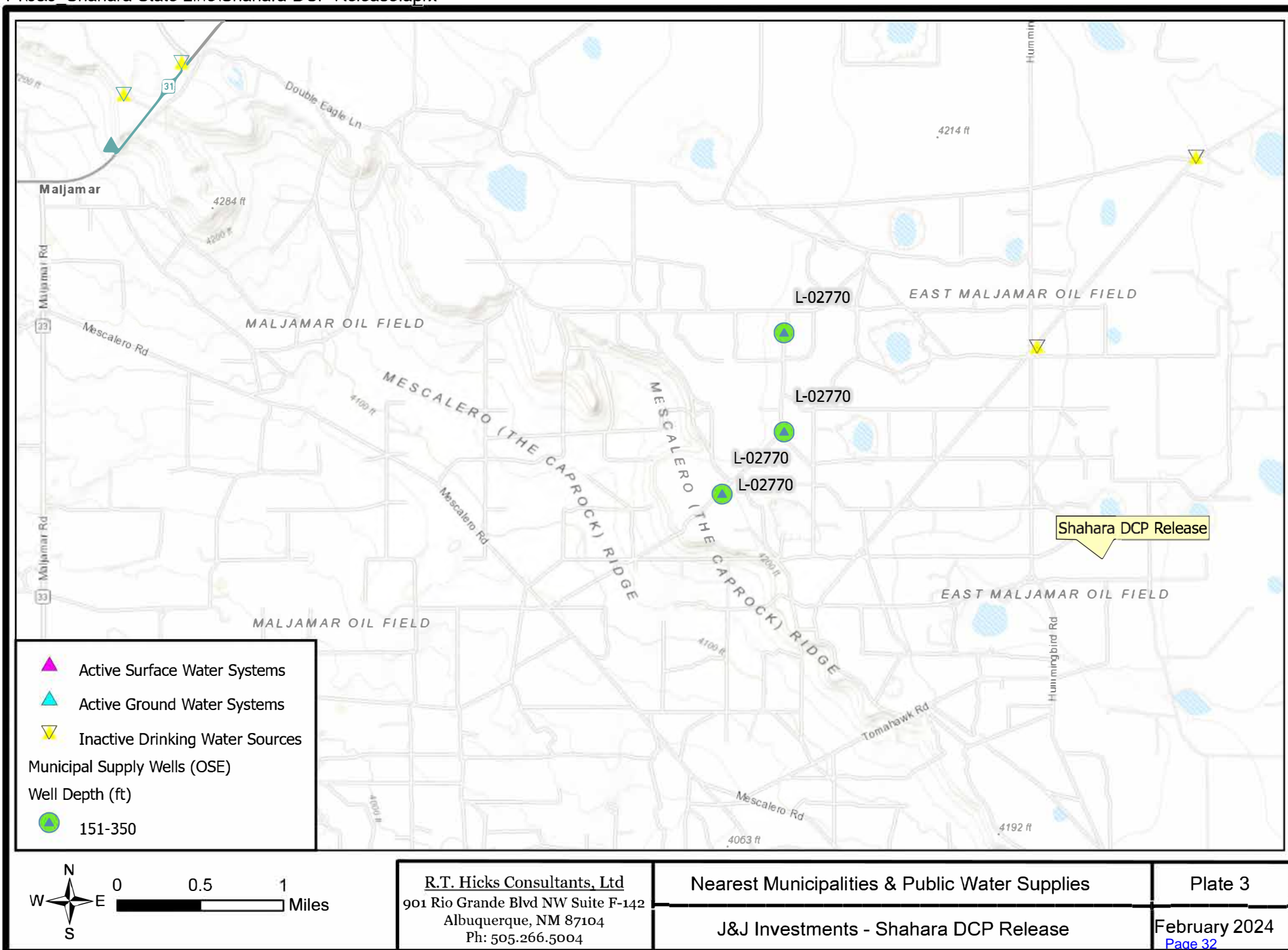
Numerical Model of Groundwater Elevation

Plate 2d

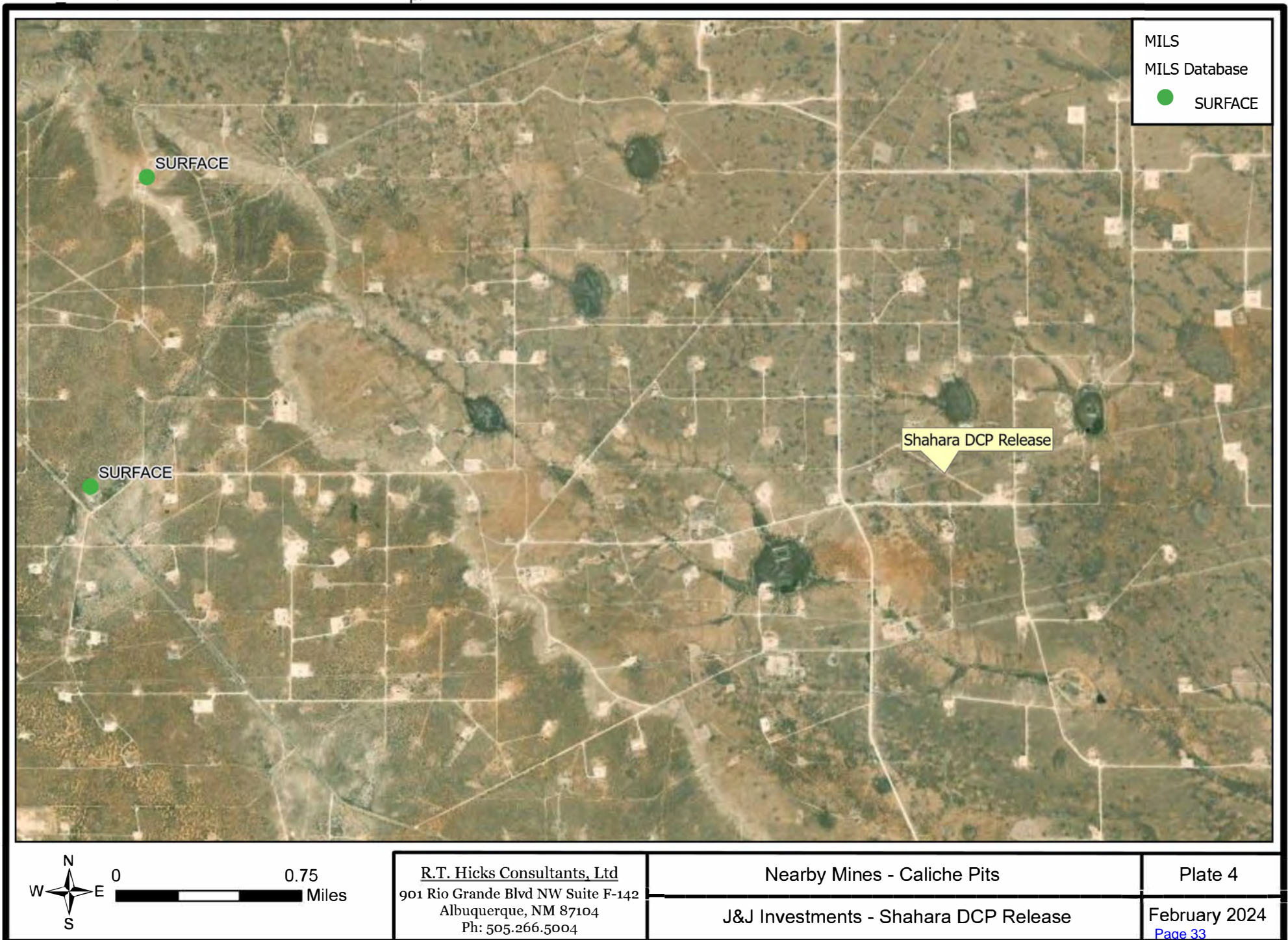
J&J Investments - Shahara DCP Release

April 2024
Page 31

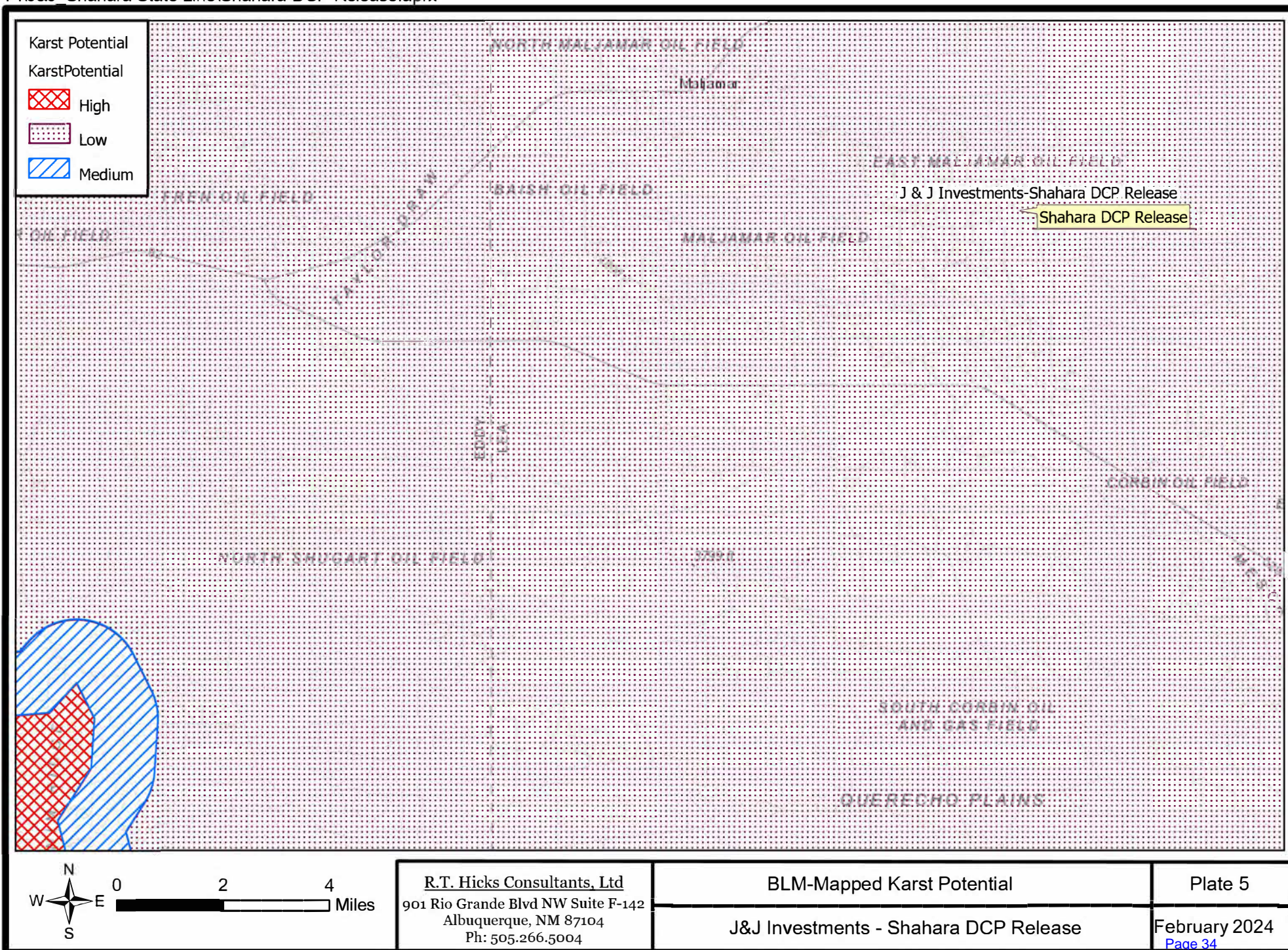
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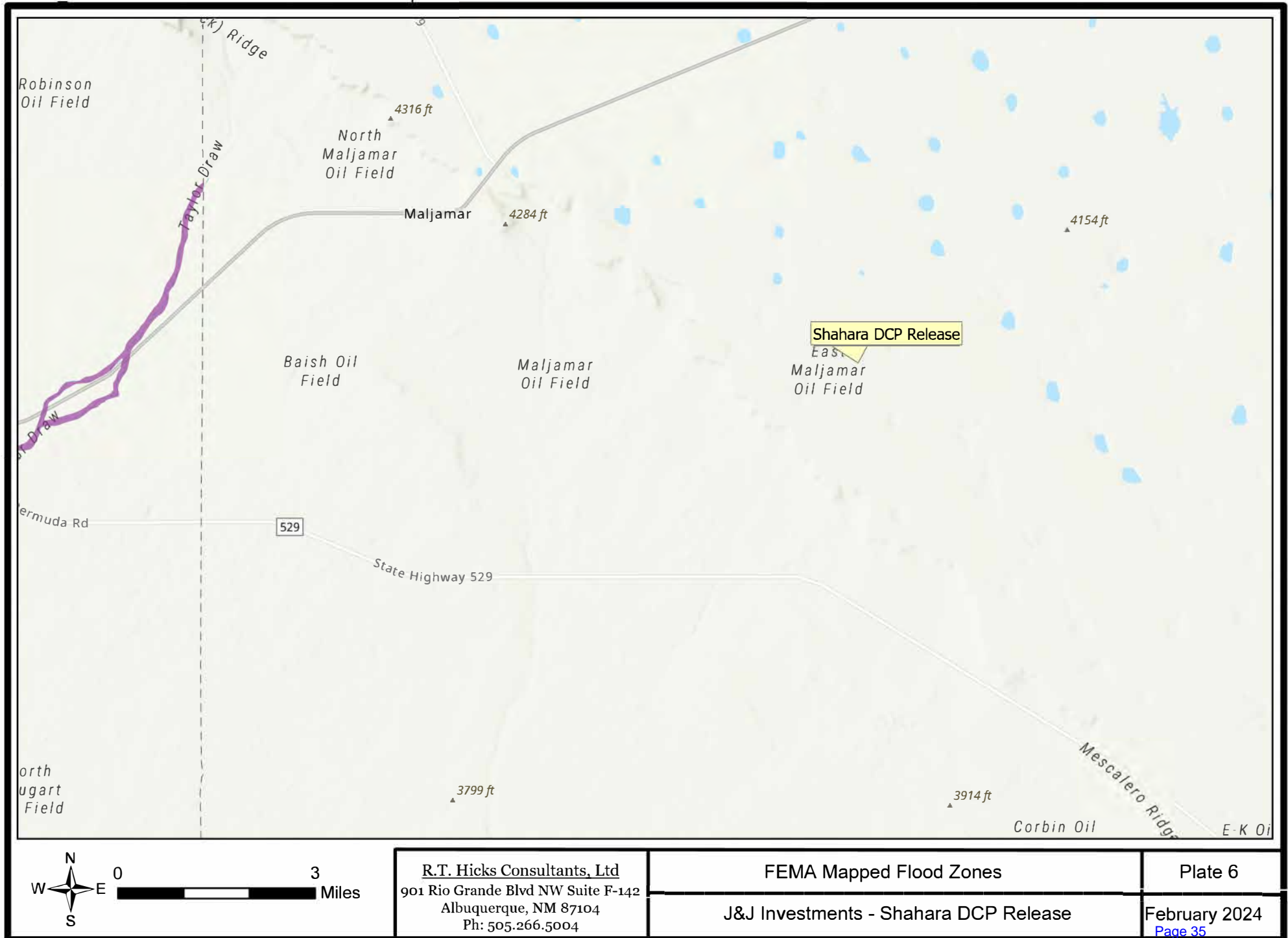
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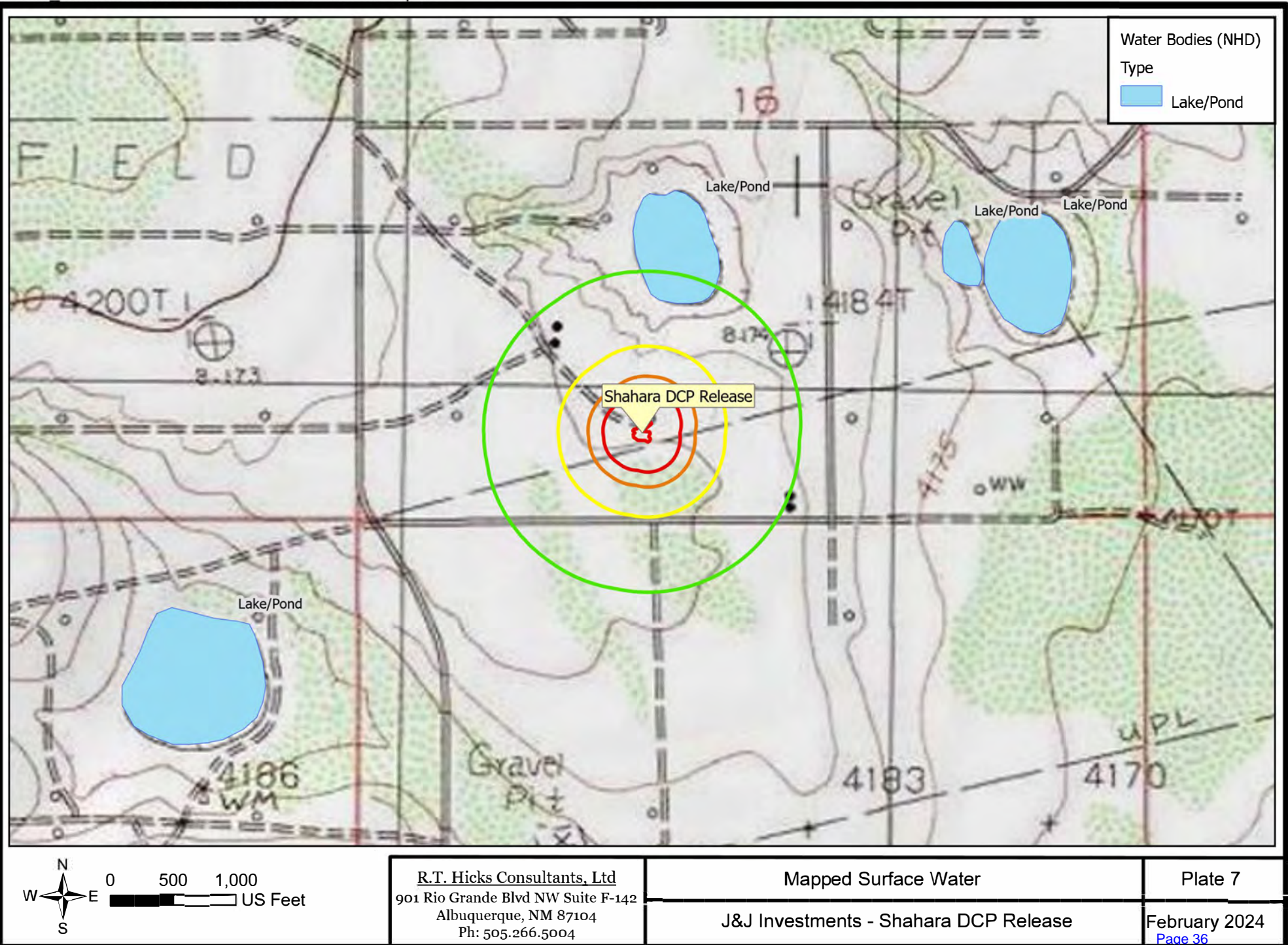
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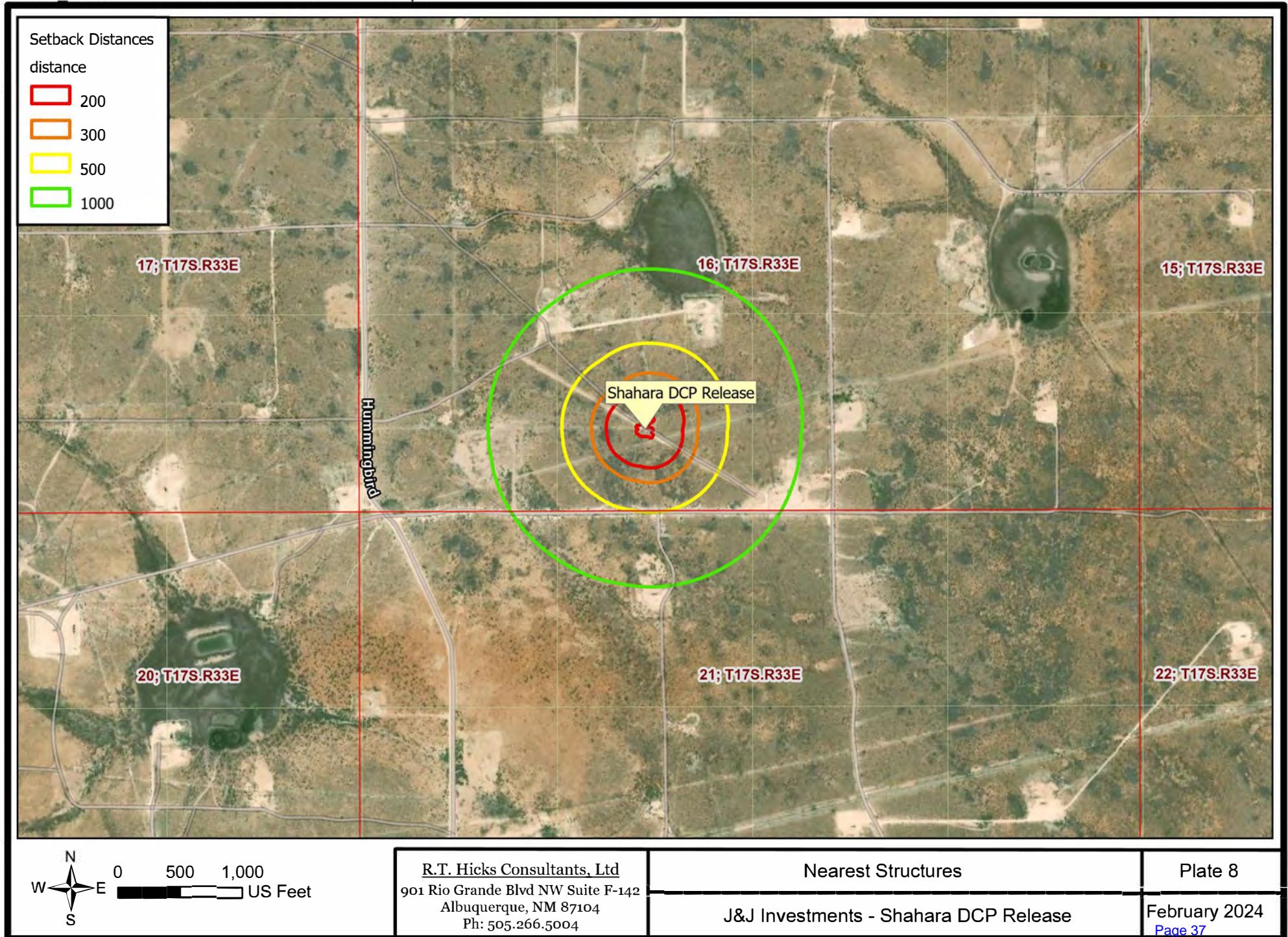
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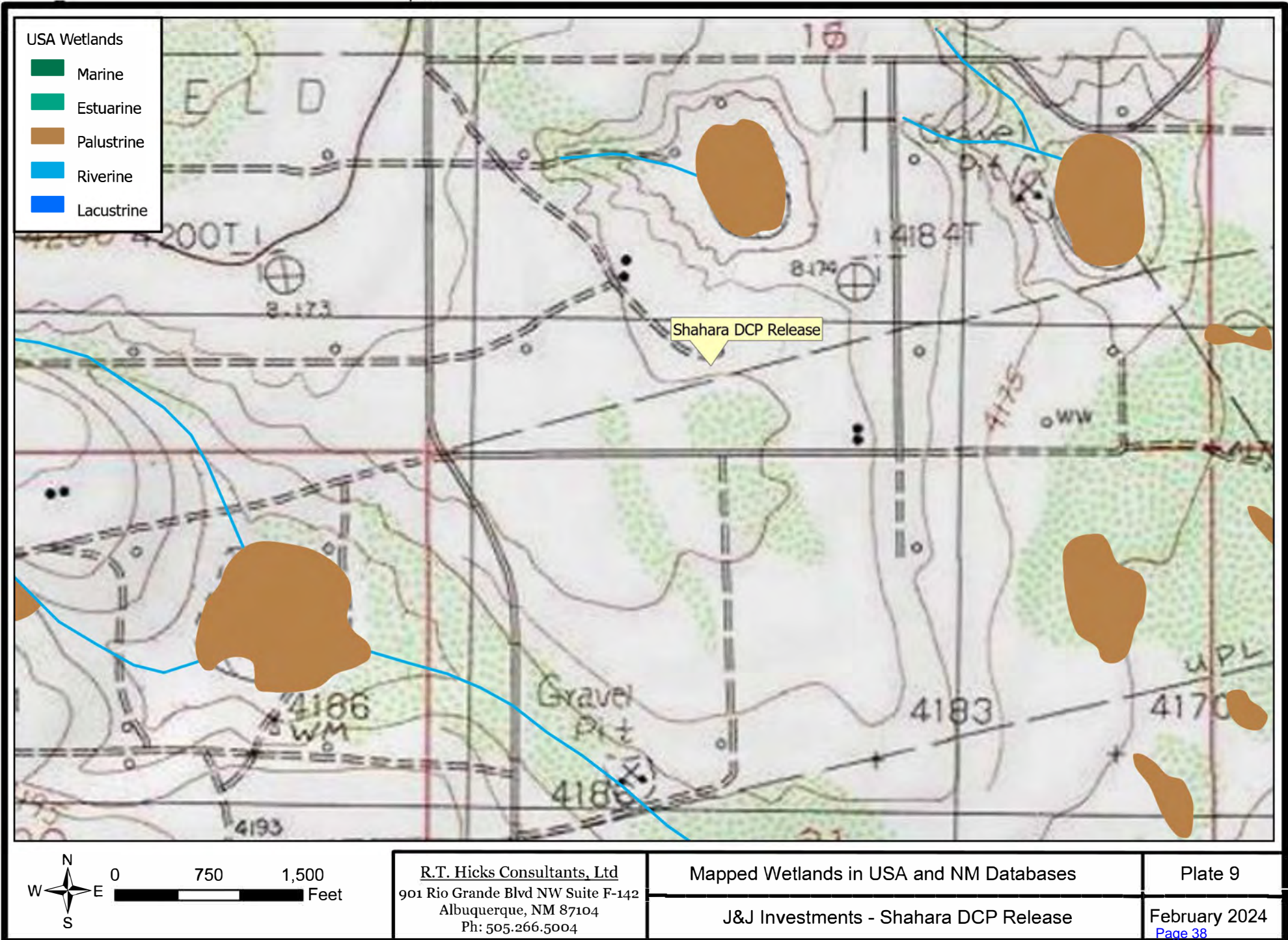
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WELL LOGS AND USGS DATA

