McNabb Partners, LLC
Hobbs ● Carlsbad ● Midland
575.397.0050
www.mcnabbpartnersllc.com

September 11, 2024 (revised)

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

RE: Characterization Report and Remediation Workplan
Incident ID: NAPP2320031997, NAB1822240516
NAB1819054040, NMCS0331657138
Location: Mobil 22 Federal
Project ID: 20230713-1030-mobil22

NMOCD:

McNabb Partners LLC submits this revised characterization report and remediation, restoration, & reclamation workplan on behalf of Stephens and Johnson Operating Company (SJOC). The revised plan is in response to NMOCD rejection dated 04/18/2024.

- **This remediation plan submission is denied. Groundwater impact for chlorides has been confirmed in soil borings TW-01 and TW-02 above the NM WQCC standard where samples were taken at DTW 67'. Part 30 of Title 19 now supersedes Part 29 as groundwater has been impacted by the release. Please provide and submit a Stage 1 Abatement Plan as per 19.15.30.13 paragraph (C) of the NMAC within sixty (60) days, June 17, 2024. Please include a draft public notice per requirements in 19.15.30.15 of the NMAC with the submission.**

A meeting between SJOC and NMOCD was held on August 7th, 2024 to discuss NMOCD's position for the remediation to be governed by 19.15.30 NMAC. NMOCD agreed to reevaluate the proposed remediation plan under 19.15.29 NMAC and requested a revised remediation plan.

In attendance during the meeting were:

Chris Moander	NMOCD
Rosa Romero	NMOCD
Mike Bratcher	NMOCD
Andrew Cloutier	Hinkle Law Firm (SJOC)
Mike Kincaid	SJOC
Andrew Parker	McNabb Partners
Christopher Cortez	Atkins Engineering
Austin Weyant	Atkins Engineering

This revised remediation plan includes the following discussed during the meeting:

- Remediate the soil portion of the release under 19.15.29 NMAC.
- Coordination between McNabb Partners and Atkins Engineering during the planning stages of the monitoring well network to evaluate potential impairment to groundwater. *(Section 2.1)*
- Groundwater impacts above WQCC Standards (20.6.2 NMAC) will require a Stage I Abatement Plan under 19.15.30 NMAC. *(Section 2.1)*
- Dig-haul-dispose impacted soils to the extent practicable. *(Section 2.2)*

The following Incidents are addressed in this report. A copy of this report will be submitted under separate C-141 submittals for each Incident # for tracking purposes. The Area of Interest (AOI) will be commonly referred to as “Mobil 22 Fed”.

Incident #	Date	RP #	AKA
NAPP2320031997	(Legacy Release) Submitted 07/19/2023		Tank Battery Area
NAB1822240516	07/26/2018	2RP-4904	Flowline Header
NAB1819054040	06/24/2018	2RP-4839	Water Injection
NMCS0331657138	07/16/2004		Tank Pump

Upon approved closure of the above Incidents, a copy will be submitted requesting closure of the deferred portion of the Incident referenced below. The incident is located offsite and to the northwest of the active production pad.

Incident #	Date	RP #	AKA
NAB1822243840	07/27/2018	2RP-4905	Oil Well Flowline

1. Characterization

The following sections address items as described in 19.15.29.11.A NMAC, paragraphs 1- 4. Please refer to the C-141 characterization checklist for additional setback criteria and verification (Plates 2-10).

Plate 2	Site Map	See Section 1.1.
Plate 3	Depth to Water	See Section 1.2.
Plate 4	Wellhead Protection	See Section 1.3.
Plate 5	Nearby Water Courses	See Section 1.4.
Plate 6	Nearby Structures	
Plate 7	Nearby Wetlands	Nearest designated wetland is along Red Bluff Reservoir 1.3-miles SW of AOI.
Plate 8	Mines and Minerals	Nearest mine is identified as a surface gravel pit 1.7-miles NE of AOI.
Plate 9	Karst Potential	Medium Karst. The BLM-Carlsbad Field Office considers medium karst areas the same as high karst areas[1].
Plate 10	100-yr Floodplain	Nearest 1% chance (100-yr floodplain) is located 0.7-miles NW of AOI.

1.1. Site Map

Horizontal extent of the AOI was determined by borehole sampling and an electromagnetic induction (EM) survey. The borehole program and EM Survey are discussed in Section 1.5.

Plate 1 shows the locations of the above Incidents prior to the Tank Battery decommissioning. Plate 2 shows the AOI relative to:

- Borehole and Hand Auger sample points
- EM Survey Extent
- Suspect Legacy Reserve Pit (per APD approved 08/09/1984)
- Production equipment, and
- nearby utilities.

The AOI is centered on the Tank Battery Area incident point (NAPP2320031997) that is located at 32.0204520, -103.9643807 (Lat, Long; NAD83). The AOI is estimated at 60,211 sq. ft (6,690 sq. yrds). The AOI extents includes an active production pad, lease roads, and off-site areas.

[1] United States Department of Interior - BLM Carlsbad Field Office. Remediation in Medium and High Karst Potential Areas. May 5, 2023.

1.2. Depth to Ground Water

Two borings within the AOI were drilled by Atkins Engineering in July 2022. The borings are identified on Plate 3 according to their OSE File #. Depth to water was gauged at 67-feet below ground surface (bgs). The driller logs are located in Appendix A.

Boring ID	OSE File #	Depth to Water (ft)
TW-1	C-04653 (POD6)	67.1
TW-2	C-04653 (POD5)	67.7

1.3. Wellhead Protection Area

Plate 4 shows that the AOI is:

- Not within incorporated municipal boundaries or within a defined municipal fresh water well field.
- Not within ½-mile private and domestic water sources (wells and springs).
- 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 fresh water well or spring. Water well USGS-9401 is mislocated in the USGS database and is located 1-mile west of the AOI. The PLSS attribute data locates this well in 26S.29E.22.333. The metadata for the USGS-9401 well with Site Number “320112103574501” is located in Appendix A.

1.4. Distance to Nearest Significant Water Course

Plate 5 shows that the AOI is:

- Within ½ mile of a significant water course. The intermittent watercourse is located 0.17-miles (923-feet) northeast of the AOI.
- 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).

1.5. Soil/Waste Characteristics

The USDA Natural Resources Conservation Service (NRCS) soil survey[1] describes the upper 5-feet of lithology as

- Upton Soils (45% of area)
  - Slope: 1 to 15 percent
  - Typical profile
    - 0 to 0.75 feet: gravelly loam
    - 0.75 to 1.08 feet: gravelly loam
    - 1.08 to 1.75 feet: cemented
    - 1.75 to 5 feet: very gravelly loam

- Simona Soils (35% of area)
  - Slope: 1 to 5 percent
  - Typical profile
    - 0 to 0.5 feet: gravelly fine sandy loam
    - 0.5 to 1.67 feet: gravelly fine sandy loam
    - 1.67 to 2 feet: indurated

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

Driller logs from Atkins Engineering soil boring program in July 2022 describe the lithology as (reproduced from Driller Logs in Appendix A):

TW-1 (OSE # C-4653 POD6)

DEPTH (feet bgl) FROM	TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)
0	14	14	Clay, Medium Plastic, with sand and caliche, Brown	Y ✓ N
14	30	16	Sand, medium/fine grained, poorly graded, increasing clay, Tan	Y ✓ N
30	44	14	Clay, Medium Plastic, with sand and calchie, gypsum Reddish Brown	Y ✓ N
44	54	10	Sand, medium/fine grained, poorly graded, with clay, Tan	Y ✓ N
54	60	6	Clay, Stiff, Medium Plastic, with brown sand Reddish Brown	Y ✓ N
60	64	4	Clay, Stiff, Medium Plastic, with cemented sand, Reddish Brown	Y ✓ N
64	74	10	Clay, Low Plastic, with sand and caliche, gypsum Reddish Brown, wet	✓ Y N

TW-2 (OSE # C-4653-POD 5)

DEPTH (feet bgl) FROM	TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)
0	25	25	Sand, medium/fine grained, poorly graded, with clay, Dark Brown	Y ✓ N
25	45	20	Sand, medium/fine grained, poorly graded, with gravel (0.25"), Tan Brown	Y ✓ N
45	64	19	Sand, medium/fine grained, poorly graded, Tan Brown	Y ✓ N
64	70	6	Clay, Medium Plastic, with sand and caliche, gypsum Reddish Brown, moist	✓ Y N
70	72	62	Sand, medium/fine grained, poorly graded, with gravel (0.25-.75"), Tan Brown	✓ Y N

Closure Criteria as listed in Table 1 of 19.15.29 NMAC, where depth to water is 67 feet, is defined as

DTW 51-100 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"	10,000	1,000	2,500	10	50

Initial soil sampling suggests that chloride is the constituent of concern. Hydrocarbons were not detected above laboratory detection levels based on samples obtained by Atkins Engineering in July 2022.

Soil sampling was limited to the southern half of the AOI in the proximity of the former tank battery area. Table A shows chloride concentrations that exceeded Closure Criteria for areas in-use for oil and gas operations from the TetraTech (2018) and Atkins Engineering (2022) borehole programs. Appendix E contains the laboratory certificates of analyses.

The soil sample obtained from the saturated zone in TW-01, noted as "Water" for the sample interval, exhibits a chloride concentration of 46,300 mg/L. The soil sample collected within the saturated zone at TW-02 exhibits a chloride concentration of 2,970 mg/L. TW-02 is 96-feet northwest and cross-gradient from TW-01. Regional groundwater flow is to the southwest[2].

To assess chloride impairment to soils in the upper 4.9-feet in the vicinity of the production pad, Atkins Enginnering performed an Electromagentic Induction (EM) Survey on August 29, 2022. We encourgage the reader to review the *"EM Survey Orientation"* presented in Appendix D if not familiar with the technology.
Plate 11 is a reproduction of the EM Survey conducted by Atkins Engineering. Superimposed on the survey is:

- The AOI was determined by the ECa where readings are near background levels, where ECa <60 mS/m
- ECa measurements and releationship to NRCS salinity classes (ECe).

Plate 12 shows calculated ECe. ECa data from the Atkins Engineering EM Survey was temperature compensated then converted into ECe values using the equation ECe=5(ECa/100) as discussed in the *EM Survey Orientation*. Note that the AOI extent is consistent with the Atkins Enginnering data presented on Plate 11. The AOI remains at the extent where near background salinity is predicted (ECe < 4 dS/m). Plate 12 includes:

- AOI
- Former tank battery extent
- Approximate location of the fomer reserve pit as noted on the approved C-102 dated August 9, 1984.
- Boreholes drilled by TetraTech (2018) and Atkins Engineering (2022).

[2] Open File Report 95. June 1978. Collection of Hydrologic Data – Eastside Roswell Rane EIS Area New Mexico. Geohydrology Associates, Inc. for the Bureau of Land Management. Figure 12.

Plate 13 shows the estimated chloride concentrations for the soil column from 1.3 to 4.9 feet bgs. Equation 2 as presented in the *EM Survey Orientation* was used to calculated the estimated chloride concentrations. A lower threshold of 600 mg/kg Chloride was used to represent NMOCD's most stringent Closure Criteria for remediation of releases in the upper 4-feet, per Table 1 of 19.15.29 NMAC.

As shown in Figure 1, estimated chloride concentration isocontours shown on Plate 13 predicts a chloride concentration of 1,050 mg/kg at borehole TW-2 in the upper 4-feet. Laboratory chloride concentrations collected from 0 to 4-feet during drilling activites exhibited 1,020 mg/kg (Atkins, 07/26/2022). No soil samples were collected at TW-01 from 0 to 4 feet. Estimated chloride concentrations in the upper 4-feet near locations of borings installed by TetraTech in 2018 (eastern 1/3 of former tank battery area; Plate 13) are 2,000 to 3,000 mg/kg lower than laboratory data. This is likely due to infiltration during precipitation events causing the chloride to migrate down through the soil horizon from years 2018 through 2022.

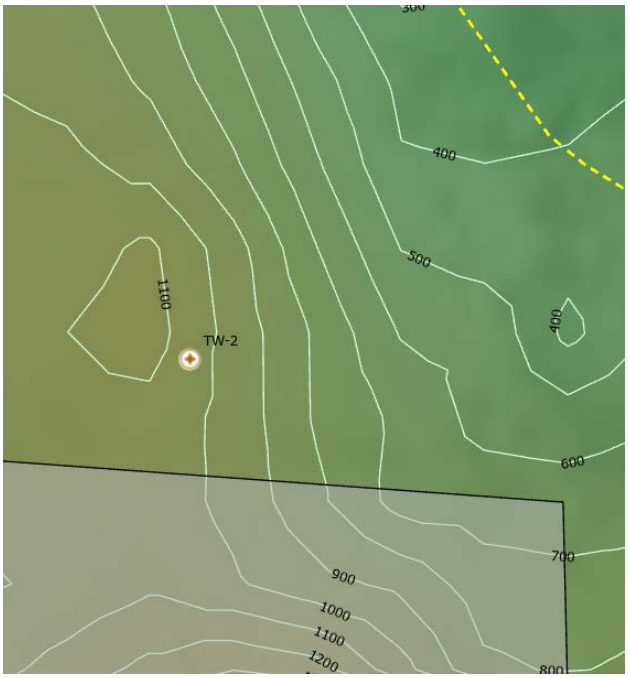

Figure 1: Estimated chloride concentration isocontours near TW-2. See Plate 13 for complete AOI.

2. Remediation & Restoration Workplan

2.1. Groundwater Remediation

Per 19.15.29.12.B.(1) NMAC, a groundwater assessment plan is presented in Appendix C. McNabb Partners and Atkin Engineering will work collaboratively during soil remediation activities to plan for proposed monitoring well locations.

If the groundwater assessment concludes impacts above WQCC Standards (20.6.2 NMAC) a Stage I Abatement Plan per 19.15.30 NMAC will be submitted to NMOCD.

2.2. Soil Remediation

As presented in Table A, chloride impacted soil above Closure Criteria (10,000 mg/kg at depths greater than 4-feet bgs) was detected at depths > 19-feet below ground surface.

Remediation (dig-haul-dispose) of chloride impacted soil is technically feasible using soldier pile and lagging or soil benching technology, or a combination of. However, employing such shoring technology is a risk to workers health and safety. Alternative engineering controls can be utilized to prevent further chloride impact to subsurface soils and groundwater with materially less risk to workers.

Dig-haul-dispose along with soil encapsulation is the recommended remediation engineering control. Installing a geosynthetic clay liner (GCL) cap within the AOI will retard further downward migration of remaining chlorides from contacting groundwater.

The proposed soil remediation scope of work is to

1. Excavate the walls and bases in the upper 4-feet to meet Closure Criteria per 19.15.29 NMAC, where depth-to-water is between 51 and 100 ft:
    - 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 < 10,000 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. Continue to excavate bases until Closure Criteria between 51 and 100 feet is met, or to a maximum depth that is technically feasible, whichever comes first. A technically feasible depth (TFD) is established at approximately 22-feet below ground surface, where
    a) The maximum dig depth of a commonly available standard excavator is approximately 18-feet.
    b) The excavator can dig from a bench at 4-feet below ground surface without significant sloping or shoring per OHSA's Appendix B to Subpart P of Part 1926[3]
3. In areas where impacted material exceeds the TFD
    a. Obtain representative base soil samples, for the analysis of BTEX, TPH, and Chloride, to support a liner variance request to NMOCD.
    b. Upon liner variance approval, backfill the excavation to a depth of 6-feet below ground surface with clean non-waste containing material. Slope the base at 6-feet to allow saturated soils to drain away from the liner (See Step 3.b, below).
    c. Place a geosythentic clay liner (GCL) at 6-feet below ground surface as recommended in Option B of the Soil Remediation Alternatives (API Publication 4758 and reproduced in Figure 2, below).

[3] https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926SubpartPAppB

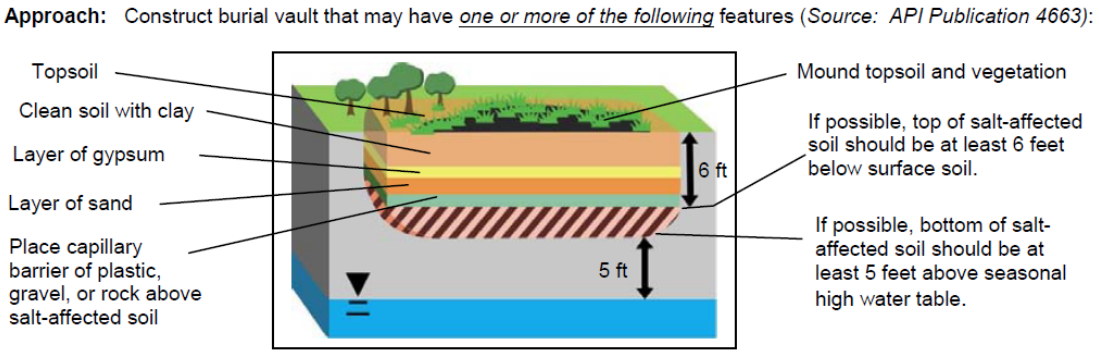

Figure 2: Conceptual design and placement of a geosynthetic clay liner at 6-ft below ground surface. Source: API Publication 4758.

d. On top of the GCL, place a soil layer with a higher hydraulic conductivity than the overlying soil to allow for water to drain away from the liner.
e. Cap with clean non-waste containing soils to allow for revegetation and increase evapotranspiration.
f. Slope or mound surface soils to direct water away from the lined area.

Note: All backfill material will be sampled for BTEX, TPH, and Chloride from a 5-point composite sample. One composite sample for material below the GCL, a second composite sample for material above the GCL.

A GCL is recommended in lieu of conventional geomembrane liners (HDPE, LLDPE) as GCLs provide:

- High-shear resistance.
- Greater environmental degradation over time.
- Self-seaming and self-healing.
- Low hydraulic conductivity ($5x10^{-9}$ cm/sec).

The self-healing property of the GCLs is optimal for improved annular seal during monitoring well installation as proposed in the groundwater assessment plan. To further provide adequate monitoring well annular seals at the depth of the GCL cap, a 3x3x3 foot bentonite sump will be installed under the GCL in areas where monitoring wells may come into contact with the GCL. The bentonite sump will be surveyed-in for proper monitoring well placement after soil remediation is completed.

SJOC respectfully asks NMOCD for the approval of a 500 sq ft sampling grid. Appendix B contains justification for the request. Plates 14a & 14b show the proposed sample grid with associated square footage. Plates 15a & 15b show the proposed confirmation sample points. Table B contains the proposed sample point coordinates.

Approximately 35,735 cu. yrds. of material will be excavated and hauled off-site to an approved disposal facility. The volume of material is subject to change with excavation depth. Remediation will begin within 90-days of workplan approval. A closure report will be submitted to NMOCD within 45-days of laboratory results.

Plate 16 shows the restoration and reclamation areas after soil remediation is complete. The active production site and west lease access road will be remediated and restored per 19.15.29.13.A-C with a caliche cap for continued oil and gas operations. The areas no longer in-use for oil and gas operations will be remediated, restored, and reclaimed per 19.15.29.13.A-D. When the production site is no longer in-use for oil and gas operations, the production site shall be reclaimed per 19.15.29.13.D and within the scope of an approved remediation plan that is the subject of this report.

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

Sincerely,
McNabb Partners LLC

Andrew Parker
Environmental Manager

Copy: Mike Kincaid; Stephen & Johnson Operating Company
Bureau of Land Management – Carlsbad Field Office.
Ross Ranch

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	nAPP2320031997
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Stephens & Johnson Operating Co.	OGRID: 19958
Contact Name: Mike Kincaid	Contact Telephone: 940-716-5333
Contact email: mkincaid@sjoc.net	Incident# *(assigned by OCD)* nAPP2320031997
Contact mailing address: PO Box 2249 Wichita Falls, TX 76307-2249	

Location of Release Source

Latitude 32.0204945 Longitude -103.9643031
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Mobil "22" Federal Tank Battery	Site Type Tank Battery
Date Release Discovered Unknown	API# *(if applicable)* 30-015-24955

Unit Letter	Section	Township	Range	County
P	22	26S	29E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name: Ross Ranch*)

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) Unknown	Volume Recovered (bbls) 0
☒ Produced Water	Volume Released (bbls) Unknown	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mef)	Volume Recovered (Mef)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
Legacy Releases of unknown occurrences. See attached data collected to date. Recent correspondence is attached.

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State of New Mexico
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

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

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

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

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

Printed Name: William M. Kincaid Title: Petroleum Engineer

Signature: William M. Kincaid Date: 7/19/2023

email: mkincaid@sjoc.net Telephone: 940-716-5333

OCD Only

Received by: Shelly Wells Date: 7/19/2023

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

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

CONDITIONS

Operator: STEPHENS & JOHNSON OP CO P.O. Box 2249 Wichita Falls, TX 76307	OGRID: 19958
	Action Number: 242039
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	7/19/2023

Incident ID	NAPP2320031997
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Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release? **Plate 3**	67.1 (ft bgs)
Did this release impact groundwater or surface water?	☒ Yes ☐ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse? **Plate 5**	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)? **Plate 5**	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church? **Plate 6**	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes? **Plate 4**	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring? **Plate 4**	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field? **Plate 4**	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland? **Plate 7**	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine? **Plate 8**	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology? **Plate 9**	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain? **Plate 10**	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

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State of New Mexico
Oil Conservation Division

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

Printed Name: William M. Kincaid Title: Petroleum Engineer

Signature: William M. Kincaid Date: 11/30/2023

email: mkincaid@sjoc.net Telephone: 940-716-5333

OCD Only

Received by: _____ Date: _____

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Oil Conservation Division

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Remediation Plan

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

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

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

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: William M. Kincaid Title: Petroleum Engineer

Signature: William M. Kincaid Date: 11/30/2023

email: mkincaid@sjoc.net Telephone: 940-716-5333

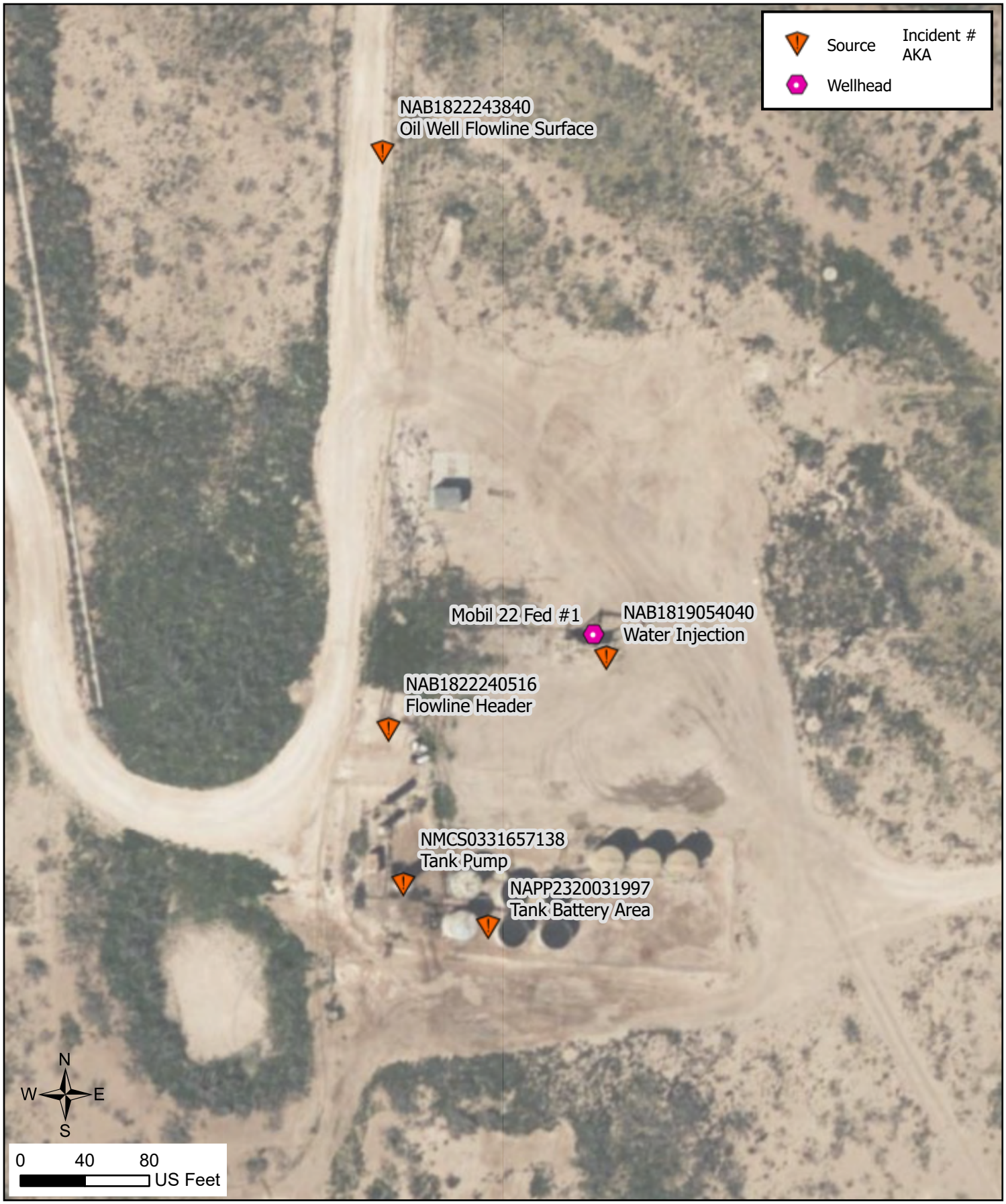
OCD Only

Received by: _____ Date: _____

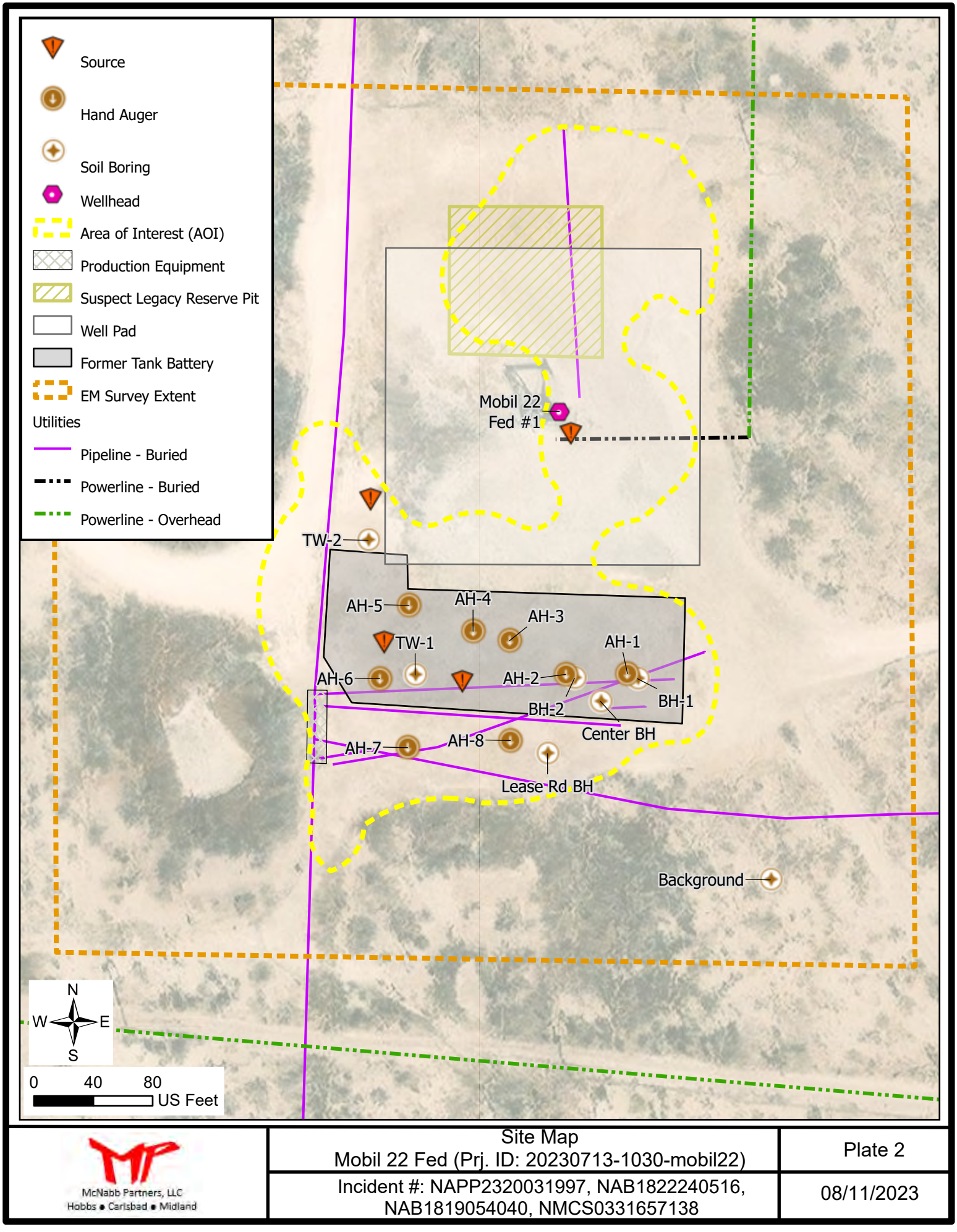
☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