STATE ENGINEER OFFICE

490829

Section 1

(A) Owner of well Warren and Bradshaw Expl. & Drg. Co.
Street and Number 2604 West Brundon
City Midland State Texas
Well was drilled under Permit No. L-2875 and is located in the
NE 1/4 NE 1/4 of Section 20 Twp 17 S Rge. 33 E
(B) Drilling Contractor Abbott Brothers License No. WD-46
Street and Number P.O. Box 637
City Hobbs, State New Mexico
Drilling was commenced May 18 1955
Drilling was completed May 20 1955

Elevation at top of casing in feet above sea level _____ Total depth of well 250
State whether well is shallow or artesian shallow Depth to water upon completion 190

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	190	235	45	Water sand XXXXXX (Low yield)
2				
3				
4				
5				

RECORD OF CASING

[illegible]

RECORD OF MUDDING AND CEMENTING

[illegible]

PLUGGING RECORD

Name of Plugging Contractor..... License No.....
Street and Number..... City..... State.....
Tons of Clay used..... Tons of Roughage used..... Type of roughage.....
Plugging method used..... Date Plugged..... 19.....
Plugging approved by:..... Cement Plugs were placed as follows:.....

Cement Plugs were placed as follows:

FOR USE OF STATE ENGINEER ONLY

Date Received May 26, 1955

File No. S-2875 Use Di

No.	Depth of Plug		No. of Backs Used
	From	To	

MAY 26 1955

OFFICE

GROUND WATER DIVISION / SOR

ARSWELL, NEW MEXICO

Location No. 17-33-26 Page 40

LOG OF WELL

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 well.

Well Driller

Form WR-23

STATE ENGINEER OFFICE

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest 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 1A and Section 5 need be completed.

Section 1

	250		

(Plat of 640 acres)

(A) Owner of well Continental Oil Company
Street and Number P. O. Box 460
City Hobbs State New Mexico
Well was drilled under Permit No. L-3528-S-3 and is located in the
SE 1/4 SE 1/4 NW 1/4 of Section 3 Twp. 17S Rge. 33E
(B) Drilling Contractor Walco Drilling, Inc. License No. WD-349
Street and Number P. O. Box 806
City Hereford State Texas
Drilling was commenced December 20 1968
Drilling was completed December 21 1968

Elevation at top of casing in feet above sea level 4,195 Total depth of well 271
State whether well is shallow or artesian Shallow Depth to water upon completion 155

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	150	212	62	Sandrock and red fine sand
2	212	237	25	Clean red sand
3	237	239	2	Red clay and sand
4	239	265	26	Sand and small gravel
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
12-3/4	49.56	---	0	270	270	---	181	227

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
Street and Number _____ City _____ State _____
Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
Plugging method used _____ Date Plugged _____ 19____
Plugging approved by: _____ Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

Date Received

1968 JAN 14 AM 8:50

File No. L-3528-S-3

Use WATERFLOOD Location No. 17.33.3.144

LOG OF WELL

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 well.

Well Driller

R. Paul Coneway
President

STATE ENGINEER OFFICE

SANTA FE

WELL RECORD

Phillips State # 1

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest 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 1A and Section 5 need be completed.

Section 1

495363

(Plat of 640 acres)

(A) Owner of well Thunderbird Drilling Co.
Street and Number 322 Fidelity Union Bldg.
City Dallas State Texas
Well was drilled under Permit No. _____ and is located in the
1/4 SW 1/4 SW 1/4 of Section 9 Twp. 17 S Rge. 33 E
(B) Drilling Contractor Abbott Bros. License No. WD-46
Street and Number Box 637
City Hobbs State New Mexico
Drilling was commenced Dec. 19 19 57
Drilling was completed Dec. 21 19 57

Elevation at top of casing in feet above sea level _____ Total depth of well 230
State whether well is shallow or artesian Shallow Depth to water upon completion 160

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	160	230	70	Water Sand
2				
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

1958 DEC 15 AM 9:42
STATE ENGINEER OFFICE
SANTA FE, N.M.

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
Street and Number _____ City _____ State _____
Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
Plugging method used _____ Date Plugged _____ 19 _____
Plugging approved by: _____ Cement Plugs were placed as follows:

FOR USE OF STATE ENGINEER ONLY	
DEC 30 1957	
Date Received	OFFICE
GROUND WATER SUPERVISOR	
ROSWELL, NEW MEXICO	

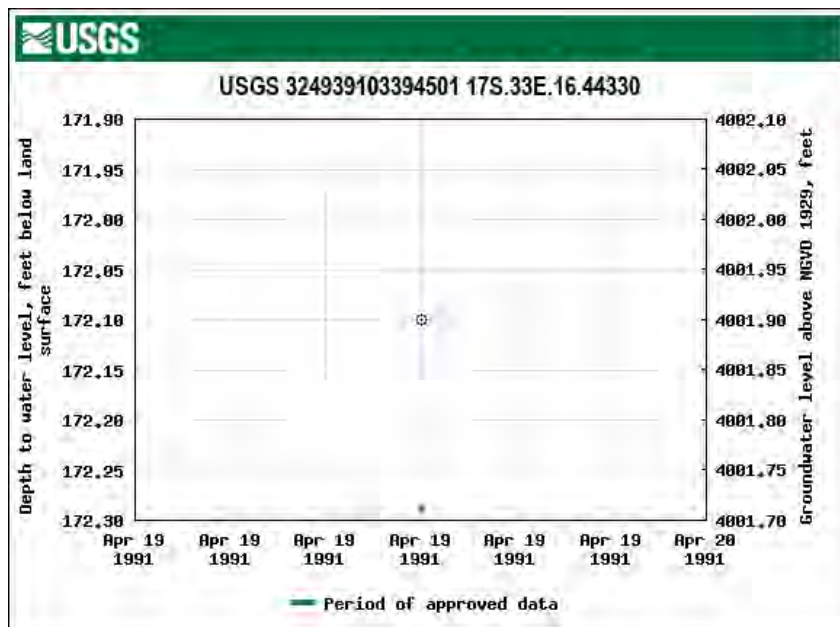
No.	Depth of Plug		No. of Sacks Used
	From	To	

File No. <u>L-3749</u>	Use <u>O.S.D.</u>	Location No. <u>17.33.9.330</u>
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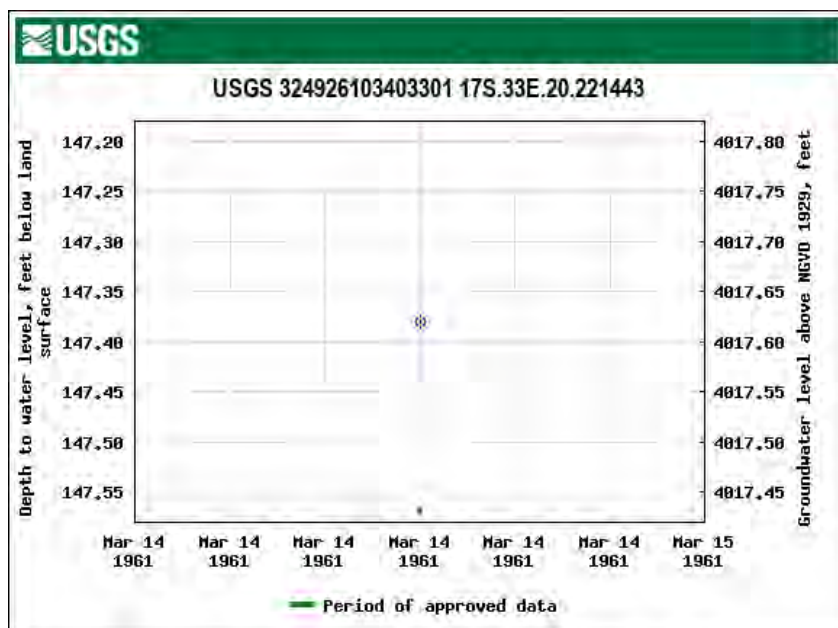
USGS 324939103394501 17S.33E.16.44330 AKA USGS-12288

Lea County, New Mexico
 Hydrologic Unit Code 13070007
 Latitude 32°49'39",
 Longitude 103°39'45" NAD27
 Land-surface elevation 4,174 feet above
 NGVD29
 The depth of the well is 198.00 feet
 below land surface.
 This well is completed in the High
 Plains aquifer (N100HGHPLN) national
 aquifer.
 This well is completed in the Ogallala
 Formation (121OGLL) local aquifer.

Less than ½ mile east of Shahara release

**USGS 324926103403301 17S.33E.20.221443 AKA USGS-12537**

Lea County, New Mexico
 Hydrologic Unit Code 13070007
 Latitude 32°49'32", Longitude 103°40'44"
 NAD27
 Land-surface elevation 4,165.00 feet above
 NGVD29
 The depth of the well is 169 feet below
 land surface.
 This well is completed in the High Plains
 aquifer (N100HGHPLN) national aquifer.
 This well is completed in the Ogallala
 Formation (121OGLL) local aquifer.



USGS 324913103403501 17S.33E.20.24132 AKA USGS-12483

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°49'20.4",

Longitude 103°40'46.1" NAD83

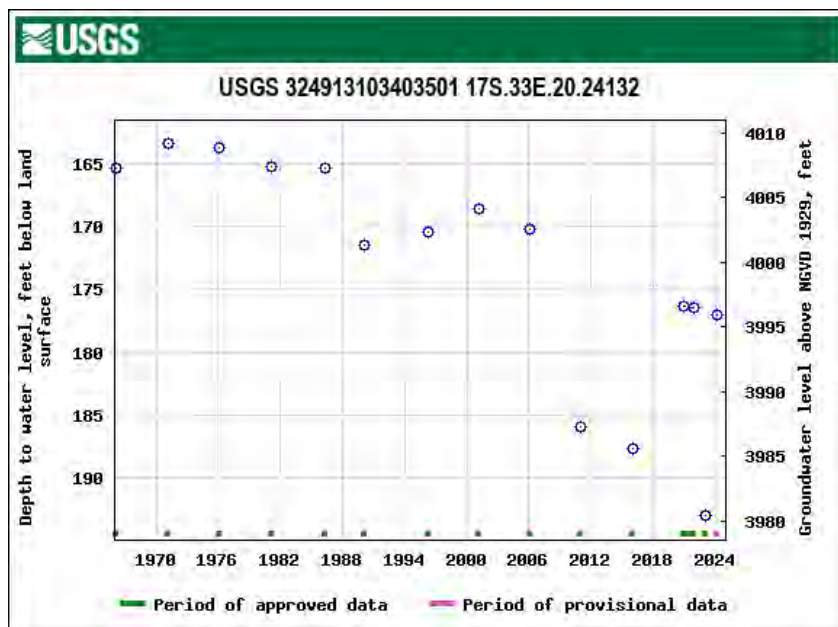
Land-surface elevation 4,173.00 feet above NGVD29

This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

This (former) windmill is ¾ mile southwest of Shahara Release

In 2001, depth to water is about 169 feet, which calculates to a groundwater elevation of 4004 feet ASL.