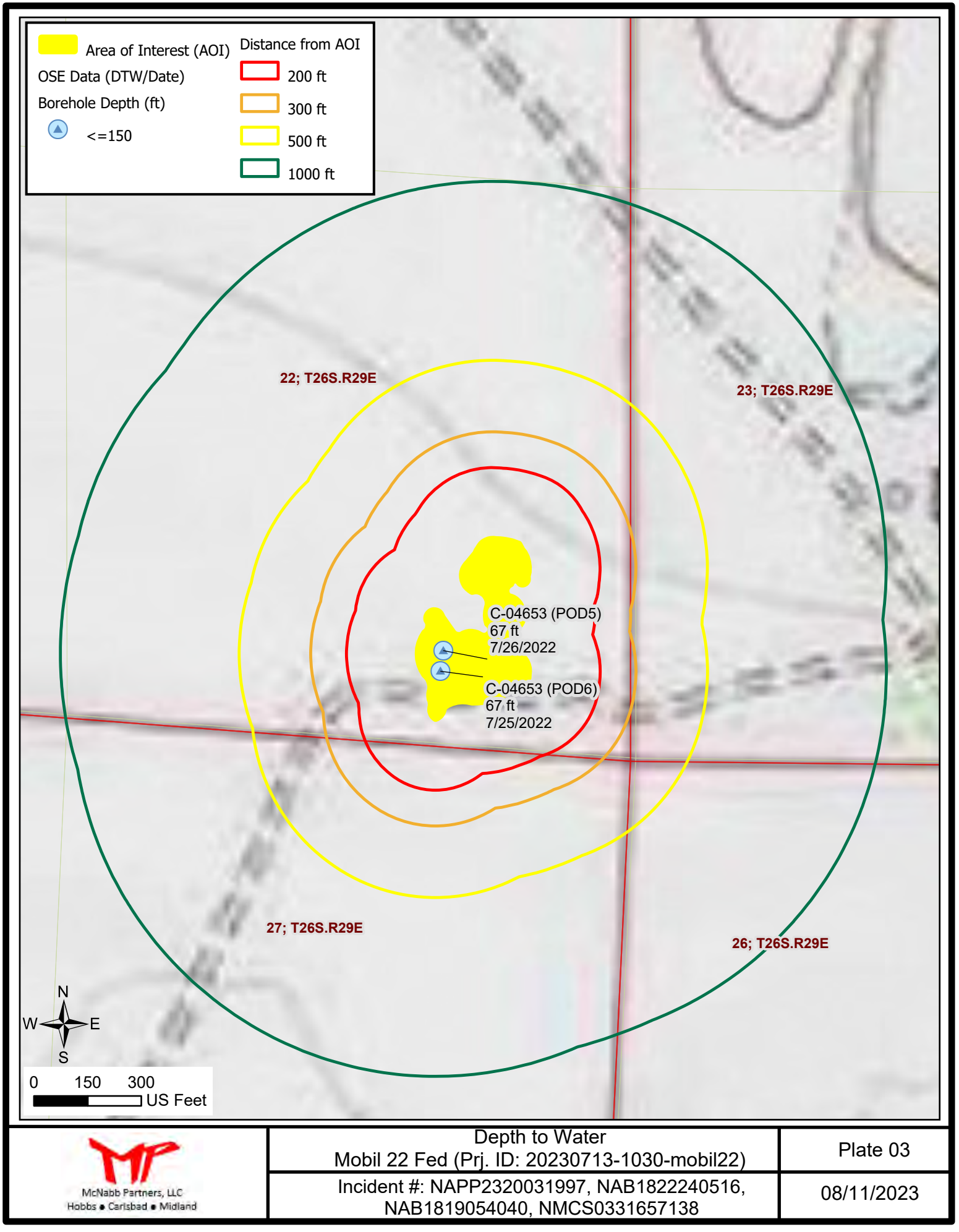
Plates



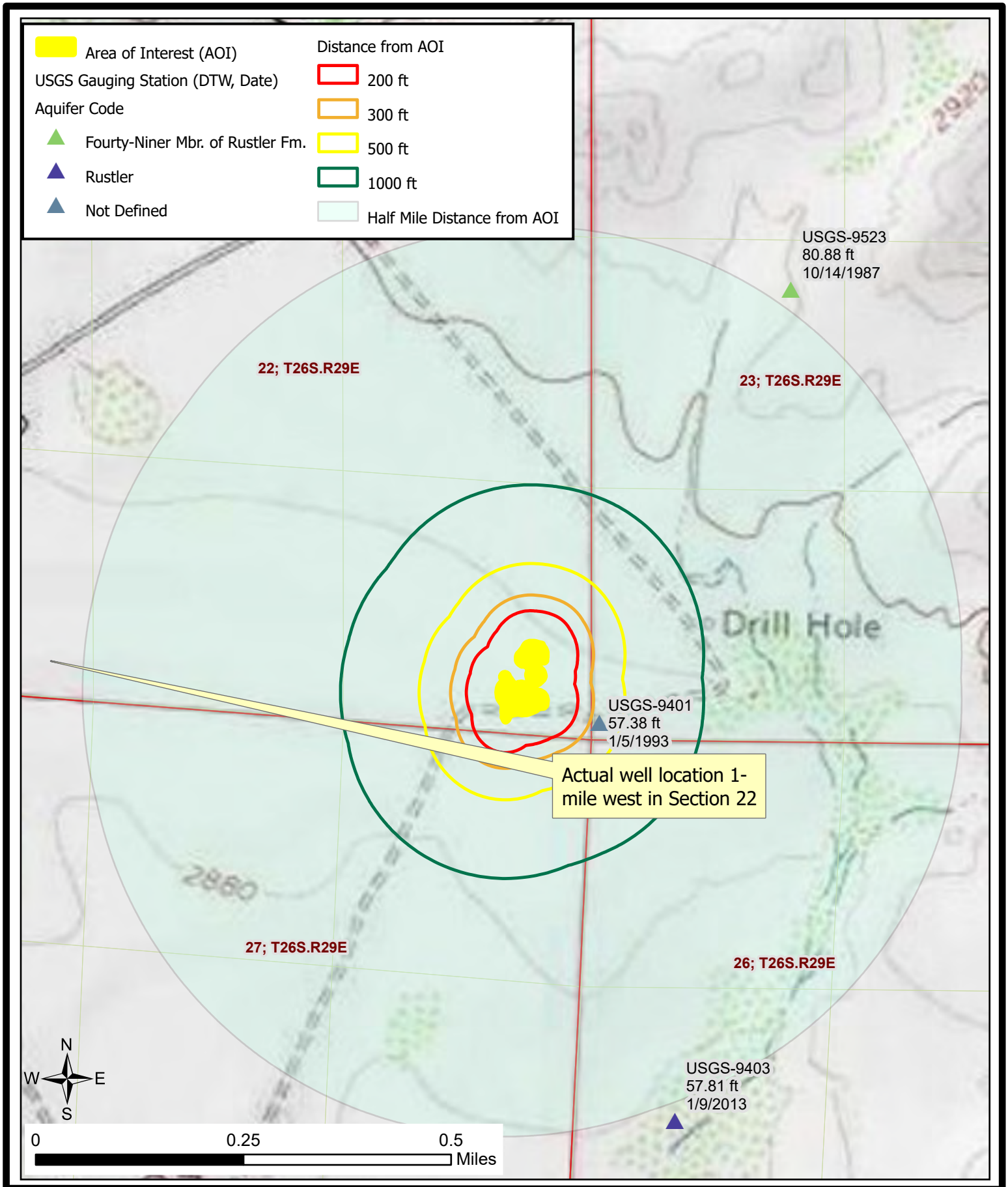
McNabb Partners, LLC Hobbs • Carlsbad • Midland	Incident Locations Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 1
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	08/11/2023



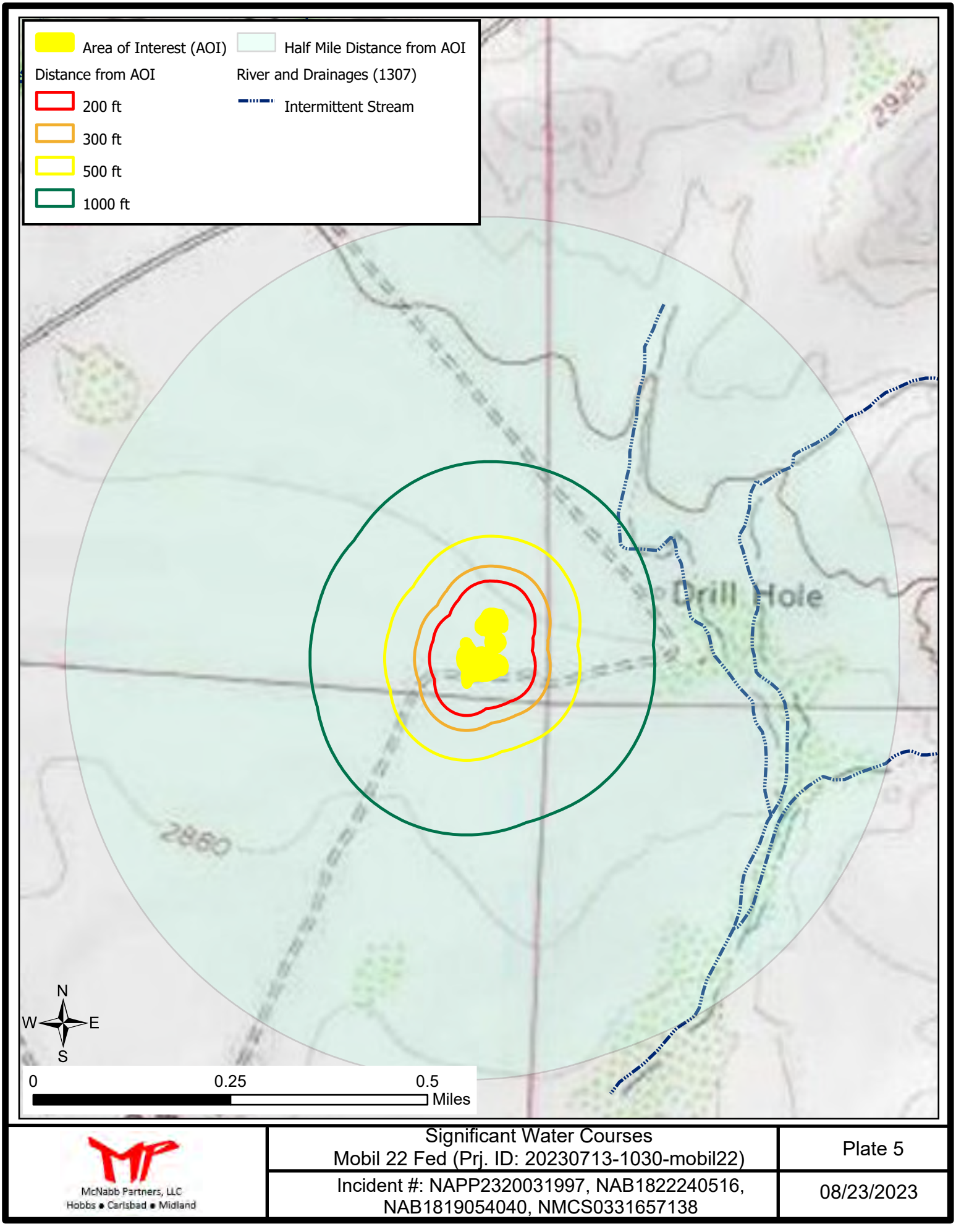
McNabb Partners, LLC Hobbs • Carlsbad • Midland	Site Map Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 2
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	08/11/2023



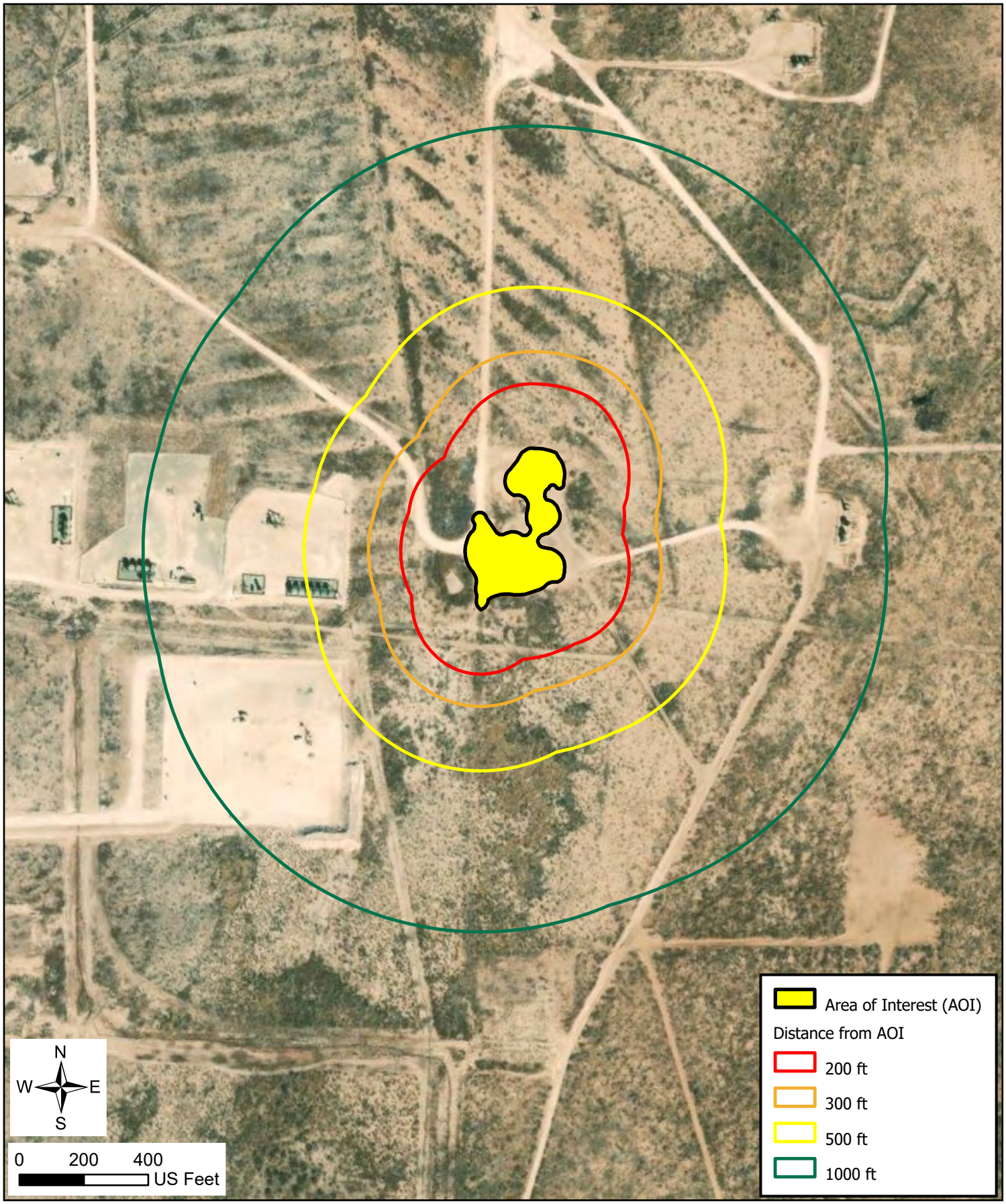
McNabb Partners, LLC Hobbs • Carlsbad • Midland	Depth to Water Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 03
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	08/11/2023