**USGS 324846103384201 17S.33E.22.43233 AKA – USGS-12145**

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°48'54.6",

Longitude 103°38'55.4" NAD83

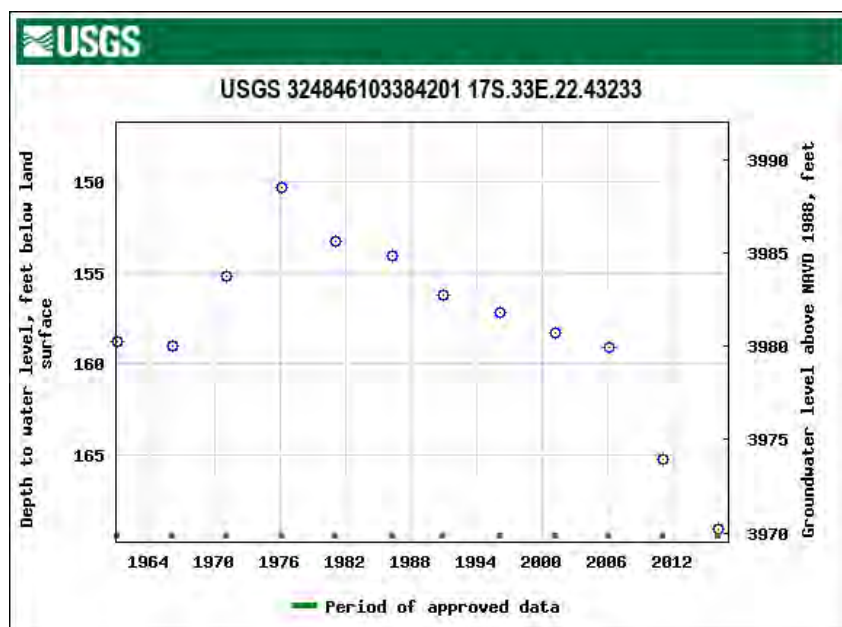
Land-surface elevation 4,139 feet above NAVD88

This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

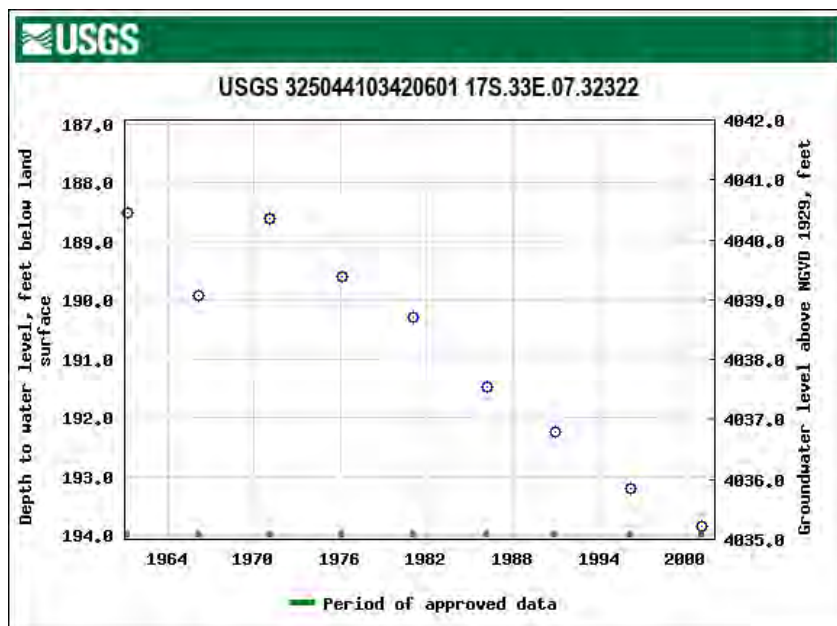
1.5 miles southeast of Shahara Release

In 2001, depth to groundwater is about 158 feet, which calculates to a groundwater elevation of

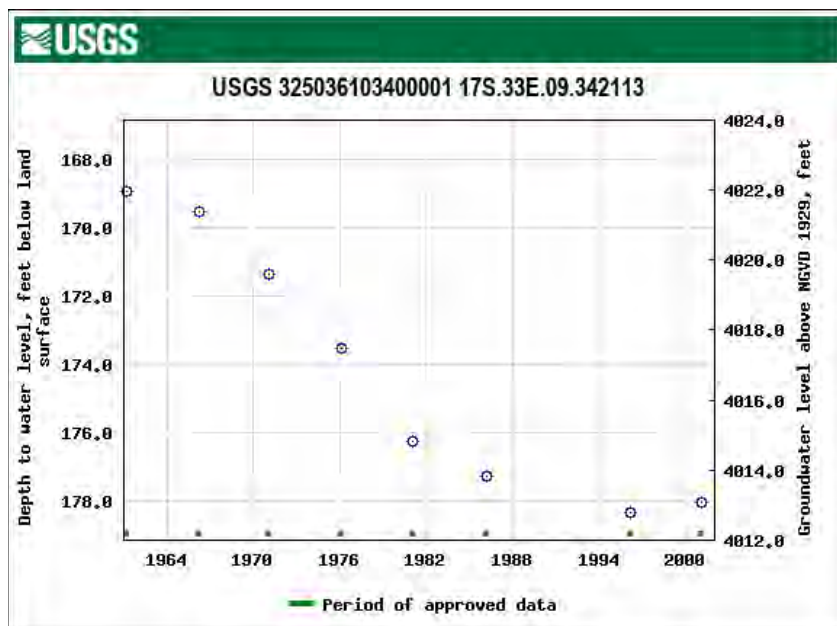


USGS 325044103420601 17S.33E.07.32322 AKA USGS-12332

Lea County, New Mexico
 Hydrologic Unit Code 13060011
 Latitude 32°50'50",
 Longitude 103°42'18" NAD27
 Land-surface elevation 4,229.00 feet
 above NGVD29
 The depth of the well is 249 feet below
 land surface.
 This well is completed in the High Plains
 aquifer (N100HGHPLN) national
 aquifer.
 This well is completed in the Ogallala
 Formation (121OGLL) local aquifer.

**USGS 325036103400001 17S.33E.09.342113 AKA-USGS-12326**

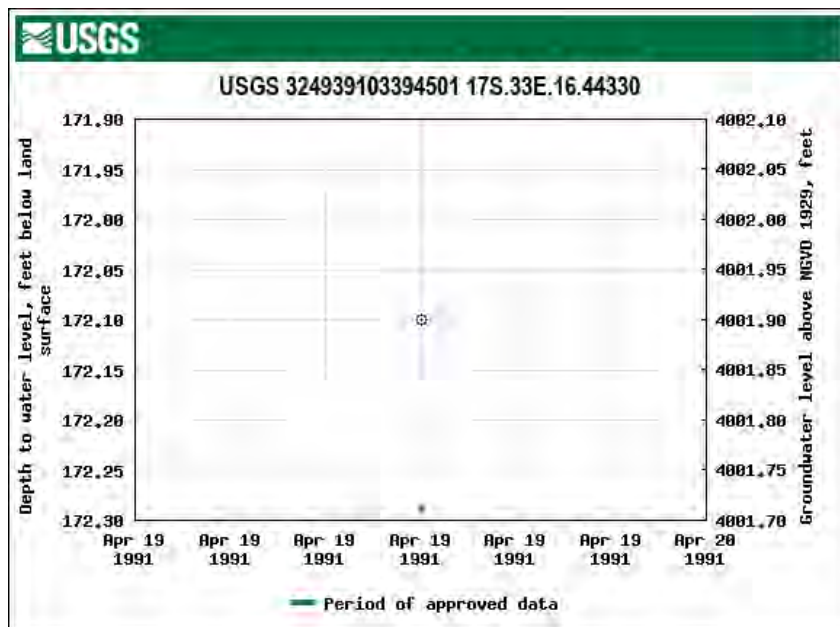
Lea County, New Mexico
 Hydrologic Unit Code 12080003
 Latitude 32°50'44",
 Longitude 103°40'13" NAD27
 Land-surface elevation 4,191.00 feet
 above NGVD29
 The depth of the well is 230 feet below
 land surface.
 This well is completed in the High Plains
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 This well is completed in the Ogallala
 Formation (121OGLL) local aquifer.



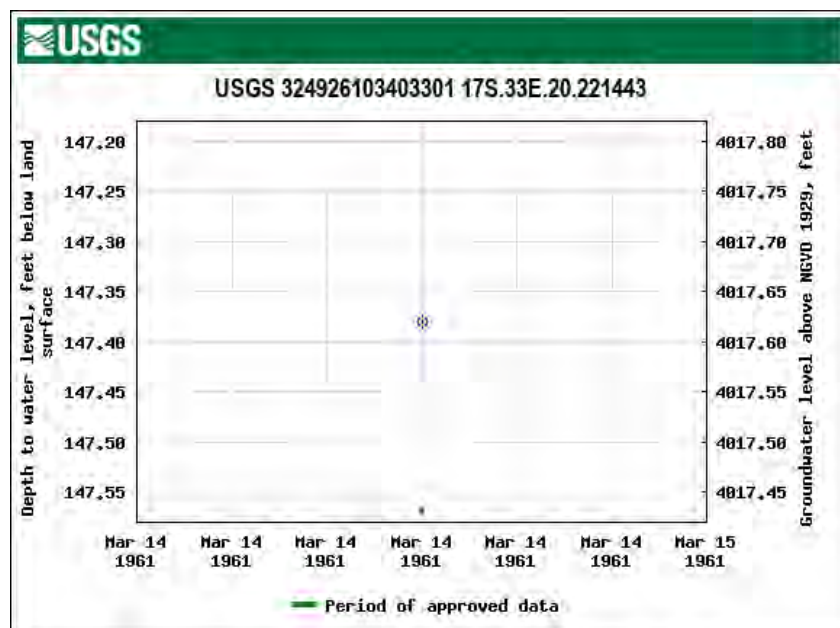
USGS 324939103394501 17S.33E.16.44330 AKA USGS-12288

Lea County, New Mexico
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 Latitude 32°49'39",
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Less than ½ mile east of Shahara release

**USGS 324926103403301 17S.33E.20.221443 AKA USGS-12537**

Lea County, New Mexico
 Hydrologic Unit Code 13070007
 Latitude 32°49'32", Longitude 103°40'44"
 NAD27
 Land-surface elevation 4,165.00 feet above
 NGVD29
 The depth of the well is 169 feet below
 land surface.
 This well is completed in the High Plains
 aquifer (N100HGHPLN) national aquifer.
 This well is completed in the Ogallala
 Formation (121OGLL) local aquifer.



USGS 324913103403501 17S.33E.20.24132 AKA USGS-12483

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°49'20.4",

Longitude 103°40'46.1" NAD83

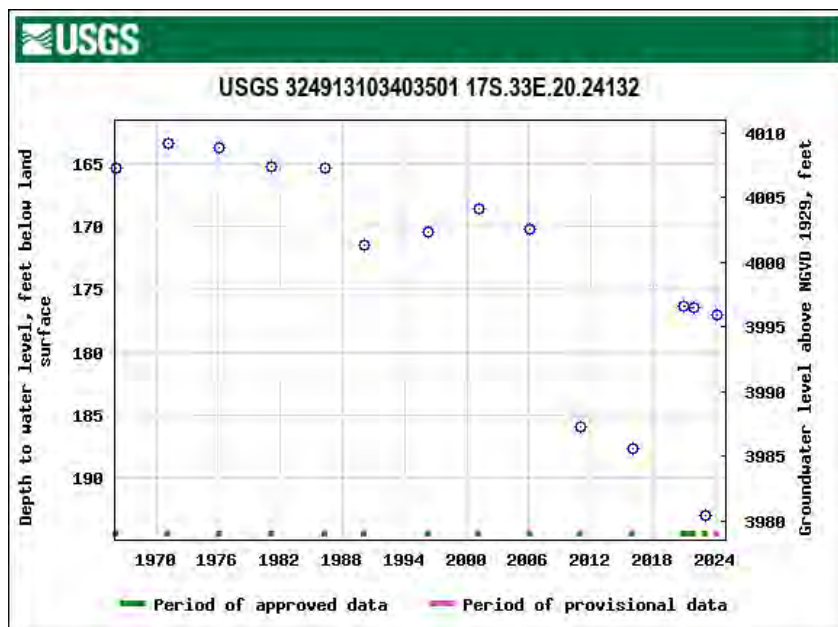
Land-surface elevation 4,173.00 feet above NGVD29

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**USGS 324846103384201 17S.33E.22.43233 AKA – USGS-12145**

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°48'54.6",

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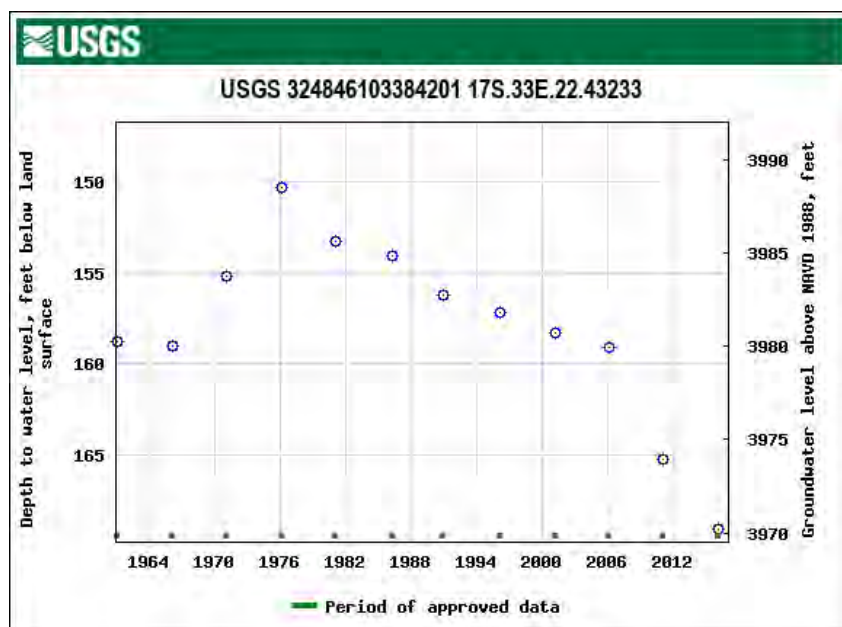
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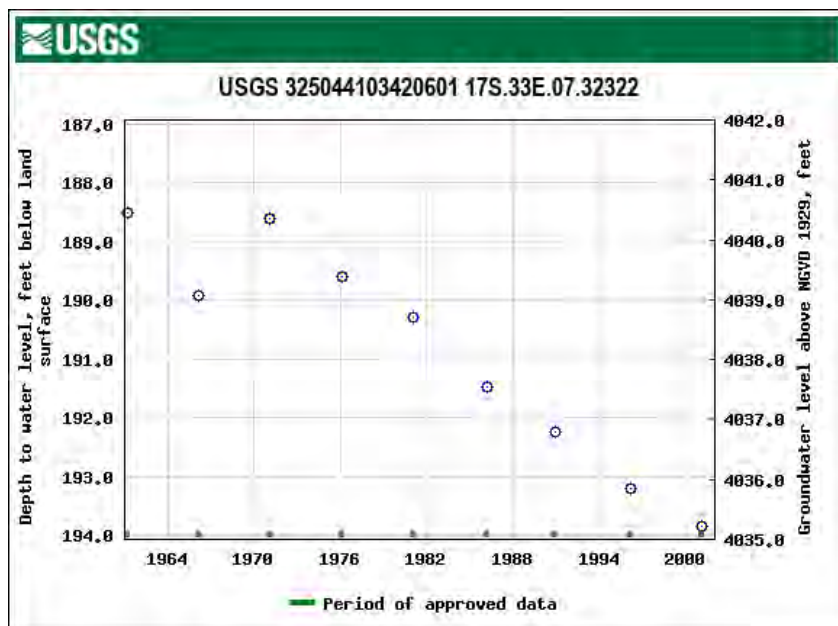
1.5 miles southeast of Shahara Release

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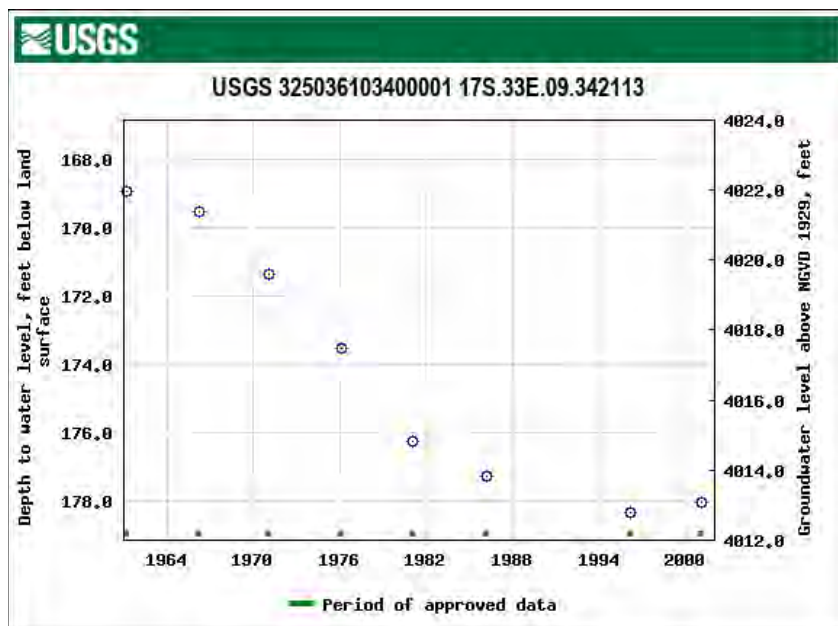


USGS 325044103420601 17S.33E.07.32322 AKA USGS-12332

Lea County, New Mexico
 Hydrologic Unit Code 13060011
 Latitude 32°50'50",
 Longitude 103°42'18" NAD27
 Land-surface elevation 4,229.00 feet
 above NGVD29
 The depth of the well is 249 feet below
 land surface.
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 Formation (121OGLL) local aquifer.

**USGS 325036103400001 17S.33E.09.342113 AKA-USGS-12326**

Lea County, New Mexico
 Hydrologic Unit Code 12080003
 Latitude 32°50'44",
 Longitude 103°40'13" NAD27
 Land-surface elevation 4,191.00 feet
 above NGVD29
 The depth of the well is 230 feet below
 land surface.
 This well is completed in the High Plains
 aquifer (N100HGHPLN) national aquifer.
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USGS 324913103403501 17S.33E.20.24132**AKA USGS 12483**

Lea County, New Mexico

Latitude 32°49'20.4", Longitude 103°40'46.1" NAD83

Land-surface elevation 4,173.00 feet above NGVD29

This well is completed in the High Plains aquifer (N100HGHLN) national aquifer.

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Date-Time Accuracy	Parameter code	Water Depth ft. BLS	Water Level Above Vert. Datum	Referene Datum	Status	Method of Measurement	Measuring Agency	Source of Measurement	Water Level Approval Status	Source of Measurement	Water-level Approval Status
2/11/1966	D	62610		4007.66	NGVD29	1	Z			A	
2/11/1966	D	62611		4009.31	NAVD88	1	Z			A	
2/11/1966	D	72019	165.34			1	Z			A	
2/15/1971	D	62610		4009.55	NGVD29	1	Z			A	
2/15/1971	D	62611		4011.2	NAVD88	1	Z			A	
2/15/1971	D	72019	163.45			1	Z			A	
2/18/1976	D	62610		4009.27	NGVD29	1	Z			A	
2/18/1976	D	62611		4010.92	NAVD88	1	Z			A	
2/18/1976	D	72019	163.73			1	Z			A	
1/27/1981	D	62610		4007.7	NGVD29	1	Z			A	
1/27/1981	D	62611		4009.35	NAVD88	1	Z			A	
1/27/1981	D	72019	165.3			1	Z			A	
4/9/1986	D	62610		4007.67	NGVD29	1	Z			A	
4/9/1986	D	62611		4009.32	NAVD88	1	Z			A	
4/9/1986	D	72019	165.33			1	Z			A	
2/12/1990	D	62610		4001.47	NGVD29	1	Z			A	
2/12/1990	D	62611		4003.12	NAVD88	1	Z			A	
2/12/1990	D	72019	171.53			1	Z			A	
4/2/1996	D	62610		4002.55	NGVD29	1	S			A	
4/2/1996	D	62611		4004.2	NAVD88	1	S			A	
4/2/1996	D	72019	170.45			1	S			A	
2/20/2001	D	62610		4004.44	NGVD29	1	S			A	

2/20/2001		D	62611		4006.09	NAVD88	1	S			A
2/20/2001		D	72019	168.56			1	S			A
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1/19/2006	21:29 UTC	m	62611		4004.4	NAVD88	1	S	USGS	S	A
1/19/2006	21:29 UTC	m	72019	170.25			1	S	USGS	S	A
12/15/2010	19:30 UTC	m	62610		3987.06	NGVD29	1	S	USGS	S	A
12/15/2010	19:30 UTC	m	62611		3988.71	NAVD88	1	S	USGS	S	A
12/15/2010	19:30 UTC	m	72019	185.94			1	S	USGS	S	A
1/5/2016	19:13 UTC	m	62610		3985.34	NGVD29	1	S	USGS	S	A
1/5/2016	19:13 UTC	m	62611		3986.99	NAVD88	1	S	USGS	S	A
1/5/2016	19:13 UTC	m	72019	187.66			1	S	USGS	S	A
12/16/2020	22:30 UTC	m	62610		3996.64	NGVD29	P	S	USGS	S	A
12/16/2020	22:30 UTC	m	62611		3998.29	NAVD88	P	S	USGS	S	A
12/16/2020	22:30 UTC	m	72019	176.36			P	S	USGS	S	A
12/16/2021	16:27 UTC	m	62610		3996.56	NGVD29	1	S	USGS	S	A
12/16/2021	16:27 UTC	m	62611		3998.21	NAVD88	1	S	USGS	S	A
12/16/2021	16:27 UTC	m	72019	176.44			1	S	USGS	S	A
12/22/2022	21:55 UTC	m	62610		3979.99	NGVD29	1	S	USGS	S	A
12/22/2022	21:55 UTC	m	62611		3981.64	NAVD88	1	S	USGS	S	A
12/22/2022	21:55 UTC	m	72019	193.01			1	S	USGS	S	A
2/26/2024	18:46 UTC	m	62610		3995.91	NGVD29	1	S	USGS	S	P
2/26/2024	18:46 UTC	m	62611		3997.56	NAVD88	1	S	USGS	S	P
2/26/2024	18:46 UTC	m	72019	177.09			1	S	USGS	S	P

USGS 324846103384201 17S.33E.22.43233 AKA USGS-12145

Lea County, New Mexico

Latitude 32°48'54.6", Longitude 103°38'55.4" NAD83

Land-surface elevation 4,139 feet above NAVD88

This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

Date-Time Accuracy	Parameter code	Water Depth ft. BLS	Water Level Above Vert. Datum	Reference Datum	Status	Method of Measurement	Measuring Agency	Source of Measurement	Water Level Approval Status	Source of Measurement	Water-level Approval Status
3/14/1961	D	62610		3978.58	NGVD29	P	Z			A	
3/14/1961	D	62611		3980.23	NAVD88	P	Z			A	
3/14/1961	D	72019	158.77			P	Z			A	
2/14/1966	D	62610		3978.33	NGVD29	1	Z			A	
2/14/1966	D	62611		3979.98	NAVD88	1	Z			A	
2/14/1966	D	72019	159.02			1	Z			A	
2/16/1971	D	62610		3982.18	NGVD29	P	Z			A	
2/16/1971	D	62611		3983.83	NAVD88	P	Z			A	
2/16/1971	D	72019	155.17			P	Z			A	
2/18/1976	D	62610		3987	NGVD29	1	Z			A	
2/18/1976	D	62611		3988.65	NAVD88	1	Z			A	
2/18/1976	D	72019	150.35			1	Z			A	
1/27/1981	D	62610		3984.12	NGVD29	1	Z			A	
1/27/1981	D	62611		3985.77	NAVD88	1	Z			A	
1/27/1981	D	72019	153.23			1	Z			A	
3/26/1986	D	62610		3983.31	NGVD29	1	Z			A	
3/26/1986	D	62611		3984.96	NAVD88	1	Z			A	
3/26/1986	D	72019	154.04			1	Z			A	
12/11/1990	D	62610		3981.14	NGVD29	1	Z			A	

12/11/1990	D	62611		3982.79	NAVD88	1	Z		A
12/11/1990	D	72019	156.21			1	Z		A
2/15/1996	D	62610		3980.15	NGVD29	1	S		A
2/15/1996	D	62611		3981.8	NAVD88	1	S		A
2/15/1996	D	72019	157.2			1	S		A
2/20/2001	D	62610		3979.03	NGVD29	1	S		A
2/20/2001	D	62611		3980.68	NAVD88	1	S		A
2/20/2001	D	72019	158.32			1	S		A
1/19/2006 21:00 UTC	m	62610		3978.26	NGVD29	1	S	USGS	S
1/19/2006 21:00 UTC	m	62611		3979.91	NAVD88	1	S	USGS	S
1/19/2006 21:00 UTC	m	72019	159.09			1	S	USGS	S
12/15/2010 19:10 UTC	m	62610		3972.13	NGVD29	1	S	USGS	S
12/15/2010 19:10 UTC	m	62611		3973.78	NAVD88	1	S	USGS	S
12/15/2010 19:10 UTC	m	72019	165.22			1	S	USGS	S
2/4/2016 18:15 UTC	m	62610		3968.27	NGVD29	1	S	USGS	S
2/4/2016 18:15 UTC	m	62611		3969.92	NAVD88	1	S	USGS	S
2/4/2016 18:15 UTC	m	72019	169.08			1	S	USGS	S

USGS 325036103400001 17S.33E.09.342113 aka USGS-12326

Lea County, New Mexico

Latitude 32°50'44", Longitude 103°40'13" NAD27

Land-surface elevation 4,191.00 feet above NGVD29

The depth of the well is 230 feet below land surface.

This well is completed in the High Plains aquifer (N100HGHLN) national aquifer.

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

Date-Time Accuracy	Parameter code	Water Depth ft. BLS	Water Level Above Vert. Datum	Referene Datum	Status	Method of Measurement	Measuring Agency	Source of Measurement	Water Level Approval Status	Source of Measurement	Water-level Approval Status
3/13/1961	D	62610		4022.04	NGVD29	1	Z			A	
3/13/1961	D	62611		4023.69	NAVD88	1	Z			A	
3/13/1961	D	72019	168.96			1	Z			A	
4/6/1966	D	62610		4021.45	NGVD29	1	Z			A	
4/6/1966	D	62611		4023.1	NAVD88	1	Z			A	
4/6/1966	D	72019	169.55			1	Z			A	
2/15/1971	D	62610		4019.64	NGVD29	1	Z			A	
2/15/1971	D	62611		4021.29	NAVD88	1	Z			A	
2/15/1971	D	72019	171.36			1	Z			A	
2/17/1976	D	62610		4017.45	NGVD29	1	Z			A	
2/17/1976	D	62611		4019.1	NAVD88	1	Z			A	
2/17/1976	D	72019	173.55			1	Z			A	
1/27/1981	D	62610		4014.77	NGVD29	1	Z			A	
1/27/1981	D	62611		4016.42	NAVD88	1	Z			A	
1/27/1981	D	72019	176.23			1	Z			A	
3/26/1986	D	62610		4013.75	NGVD29	1	Z			A	
3/26/1986	D	62611		4015.4	NAVD88	1	Z			A	

3/26/1986	D	72019	177.25		1	Z	A
2/16/1996	D	62610		4012.66 NGVD29	1	S	A
2/16/1996	D	62611		4014.31 NAVD88	1	S	A
2/16/1996	D	72019	178.34		1	S	A
2/20/2001	D	62610		4012.99 NGVD29	1	S	A
2/20/2001	D	62611		4014.64 NAVD88	1	S	A
2/20/2001	D	72019	178.01		1	S	A

Section	Explanation Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

SITE PHOTOGRAHS



SP1 – View east from “source” showing sampling B2 in the foreground. Note the flow path/footprint along the former lease road to the production pad associated with the dry hole marker (fog of January 4, 2024). Rig is setting up on location C2.



SP 2 – View north from a “background” boring C4. The Shahara pipeline is in the foreground and the spill footprint lies behind the auger rig (sun of January 3, 2024). The raised fill from the pipelines controls the shape of the release footprint.



SP3 - B7 location showing obvious edge of impact along the end of vegetation beneath front of rig tracks.



SP4- View southeast to C5 location shows Shahara pipeline trace on the right (south)



SP5- View south to E4 with DCP pipeline on the right. E4 defines the edge of the impact.



SP -View East from the DCP pipeline of D5.
E4 and D5 are 15 feet apart.

LABORATORY REPORTS

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

April 19, 2024

KRISTIN POPE

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: SHAHARA ST UNIT #008 INJ. RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 01/11/24 13:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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/ga/lab_accred_certif.html.

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

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

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

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

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

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A 6 @ 0-2FT	H240132-01	Soil	03-Jan-24 10:10	11-Jan-24 13:10
A 6 @ 2-4FT	H240132-02	Soil	03-Jan-24 10:20	11-Jan-24 13:10
A 6 @ 4.3FT	H240132-03	Soil	03-Jan-24 10:22	11-Jan-24 13:10
B 5 @ 0-2FT	H240132-04	Soil	03-Jan-24 10:35	11-Jan-24 13:10
B 5 @ 2-4FT	H240132-05	Soil	03-Jan-24 11:03	11-Jan-24 13:10
B 5 @ 4.3FT	H240132-06	Soil	03-Jan-24 11:05	11-Jan-24 13:10
B 6 @ 0-2FT	H240132-07	Soil	03-Jan-24 11:15	11-Jan-24 13:10
B 6 @ 2-4FT	H240132-08	Soil	03-Jan-24 11:25	11-Jan-24 13:10
B 6 @ 4.3FT	H240132-09	Soil	03-Jan-24 11:28	11-Jan-24 13:10
B 7 @ 0-2FT	H240132-10	Soil	03-Jan-24 11:35	11-Jan-24 13:10
B 7 @ 2-4FT	H240132-11	Soil	03-Jan-24 11:40	11-Jan-24 13:10
B 7 @ 4.3FT	H240132-12	Soil	03-Jan-24 11:45	11-Jan-24 13:10
C 6 @ 0-2FT	H240132-13	Soil	03-Jan-24 11:55	11-Jan-24 13:10
C 6 @ 2-4FT	H240132-14	Soil	03-Jan-24 12:05	11-Jan-24 13:10
C 6 @ 4.3FT	H240132-15	Soil	03-Jan-24 12:10	11-Jan-24 13:10
D 6 @ 0-2FT	H240132-16	Soil	03-Jan-24 12:30	11-Jan-24 13:10
D 6 @ 2-4FT	H240132-17	Soil	03-Jan-24 12:35	11-Jan-24 13:10
D 6 @ 4.3FT	H240132-18	Soil	03-Jan-24 12:40	11-Jan-24 13:10
D 7 @ 0-2FT	H240132-19	Soil	03-Jan-24 12:50	11-Jan-24 13:10
D 7 @ 2-4FT	H240132-20	Soil	03-Jan-24 12:55	11-Jan-24 13:10
D 7 @ 4.3FT	H240132-21	Soil	03-Jan-24 13:00	11-Jan-24 13:10
E 6 @ 0-2FT	H240132-22	Soil	03-Jan-24 13:15	11-Jan-24 13:10
E 6 @ 2-4FT	H240132-23	Soil	03-Jan-24 13:45	11-Jan-24 13:10
E 6 @ 4.3FT	H240132-24	Soil	03-Jan-24 13:47	11-Jan-24 13:10
E 7 @ 0-2FT	H240132-25	Soil	03-Jan-24 13:55	11-Jan-24 13:10
E 7 @ 2-4FT	H240132-26	Soil	03-Jan-24 14:05	11-Jan-24 13:10
E 7 @ 4.3FT	H240132-27	Soil	03-Jan-24 14:20	11-Jan-24 13:10

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 5 @ 0-2FT	H240132-28	Soil	03-Jan-24 14:30	11-Jan-24 13:10
E 5 @ 2-4FT	H240132-29	Soil	03-Jan-24 14:40	11-Jan-24 13:10
E 5 @ 4.3FT	H240132-30	Soil	03-Jan-24 14:45	11-Jan-24 13:10
D 5 @ 0-2FT	H240132-31	Soil	03-Jan-24 15:20	11-Jan-24 13:10
D 5 @ 2-4FT	H240132-32	Soil	03-Jan-24 15:55	11-Jan-24 13:10
D 5 @ 4.3FT	H240132-33	Soil	03-Jan-24 16:00	11-Jan-24 13:10
C 5 @ 0-2FT	H240132-34	Soil	03-Jan-24 15:00	11-Jan-24 13:10
C 5 @ 2-4FT	H240132-35	Soil	03-Jan-24 15:10	11-Jan-24 13:10
C 5 @ 4.3FT	H240132-36	Soil	03-Jan-24 15:15	11-Jan-24 13:10
C 4 @ 0-2FT	H240132-37	Soil	03-Jan-24 16:20	11-Jan-24 13:10
C 4 @ 2-4FT	H240132-38	Soil	04-Jan-24 07:30	11-Jan-24 13:10
C 4 @ 4.3FT	H240132-39	Soil	04-Jan-24 07:34	11-Jan-24 13:10
B 3 @ 0-2FT	H240132-40	Soil	04-Jan-24 07:44	11-Jan-24 13:10
B 3 @ 2-4FT	H240132-41	Soil	04-Jan-24 07:49	11-Jan-24 13:10
B 3 @ 4.3FT	H240132-42	Soil	04-Jan-24 07:51	11-Jan-24 13:10
B 4 @ 0-2FT	H240132-43	Soil	04-Jan-24 08:01	11-Jan-24 13:10
B 4 @ 2-4FT	H240132-44	Soil	04-Jan-24 08:12	11-Jan-24 13:10
B 4 @ 4.3FT	H240132-45	Soil	04-Jan-24 08:14	11-Jan-24 13:10
A 3 @ 0-2FT	H240132-46	Soil	04-Jan-24 08:30	11-Jan-24 13:10
A 3 @ 2-4FT	H240132-47	Soil	04-Jan-24 08:42	11-Jan-24 13:10
A 3 @ 4.3FT	H240132-48	Soil	04-Jan-24 08:44	11-Jan-24 13:10
B 2 @ 0-2FT	H240132-49	Soil	04-Jan-24 09:15	11-Jan-24 13:10
B 2 @ 2-4FT	H240132-50	Soil	04-Jan-24 09:39	11-Jan-24 13:10
B 2 @ 4.3FT	H240132-51	Soil	04-Jan-24 09:41	11-Jan-24 13:10
C 2 @ 0-2FT	H240132-52	Soil	04-Jan-24 10:07	11-Jan-24 13:10
C 2 @ 2-4FT	H240132-53	Soil	04-Jan-24 10:17	11-Jan-24 13:10
C 2 @ 4.3FT	H240132-54	Soil	04-Jan-24 10:19	11-Jan-24 13:10
C 3 @ 0-2FT	H240132-55	Soil	04-Jan-24 10:55	11-Jan-24 13:10
C 3 @ 2-4FT	H240132-56	Soil	04-Jan-24 11:09	11-Jan-24 13:10
C 3 @ 4.3FT	H240132-57	Soil	04-Jan-24 11:12	11-Jan-24 13:10

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Celey D. Keene, Lab Director/Quality Manager

Page 66

Page 3 of 81



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 4 @ 0-2FT	H240132-58	Soil	04-Jan-24 11:17	11-Jan-24 13:10
E 4 @ 2-4FT	H240132-59	Soil	04-Jan-24 11:20	11-Jan-24 13:10
E 4 @ 4.3FT	H240132-60	Soil	04-Jan-24 11:22	11-Jan-24 13:10

04/19/24 - A login error was discovered on samples -07, -08 and -09. They were logged in as B2 instead of B6. This is the revised report and will replace the one sent on 01/19/24.

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A handwritten signature in cursive script, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

A 6 @ 0-2FT
H240132-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	3760		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011203	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134 4011203 JH 12-Jan-24 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane 78.5 % 48.2-134 4011210 MS 12-Jan-24 8015B

Surrogate: 1-Chlorooctadecane 86.8 % 49.1-148 4011210 MS 12-Jan-24 8015B

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

A 6 @ 2-4FT
H240132-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	432		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011203	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	115 %	71.5-134	4011203	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane	80.4 %	48.2-134	4011210	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	88.4 %	49.1-148	4011210	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

A 6 @ 4.3FT
H240132-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	544		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011203	JH	12-Jan-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			115 %		71.5-134	4011203	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			81.1 %		48.2-134	4011210	MS	12-Jan-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			88.7 %		49.1-148	4011210	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 5 @ 0-2FT
H240132-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	9730		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011203	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	116 %	71.5-134	4011203	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B

Surrogate: 1-Chlorooctane	88.4 %	48.2-134	4011210	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	97.1 %	49.1-148	4011210	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 5 @ 2-4FT
H240132-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	4560		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011203	JH	12-Jan-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			114 %		71.5-134	4011203	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			72.8 %		48.2-134	4011210	MS	12-Jan-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			78.4 %		49.1-148	4011210	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 5 @ 4.3FT
H240132-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	2200		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011203	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			112 %		71.5-134	4011203	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011210	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			69.4 %		48.2-134	4011210	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			76.4 %		49.1-148	4011210	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 6 @ 0-2FT
H240132-07 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	6500		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011203	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			114 %		71.5-134	4011203	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			83.9 %		48.2-134	4011211	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			75.1 %		49.1-148	4011211	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 6 @ 2-4FT
H240132-08 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	3360		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011203	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	113 %	71.5-134	4011203	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane	75.0 %	48.2-134	4011211	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	67.3 %	49.1-148	4011211	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 6 @ 4.3FT
H240132-09 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	4640		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011203	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011203	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134 4011203 JH 12-Jan-24 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane 68.4 % 48.2-134 4011211 MS 12-Jan-24 8015B

Surrogate: 1-Chlorooctadecane 61.8 % 49.1-148 4011211 MS 12-Jan-24 8015B

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 7 @ 0-2FT
H240132-10 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	64.0		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %		71.5-134	4011204	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			78.5 %		48.2-134	4011211	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			70.2 %		49.1-148	4011211	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 7 @ 2-4FT
H240132-11 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	32.0		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		102 %		71.5-134		4011204	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane		78.6 %		48.2-134		4011211	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane		70.3 %		49.1-148		4011211	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 7 @ 4.3FT
H240132-12 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	128		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			114 %		71.5-134	4011204	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			77.7 %		48.2-134	4011211	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			69.5 %		49.1-148	4011211	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 6 @ 0-2FT
H240132-13 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	9330		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			111 %		71.5-134	4011204	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			81.1 %		48.2-134	4011211	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			72.3 %		49.1-148	4011211	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 6 @ 2-4FT
H240132-14 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	8480		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			116 %		71.5-134	4011204	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			77.7 %		48.2-134	4011211	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			69.7 %		49.1-148	4011211	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 6 @ 4.3FT
H240132-15 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	8200		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			108 %		71.5-134	4011204	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			81.6 %		48.2-134	4011211	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			73.3 %		49.1-148	4011211	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

D 6 @ 0-2FT
H240132-16 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	7460		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	96.4 %	71.5-134	4011204	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B

Surrogate: 1-Chlorooctane	79.9 %	48.2-134	4011211	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	71.5 %	49.1-148	4011211	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

D 6 @ 2-4FT
H240132-17 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	8930		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	105 %	71.5-134	4011204	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B

Surrogate: 1-Chlorooctane	78.0 %	48.2-134	4011211	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	69.9 %	49.1-148	4011211	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

D 6 @ 4.3FT
H240132-18 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	8000		16.0	mg/kg	4	4011231	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		112 %		71.5-134	4011204	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane		79.2 %		48.2-134	4011211	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane		72.7 %		49.1-148	4011211	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

D 7 @ 0-2FT
H240132-19 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	3600		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		110 %		71.5-134	4011204	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane		80.3 %		48.2-134	4011211	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane		72.2 %		49.1-148	4011211	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

D 7 @ 2-4FT
H240132-20 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	1660		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		106 %		71.5-134	4011204	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane		73.8 %		48.2-134	4011211	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane		65.2 %		49.1-148	4011211	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

D 7 @ 4.3FT
H240132-21 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	1600		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			113 %		71.5-134	4011204	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			76.8 %		48.2-134	4011211	MS	12-Jan-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			68.5 %		49.1-148	4011211	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 6 @ 0-2FT
H240132-22 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	16000		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	114 %	71.5-134	4011204	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011211	MS	12-Jan-24	8015B

Surrogate: 1-Chlorooctane	82.1 %	48.2-134	4011211	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	73.2 %	49.1-148	4011211	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 6 @ 2-4FT
H240132-23 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	5920		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			112 %		71.5-134	4011204	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			90.9 %		48.2-134	4011214	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			78.7 %		49.1-148	4011214	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 6 @ 4.3FT
H240132-24 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	7040		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	105 %	71.5-134	4011204	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B

Surrogate: 1-Chlorooctane	85.9 %	48.2-134	4011214	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	73.8 %	49.1-148	4011214	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 7 @ 0-2FT
H240132-25 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	2760		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	109 %	71.5-134	4011204	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B

Surrogate: 1-Chlorooctane	82.4 %	48.2-134	4011214	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	70.8 %	49.1-148	4011214	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 7 @ 2-4FT
H240132-26 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	1200		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134 4011204 JH 12-Jan-24 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane 75.3 % 48.2-134 4011214 MS 12-Jan-24 8015B