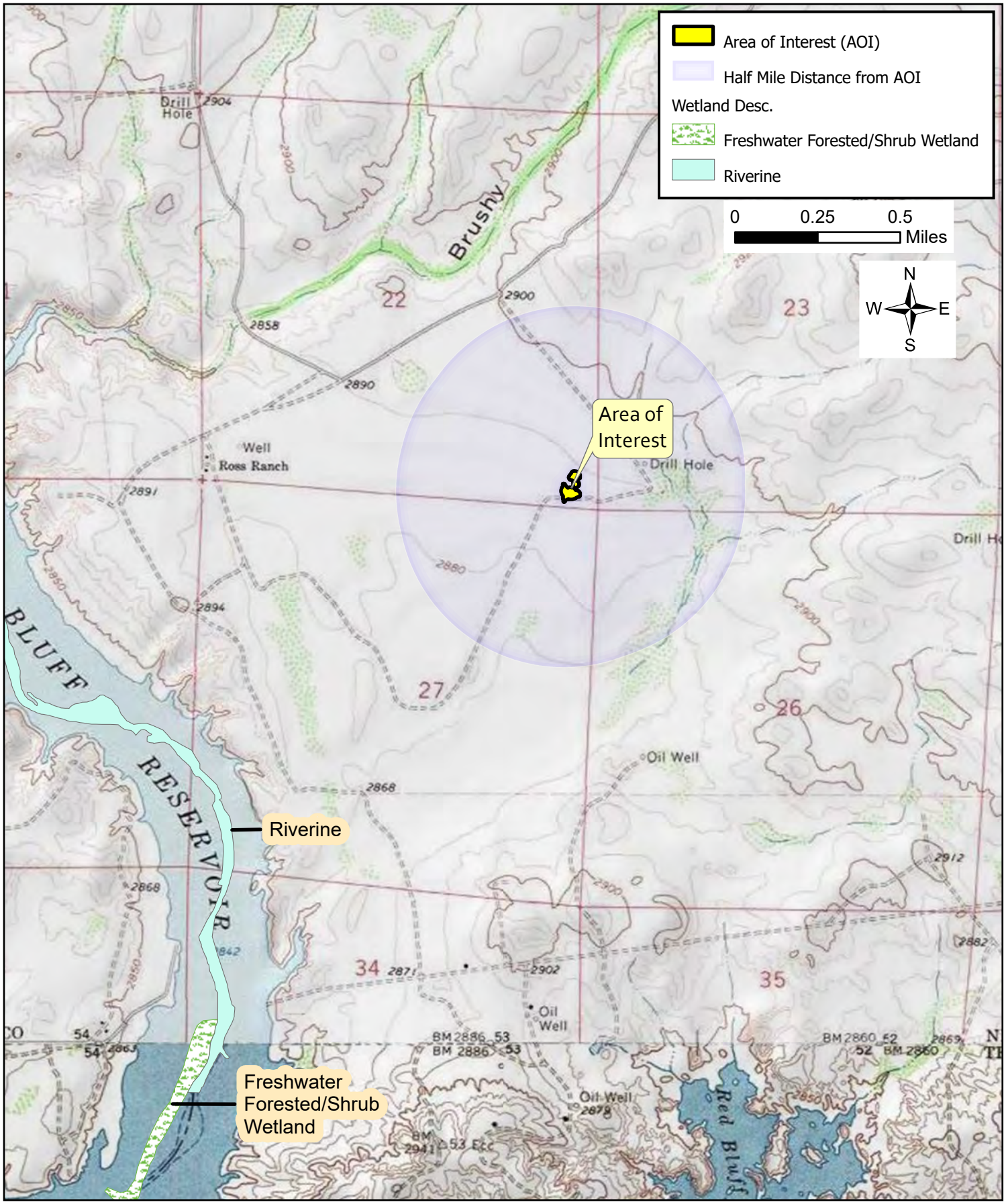
McNabb Partners, LLC Hobbs • Carlsbad • Midland	Wellhead Protection Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 4
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	08/23/2023



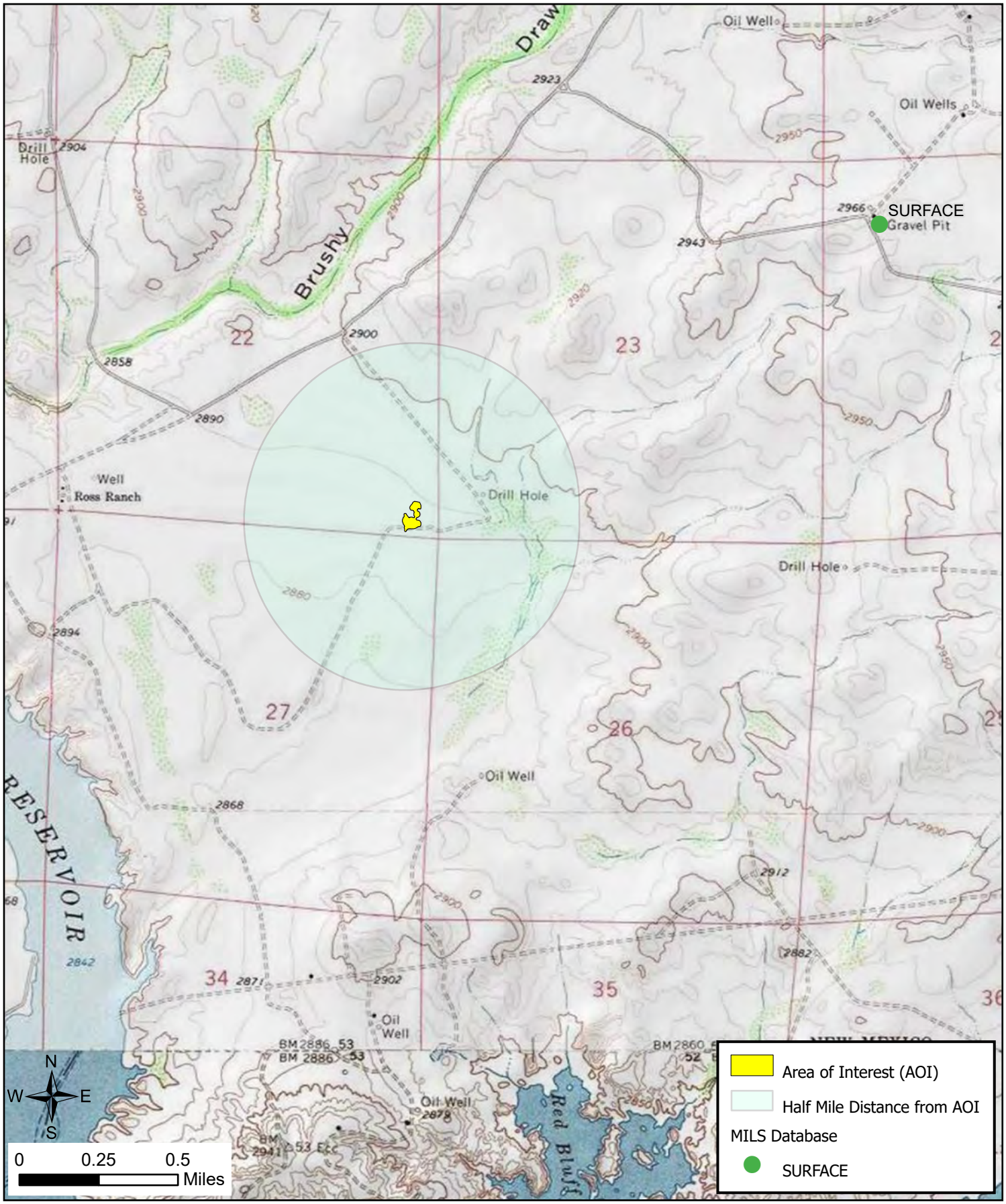
McNabb Partners, LLC Hobbs • Carlsbad • Midland	Significant Water Courses Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 5
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	08/23/2023



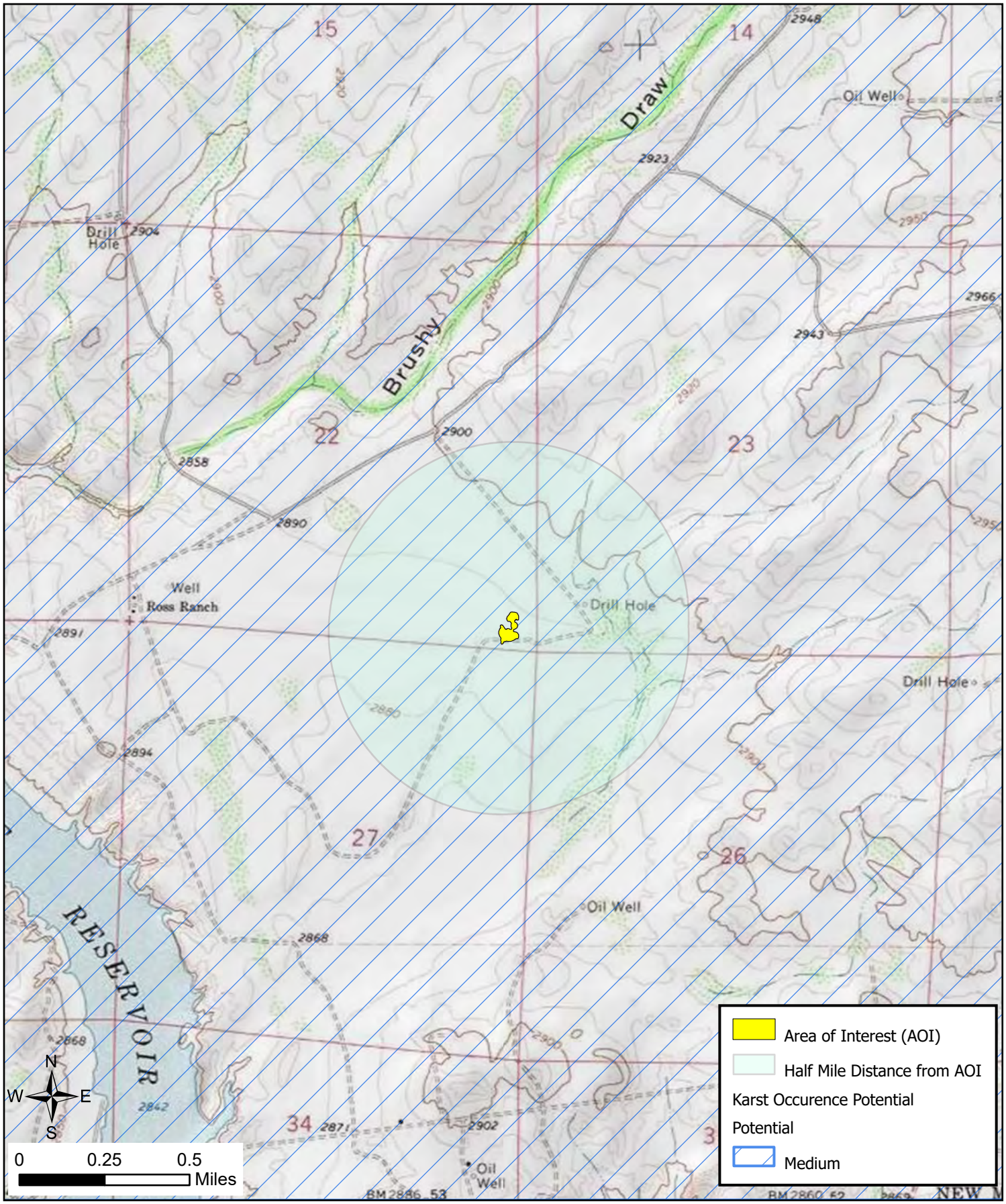
McNabb Partners, LLC Hobbs • Carlsbad • Midland	Nearby Structures Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 6
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	08/23/2023



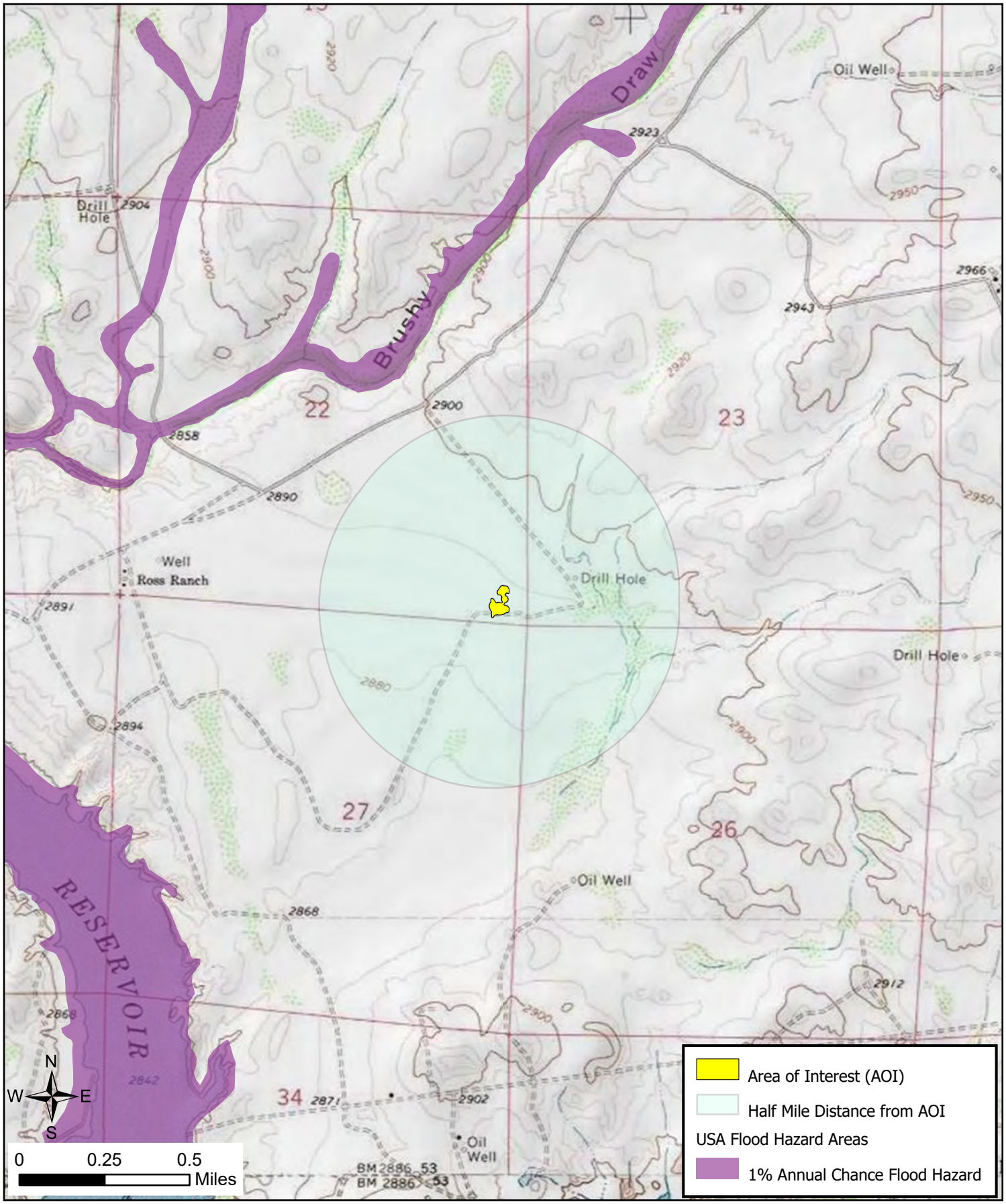
McNabb Partners, LLC Hobbs • Carlsbad • Midland	Nearby Wetlands Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 07
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	08/23/2023