Surrogate: 1-Chlorooctadecane 64.2 % 49.1-148 4011214 MS 12-Jan-24 8015B

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 7 @ 4.3FT
H240132-27 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	672		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>		96.1 %		71.5-134	4011204	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>		89.3 %		48.2-134	4011214	MS	12-Jan-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>		75.6 %		49.1-148	4011214	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 5 @ 0-2FT
H240132-28 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	784		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			113 %		71.5-134	4011204	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			82.2 %		48.2-134	4011214	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			69.2 %		49.1-148	4011214	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 5 @ 2-4FT
H240132-29 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	448		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011204	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011204	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	119 %	71.5-134	4011204	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B

Surrogate: 1-Chlorooctane	88.2 %	48.2-134	4011214	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	73.0 %	49.1-148	4011214	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 5 @ 4.3FT
H240132-30 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	256		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	108 %	71.5-134	4011205	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011214	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane	86.1 %	48.2-134	4011214	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	73.1 %	49.1-148	4011214	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

D 5 @ 0-2FT
H240132-31 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	1960		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			107 %		71.5-134	4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			74.1 %		48.2-134	4011215	MS	12-Jan-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			65.5 %		49.1-148	4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

D 5 @ 2-4FT
H240132-32 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	960		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			105 %	71.5-134		4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			76.5 %	48.2-134		4011215	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			71.3 %	49.1-148		4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

D 5 @ 4.3FT
H240132-33 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	448		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	105 %	71.5-134	4011205	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B

Surrogate: 1-Chlorooctane	86.4 %	48.2-134	4011215	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	79.2 %	49.1-148	4011215	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 5 @ 0-2FT
H240132-34 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	4240		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	104 %	71.5-134	4011205	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane	80.1 %	48.2-134	4011215	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	74.6 %	49.1-148	4011215	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 5 @ 2-4FT
H240132-35 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	3000		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	71.5-134		4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			73.3 %	48.2-134		4011215	MS	12-Jan-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			67.6 %	49.1-148		4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 5 @ 4.3FT
H240132-36 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	2600		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134 4011205 JH 12-Jan-24 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane 72.0 % 48.2-134 4011215 MS 12-Jan-24 8015B

Surrogate: 1-Chlorooctadecane 66.7 % 49.1-148 4011215 MS 12-Jan-24 8015B

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 4 @ 0-2FT
H240132-37 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	144		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	71.5-134		4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			62.9 %	48.2-134		4011215	MS	12-Jan-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			57.0 %	49.1-148		4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 4 @ 2-4FT
H240132-38 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	112		16.0	mg/kg	4	4011228	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			101 %	71.5-134		4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			79.8 %	48.2-134		4011215	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			73.0 %	49.1-148		4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 4 @ 4.3FT
H240132-39 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	80.0		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			106 %	71.5-134		4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			76.0 %	48.2-134		4011215	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			69.7 %	49.1-148		4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 3 @ 0-2FT
H240132-40 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	2720		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			104 %		71.5-134	4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			78.3 %		48.2-134	4011215	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			73.8 %		49.1-148	4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 3 @ 2-4FT
H240132-41 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	528		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			103 %	71.5-134		4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			83.3 %	48.2-134		4011215	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			78.4 %	49.1-148		4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 3 @ 4.3FT
H240132-42 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	208		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	102 %	71.5-134	4011205	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B

Surrogate: 1-Chlorooctane	81.2 %	48.2-134	4011215	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	75.1 %	49.1-148	4011215	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 4 @ 0-2FT
H240132-43 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	1310		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	106 %	71.5-134	4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane	65.4 %	48.2-134	4011215	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane	59.4 %	49.1-148	4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 4 @ 2-4FT
H240132-44 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	224		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>		105 %		71.5-134	4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>		71.6 %		48.2-134	4011215	MS	12-Jan-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>		66.0 %		49.1-148	4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 4 @ 4.3FT
H240132-45 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	2520		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			104 %		71.5-134	4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			79.7 %		48.2-134	4011215	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			73.5 %		49.1-148	4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

A 3 @ 0-2FT
H240132-46 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	2240		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>		102 %		71.5-134	4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>		81.0 %		48.2-134	4011215	MS	12-Jan-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>		72.9 %		49.1-148	4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

A 3 @ 2-4FT
H240132-47 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	624		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			103 %	71.5-134		4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			62.3 %	48.2-134		4011215	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			53.0 %	49.1-148		4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

A 3 @ 4.3FT
H240132-48 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	1250		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134 4011205 JH 12-Jan-24 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane 76.4 % 48.2-134 4011215 MS 12-Jan-24 8015B

Surrogate: 1-Chlorooctadecane 70.7 % 49.1-148 4011215 MS 12-Jan-24 8015B

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 2 @ 0-2FT
H240132-49 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	2080		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011205	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011205	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	104 %	71.5-134	4011205	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane	84.7 %	48.2-134	4011215	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane	78.1 %	49.1-148	4011215	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 2 @ 2-4FT
H240132-50 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	5120		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011206	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	106 %	71.5-134	4011206	JH	12-Jan-24	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011215	MS	12-Jan-24	8015B

Surrogate: 1-Chlorooctane	89.2 %	48.2-134	4011215	MS	12-Jan-24	8015B
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Surrogate: 1-Chlorooctadecane	81.3 %	49.1-148	4011215	MS	12-Jan-24	8015B
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

B 2 @ 4.3FT
H240132-51 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	2680		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011206	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			104 %		71.5-134	4011206	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			86.0 %		48.2-134	4011216	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			90.6 %		49.1-148	4011216	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 2 @ 0-2FT
H240132-52 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	272		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011206	JH	12-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			104 %		71.5-134	4011206	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			84.1 %		48.2-134	4011216	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			92.1 %		49.1-148	4011216	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 2 @ 2-4FT
H240132-53 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	672		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011206	JH	12-Jan-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			104 %		71.5-134	4011206	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			83.6 %		48.2-134	4011216	MS	12-Jan-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			91.0 %		49.1-148	4011216	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 2 @ 4.3FT
H240132-54 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	1140		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011206	JH	12-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011206	JH	12-Jan-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			103 %	71.5-134		4011206	JH	12-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			103 %	48.2-134		4011216	MS	12-Jan-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			114 %	49.1-148		4011216	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 3 @ 0-2FT
H240132-55 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	240		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011206	JH	13-Jan-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>		103 %		71.5-134	4011206	JH	13-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>		87.4 %		48.2-134	4011216	MS	12-Jan-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>		96.3 %		49.1-148	4011216	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 3 @ 2-4FT
H240132-56 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	144		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011206	JH	13-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	103 %	71.5-134	4011206	JH	13-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane	86.8 %	48.2-134	4011216	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane	94.2 %	49.1-148	4011216	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

C 3 @ 4.3FT
H240132-57 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	192		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4011206	JH	13-Jan-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>		102 %		71.5-134	4011206	JH	13-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>		89.2 %		48.2-134	4011216	MS	12-Jan-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>		96.0 %		49.1-148	4011216	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 4 @ 0-2FT
H240132-58 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	288		16.0	mg/kg	4	4011233	HM	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011206	JH	13-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			102 %		71.5-134	4011206	JH	13-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			92.8 %		48.2-134	4011216	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			99.5 %		49.1-148	4011216	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 4 @ 2-4FT
H240132-59 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	176		16.0	mg/kg	4	4011225	CT	12-Jan-24	4500-Cl-B	QM-07
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011206	JH	13-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134 4011206 JH 13-Jan-24 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane 91.8 % 48.2-134 4011216 MS 12-Jan-24 8015B

Surrogate: 1-Chlorooctadecane 98.9 % 49.1-148 4011216 MS 12-Jan-24 8015B

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

E 4 @ 4.3FT
H240132-60 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	112		16.0	mg/kg	4	4011225	CT	12-Jan-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4011206	JH	13-Jan-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4011206	JH	13-Jan-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			103 %		71.5-134	4011206	JH	13-Jan-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4011216	MS	12-Jan-24	8015B	

Surrogate: 1-Chlorooctane			98.1 %		48.2-134	4011216	MS	12-Jan-24	8015B	
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Surrogate: 1-Chlorooctadecane			106 %		49.1-148	4011216	MS	12-Jan-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

Inorganic Compounds - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4011225 - 1:4 DI Water**Blank (4011225-BLK1)**

Prepared & Analyzed: 12-Jan-24

Chloride	ND	16.0	mg/kg
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LCS (4011225-BS1)

Prepared & Analyzed: 12-Jan-24

Chloride	416	16.0	mg/kg	400	104	80-120
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LCS Dup (4011225-BSD1)

Prepared & Analyzed: 12-Jan-24

Chloride	448	16.0	mg/kg	400	112	80-120	7.41	20
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Batch 4011228 - 1:4 DI Water**Blank (4011228-BLK1)**

Prepared & Analyzed: 12-Jan-24

Chloride	ND	16.0	mg/kg
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LCS (4011228-BS1)

Prepared & Analyzed: 12-Jan-24

Chloride	416	16.0	mg/kg	400	104	80-120
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LCS Dup (4011228-BSD1)

Prepared & Analyzed: 12-Jan-24

Chloride	432	16.0	mg/kg	400	108	80-120	3.77	20
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Batch 4011231 - 1:4 DI Water**Blank (4011231-BLK1)**

Prepared & Analyzed: 12-Jan-24

Chloride	ND	16.0	mg/kg
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LCS (4011231-BS1)

Prepared & Analyzed: 12-Jan-24

Chloride	416	16.0	mg/kg	400	104	80-120
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

Inorganic Compounds - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4011231 - 1:4 DI Water**LCS Dup (4011231-BSD1)**

Prepared & Analyzed: 12-Jan-24

Chloride	400	16.0	mg/kg	400		100	80-120	3.92	20	
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Batch 4011233 - 1:4 DI Water**Blank (4011233-BLK1)**

Prepared & Analyzed: 12-Jan-24

Chloride	ND	16.0	mg/kg							
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LCS (4011233-BS1)

Prepared & Analyzed: 12-Jan-24

Chloride	400	16.0	mg/kg	400		100	80-120			
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LCS Dup (4011233-BSD1)

Prepared & Analyzed: 12-Jan-24

Chloride	416	16.0	mg/kg	400		104	80-120	3.92	20	
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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4011203 - Volatiles**Blank (4011203-BLK1)**

Prepared & Analyzed: 12-Jan-24

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0569		mg/kg	0.0500		114	71.5-134			

LCS (4011203-BS1)

Prepared & Analyzed: 12-Jan-24

Benzene	1.95	0.050	mg/kg	2.00		97.5	82.8-130			
Toluene	2.00	0.050	mg/kg	2.00		100	86-128			
Ethylbenzene	2.02	0.050	mg/kg	2.00		101	85.9-128			
m,p-Xylene	4.02	0.100	mg/kg	4.00		100	89-129			
o-Xylene	1.97	0.050	mg/kg	2.00		98.4	86.1-125			
Total Xylenes	5.99	0.150	mg/kg	6.00		99.8	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0532		mg/kg	0.0500		106	71.5-134			

LCS Dup (4011203-BSD1)

Prepared & Analyzed: 12-Jan-24

Benzene	1.97	0.050	mg/kg	2.00		98.7	82.8-130	1.27	15.8	
Toluene	2.02	0.050	mg/kg	2.00		101	86-128	1.04	15.9	
Ethylbenzene	2.04	0.050	mg/kg	2.00		102	85.9-128	0.723	16	
m,p-Xylene	4.06	0.100	mg/kg	4.00		101	89-129	1.03	16.2	
o-Xylene	1.99	0.050	mg/kg	2.00		99.5	86.1-125	1.03	16.7	
Total Xylenes	6.05	0.150	mg/kg	6.00		101	88.2-128	1.03	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0529		mg/kg	0.0500		106	71.5-134			

Batch 4011204 - Volatiles**Blank (4011204-BLK1)**

Prepared & Analyzed: 12-Jan-24

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							

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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4011204 - Volatiles**Blank (4011204-BLK1)**

Prepared & Analyzed: 12-Jan-24

Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0551		mg/kg	0.0500		110	71.5-134			

LCS (4011204-BS1)

Prepared & Analyzed: 12-Jan-24

Benzene	2.14	0.050	mg/kg	2.00		107	82.8-130			
Toluene	2.29	0.050	mg/kg	2.00		114	86-128			
Ethylbenzene	2.42	0.050	mg/kg	2.00		121	85.9-128			
m,p-Xylene	4.87	0.100	mg/kg	4.00		122	89-129			
o-Xylene	2.43	0.050	mg/kg	2.00		121	86.1-125			
Total Xylenes	7.30	0.150	mg/kg	6.00		122	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0578		mg/kg	0.0500		116	71.5-134			

LCS Dup (4011204-BS1)

Prepared & Analyzed: 12-Jan-24

Benzene	2.10	0.050	mg/kg	2.00		105	82.8-130	1.92	15.8	
Toluene	2.20	0.050	mg/kg	2.00		110	86-128	4.02	15.9	
Ethylbenzene	2.33	0.050	mg/kg	2.00		117	85.9-128	3.98	16	
m,p-Xylene	4.68	0.100	mg/kg	4.00		117	89-129	4.08	16.2	
o-Xylene	2.33	0.050	mg/kg	2.00		116	86.1-125	4.21	16.7	
Total Xylenes	7.01	0.150	mg/kg	6.00		117	88.2-128	4.12	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0588		mg/kg	0.0500		118	71.5-134			

Batch 4011205 - Volatiles**Blank (4011205-BLK1)**

Prepared & Analyzed: 12-Jan-24

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0536		mg/kg	0.0500		107	71.5-134			

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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch 4011205 - Volatiles**LCS (4011205-BS1)**

Prepared & Analyzed: 12-Jan-24

Benzene	2.39	0.050	mg/kg	2.00		119	82.8-130		
Toluene	2.40	0.050	mg/kg	2.00		120	86-128		
Ethylbenzene	2.52	0.050	mg/kg	2.00		126	85.9-128		
m,p-Xylene	5.04	0.100	mg/kg	4.00		126	89-129		
o-Xylene	2.52	0.050	mg/kg	2.00		126	86.1-125		BS-3
Total Xylenes	7.55	0.150	mg/kg	6.00		126	88.2-128		
Surrogate: 4-Bromofluorobenzene (PID)	0.0522		mg/kg	0.0500		104	71.5-134		

LCS Dup (4011205-BS1)

Prepared & Analyzed: 12-Jan-24

Benzene	2.13	0.050	mg/kg	2.00		107	82.8-130	11.2	15.8
Toluene	2.15	0.050	mg/kg	2.00		107	86-128	11.1	15.9
Ethylbenzene	2.25	0.050	mg/kg	2.00		112	85.9-128	11.5	16
m,p-Xylene	4.51	0.100	mg/kg	4.00		113	89-129	11.0	16.2
o-Xylene	2.27	0.050	mg/kg	2.00		114	86.1-125	10.2	16.7
Total Xylenes	6.78	0.150	mg/kg	6.00		113	88.2-128	10.7	16.3
Surrogate: 4-Bromofluorobenzene (PID)	0.0532		mg/kg	0.0500		106	71.5-134		

Batch 4011206 - Volatiles**Blank (4011206-BLK1)**

Prepared & Analyzed: 12-Jan-24

Benzene	ND	0.050	mg/kg						
Toluene	ND	0.050	mg/kg						
Ethylbenzene	ND	0.050	mg/kg						
Total Xylenes	ND	0.150	mg/kg						
Total BTEX	ND	0.300	mg/kg						
Surrogate: 4-Bromofluorobenzene (PID)	0.0515		mg/kg	0.0500		103	71.5-134		

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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch 4011206 - Volatiles**LCS (4011206-BS1)**

Prepared & Analyzed: 12-Jan-24

Benzene	2.19	0.050	mg/kg	2.00		110	82.8-130		
Toluene	2.15	0.050	mg/kg	2.00		107	86-128		
Ethylbenzene	2.23	0.050	mg/kg	2.00		112	85.9-128		
m,p-Xylene	4.46	0.100	mg/kg	4.00		111	89-129		
o-Xylene	2.25	0.050	mg/kg	2.00		113	86.1-125		
Total Xylenes	6.71	0.150	mg/kg	6.00		112	88.2-128		
Surrogate: 4-Bromofluorobenzene (PID)	0.0522		mg/kg	0.0500		104	71.5-134		

LCS Dup (4011206-BSD1)

Prepared & Analyzed: 12-Jan-24

Benzene	2.17	0.050	mg/kg	2.00		109	82.8-130	0.774	15.8
Toluene	2.09	0.050	mg/kg	2.00		104	86-128	2.74	15.9
Ethylbenzene	2.16	0.050	mg/kg	2.00		108	85.9-128	3.44	16
m,p-Xylene	4.30	0.100	mg/kg	4.00		108	89-129	3.51	16.2
o-Xylene	2.17	0.050	mg/kg	2.00		108	86.1-125	3.76	16.7
Total Xylenes	6.47	0.150	mg/kg	6.00		108	88.2-128	3.60	16.3
Surrogate: 4-Bromofluorobenzene (PID)	0.0510		mg/kg	0.0500		102	71.5-134		

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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4011210 - General Prep - Organics**Blank (4011210-BLK1)**

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	45.5		mg/kg	50.0		91.0	48.2-134			
Surrogate: 1-Chlorooctadecane	48.8		mg/kg	50.0		97.5	49.1-148			

LCS (4011210-BS1)

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	201	10.0	mg/kg	200		101	66.4-123			
DRO >C10-C28	200	10.0	mg/kg	200		99.9	66.5-118			
Total TPH C6-C28	401	10.0	mg/kg	400		100	77.6-123			
Surrogate: 1-Chlorooctane	47.3		mg/kg	50.0		94.5	48.2-134			
Surrogate: 1-Chlorooctadecane	48.5		mg/kg	50.0		96.9	49.1-148			

LCS Dup (4011210-BS1)

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	203	10.0	mg/kg	200		102	66.4-123	0.968	17.7	
DRO >C10-C28	206	10.0	mg/kg	200		103	66.5-118	2.99	21	
Total TPH C6-C28	409	10.0	mg/kg	400		102	77.6-123	1.98	18.5	
Surrogate: 1-Chlorooctane	48.2		mg/kg	50.0		96.4	48.2-134			
Surrogate: 1-Chlorooctadecane	50.0		mg/kg	50.0		100	49.1-148			

Batch 4011211 - General Prep - Organics**Blank (4011211-BLK1)**

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	44.4		mg/kg	50.0		88.8	48.2-134			
Surrogate: 1-Chlorooctadecane	40.7		mg/kg	50.0		81.3	49.1-148			

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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch 4011211 - General Prep - Organics**LCS (4011211-BS1)**

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	186	10.0	mg/kg	200		93.1	66.4-123		
DRO >C10-C28	175	10.0	mg/kg	200		87.6	66.5-118		
Total TPH C6-C28	361	10.0	mg/kg	400		90.3	77.6-123		
Surrogate: 1-Chlorooctane	46.2		mg/kg	50.0		92.4	48.2-134		
Surrogate: 1-Chlorooctadecane	44.4		mg/kg	50.0		88.8	49.1-148		

LCS Dup (4011211-BS1)

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	193	10.0	mg/kg	200		96.5	66.4-123	3.61	17.7
DRO >C10-C28	186	10.0	mg/kg	200		92.9	66.5-118	5.90	21
Total TPH C6-C28	379	10.0	mg/kg	400		94.7	77.6-123	4.73	18.5
Surrogate: 1-Chlorooctane	47.7		mg/kg	50.0		95.5	48.2-134		
Surrogate: 1-Chlorooctadecane	42.7		mg/kg	50.0		85.4	49.1-148		

Batch 4011214 - General Prep - Organics**Blank (4011214-BLK1)**

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
EXT DRO >C28-C36	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	49.3		mg/kg	50.0		98.7	48.2-134		
Surrogate: 1-Chlorooctadecane	43.4		mg/kg	50.0		86.8	49.1-148		

LCS (4011214-BS1)