McNabb Partners, LLC Hobbs • Carlsbad • Midland	Mines and Minerals Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 8
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	08/30/2023



McNabb Partners, LLC Hobbs • Carlsbad • Midland	Karst Potential Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 9
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	08/30/2023



McNabb Partners, LLC Hobbs • Carlsbad • Midland	Flood Potential Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 10
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	08/30/2023

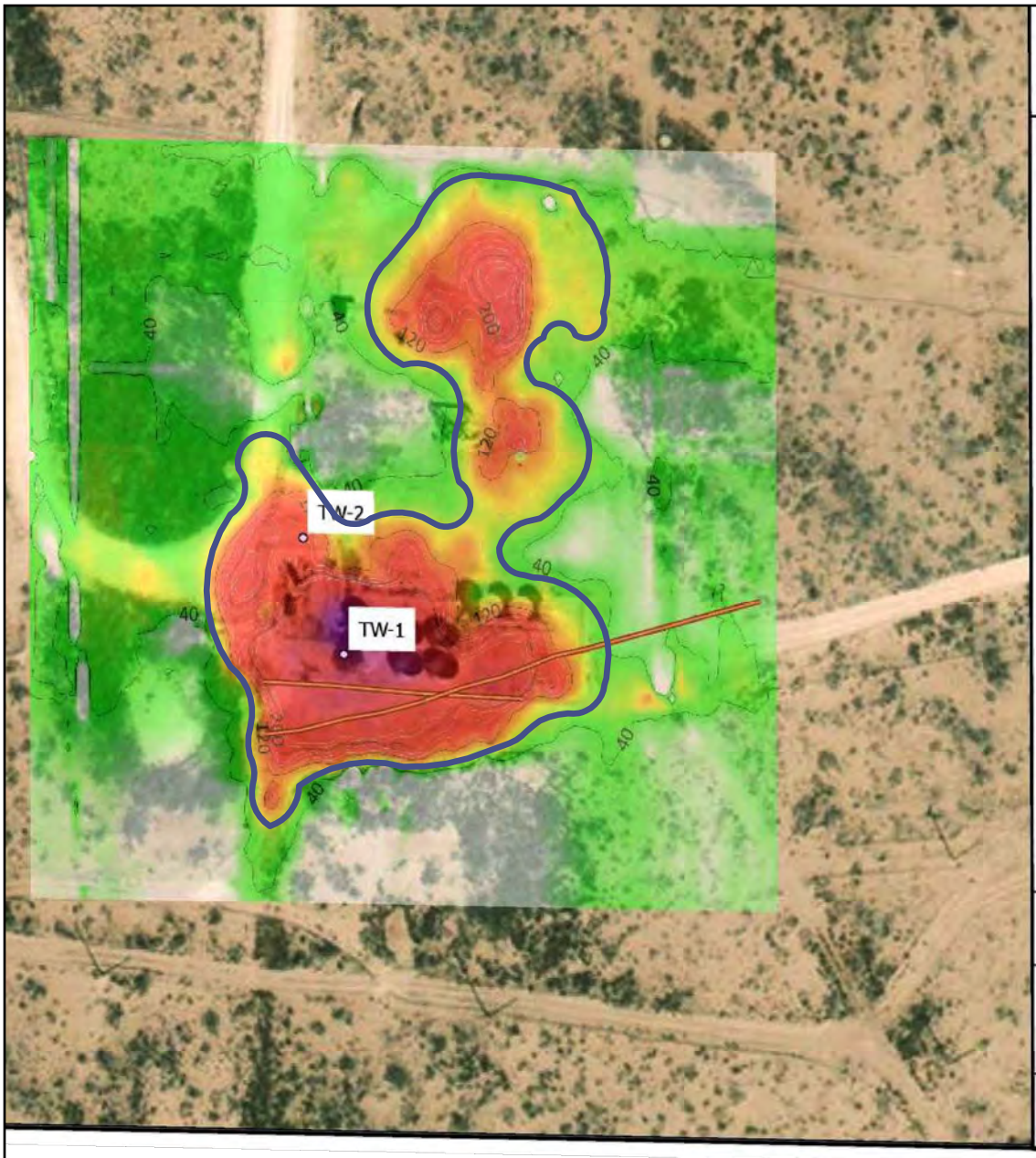


FIGURE 1
S& J Mobil 22 Fed #1
Sample Location

LEGEND

SampleLocations
Pipeline

280
260
240
220
200
180
160
140
120
100
80
60
40
20
0

N

0 55 110 Feet

Scale: 1:1,300

JOB No. sjomobil.drl.22 DRAWN LCM

DATE DRAWN: 8/29/2022

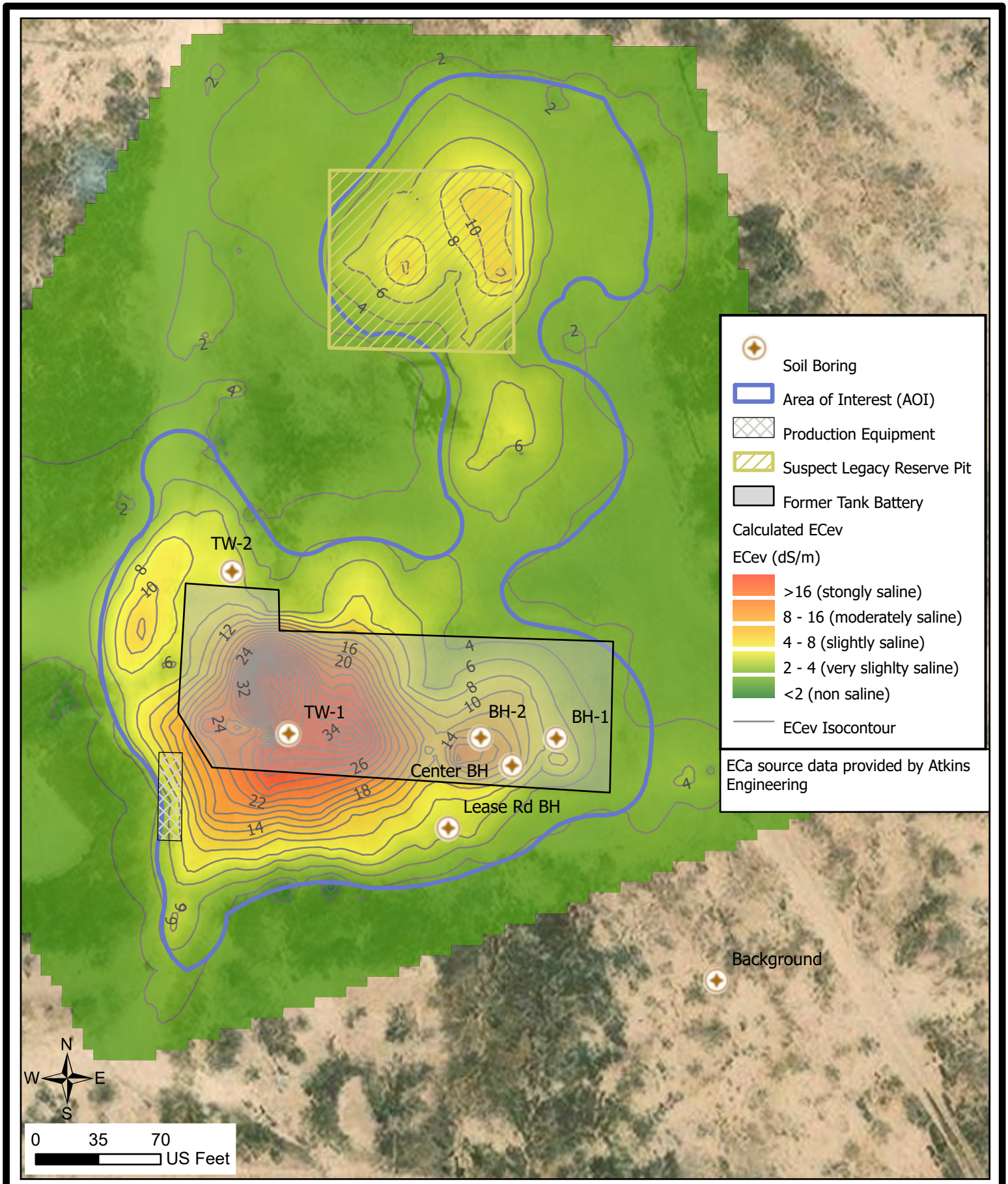
Atkins ENGINEERING ASSOCIATES

Area of Interest (AOI)

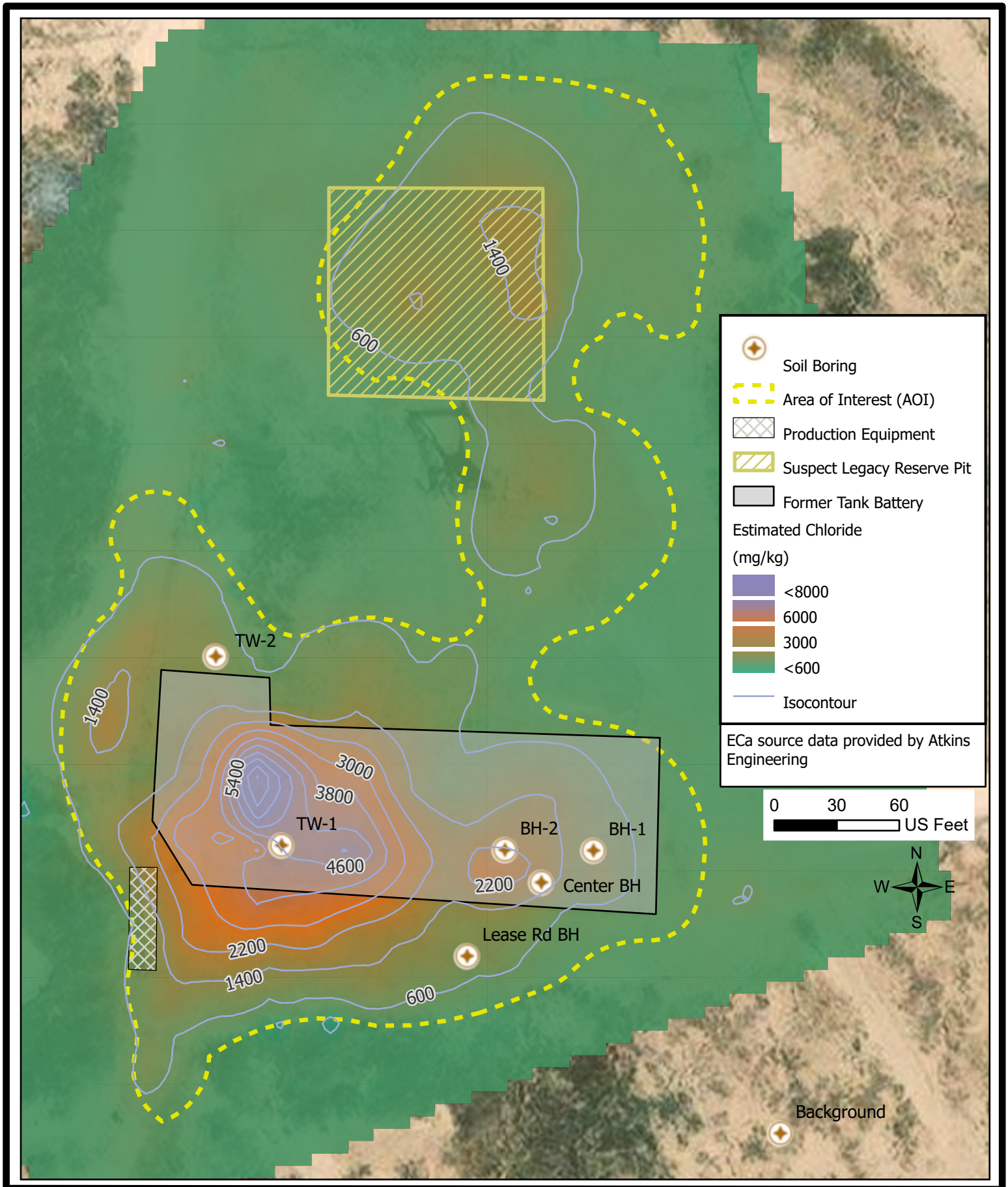
ECa measured at the 1-meter coil separation in the vertical dipole mode.

NRCS Field Guide	ECe=5(ECa/100) (McNeill, 1985)	EM38 Measurement
Salinity Class	ECe (dS/m)	ECa(mS/m)
Nonsaline	<2	<40
Very Slightly Saline	2 - 4	40 - 80
Slightly Saline	4 - 8	80 - 160
Moderately Saline	8 - 16	160 - 320
Strongly Saline	>16	>320

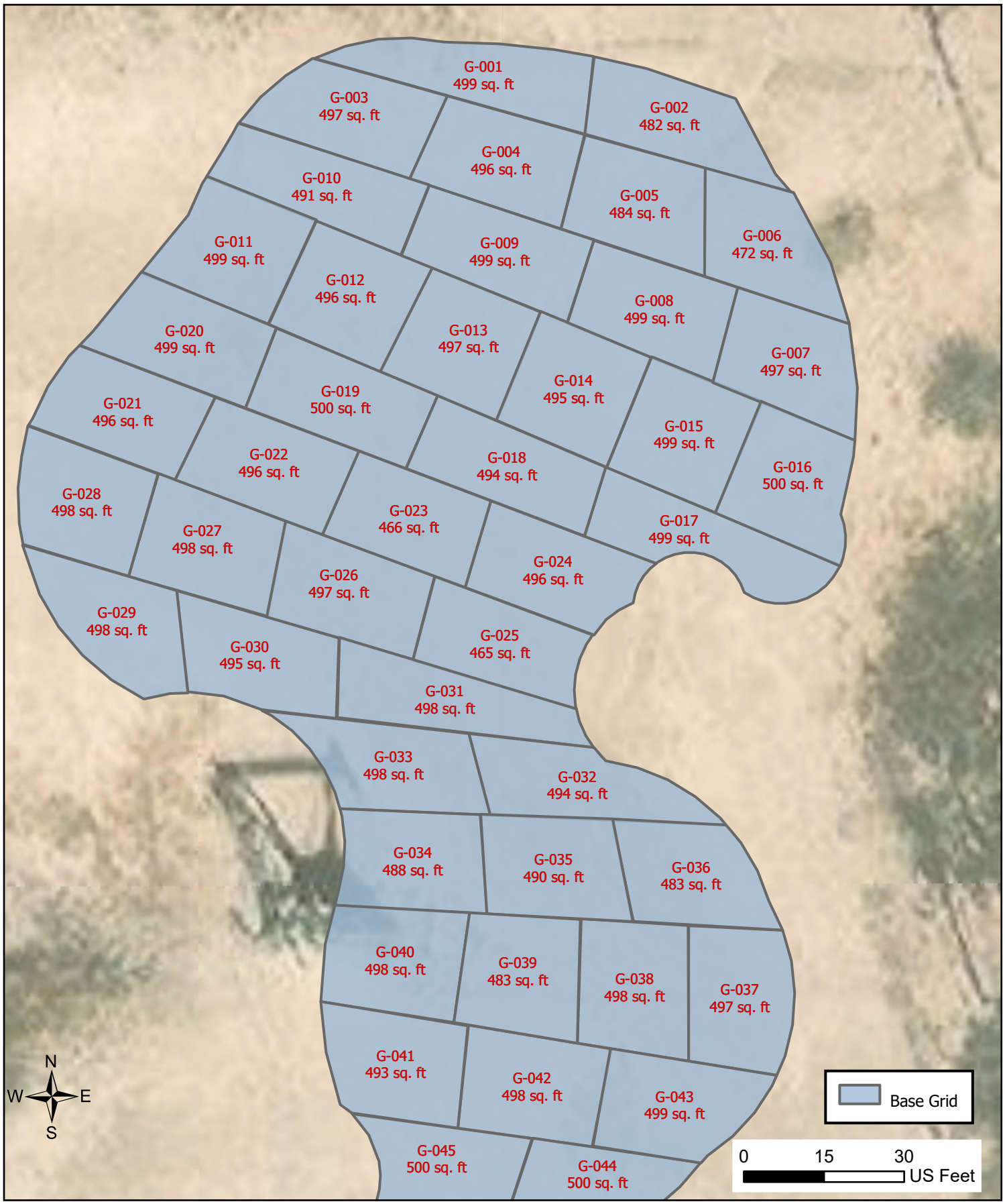
McNabb Partners, LLC Hobbs • Carlsbad • Midland	EM Survey Performed by Atkins Engineering Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 11
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	Survey Date 08/29/2022



McNabb Partners, LLC Hobbs • Carlsbad • Midland	Calculated ECev (1.3 to 4.9 ft) Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 12
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	Survey Date 08/29/2022

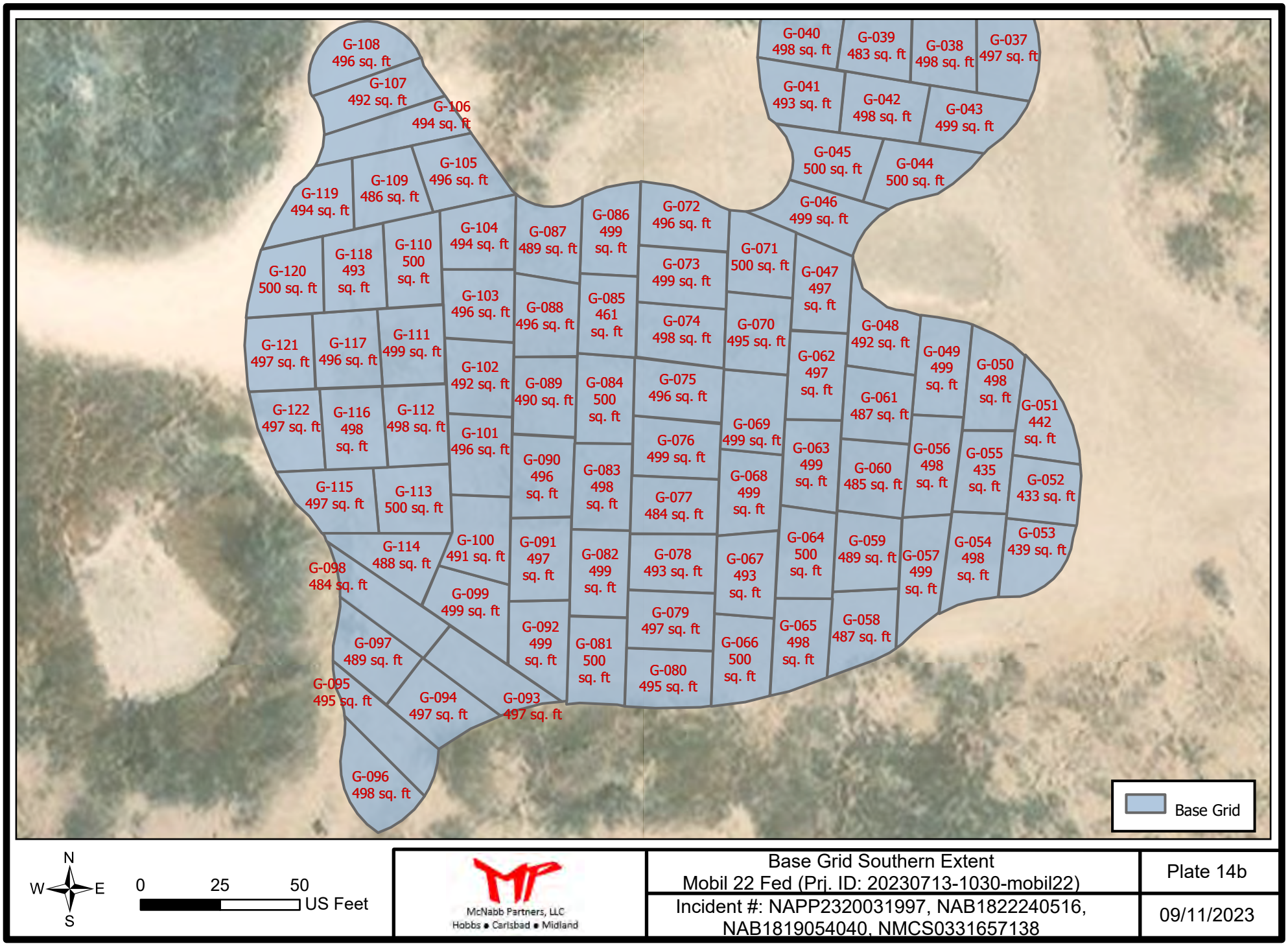


McNabb Partners, LLC Hobbs • Carlsbad • Midland	Estimated Chloride Concentrations (1.3 to 4.9 ft) Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 13
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	Survey Date 08/29/2022



McNabb Partners, LLC
Hobbs • Carlsbad • Midland

Base Grid Northern Extent Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 14a
Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	09/11/2023



N
W E
S

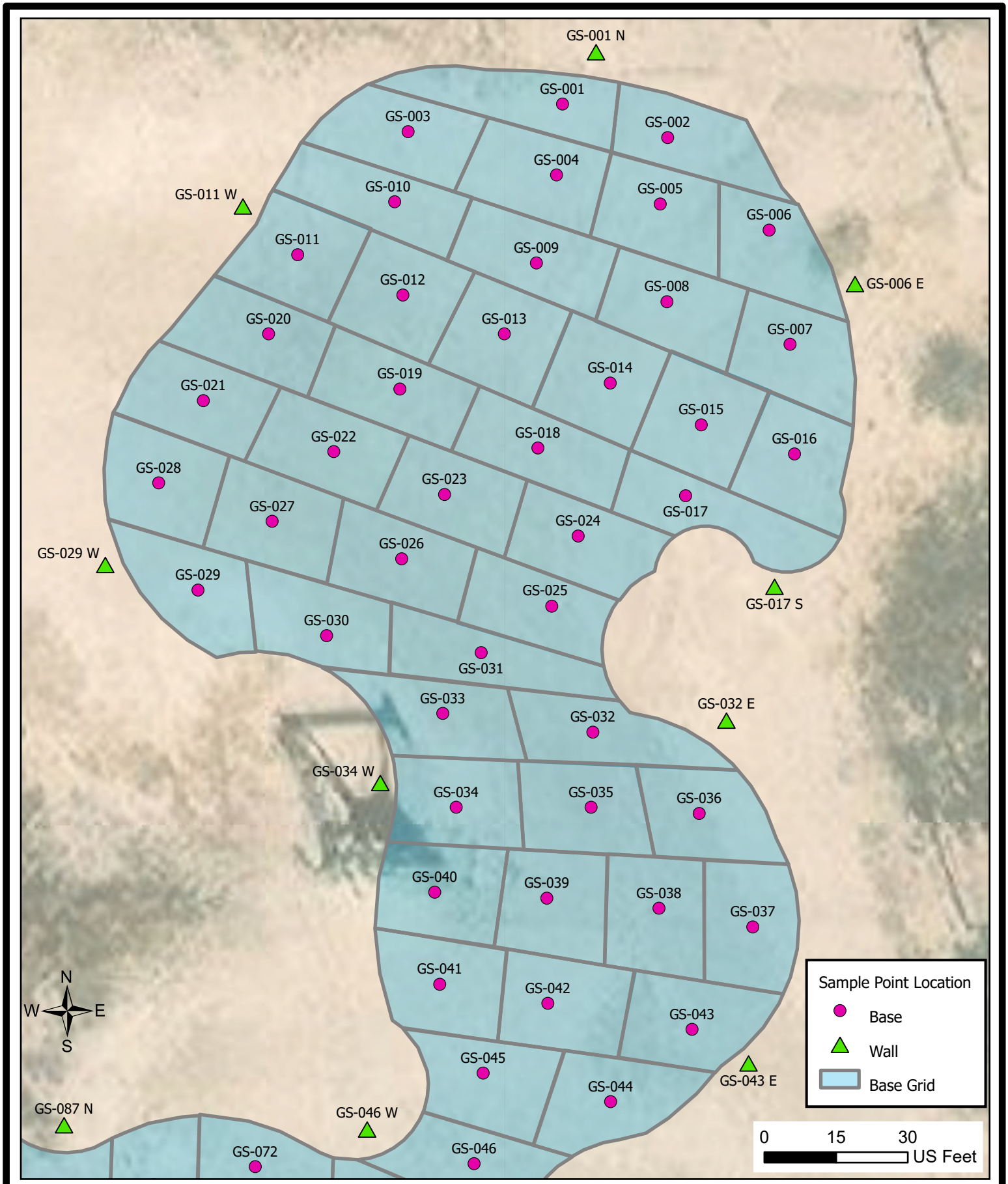
0 25 50 US Feet

McNabb Partners, LLC
Hobbs ● Carlsbad ● Midland

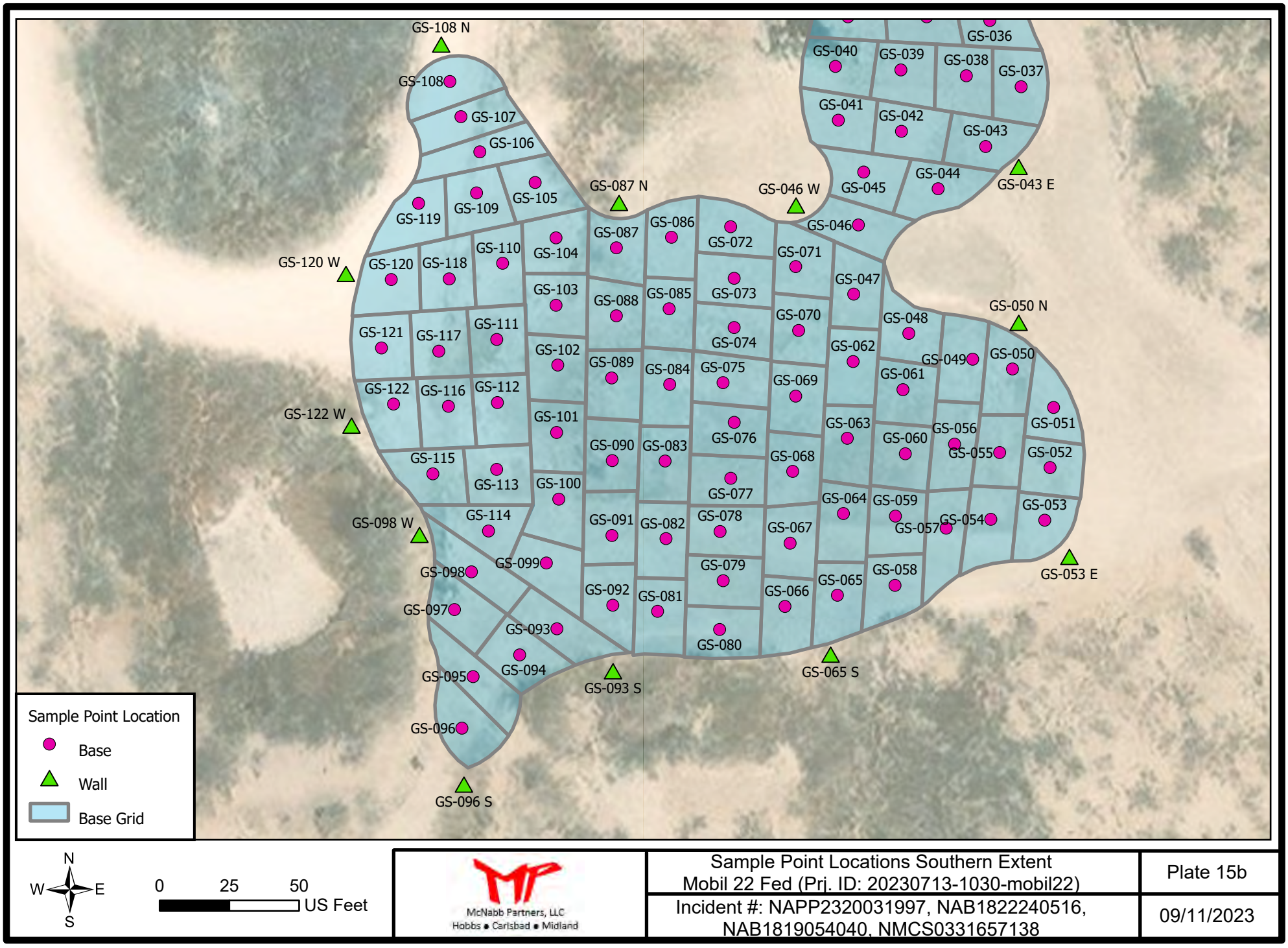
Base Grid Southern Extent
Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)
Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138