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	182	10.0	mg/kg	200		91.0	66.4-123		
DRO >C10-C28	162	10.0	mg/kg	200		81.2	66.5-118		
Total TPH C6-C28	344	10.0	mg/kg	400		86.1	77.6-123		
Surrogate: 1-Chlorooctane	51.0		mg/kg	50.0		102	48.2-134		
Surrogate: 1-Chlorooctadecane	43.8		mg/kg	50.0		87.7	49.1-148		

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4011214 - General Prep - Organics**LCS Dup (4011214-BSD1)**

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	185	10.0	mg/kg	200		92.5	66.4-123	1.60	17.7	
DRO >C10-C28	187	10.0	mg/kg	200		93.6	66.5-118	14.2	21	
Total TPH C6-C28	372	10.0	mg/kg	400		93.0	77.6-123	7.73	18.5	
Surrogate: 1-Chlorooctane	51.5		mg/kg	50.0		103	48.2-134			
Surrogate: 1-Chlorooctadecane	45.3		mg/kg	50.0		90.6	49.1-148			

Batch 4011215 - General Prep - Organics**Blank (4011215-BLK1)**

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	44.4		mg/kg	50.0		88.8	48.2-134			
Surrogate: 1-Chlorooctadecane	39.1		mg/kg	50.0		78.2	49.1-148			

LCS (4011215-BS1)

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	197	10.0	mg/kg	200		98.4	66.4-123			
DRO >C10-C28	193	10.0	mg/kg	200		96.6	66.5-118			
Total TPH C6-C28	390	10.0	mg/kg	400		97.5	77.6-123			
Surrogate: 1-Chlorooctane	47.0		mg/kg	50.0		94.0	48.2-134			
Surrogate: 1-Chlorooctadecane	43.0		mg/kg	50.0		86.0	49.1-148			

LCS Dup (4011215-BSD1)

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	199	10.0	mg/kg	200		99.7	66.4-123	1.30	17.7	
DRO >C10-C28	187	10.0	mg/kg	200		93.5	66.5-118	3.28	21	
Total TPH C6-C28	386	10.0	mg/kg	400		96.6	77.6-123	0.943	18.5	
Surrogate: 1-Chlorooctane	47.5		mg/kg	50.0		95.0	48.2-134			
Surrogate: 1-Chlorooctadecane	42.6		mg/kg	50.0		85.2	49.1-148			

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

R T HICKS CONSULTANTS
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104

Project: SHAHARA ST UNIT #008 INJ. REL
Project Number: NONE GIVEN
Project Manager: KRISTIN POPE
Fax To: NONE

Reported:
19-Apr-24 15:53

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4011216 - General Prep - Organics**Blank (4011216-BLK1)**

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	53.3		mg/kg	50.0		107	48.2-134			
Surrogate: 1-Chlorooctadecane	58.9		mg/kg	50.0		118	49.1-148			

LCS (4011216-BS1)

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	159	10.0	mg/kg	200		79.4	66.4-123			
DRO >C10-C28	165	10.0	mg/kg	200		82.6	66.5-118			
Total TPH C6-C28	324	10.0	mg/kg	400		81.0	77.6-123			
Surrogate: 1-Chlorooctane	45.3		mg/kg	50.0		90.6	48.2-134			
Surrogate: 1-Chlorooctadecane	46.7		mg/kg	50.0		93.5	49.1-148			

LCS Dup (4011216-BSD1)

Prepared & Analyzed: 12-Jan-24

GRO C6-C10	197	10.0	mg/kg	200		98.7	66.4-123	21.7	17.7	QR-02
DRO >C10-C28	202	10.0	mg/kg	200		101	66.5-118	20.0	21	
Total TPH C6-C28	399	10.0	mg/kg	400		99.9	77.6-123	20.8	18.5	QR-02
Surrogate: 1-Chlorooctane	56.4		mg/kg	50.0		113	48.2-134			
Surrogate: 1-Chlorooctadecane	65.2		mg/kg	50.0		130	49.1-148			

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Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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.
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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 99976 of 81

Company Name: R. T. Hicks Consultants		BILL TO		ANALYSIS REQUEST									
Project Manager: Kristin Pope		P.O. #: J+J Investments		<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <p>Company: Cardinal</p> <p>Attn: Kevin Josie Ciempa</p> <p>Address:</p> <p>City:</p> <p>State:</p> <p>Zip:</p> <p>Phone #: 575-766-0041</p> <p>Fax #:</p> </div> <div style="width: 50%; text-align: center;"> <p>Chloride</p> <p>TPH 8015m</p> <p>BTEX</p> </div> </div>									
Address: 901 Rio Grande Blvd NW, Suite F-142		Company: Cardinal											
City: Albuquerque State: NM Zip: 87104		Attn: Kevin Josie Ciempa											
Phone #: 505-266-5004 Fax #:		Address:											
Project #: Project Owner: J&J		City:											
Project Name: Shahara St Unit #008 inj. release		State:											
Project Location:		Zip:											
Sampler Name: Kristin Pope		Phone #: 575-766-0041											
Fax #:													

FOR LAB USE ONLY		Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.		SAMPLING		DATE	TIME
						GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :		
1	H240132		A6 @ 0-2 ft	G	1										1-3	2024 10 10
2			A6 @ 2-4 ft	G	1											10 20
3			A6 @ 4.3 ft	G	1											10 22
4			B5 @ 0-2 ft	G	1											10 35
5			B5 @ 2-4 ft	G	1											11 03
6			B5 @ 4.3 ft	G	1											11 05
7			B6 @ 0-2 ft	G	1											11 05
8			B6 @ 2-4 ft	G	1											11 05
9			B6 @ 4.3 ft	G	1											11 05
10			B7 @ 0-2 ft	G	1											11 35

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Relinquished By: <i>Kristin Pope</i>		Date: 11/12/24	Received By: <i>[Signature]</i>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Relinquished By: <i>Kristin Pope</i>		Time: 13:10	Received By: <i>[Signature]</i>		All Results are emailed. Please provide Email address: <i>j+jinvestments@pv+n.net</i>	
Relinquished By: <i>Kristin Pope</i>		Date:	Received By: <i>[Signature]</i>		kristin@rthicksconsult.com, R@rthicksconsult.com	
Relinquished By: <i>Kristin Pope</i>		Time:	Received By: <i>[Signature]</i>		REMARKS:	
Delivered By: (Circle One)		Observed Temp. °C: 0.70	Sample Condition		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	
Sampler - UPS - Bus - Other:		Corrected Temp. °C: #140	Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		Bacteria (only) Sample Condition	
FORM-006 R 3.2 10/07/21			CHECKED BY: (Initials) <i>[Signature]</i>		Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	
			Thermometer ID #443		Observed Temp. °C	
			Correction Factor -0.5°C		Corrected Temp. °C	

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: R.T. Hicks Consultants				BILL TO				ANALYSIS REQUEST																																			
Project Manager: Kristin Pope				P.O. #: J+J Investments				<div style="display: flex; flex-direction: column; align-items: center;"> <div>Chloride</div> <div>TPH 8015M</div> <div>BTEX</div> </div>																																			
Address: 901 Rio Grande Blvd NW, Suite F-142				Company: R.T. Hicks																																							
City: Albuquerque State: NM Zip: 87104				Attn: R.T. Hicks Josie Ciempa																																							
Phone #: 505-266-5004 Fax #:				Address:																																							
Project #: Project Owner: J&J				City:																																							
Project Name: Shahara St Unit #008 inj. release				State: Zip:																																							
Project Location:				Phone #: 575-706-0041																																							
Sampler Name: Kristin Pope				Fax #:																																							
FOR LAB USE ONLY		Lab I.D.		Sample I.D.		GRAB OR (C)OMP.		CONTAINERS		MATRIX		PRESERV.		SAMPLING																													
										GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME													
H240132						G 1																						1-3-2024		1300													
21		D7 @ 4.3 ft				G 1																								1315													
22		E6 @ 0-2 ft				G 1																								1345													
23		E6 @ 2-4 ft				G 1																								1347													
24		E6 @ 4.3 ft				G 1																								1355													
25		E7 @ 0-2 ft				G 1																								1405													
26		E7 @ 2-4 ft				G 1																								1420													
27		E7 @ 4.3 ft				G 1																								1430													
28		E5 @ 0-2 ft				G 1																								1440													
29		E5 @ 2-4 ft				G 1																								1445													
30		E5 @ 4.3 ft				G 1																																					

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Relinquished By:		Date: 1/16/24		Received By:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Kristin Pope		Time: 13:10		[Signature]		All Results are emailed. Please provide Email address: jnjinvestments@pvt+n.net	
Relinquished By:		Date:		Received By:		kristin@rthicksconsult.com, R@rthicksconsult.com	
		Time:				REMARKS:	
Delivered By: (Circle One)		Observed Temp. °C 0.7°C		Sample Condition		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	
Sampler - UPS - Bus - Other:		Corrected Temp. °C #140		Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No		Bacteria (only) Sample Condition	
				CHECKED BY: (Initials) [Signature]		Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	
						Thermometer ID #413-01/1/24	
						Correction Factor -0.5°C	
						Observed Temp. °C	
						Corrected Temp. °C	

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: R.T. Hicks Consultants		BILL TO		ANALYSIS REQUEST																							
Project Manager: Kristin Pope		P.O. #: J+J Investments																									
Address: 901 Rio Grande Blvd NW, Suite F-142		Company: RTHICKS																									
City: Albuquerque State: NM Zip: 87104		Attn: Randy Josie Cumppe																									
Phone #: 505-266-5004 Fax #:		Address:																									
Project #: Project Owner: J&J		City:																									
Project Name: Shahara St Unit #008 inj. release		State: Zip:																									
Project Location:		Phone #: 575-706-0041																									
Sampler Name: Kristin Pope		Fax #:																									
FOR LAB USE ONLY																											
Lab I.D. H240182		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX				PRESERV.		SAMPLING		Chloride TPH 2015M BTEX											
								GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:				ACID/BASE: ICE / COOL OTHER:		DATE TIME													
31 D5 @ 0-2 ft		G 1										1-3-2024 1520															
32 D5 @ 2-4 ft		G 1										1555															
33 D5 @ 4.3 ft		G 1										1600															
34 C5 @ 0-2 ft		G 1										1500															
35 C5 @ 2-4 ft		G 1										1510															
36 C5 @ 4.3 ft		G 1										1515															
37 C4 @ 0-2 ft		G 1										1620															
38 C4 @ 2-4 ft		G 1										1-4-24 0730															
39 C4 @ 4.3 ft		G 1										1-4-24 0734															
40 B3 @ 0-2 ft		G 1										1-4-24 0744															

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Relinquished By: Kristin Pope		Date: 8/1/24		Received By: [Signature]		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Relinquished By:		Time: 8:10		Received By:		All Results are emailed. Please provide Email address: j+jinvestments@...	
Date:		Time:		REMARKS:		kristin@rthicksconsult.com, R@rthicksconsult.com	
Delivered By: (Circle One)		Observed Temp. °C 0.70C		Sample Condition		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	
Sampler - UPS - Bus - Other:		Corrected Temp. °C #140		Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		Bacteria (only) Sample Condition	
				CHECKED BY: (Initials) [Signature]		Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	
						Observed Temp. °C	
						Corrected Temp. °C	

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 80 of 81
Page 80

Company Name: R. T. Hicks Consultants Project Manager: Kristin Pope Address: 901 Rio Grande Blvd NW, Suite F-142 City: Albuquerque State: NM Zip: 87104 Phone #: 505-266-5004 Fax #: Project #: Project Owner: J&J Project Name: Shahara St Unit #008 inj. release Project Location: Sampler Name: Kristin Pope				BILL TO P.O. #: J+J Investments Company: R. T. Hicks Attn: Randy Address: City: State: Zip: Phone #: 575-706-0041 Fax #:				ANALYSIS REQUEST																						
FOR LAB USE ONLY		Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX				PRESERV.	SAMPLING																	
								GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME												
H240132																														
41		B3 @		2-4		ft	G	1									1-4-2024	0749												
42		B3 @		4.3		ft	G	1										0751												
43		B4 @		0-2		ft	G	1										0801												
44		B4 @		2-4		ft	G	1										0812												
45		B4 @		4.3		ft	G	1										0814												
46		A3 @		0-2		ft	G	1										0830												
47		A3 @		2-4		ft	G	1										0842												
48		A3 @		4.3		ft	G	1										0844												
49		B2 @		0-2		ft	G	1										0915												
100		B2 @		2-4		ft	G	1										0939												

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Relinquished By: Kristin Pope Date: 1/1/24 Time: 13:10		Received By: [Signature] Date: Time:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: All Results are emailed. Please provide Email address: jninvestments@prth.net kristin@rthicksconsult.com, R@rthicksconsult.com REMARKS:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C 0-70c Corrected Temp. °C #140		Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	
Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>		Bacteria (only) <input type="checkbox"/> Sample Condition <input type="checkbox"/> Observed Temp. °C		Thermometer ID #113249 Correction Factor -0.5°C 1/1/24	

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: R.T. Hicks Consultants
Project Manager: Kristin Pope
Address: 901 Rio Grande Blvd NW, Suite F-142
City: Albuquerque State: NM Zip: 87104
Phone #: 505-266-5004 Fax #:
Project #: Project Owner: J&J Investments
Project Name: Shahara St Unit #008 inj. release
Project Location:
Sampler Name: Kristin Pope

BILL TO
P.O. #:
Company: J&J Investments
Attn: Josie Ciempa
Address:
City:
State: Zip:
Phone #: 575-706-0041
Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY

H240132
Lab I.D.

Sample I.D.

GRAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.		SAMPLING	
		GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	DATE	TIME
51	B2 @ 4.3 ft	G	1							1-4-2024	0941
52	C2 @ 0-2 ft	G	1								1007
53	C2 @ 2-4 ft	G	1								1017
54	C2 @ 4.3 ft	G	1								1019
55	C3 @ 0-2 ft	G	1								1055
56	C3 @ 2-4 ft	G	1								1109
57	C3 @ 4.3 ft	G	1								1112
58	E4 @ 0-2 ft	G	1								1117
59	E4 @ 2-4 ft	G	1								1120
60	E4 @ 4.3 ft	G	1								1122

Chloride
TPH 801507
BTEX

RELEASE 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:

Kristin Pope

Date: 1/11/24
Time: 13:10
Date:
Time:

Received By:

Received By:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp. °C 0.7°C

Corrected Temp. °C #140

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

CHECKED BY:
(Initials)
DA

Verbal Result: ☐ Yes ☐ No

Add'l Phone #:

All Results are emailed. Please provide Email address:

kristin@rthicksconsult.com, R@rthicksconsult.com, jnjinvestments@pvtm.net

REMARKS:

Turnaround Time:

Standard
Rush

☒

Bacteria (only) Sample Condition

Cool Intact

☐ Yes ☐ No

☐ Yes ☐ No

Observed Temp. °C

Corrected Temp. °C

Thermometer ID #113

Correction Factor -0.5°C

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

Appendix B

Communications



McNabb Partners, LLC
Hobbs • Carlsbad • Midland

From: jninvestments@pvt.net
To: [Andrew Parker](#)
Subject: FW: J&J Investments - Shahara State Unit # 008 Inj. Incident nAPP2307633795 Application ID: 317805
Date: Wednesday, July 24, 2024 4:23:44 PM

This one.

From: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Sent: Tuesday, June 11, 2024 1:32 PM
To: Randall Hicks <r@rthicksconsult.com>; jninvestments@pvt.net
Cc: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; tknight <tknight@slo.state.nm.us>
Subject: J&J Investments - Shahara State Unit # 008 Inj. Incident nAPP2307633795 Application ID: 317805

Mr. Hicks et al.,

I will attempt to resolve this issue here and clarify the **2nd rejection** for this incident.
Emphasis added on this being the **2nd rejection**.

Mr. Velez's 5/22/24 rejection:

App ID 340547: Reasons for Rejection: 1. The entire release occurred off-pad; therefore, have not completed horizontal delineation to meet the reclamation requirements per 19.15.29.13D (1) NMAC. 2. No remediation proposal for chlorides that exceed the 600 mg/Kg standard in the upper 4 feet below grade. 3. Since bullets #1 and #2 were not addressed in the original rejection, J & J Investments has until June 20, 2024 to submit to OCD a revised remediation plan or final closure report.

OCD has accepted the depth to groundwater determination in the 2nd submittal with the principal reason being that the submittal included hard data from an existing water well that is close enough to the requisite .5 mile radius to be acceptable. However, and this is where there may be some confusion, in the above rejection, items number 1 and 2 were also rejected in the first submittal, and were not addressed in the 2nd submittal. Since the date of discovery for this release is over one year, no remedial efforts have been made to mitigate contamination at the site, and this being the 2nd rejection for this incident, **J&J Investments, as stated in the rejection, has until June 20, 2024 to submit to OCD a revised remediation plan or final closure report. If J&J chooses to submit a revised remediation plan, it must address, at a minimum, items 1 and 2 of the above rejection. Please note OCD considers the entirety of this release to not be in an area reasonably needed for production or drilling operations. If the pipeline operators do not want remediation to occur around their pipelines, J&J will need to obtain a letter from said company stating they do not want remediation to occur and that they will accept responsibility for any contamination left in place.**

Thank you,

Mike Bratcher • Incident Supervisor
Environmental Bureau

EMNRD - Oil Conservation Division
506 W. Texas Ave | Artesia, NM 88210
(575) 626-0857 | mike.bratcher@emnrd.nm.gov
<http://www.emnrd.nm.gov/oqd>



From: Randall Hicks <r@rthicksconsult.com>
Sent: Friday, June 7, 2024 12:18 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Cc: jnjinvestments@pvt.net <jnjinvestments@pvt.net>
Subject: [EXTERNAL] J&J Investments - Shahara State Unit # 008 Inj. Incident nAPP2307633795
Application ID: 317805

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Mr. Velez:

We need input from OCD regarding that statement below in yellow. Please provide a few dates//times when we can get on the phone and walk through this issue together.

First, can you please confirm that you received and reviewed the submission in the attachment via the OCD e-submission portal? I want to make sure you received the correct plan.

Second, if you did review the document in the attachment, I am confused regarding OCD's rationale for indicating that bullet #1 was not addressed. Without some additional discussion with OCD, we do not understand how we missed the mark and we need that understanding so we can respond appropriately. Our response to item 2 of the March 22 rejection is summarized in the transmittal letter (attached) and described in detail on pages 11 of 140 through 15 of 140 and the referenced Plates of the attached submission. Please note that in my copy of the submittal Plate 2c is mis-labeled as 2d

If there is a technical/hydrogeologic flaw with our approach, we need to discuss OCD's issues so we can provide a response that is fully compliant with Rule 29.

If we are missing something in the Rule regarding determination of depth to water, we need to hear OCD's rationale so we can provide a response that is fully compliant with Rule 29.

We cannot proceed with addressing any issues with OCD until we discuss the depth to groundwater issue.

Thanks

Below is what I have received regarding the rejections. When we talk, let me know if there is more than what I present below.

nvelez (5/22/2024),

1. The entire release occurred off-pad; therefore, have not completed horizontal delineation to meet the reclamation requirements per 19.15.29.13D (1)NMAC.
2. No remediation proposal for chlorides that exceed the 600 mg/Kg standard in the upper 4 feet below grade.
3. Since bullets #1 and #2 were not addressed in the original rejection, J & J Investments has until June 20, 2024 to submit to OCD a revised remediation plan or final closure report.