Plate 14b

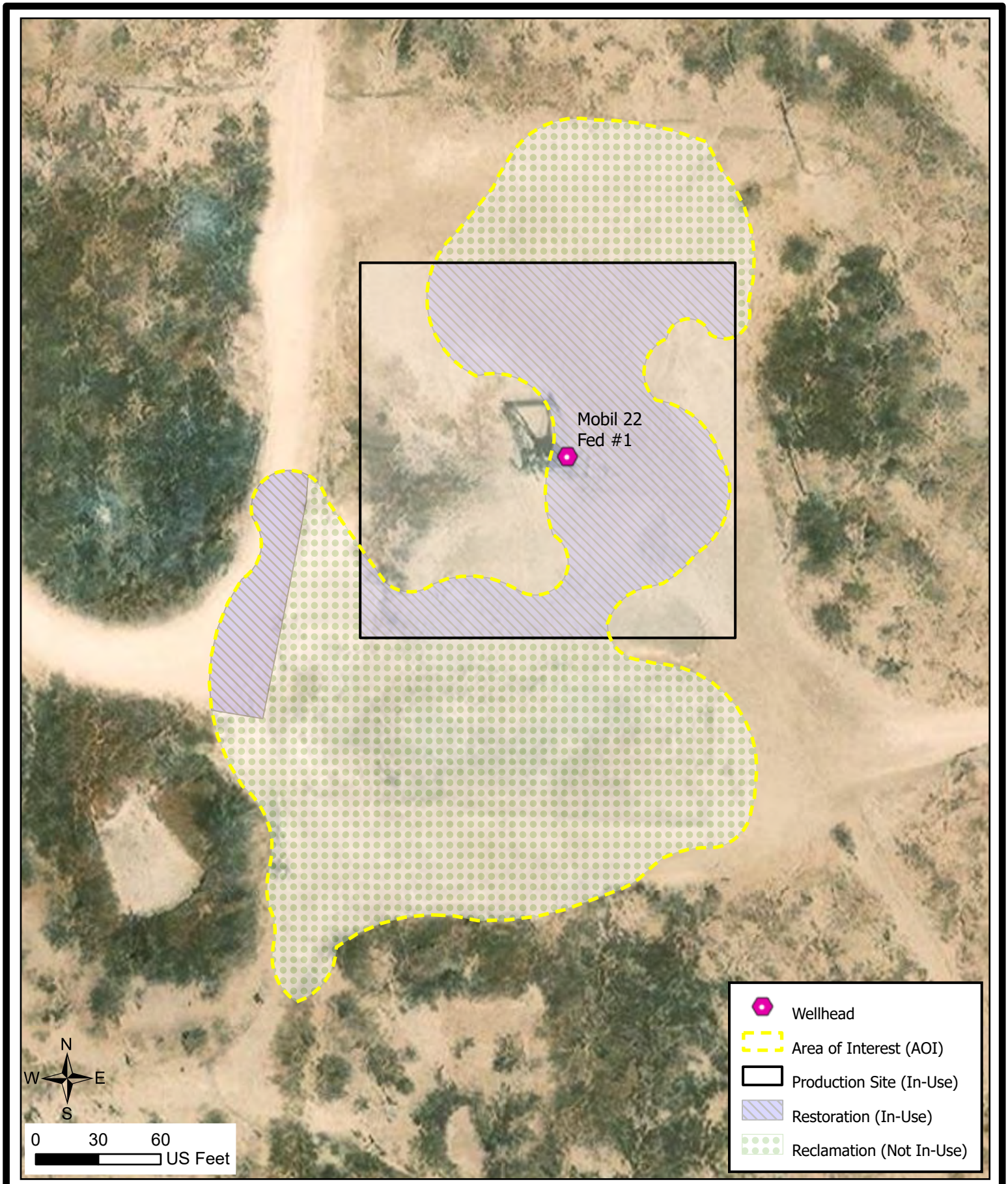
09/11/2023



McNabb Partners, LLC Hobbs • Carlsbad • Midland	Sample Point Locations Northern Extent Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 15a
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	09/11/2023



Sample Point Locations Southern Extent Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 15b
Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	09/11/2023



McNabb Partners, LLC Hobbs • Carlsbad • Midland	Restoration and Reclamation Areas Mobil 22 Fed (Prj. ID: 20230713-1030-mobil22)	Plate 16
	Incident #: NAPP2320031997, NAB1822240516, NAB1819054040, NMCS0331657138	09/11/2023

Tables

Stephens Johnson Operating
Mobil 22 Fed

Table A
Summary of Analytical

Geotech	Soil Borning ID	Date	Sample Interval (ft. bgs)	TPH- DRO (mg/Kg)	TPH- GRO (mg/Kg)	TPH- MRO (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total TPH GRO/DRO/ MRO (mg/Kg)	Total BTEX (mg/Kg)	Chloride (mg/Kg)	Comments
TetraTech	AH-1	6/20/2018	0-1										17,700	
TetraTech	BH-1	6/26/2018	0-1										6,710	AH-1
TetraTech	BH-1	6/26/2018	2-3										4,960	
TetraTech	BH-1	6/26/2018	4-5										4,170	
TetraTech	BH-1	6/26/2018	6-7										8,060	
TetraTech	BH-1	6/26/2018	9-10										5,270	
TetraTech	BH-1	6/26/2018	14-15										6,720	
TetraTech	BH-1	6/26/2018	19-20										10,600	
TetraTech	BH-1	6/26/2018	24-25										3,180	
TetraTech	BH-1	6/26/2018	29-30										11,800	
TetraTech	BH-1	6/26/2018	34-35										9,880	
TetraTech	BH-1	6/26/2018	39-40										9,690	
TetraTech	AH-2	6/20/2018	0-1										15,400	
TetraTech	BH-2	6/26/2018	0-1										10,500	AH-2
TetraTech	AH-2	6/20/2018	1-1.5										12,500	
TetraTech	BH-2	6/26/2018	2-3										4,270	
TetraTech	BH-2	6/26/2018	4-5										4,230	
TetraTech	BH-2	6/26/2018	6-7										3,070	
TetraTech	BH-2	6/26/2018	9-10										1,930	
TetraTech	BH-2	6/26/2018	14-15										3,240	
TetraTech	BH-2	6/26/2018	19-20										2,200	
TetraTech	BH-2	6/26/2018	24-25										4,740	
TetraTech	BH-2	6/26/2018	29-30										5,710	
TetraTech	BH-2	6/26/2018	34-35										3,780	
TetraTech	BH-2	6/26/2018	39-40										3,720	
TetraTech	BH-2	6/26/2018	44-45										5,470	
TetraTech	BH-2	6/26/2018	49-50										6,590	
TetraTech	AH-3	6/20/2018	0-1										2,960	
TetraTech	AH-3	6/20/2018	1-1.5										2,050	
TetraTech	AH-4	6/20/2018	0-1										2,580	
TetraTech	AH-4	6/20/2018	1-1.5										3,280	
TetraTech	AH-5	6/20/2018	0-1										25,200	
TetraTech	AH-5	6/20/2018	1-1.5										13,300	
TetraTech	AH-6	6/20/2018	0-1										714	
TetraTech	AH-6	6/20/2018	1-1.5										752	
TetraTech	AH-7	6/20/2018	0-1										17,700	
TetraTech	AH-7	6/20/2018	1-1.5										12,600	
TetraTech	AH-8	6/20/2018	0-1										7,150	

Stephens Johnson Operating
Mobil 22 Fed

Table A
Summary of Analytical

Geotech	Soil Borning ID	Date	Sample Interval (ft. bgs)	TPH- DRO (mg/Kg)	TPH- GRO (mg/Kg)	TPH- MRO (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total TPH GRO/DRO/ MRO (mg/Kg)	Total BTEX (mg/Kg)	Chloride (mg/Kg)	Comments
TetraTech	Background	6/26/2018	0-1										239	
TetraTech	Background	6/26/2018	2-3										368	
TetraTech	Background	6/26/2018	4-5										109	
TetraTech	Background	6/26/2018	6-7										66	
TetraTech	Background	6/26/2018	9-10										20	
TetraTech	Background	6/26/2018	14-15										7	
TetraTech	Background	6/26/2018	19-20										<4.98	
TetraTech	Background	6/26/2018	24-25										21	
TetraTech	Center BH	11/7/2018	0-1										9,130	
TetraTech	Center BH	11/7/2018	2-3										8,880	
TetraTech	Center BH	11/7/2018	4-5										9,420	
TetraTech	Center BH	11/7/2018	6-7										8,380	
TetraTech	Center BH	11/7/2018	9-10										4,910	
TetraTech	Center BH	11/7/2018	14-15										3,590	
TetraTech	Center BH	11/7/2018	19-20										2,910	
TetraTech	Center BH	11/7/2018	24-25										979	
TetraTech	Center BH	11/7/2018	29-30										2,910	
TetraTech	Center BH	11/7/2018	34-35										2,500	
TetraTech	Center BH	11/7/2018	39-40										1,650	
TetraTech	Center BH	11/7/2018	44-45										369	
TetraTech	Center BH	11/7/2018	49-50										756	
TetraTech	Center BH	11/7/2018	54-55										640	
TetraTech	Center BH	11/7/2018	59-60										666	
TetraTech	Center BH	11/7/2018	64-65										51.9	
TetraTech	Lease Road, BH	11/7/2018	0-1										5,110	
TetraTech	Lease Road, BH	11/7/2018	2-3										4,290	
TetraTech	Lease Road, BH	11/7/2018	4-5										2,190	
TetraTech	Lease Road, BH	11/7/2018	6-7										1,210	
TetraTech	Lease Road, BH	11/7/2018	9-10										1,060	
TetraTech	Lease Road, BH	11/7/2018	14-15										2,840	
TetraTech	Lease Road, BH	11/7/2018	19-20										2,900	
TetraTech	Lease Road, BH	11/7/2018	24-25										771	
TetraTech	Lease Road, BH	11/7/2018	29-30										694	
TetraTech	Lease Road, BH	11/7/2018	34-35										231	
TetraTech	Lease Road, BH	11/7/2018	39-40										263	

Stephens Johnson Operating
Mobil 22 Fed

Table A
Summary of Analytical

Geotech	Soil Borning ID	Date	Sample Interval (ft. bgs)	TPH- DRO (mg/Kg)	TPH- GRO (mg/Kg)	TPH- MRO (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total TPH GRO/DRO/ MRO (mg/Kg)	Total BTEX (mg/Kg)	Chloride (mg/Kg)	Comments
Atkins	TW-01	7/25/2022	4-6	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	1,600	E. of AH-6
Atkins	TW-01	7/25/2022	9-11	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	1,230	
Atkins	TW-01	7/25/2022	14-16	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	688	
Atkins	TW-01	7/25/2022	19-21	--	--	--	--	--	--	--	--	--	1,090	
Atkins	TW-01	7/25/2022	24-26	--	--	--	--	--	--	--	--	--	720	
Atkins	TW-01	7/25/2022	29-31	--	--	--	--	--	--	--	--	--	3,400	
Atkins	TW-01	7/25/2022	34-36	--	--	--	--	--	--	--	--	--	1,490	
Atkins	TW-01	7/25/2022	39-41	--	--	--	--	--	--	--	--	--	2,880	
Atkins	TW-01	7/25/2022	44-46	--	--	--	--	--	--	--	--	--	4,080	
Atkins	TW-01	7/25/2022	49-51	--	--	--	--	--	--	--	--	--	5,200	
Atkins	TW-01	7/25/2022	54-56	--	--	--	--	--	--	--	--	--	12,000	
Atkins	TW-01	7/25/2022	59-61	--	--	--	--	--	--	--	--	--	5,360	
Atkins	TW-01	7/25/2022	64-66	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	2,040	
Atkins	TW-01	7/25/2022	69-71	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	13,000	
Atkins	TW-01	7/25/2022	74-76	--	--	--	--	--	--	--	--	--	5,730	
Atkins	TW-01	7/25/2022	Water	<1.0	<1.0	<1.0	0.002	<0.001	<0.001	<0.003	<1.0	0.002	46,300 (mg/L)	DTW 67.1 ft
Atkins	TW-02	7/26/2022	0-4	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	1,020	
Atkins	TW-02	7/26/2022	4-6	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	2,280	
Atkins	TW-02	7/26/2022	9-11	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	1,090	
Atkins	TW-02	7/26/2022	14-16	--	--	--	--	--	--	--	--	--	912	
Atkins	TW-02	7/26/2022	19-21	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	608	
Atkins	TW-02	7/26/2022	24-26	--	--	--	--	--	--	--	--	--	--	
Atkins	TW-02	7/26/2022	29-31	--	--	--	--	--	--	--	--	--	--	
Atkins	TW-02	7/26/2022	34-36	--	--	--	--	--	--	--	--	--	--	
Atkins	TW-02	7/26/2022	39-41	--	--	--	--	--	--	--	--	--	--	
Atkins	TW-02	7/26/2022	44-46	--	--	--	--	--	--	--	--	--	--	
Atkins	TW-02	7/26/2022	49-51	--	--	--	--	--	--	--	--	--	--	
Atkins	TW-02	7/26/2022	54-56	--	--	--	--	--	--	--	--	--	--	
Atkins	TW-02	7/26/2022	59-61	--	--	--	--	--	--	--	--	--	--	
Atkins	TW-02	7/26/2022	64-66	--	--	--	--	--	--	--	--	--	--	
Atkins	TW-02	7/26/2022	69-71	--	--	--	--	--	--	--	--	--	--	
Atkins	TW-02	7/26/2022	Water	<1.0	<1.0	<1.0	0.002	<0.001	<0.001	<0.003	<1.0	<0.006	2,970 (mg/L)	DTW 67 ft
Yellow	Exceeds Closure Criteria for areas in-use for oil and gas operations													

Sample Point	Latitude	Longitude
GS-001	32.02129837	-103.9641074
GS-001 N	32.02132871	-103.9640847
GS-002	32.02127887	-103.9640365
GS-003	32.02128281	-103.9642117
GS-004	32.02125764	-103.9641116
GS-005	32.02124071	-103.9640417
GS-006	32.02122548	-103.9639683
GS-006 E	32.0211949	-103.9639105
GS-007	32.02115982	-103.9639544
GS-008	32.02118451	-103.9640374
GS-009	32.02120707	-103.9641254
GS-010	32.02124252	-103.9642209
GS-011	32.02121226	-103.9642865
GS-011 W	32.02124072	-103.9643234
GS-012	32.02118889	-103.9642156
GS-013	32.02116639	-103.9641472
GS-014	32.02113787	-103.9640759
GS-015	32.02111368	-103.9640145
GS-016	32.02109677	-103.9639517
GS-017	32.02107296	-103.9640253
GS-017 S	32.02102104	-103.9639655
GS-018	32.0211007	-103.9641248
GS-019	32.02113486	-103.9642178
GS-020	32.02116685	-103.9643063
GS-021	32.02112856	-103.9643505
GS-022	32.02109903	-103.9642626
GS-023	32.02107415	-103.9641879
GS-024	32.02105001	-103.9640979
GS-025	32.02100973	-103.9641158
GS-026	32.02103725	-103.964217
GS-027	32.02105908	-103.9643044
GS-028	32.02108139	-103.9643808
GS-029	32.02101967	-103.9643546
GS-029 W	32.02103492	-103.9644171
GS-030	32.02099322	-103.9642678
GS-031	32.02098316	-103.9641636
GS-032	32.02093722	-103.9640884
GS-032 E	32.02094419	-103.9639982
GS-033	32.02094831	-103.9641896
GS-034	32.02089434	-103.9641808
GS-034 W	32.02090903	-103.964232
GS-035	32.02089408	-103.9640898