Sent: Friday, March 22, 2024 3:17 PM

To: jjinvestments@pvt.net

Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 317805

To whom it may concern (c/o Josie Ciempa for J & J Investments, LLC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2307633795, for the following reasons:

- **1. The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.**
- **2. Release has not been fully delineated.**

- **3. All reclamation activities should adhere to 19.15.29.13 NMAC. Per 19.15.29.13D NMAC, Reclamation of areas no longer in use. The responsible party shall reclaim all areas disturbed by the remediation and closure, except areas reasonably needed for production operations or for subsequent drilling operations, as early and as nearly as practical to their original condition or their final land use and maintain those areas to control dust and minimize erosion to the extent practical.**
- **4. Alterations made to Sample IDs B2, B6, and B7 does not appear to be clarified or explanation given by the laboratory. 5. J & J Investments has until May 21, 2024 to submit to OCD a revised site characterization/remediation plan or final remediation closure report.**

Randall Hicks, PG

505-238-9515 (cell best number)

505-266-5004 (land line – no voice mail allowed)

901 Rio Grande Blvd. NW

Suite F-142

Albuquerque, NM 87104

Appendix C

Reclamation Plan



McNabb Partners, LLC
Hobbs • Carlsbad • Midland



McNabb Partners, LLC
Hobbs • Carlsbad • Midland
575.397.0050
www.mcnabbpartnersllc.com

July 31, 2024

Environmental Compliance Office
New Mexico State Land Office
1300 W Broadway Avenue, Suite A
Bloomfield, NM 87413

RE: Reclamation Plan
Shahara State Unit #8 Injection Line
API: 30-025-01438
Right-of-Way Permit: RE-6971
J & J Investments, LLC
Unit Letter N; Sec. 16; T17S.R33E. Lea County
32.8289002, -103.6706601

On the behalf of J & J Investments, LLC; McNabb Partners respectfully submits the following reclamation plan for the above location. Attached is the right-of-way permit, Cultural Resource Findings, and Biotic Environmental reports.

1. Site Map: Please refer to Exhibit A. The identified release extent represents the reclamation area. The reclamation extent is subject to change during remedial activities for Incident # NAPP2307633795.
2. Access and driving directions: From Maljamar, NM; proceed east on US Highway 82 for 5.75-miles. Turn south on a caliche access road and proceed for 4.44-miles. Turn east onto a caliche access road. Proceed for 0.21-miles. Turn southeast along a pipeline right-of-way for 0.18-miles to the reclamation/remediation area.
3. Right-of-Way Permit: RE-6971 (attached)
4. Site description
 - a. Site Use: Active flowline right-of-way for oil and gas activities & pasture land.
 - b. Likely future use: Right-of-way & pasture land.
 - c. Topography: Natural topography gently slopes north at a 0.85% slope.
 - d. Vegetation Type: The surrounding undisturbed vegetation includes small snakeweed, few native grasses, cacti, and mesquite. Please refer to the attached biotic assessment for additional details.
 - e. Soil Type: The USDA Natural Resources Conservation Service (NRCS) soil survey¹ describes near surface lithology at this site as follows.

¹ <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>



Northwest corner of release extent (14%) is within the Kimbrough gravelly loam (KO), 0 to 3% slopes with a composition of:

- A - 0 to 3 inches: gravelly loam
- Bw - 3 to 10 inches: loam
- Bkkm1 - 10 to 16 inches: cemented material
- Bkkm2 - 16 to 80 inches: cemented material

The remaining release area (86%) of the release extent is within the Kimbrough-Lea complex (KU), 0 to 3% slopes with a composition of:

- A - 0 to 3 inches: *gravelly loam*
- Bw - 3 to 10 inches: *loam*
- Bkkm1 - 10 to 16 inches: *cemented material*
- Bkkm2 - 16 to 80 inches: *cemented material*

5. Assessment of soil suitability

a. Special Soil Conditions -

i. Historical Information:

A. In 2021, a DCP contractor damaged the Shahara State Unit #8 injection line and repaired the damage pipeline.

B. In March 2021, the DCP repair on the Shahara State Unit #8 injection line failed.

C. See Page 10 in Appendix A, last paragraph, for additional details.

ii. Prior soil sampling activities: Reproduced from attached remediation plan.

Sampling events for site characterization and delineation were completed by R T Hicks Consultants. Summary of analytical is presented on Table 1 in Appendix A (Pages 25 and 26). Constituents exceeding Closure Criteria are highlighted "Yellow". Exhibit D shows the sample point locations that either 1) meet Closure Criteria or 2) exceeds Closure Criteria. No samples exceeded Closure Criteria below 4-feet.

iii. Site visit: Stressed or no vegetation within the release extent.



6. Remediation of impacted soils.

- a. See attached remediation plan. In summary,

Excavation of impacted soils will continue until the walls and bases of the remediation area meet the following concentrations (reproduced from 19.15.29 NMAC), where depth-to-water > 100ft. Excavated impacted material will be transported to an approved disposal facility.

➤ Upper 4-feet

- Chloride < 600 mg/kg
- TPH (GRO + DRO + MRO) < 100 mg/kg
- BTEX < 50 mg/kg
- Benzene < 10 mg/kg

➤ Below 4-feet


- Chloride < 20,000 mg/kg
- TPH (GRO + DRO + MRO) < 2,500 mg/kg
- TPH (GRO + DRO) < 1,000 mg/kg
- BTEX < 50 mg/kg
- Benzene < 10 mg/kg

- b. Confirmation soil samples will be collected from the base and walls of the remediated areas for the analysis of chloride, BTEX, Benzene, and TPH.

- c. Analytical results and photos of remediation activities will be included in the final closure report.

7. Areas subject to remediation will be backfilled with clean, non-impacted soil, contoured to match surrounding topography, followed by compaction and surface ripping prior to application of a minimum of 1-ft of clean topsoil.

8. Site specific soil contouring:

- 
- a. The right-of-way will be reclaimed to minimize soil erosion. Camelbacks and line markers will be maintained.
 - b. Pasture lands have a gentle slope and contouring is required to match surrounding topography.
 9. The reclamation site and right-of-way will be cross ripped to a minimum of 18 inches with a furrow spacing of 2 feet.
 10. Seed Mixture: Certified weed free NMSLO Loamy (L) Sites Seed Mixture
 11. Timing of seeding: following completion of final seedbed preparation.
 12. Seed application technique: Broadcast seeding followed by chain-dragging.
 13. Mulching, as needed.
 14. Erosion Control: The area is gently sloped so erosion control measures will include water bars, revegetation with contouring of the surface to limit opportunities for concentrated surface water flow.
 15. Removal of all equipment, litter and debris.
 16. Include photos of remediation and/or reclamation activities
 17. Monitoring plan
 - a. The site will be monitored for vegetation growth to ensure that reclamation and reseeding activities were sufficient.
 - b. The site will be evaluated for soil stabilization, erosion, and invasive and noxious species.
 - c. Noxious and invasive weeds will be identified and treated or mechanically removed.
 - d. Inspections will occur annually until revegetation is consistent with local natural vegetation density.
 - e. When revegetation is completed, NMSLO and NMOCD will be notified for final inspection.
 18. Implementation schedule:
 - f. Upon approval of remediation/reclamation workplan, the project will be completed in 60 days following workplan approval.



Andrew Parker
Environmental Manager
McNabb Partners
c: (970) 570-9535



Stephanie Garcia Richard
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S OFFICE

Phone (505) 827-5760

Fax (505) 827-5766

www.nmstatelands.org

July 18, 2024

J & J Investments, LLC
132257 Lovington Hwy PO Box 39
Loco Hills, New Mexico 88255

Attn: Jason G. Ciempa

Re: Right-of-Entry Permit No.: **RE-6971 Shahara State Unit #008 Injection Line Leak**

Dear Applicant:

Enclosed is the completed captioned Right-of-Entry permit. If any corrections are necessary, please let us know and we will retype or amend this permit as necessary.

The New Mexico State Land Office requires you to notify any surface lessees that will be impacted by your project prior to construction.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact Samantha Martinez of my staff at (505) 827-4003.

Sincerely,


James S. Bordegaray
Director, Commercial Resources Division

JSB/sm



NEW MEXICO STATE LAND OFFICE
Commissioner of Public Lands
Stephanie Garcia Richard
New Mexico State Land Office Building
P.O. Box 1148, Santa Fe, NM 87504-1148

RIGHT OF ENTRY PERMIT
CONTRACT NO. RE – 6971

This Agreement is made and entered into between the COMMISSIONER OF PUBLIC LANDS (the “Commissioner”) and

J & J Investments, LLC
132257 Lovington Hwy PO Box 39
Loco Hills, New Mexico 88255

(“Permittee”). The parties agree as follows:

1. RIGHT OF ENTRY (“ROE”)

The Commissioner grants to Permittee, and its authorized representatives, employees, and contractors, permission to use the state trust lands identified below (the “Premises”), and ingress and egress to the Premises, for the sole purposes of (1) surveying/conducting an environmental investigation due to a crude oil and produced water release on or adjacent to the site of the **Shahara State Unit #008 Injection Line Leak (Incident# NAPP2307633795)** and (2) conducting surface reclamation activities, including removal of equipment and debris, and any required remediation per 19.15.29.12 NMAC.

The Premises are situated in the following location in **Lea County**, New Mexico::

Section	Township	Range	Subdivision	County	Longitude/Latitude
16	17S	33E	SW4SW4	Lea	32.494517/-103.401420

2. TERM AND TERMINATION

Right of entry is granted for a term of **180 days**, commencing on the execution date of this document by the Commissioner of Public Lands.

3. FEES

\$ 50.00 Application Fee
 \$ 500.00 Permit Fee
 \$ 550.00 Total Fee

RE-6971

4. CONDITIONS OF USE

- A. The issuance of this ROE does not guarantee that any subsequent lease, permit, or any other instrument will be issued to Permittee for the Premises.
- B. No blading or widening of any roads that provide access to the Premises is permitted under this ROE.
- C. No sale of any material extracted from the Premises is allowed under this ROE.
- D. Permittee shall observe all applicable federal, state, and local laws and regulations.
- E. Permittee shall take all reasonable precautions to prevent and suppress forest, brush, and grass fires and prevent pollution of waters on or in the vicinity of the Premises.
- F. Permittee shall not block or disrupt roads or trails commonly in use.
- G. This ROE is subject to any and all easements and rights-of-way previously granted and now in force and effect.
- H. Permittee shall be responsible for repair and restitution for damage to any Premises or improvements as a result of activities related to the ROE.
- I. Prior to entering the Premises, Permittee must identify and contact any existing surface lessees. The grant of this ROE does not allow access across private lands.
- J. Permittee may utilize this ROE upon its execution for inspection of the Premises and to conduct any necessary tests or inspections. Permittee may not conduct remediation or reclamation work until it has submitted a written plan for such work, and received State Land Office approval.
- K. Personnel present on Premises: **Jason Ciempa and 4 employees**
- L. Equipment and materials present on Premises: **Pickups and Skid steer**

5. SITE CONDITIONS

- A. No surface disturbance, other than soil tests, except as described in a reclamation plan submitted to and approved by the State Land Office.
- B. Access to the Premises shall be over existing roads.
- C. The natural environmental conditions that exist contemporaneously with this grant of ROE shall be preserved and protected. Permittee must follow all applicable environmental and cultural resource protection laws and regulations.

6. INDEMNITY

Permittee shall save, hold harmless, indemnify, and defend the State of New Mexico, the Commissioner and Commissioner's employees, agents and contractors, in both their official and individual capacities, from any and all liability, claims, losses, damages, or expenses of any character or nature whatsoever, including but not limited to attorney's fees, court costs, loss of land value or use, third party claims, penalties, or removal, remedial or restoration costs arising out of, or alleged to arise out of Permittee's operations or presence on the Premises (or operations or presence of his representatives, employees, or contractors).

7. SURVIVAL OF TERMS

Permittee's obligations regarding indemnity, site conditions, and compliance with applicable standards and laws, shall survive the termination, cancellation or relinquishment of this Agreement, and any cause of action of the Commissioner to enforce any right, liability, claim, loss, damage or expense under those paragraphs shall not be deemed to accrue until the Commissioner's actual discovery of said right, liability, claim, loss, damage or expense.

8. NOTIFICATION

Permittee must notify the State Land Office immediately in the event Permittee or his representatives, employees, or contractors observe any spill, fire, or other emergency on the Premises, or if Permittee or his representatives, employees, or contractors experience any serious injury while on the Premises.

RE-6971

WITNESS the hands of PERMITTEE and COMMISSIONER on the day(s) and year entered below.

Josie M. Ciempa
PERMITTEE SIGNATURE

DATE: 7/11/24

Josie M. Ciempa

Vice President

PERMITTEE NAME AND TITLE (PRINT)

SEAL:

BY: 
Stephanie Garcia Richard
Commissioner of Public Lands

DATE: 07/19/2024





28 June 2024

Lisa Croft
RT Hicks Consultants
901 Rio Grande Blvd NW
Albuquerque, NM 87104

RE: Shahara spill site and remediation

Greetings Lisa,

As requested, I have completed a survey of the biotic environment within and surrounding the small oil spill at the Shahara State Unit #008 site in Lea County, NM. This letter report presents the findings of my survey, which was completed on 26 June 2024. It should be noted that the survey was conducted after the project proponent had already removed the contaminated soils in order to minimize local contamination and impacts. Photographs of the spill site are given in Photo 1 and Photo 2.

The spill site is located within an area that contains elements of both the Plains-Mesa Sandscrub and Plains-Mesa Grassland communities. Common plants encountered during the survey include: honey mesquite (*Prosopis glandulosa*), snakeweed (*Gutierrezia sarothrae*), threadleaf groundsel (*Senecio flaccidus*), twoleaf senna (*Senna roemeriana*), Tahoka daisy (*Machaeranthera tanacetifolia*), prickly pear (*Opuntia* species), nightshade (*Solanum elaeagnifolium*), and prickly dogweed (*Thymophylla acerosa*). There did not appear to be any unique plants or plants assemblages within or surrounding the reclamation site.

There were not any burrows, nests, or den sites found within or surrounding the spill site. Of particular concern in the Permian Basin is the potential for occurrence of the dunes sagebrush lizard (*Sceloporus arenicolus*), a federal and State endangered species. While the semi-stable and active sand dunes and shinnery oak (*Quercus havardii*) preferred by this species can be found about 25 km (16 mi) to the west, the soils within the general spill area are too compacted and gravelly for this diminutive lizard.

After surveying the area, I conclude that it is highly unlikely that any unique, sensitive, or protected plant and wildlife communities were impacted during the clean-up operations.

Sincerely,

A handwritten signature in blue ink that reads "Mike Balistreri".

Mike Balistreri
principal, Aeolus Consulting Services



Photo 1. Aerial view looking southeast. Reclaimed spill site is in the center of the image.



Photo 2. View looking east across the reclaimed spill site.



Stephanie Garcia Richard, Commissioner of Public Lands
State of New Mexico

NMSLO Cultural Resources Cover Sheet Exhibit

NMCRIS Activity Number:

(if applicable)

Exhibit Type (select one)

ARMS Inspection/Review - Summarize the results (select one):

- (A) The entire area of potential effect or project area has been previously surveyed to current standards and **no cultural properties** were found within the survey area.
- (B) The entire area of potential effect or project area has been previously surveyed to current standards and **cultural properties were found** within the survey area.
- (C) The entire area of potential effect or project area has **not** been previously surveyed or **has not been surveyed** to current standards. A complete archaeological survey will be conducted and submitted for review.

Archaeological Survey

Findings:

Negative - No further archaeological review is required.

Positive - Have avoidance and protection measures been devised? Select one:

Comments:

Project Details:

NMSLO Lease Number (if available):

Cultural Resources Consultant:

Project Proponent (Applicant):

Project Title/Description:

Project Location:

County(ies):

PLSS/Section/Township/Range):

For NMSLO Agency Use Only:

NMSLO Lease Number:

Acknowledgment-Only:

Lease Analyst:

Date Exhibit Routed to Cultural Resources Office:

No person may alter the wording of the questions or layout of the cover sheet. The completion of this cover sheet by itself does not authorize anyone to engage in new surface disturbing activity before the review and approvals required by the Cultural Properties Protections Rule.

Form Revised 12 22

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 155342

HPD Log No(s).

Registration

Lead Agency: NM State Land Office

Performing Agency: Boone Archaeological Consultants, LLC.

Activity ID: Shahara State Unit # 008 Release

Performing Agency Report No: BARC 03-24-25

Other Agencies:

Report Recipient (Your Client): RT Hicks Consultants

- Activity Types:
- ☐ Research Design
 - ☒ Archaeological Survey/Inventory
 - ☐ Architectural Survey/Inventory
 - ☐ Test Excavation
 - ☐ Monitoring
 - ☐ Collections/Non-Field Study
 - ☐ Compliance Decision
 - ☐ Literature Review Overview
 - ☐ Excavation
 - ☐ Ethnographic Study
 - ☐ Resource/Property Visit
 - ☐ Historic Structures Report
 - ☐ Other:

Total Survey Acreage: 1.95

Total Tribal Acreage: 0.00

Total Resources Visited: 0

Report run on: Apr 17, 2024 02:49 PM

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 155342 HPD Log No(s). Associate/Register Resources

Prefix	Number	Field Site/Other Number	In GIS	Resource Type	Collections Made?	Revisit
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Report run on: Apr 17, 2024 02:49 PM

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 155342

HPD Log No(s).

Report Details

Type of Report

Type of Report Negative

Lead Agency

Lead Agency: NM State Land Office

Lead Agency Report No.

Report Number:

Title of Report

Title of Report: A Class III Archaeological Survey for the Shahara State Unit # 008 Release, Lea County, New Mexico**Authors:** Galassini, Stacy K., and Erick J. Martinez**Publication Type:** Report, Monograph, or Book

Description of Undertaking (what does the project entail?)

Description: RT Hicks Consulting has requested a pedestrian cultural resources survey for the Shahara State Unit # 008 Release which occurred in Lea County, NM, on New Mexico State Trust (NMST) land in Section 16 of T17S R33E. The release area measured 0.21 acres on NMST land.

Dates of Investigation

From: 13-Apr-2024 **To:** 13-Apr-2024

Report Date

Report Date: 17-Apr-2024

Performing Agency/Consultant

Name: Boone Archaeological Consultants, LLC.**Principal Investigator:** Stacy Galassini**Field Supervisor:** Sarah Griffith**Field Personnel Names:** Chris Young**Historian/Other**

Performing Agency Report Number

Report Number: BARC 03-24-25

Client/Customer (project proponent)

Name: RT Hicks Consultants

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 155342

HPD Log No(s).

Report Details

Contact: Lisa Croft

Address:

Phone (971) 409-7247

Client/Customer Project Number

Project Number:

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 155342 HPD Log No(s).
Ownership & Location

Land Ownership Status (Must be indicated on Project Map)

Owner/Manager List:	Land Owner/Manager	Protocol	Acres Surveyed	Acres in APE
	NM State Land Office	Class III	1.95	1.95

Total Survey Acreage: 1.95
Total Tribal Acreage: 0.00

Record Search(es)

Date of HPD/ARMS File Review: 19-Mar-2024
Date of Other Agency File Review 17-Apr-2024

Survey Data

Source Graphics: NAD 83
☒ USGS 7.5' (1:24,000) topo map ☐ Other Topo Map Scale:
☒ GPS Unit <1M
☐ Aerial Photos Other Source Graphic(s):

The following tables (b,c,& e) are calculated by the NMCRIS Map Service

USGS 7.5' Topographic Map(s)		County(ies)		Legal Description			
Map Name	USGS Quad Code	County	FIPS	Unplatted	Township (N/S)	Range (E/W)	Section
Dog Lake, NM	32103-G6	LEA	35023	No	T17S	R33E	16

Projected Legal Description

Nearest City or Town: Lovington, NM
Other Description:

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 155342

GIS

HPD Log No(s).

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NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 155342

HPD Log No(s).

Methodology

Survey Field Methods

Intensity: 100% coverage

Configuration: ☒ Block Survey Units ☐ Linear Survey Units (l x y)

Other Survey Units

Scope: All Resources

Coverage Method: ☒ Systematic Pedestrian Coverage **Other Method:**

Survey Interval (m): 15 **Crew Size** 2

Fieldwork Dates **From** 13-Apr-2024 **To** 13-Apr-2024

Survey Person Hours: 1.00 **Recording Person Hours** 0.00

Additional Narrative: The release area was surveyed using 50 ft. parallel transects within an irregular survey block. The survey block included a 100 ft. buffer around the release area. The survey area totaled 1.95 acres of NMST land. Photographs of the release area were documented. The release area falls within 500 m of one previous archaeological survey. For complete details of the archaeological survey, see Table 1. There are no previously recorded cultural resources that fall within one kilometer of the release area.

Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.)

Environmental Setting: According to the Natural Resources Conservation Service' online database, the project area soils consist of Kimbrough gravelly loam and Kimbrough-Lea complex. Kimbrough gravelly loam generally supports midgrasses with shrubs dominant and lesser amounts of tall grasses. Shrubs such as, yucca, juniper, skunkbush, and broom snakeweed may be viewed in the area with patches of bare ground and exposed rock fragments. Kimbrough-Lea complex, very shallow soil, generally supports a plant community that is midgrass/shrub dominant with lesser amounts of tallgrasses. Shrubs such as yucca, juniper, skunkbush, and broom snakeweed are present. The current vegetative community consists of mesquite, broom snakeweed, cane cholla, and desert grasses and forbs. The project area lies on flat scrubland terrain with heavy oil and gas related disturbances. The elevation ranges between 4,185 ft. to 4,190 ft. above mean sea level.

Percent Ground Visibility

Ground Visibility: 51-75%

Condition of Survey Area: Some portions of the survey area have been heavily impacted by well pads, lease roads, two-track roads, overhead, push piles, buried pipelines, and releases. To a lesser extent, the survey area has also been impacted by bioturbation, wind erosion and water erosion.

Attachments (check all appropriate boxes)

☒ USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn (required)

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HPD Log No(s).

Methodology

- ☒ Copy of NMCRIS Map Check (required)
- ☐ LA Site Forms - new sites (with sketch map & topographic map) if applicable
- ☐ LA Site Forms (update) - previously recorded & un-relocated sites (first 2 pages minimum)
- ☐ Historic Cultural Property Inventory Forms, if applicable
- ☐ List and Description of Isolates, if applicable
- ☐ List and Description of Collections, if applicable

Other Attachments

- ☒ Photographs and Log
- ☐ Other attachments Describe:

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 155342

HPD Log No(s).

Cultural Resource Findings

Investigation Results

Archaeological Sites Discovered and Registered: 0

Archaeological Sites Discovered and NOT Registered: 0

Previously Recorded Archaeological Sites Revisited (site update form required): 0

Previously Recorded Archaeological Sites Not Relocated (site update form required): 0

Total Archaeological Sites (visited & recorded): 0

Total Isolates Recorded: 0

☒ Non-Selective Isolate Recording

HCPI Properties Discovered and Registered: 0

HCPI Properties Discovered And NOT Registered: 0

Previously Recorded HCPI Properties Revisited: 0

Previously Recorded HCPI Properties NOT Relocated: 0

Total HCPI Properties (visited & recorded, including acequias): 0

If No Cultural Resources Found, Discuss Why: No cultural resources were recorded during the survey. The lack of cultural material is most likely due to the relatively small area of survey coverage.

Management Summary

Summary: No cultural resources were recorded within the survey area. Completion of treatment and cleanup of the release will result in no effect to cultural resources that are eligible for listing to the National Register of Historic Places. If cultural materials are encountered during cleanup and treatment activities, work should be halted and archaeologists with the New Mexico State Land Office should be notified immediately.

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 155342

HPD Log No(s).

Attachments

Documents

Attachment Type	Description	Name	File Type	Size	Upload Date	Upload By
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CONTINUATION SHEET

NMCRIS Activity No.: 155342 (NMCRIS Activity Nos. assigned by ARMS staff or NMCRIS registration page; see NMCRIS User's Guide)

Page 1 of 3

Table 1. Previously Conducted Archaeological Surveys within 500 m.

NMCRIS	Performing Organization	Lead Agency	Acres	Resources	Date
153693	J. T. Rein Archaeology, LLC.	NM State Land Office	40.06	0	8/09/2023

Photograph Log

Photo Point	Description	Easting	Northing
PP1	Release Area, View South	624452	3633127
PP2	Release Area, View East	624420	3633091
PP3	Release Area, View North	624440	3633083
PP4	Release Area, View West	624458	3633096



Photograph 01. Release Area, View South.

CONTINUATION SHEET

NMCRIS Activity No.: 155342 (NMCRIS Activity Nos. assigned by ARMS staff or NMCRIS registration page; see NMCRIS User's Guide)

Page 2 of 3



Photograph 02. Release Area, View East.



Photograph 03. Release Area, View North.

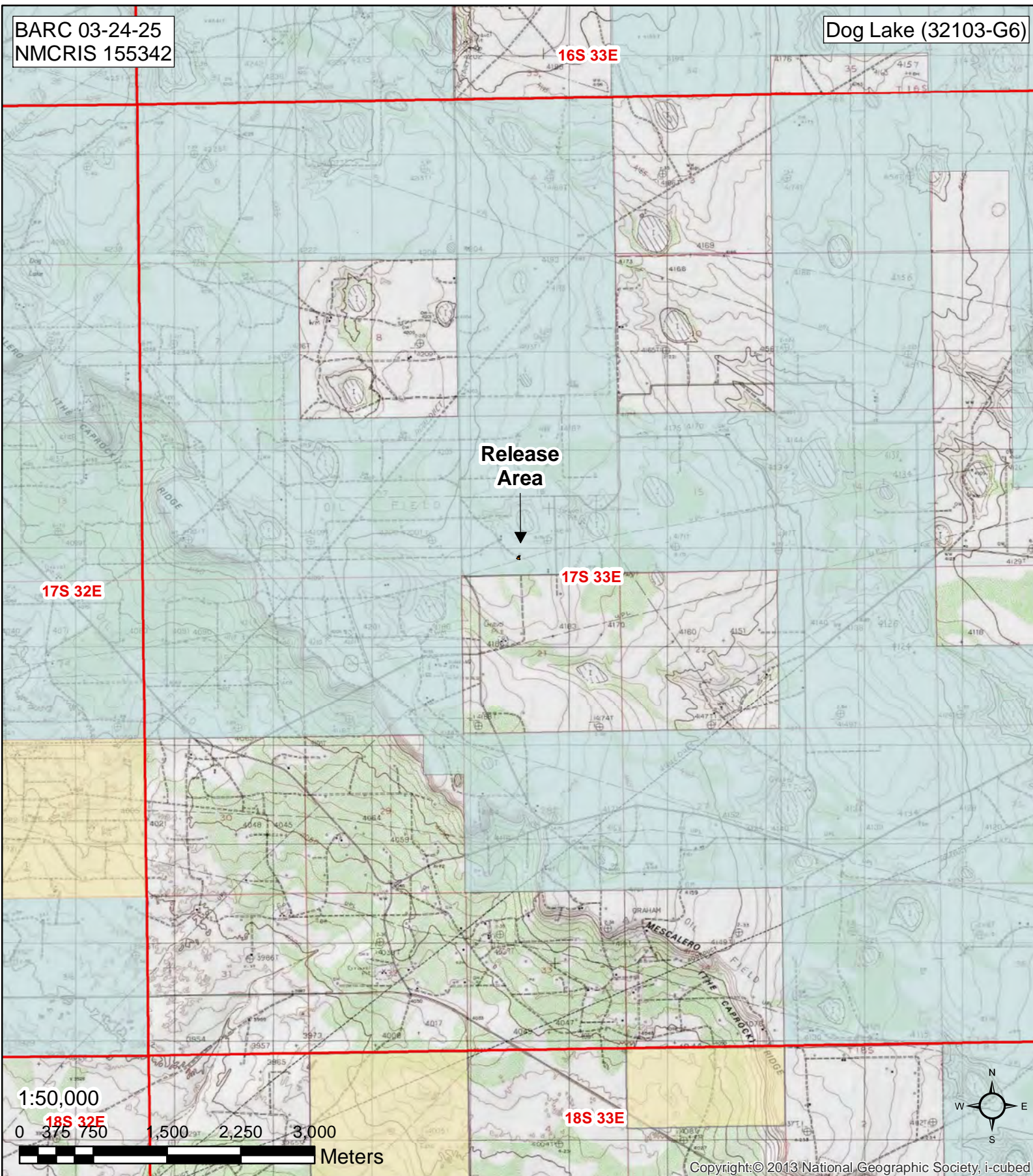
CONTINUATION SHEET

NMCRIS Activity No.: 155342 (NMCRIS Activity Nos. assigned by ARMS staff or NMCRIS registration page; see NMCRIS User's Guide)

Page 3 of 3



Photograph 04. Release Area, View West.

A Class III Archaeological Survey for the Shahara State Unit # 008 Release,
Lea County, New Mexico

A Class III Archaeological Survey for the Shihara State Unit # 008 Release, Lea County, New Mexico

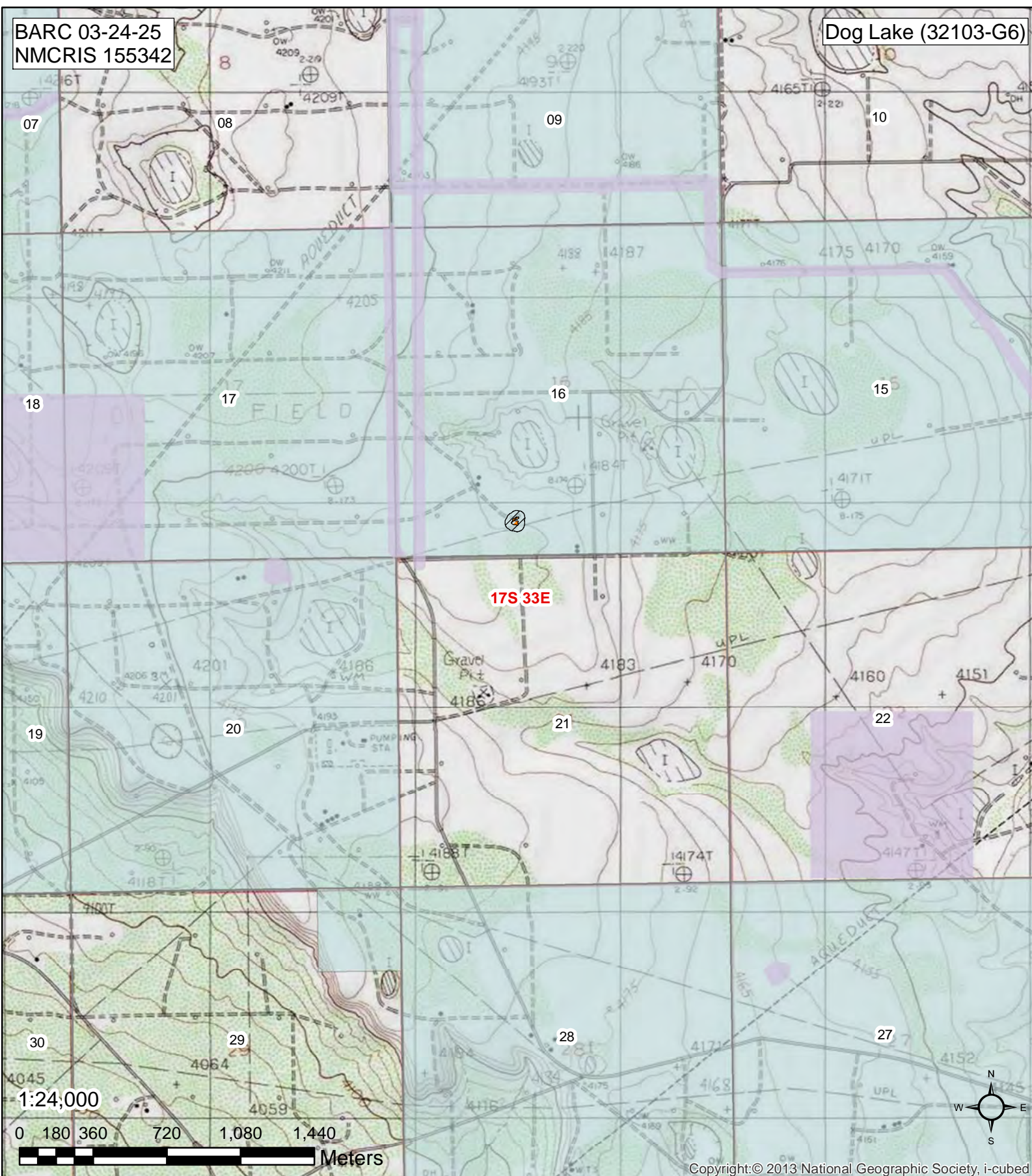


Figure 2. Current and Previous Surveys

Survey Area Release Archaeological Surveys Township State Private

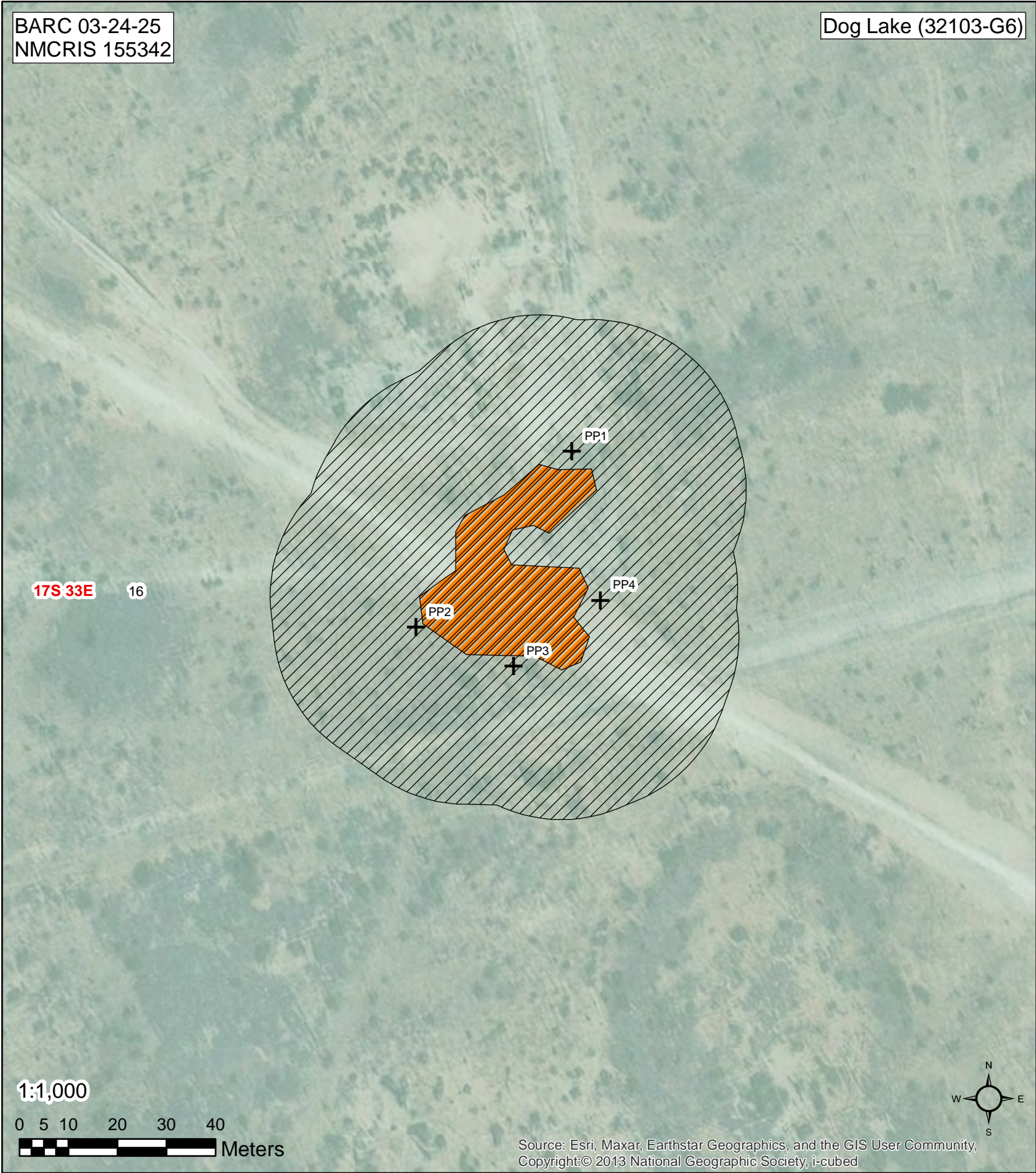


Figure 3. Survey Area

+ Photo Point Survey Area Release Township State

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QUESTIONS

Action 369413

QUESTIONS

Operator: J & J Investments, LLC 132257 Lovington Hwy Loco Hills, NM 88255	OGRID:
	331241
	Action Number:
	369413
Action Type:	
[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2307633795
Incident Name	NAPP2307633795 SHAHARA STATE UNIT # 008 INJ. @ 30-025-01438
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received
Incident Well	[30-025-01438] SHAHARA STATE UNIT #008

Location of Release Source	
Please answer all the questions in this group.	
Site Name	SHAHARA STATE UNIT # 008 INJ.
Date Release Discovered	03/06/2023
Surface Owner	State

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	Not answered.
Produced Water Released (bbls) Details	Cause: Other Flow Line - Injection Produced Water Released: 100 BBL Recovered: 0 BBL Lost: 100 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)	Injection line leak. Going to Shahara State Unit # 008 Injection Well. This line was cut in 2021 when DCP installed their Pipeline. Pipeline had been cut into. DCP had their contractor repair cut line. They did not get a good repair on the line. This all occurred before J & J Investments, LLC acquired the Property.

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QUESTIONS, Page 2

Action 369413

QUESTIONS (continued)

Operator: J & J Investments, LLC 132257 Lovington Hwy Loco Hills, NM 88255	OGRID:	331241
	Action Number:	369413
	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: Josie Ciempa Title: Vice President Email: jnjinvestments@pvt.net Date: 02/26/2024
--	--

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QUESTIONS, Page 3

Action 369413

QUESTIONS (continued)

Operator: J & J Investments, LLC 132257 Lovington Hwy Loco Hills, NM 88255	OGRID:
	331241
	Action Number:
	369413
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 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
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 500 and 1000 (ft.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (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	Between 1 and 5 (mi.)
A wetland	Between 500 and 1000 (ft.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
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)	16000
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	0
GRO+DRO	(EPA SW-846 Method 8015M)	0
BTEX	(EPA SW-846 Method 8021B or 8260B)	0
Benzene	(EPA SW-846 Method 8021B or 8260B)	0

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	09/15/2024
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)	10/15/2024
What is the estimated surface area (in square feet) that will be reclaimed	9769
What is the estimated volume (in cubic yards) that will be reclaimed	1520
What is the estimated surface area (in square feet) that will be remediated	9769
What is the estimated volume (in cubic yards) that will be remediated	1520

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, Page 4

Action 369413

QUESTIONS (continued)

Operator: J & J Investments, LLC 132257 Lovington Hwy Loco Hills, NM 88255	OGRID:	331241
	Action Number:	369413
	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	Not answered.
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	Yes
What is the name of the NMED facility	Lea Land LLC
(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: Andrew Parker Title: Consultant Email: andrew@mcnabbpartners.com Date: 08/01/2024
--	--

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, Page 5

Action 369413

QUESTIONS (continued)

Operator: J & J Investments, LLC 132257 Lovington Hwy Loco Hills, NM 88255	OGRID: 331241
	Action Number: 369413
	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, Page 6

Action 369413

QUESTIONS (continued)

Operator: J & J Investments, LLC 132257 Lovington Hwy Loco Hills, NM 88255	OGRID: 331241
	Action Number: 369413
	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 369413

CONDITIONS

Operator: J & J Investments, LLC 132257 Lovington Hwy Loco Hills, NM 88255	OGRID: 331241
	Action Number: 369413
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Remediation plan is approved with the following conditions; 1. Variance request to increase the sampling frequency from 200 to 300 square feet per one (1) five (5) point composite sample is approved. 2. J & J Investments has 90 days (November 4, 2024) to submit to OCD its appropriate or final remediation closure report.	8/6/2024