Sample Point	Latitude	Longitude
GS-036	32.02089027	-103.9640168
GS-037	32.02082493	-103.9639809
GS-038	32.0208359	-103.9640442
GS-039	32.02084188	-103.9641198
GS-040	32.02084555	-103.9641955
GS-041	32.02079258	-103.9641923
GS-042	32.02078143	-103.9641194
GS-043	32.02076619	-103.9640222
GS-043 E	32.02074706	-103.9639841
GS-044	32.02072478	-103.9640773
GS-045	32.02074145	-103.9641632
GS-046	32.0206894	-103.9641695
GS-046 W	32.02070984	-103.9642417
GS-047	32.02062131	-103.9641752
GS-048	32.02058246	-103.9641117
GS-049	32.02055685	-103.964038
GS-050	32.0205471	-103.963992
GS-050 N	32.02059513	-103.9640012
GS-051	32.02050909	-103.9639446
GS-052	32.02044989	-103.963949
GS-053	32.02039811	-103.9639553
GS-053 E	32.02036294	-103.963927
GS-054	32.02039916	-103.9640176
GS-055	32.02046486	-103.9640072
GS-056	32.02047329	-103.9640593
GS-057	32.0203906	-103.9640693
GS-058	32.02033446	-103.9641287
GS-059	32.02040263	-103.9641279
GS-060	32.02046398	-103.9641162
GS-061	32.02052707	-103.9641187
GS-062	32.02055495	-103.9641762
GS-063	32.02047942	-103.9641832
GS-064	32.02040534	-103.964188
GS-065	32.02032492	-103.9641953
GS-065 S	32.0202675	-103.9642034
GS-066	32.02031409	-103.964256
GS-067	32.02037631	-103.9642497
GS-068	32.020447	-103.9642465
GS-069	32.02052109	-103.9642427
GS-070	32.02058572	-103.9642391
GS-071	32.02064863	-103.9642422
GS-072	32.0206881	-103.9643172

Sample Point	Latitude	Longitude
GS-073	32.0206373	-103.9643134
GS-074	32.02058882	-103.9643136
GS-075	32.02053461	-103.9643267
GS-076	32.02049547	-103.9643139
GS-077	32.02044044	-103.9643181
GS-078	32.02038806	-103.9643307
GS-079	32.02033961	-103.9643273
GS-080	32.02029162	-103.9643316
GS-081	32.02030972	-103.9644032
GS-082	32.02038126	-103.9643932
GS-083	32.02045763	-103.9643939
GS-084	32.02053305	-103.9643883
GS-085	32.02060751	-103.9643887
GS-086	32.02067791	-103.9643857
GS-087	32.02066771	-103.9644494
GS-087 N	32.02071882	-103.9644462
GS-088	32.02060076	-103.9644497
GS-089	32.0205396	-103.9644553
GS-090	32.02045822	-103.964455
GS-091	32.0203845	-103.9644557
GS-092	32.02031586	-103.964455
GS-093	32.02029282	-103.9645197
GS-093 S	32.02025189	-103.964455
GS-094	32.02026726	-103.9645628
GS-095	32.02024602	-103.9646167
GS-096	32.02019532	-103.9646298
GS-096 S	32.02014083	-103.9646278
GS-097	32.02031212	-103.964638
GS-098	32.0203492	-103.9646182
GS-098 W	32.02037739	-103.9646782
GS-099	32.02035766	-103.9645316
GS-100	32.02042046	-103.964517
GS-101	32.02048611	-103.9645192
GS-102	32.02055248	-103.9645176
GS-103	32.02061135	-103.9645194
GS-104	32.02067772	-103.9645191
GS-105	32.02073231	-103.964543
GS-106	32.02076264	-103.9646069
GS-107	32.02079733	-103.9646286
GS-108	32.020832	-103.9646412
GS-108 N	32.02086939	-103.9646511
GS-109	32.02072224	-103.9646108

Sample Point	Latitude	Longitude
GS-110	32.02065289	-103.964581
GS-111	32.02057787	-103.964588
GS-112	32.02051574	-103.9645875
GS-113	32.02044997	-103.9645887
GS-114	32.02038934	-103.9645983
GS-115	32.0204458	-103.9646624
GS-116	32.02051225	-103.9646442
GS-117	32.02056652	-103.9646551
GS-118	32.02063767	-103.9646428
GS-119	32.02071217	-103.9646778
GS-120	32.02063723	-103.9647098
GS-120 W	32.0206549	-103.9647585
GS-121	32.02056992	-103.9647213
GS-122	32.02051463	-103.9647076
GS-122 W	32.02047427	-103.9647381

Appendix A

Driller/Well Logs

Atkins
ENGINEERING ASSOCIATES INC.
2904 W 2nd St.
Roswell, NM 88201
voice: 575.624.2420
fax: 575.624.2421
www.atkinseng.com

July 8, 2022

DII-NMOSE
1900 W 2nd Street
Roswell, NM 88201

Hand Delivered to the DII Office of the State Engineer

Re: Well Record C-4653 Pod-5-6

To whom it may concern:

Attached please find a well log & record for C-4653 POD-5-6 , and Plugging Record for C-4653 POD-6. , in duplicate. C-4653 POD 1-4 , will not be used, please note that these can be canceled.

If you have any questions, please contact me at 575.499.9244 or lucas@atkinseng.com.

Sincerely,

Lucas Middleton

Enclosures: as noted above

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD-5 (TW-2)	n/a	C-4653

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Stephens & Johnson Operating Co.	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
PO BOX 2249	Wichita Falls	TX	7307-2249

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	1	14.42	N
	LONGITUDE	103	57	52.42	W

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

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

SE SE SE Sec. 22 T26S R29E, NMPM

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
7/26/2022	7/26/2022	Soil Boring	±72	±67

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 67.7

DATE STATIC MEASURED: 7/27/2022

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

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

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	72	±6.5	Soil Boring	--	--	--	--

3. ANNULAR MATERIAL

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

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	25	25	Sand, medium/fine grained, poorly graded, with clay, Dark Brown	Y ✓ N	
25	45	20	Sand, medium/fine grained, poorly graded, with gravel (0.25"), Tan Brown	Y ✓ N	
45	64	19	Sand, medium/fine grained, poorly graded, Tan Brown	Y ✓ N	
64	70	6	Clay, Medium Plastic, with sand and caliche, gypsum Reddish Brown, moist	✓ Y N	
70	72	62	Sand, medium/fine grained, poorly graded, with gravel (0.25-.75"), Tan Brown	✓ Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

MISCELLANEOUS INFORMATION: Secured soil boring with auger and hydrated bentonite, to seal the boring to the ground surface. Pending approval from New Mexico State Oil and Gas Division on completing as a monitoring well.

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

Shane Eldridge, Cameron Pruitt, Lucas Middleton

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 8/18/2022

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

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WR-20 Well Record and Log-forsign

Final Audit Report 2022-08-18

Created:	2022-08-18
By:	Lucas Middleton (lucas@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAxlYfsKCP6cfmOzjy3gfvdCq3Zc7gy0wQ

"WR-20 Well Record and Log-forsign" History

Document created by Lucas Middleton (lucas@atkinseng.com)
2022-08-18 - 5:25:02 PM GMT- IP address: 64.17.71.25

Document emailed to Jack Atkins (jack@atkinseng.com) for signature
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Email viewed by Jack Atkins (jack@atkinseng.com)
2022-08-18 - 7:49:05 PM GMT- IP address: 64.90.153.232

Document e-signed by Jack Atkins (jack@atkinseng.com)
Signature Date: 2022-08-18 - 7:50:46 PM GMT - Time Source: server- IP address: 64.90.153.232

Agreement completed.
2022-08-18 - 7:50:46 PM GMT

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD-6 (TW-1)	n/a	C-4653

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Stephens & Johnson Operating Co.	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
PO BOX 2249	Wichita Falls	TX	7307-2249

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	1	13.71	N
	LONGITUDE	103	57	52.14	W

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

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

SE SE SE Sec. 22 T26S R29E, NMPM

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
7/25/2022	7/25/2022	Soil Boring	±74	±67

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 67.1

DATE STATIC MEASURED: 7/26/2022

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

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

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	74	±6.5	Soil Boring	--	--	--	--

3. ANNULAR MATERIAL

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

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	14	14	Clay, Medium Plastic, with sand and caliche, Brown	Y ✓ N	
14	30	16	Sand, medium/fine grained, poorly graded, increasing clay, Tan	Y ✓ N	
30	44	14	Clay, Medium Plastic, with sand and calchie, gypsum Reddish Brown	Y ✓ N	
44	54	10	Sand, medium/fine grained, poorly graded, with clay, Tan	Y ✓ N	
54	60	6	Clay, Stiff, Medium Plastic, with brown sand Reddish Brown	Y ✓ N	
60	64	4	Clay, Stiff, Medium Plastic, with cemented sand, Reddish Brown	Y ✓ N	
64	74	10	Clay, Low Plastic, with sand and caliche, gypsum Reddish Brown, wet	✓ Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

MISCELLANEOUS INFORMATION: Grouted from total depth to surface using augers as tremie Plugged using Type I/II neat cement (5.2 gallons per 94 lb. sack)

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

Shane Eldridge, Cameron Pruitt, Lucas Middleton

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 8/18/2022

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: C-4653 POD-6

Well owner: Stephens & Johnson Operating Co. Phone No.:

Mailing address: PO BOX 2249

City: Wichita Falls State: Texas Zip code: 7307-2249

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Jackie D. Atkins (Atkins Engineering Associates Inc.)

2) New Mexico Well Driller License No.: 1249 Expiration Date: 04/30/23

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Shane Eldridge

4) Date well plugging began: 7/26/2022 Date well plugging concluded: 7/26/2022

5) GPS Well Location: Latitude: 32 deg, 1 min, 13.71 sec
Longitude: 103 deg, 57 min, 52.14 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 74 ft below ground level (bgl), by the following manner: weighted tape

7) Static water level measured at initiation of plugging: 67.1 ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 7/1/2022

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

Version: September 8, 2009
Page 1 of 2

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	0-74' Neat Cement Type I/II	Approx. 135 gallons	127 gallons	Augers	

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

I, Jackie D. Atkins, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jack Atkins — Signature of Well Driller

8/18/2022 — Date

Version: September 8, 2009
Page 2 of 2

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SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:

Latitude 32°01'12", Longitude 103°57'45" NAD27
Eddy County, New Mexico , Hydrologic Unit 13070001
Well depth: not determined.
Land surface altitude: 2,892.0 feet above NGVD29.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1993-01-05	1993-01-05	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

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Appendix B

Variance Requests

Liner Variance Request

Stephens & Johnson Operating Company respectfully asks NMOCD for variance approval to the Closure Criteria listed in Table 1 of 19.15.29 NMAC.

As presented in Table A, chloride impacted soil above Closure Criteria (10,000 mg/kg at depths greater than 4-feet bgs) was observed within the saturated zone from 69 to 71-feet bgs at boring TW-01.

Remediation (dig-haul-dispose) of chloride impacted soil is technically feasible using soldier pile and lagging or soil benching technology, or a combination of. Employing shoring technology as forementioned is cost prohibitive and endangers worker safety at depths of chloride impacted soils. Alternative engineering controls can be utilized to prevent further chloride impact to subsurface soils and groundwater.

The proposed variance is to install a geosynthetic clay liner (GCL) at excavation bases where chloride is >600 mg/kg and at an excavation depth within the upper 6-feet. Prior to liner installation, NMOCD will be consulted to evaluate constituents of concern concentrations at excavation base depths. Furthermore, the GCL will be placed under existing flowlines to maintain liner integrity during pipeline maintenance.

Installing a GCL liner will further retard chloride impacted soil from impacting groundwater. The liner will prevent the infiltration of surface water from precipitation events coming into contact with the impacted soils, thus reducing the vertical migration of chloride impacted soil to depths that would impact groundwater. Additionally, the liner will prevent the upward migration, caused by evaporative processes, of chloride impacted soils from affecting the clean uncontaminated backfill material.

Preventing vertical migration of chloride impacted soils and reducing risk to human health by the installation of a GCL will provide equal or better protection to fresh water, public health, and the environment.

Sample Grid Size Request

The requested sample grid size variance will provide equal protection of fresh water, public health, and the environment according to the "10% Condition"[1] that states sample sizes should be no more than 10% of the population (AOI) as long as it does not exceed 1,000[2] samples. Applying the 10% Condition, a sample grid size of 1,000 sq ft meets this condition. The proposed sample grid size representing an area no greater than 500 sq ft exceeds this condition, where

- The 10% Condition is meet.
- The proposed sample grid size represents 99% of the population (AOI).

Therefore, the proposed 500 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.

Population (sq ft area)	Sample Size (grid sq. ft.)	No. of Sample Grids	% of Population (sq. ft. area)	Representative of Population	Meets 10% Condition
60,211	200	301	0.3%	99.7%	Yes
60,211	300	201	0.5%	99.5%	Yes
60,211	400	151	1%	99%	Yes
60,211	500	120	1%	99%	Yes
60,211	1,000	60	2%	98%	Yes
60,211	5,000	12	8%	92%	No
60,211	10,000	6	17%	83%	No

1 https://web.ma.utexas.edu/users/mks/M358KInstr/TenPctCond.pdf
2 https://tools4dev.org/resources/how-to-choose-a-sample-size/

Appendix C

Groundwater Assessment Plan

Atkins ENGINEERING ASSOCIATES INC.
2904 W 2nd St.
Roswell, NM 88201
voice: 575.624.2420
fax: 575.624.2421
www.atkinseng.com

November 15, 2023

EMNRD - Oil Conservation Division
Mike Bratcher
506 W. Texas Ave
Artesia, NM 88210

RE: Mobil 22 FED CTB Groundwater Assessment Plan

Mr. Bratcher:

Atkins Engineering Associates, Inc. (AEA), on behalf of Stephens and Johnson Operating Company (SJOC), is pleased to provide this plan to assess the suspected impacts to groundwater at the Mobil 22 FED CTB located in the SE/4SE/4SE/4 Section 22, Township 26S, Range 29 East, NMPM at 32.020855° -103.964174°, in Eddy County New Mexico.

This plan is submitted in conjunction with "*Characterization Report and Remediation Workplan Incident ID: NAPP2320031997, NAB1822240516 NAB1819054040, NMCS0331657138"* submitted to NM Oil Conservation Division by McNabb Partners LLC.

AEA recommends installing four (4) monitoring wells near the tank battery. The following sections describe the boring/well installation and sampling procedures.

Boring/Monitoring Well Installation

Prior to drilling the owner/consultant will notify and seek the necessary permission from the landowner to obtain monitoring well permits from the New Mexico Office of the State Engineer (OSE). Well drilling will be completed by a driller licensed in the State of New Mexico.

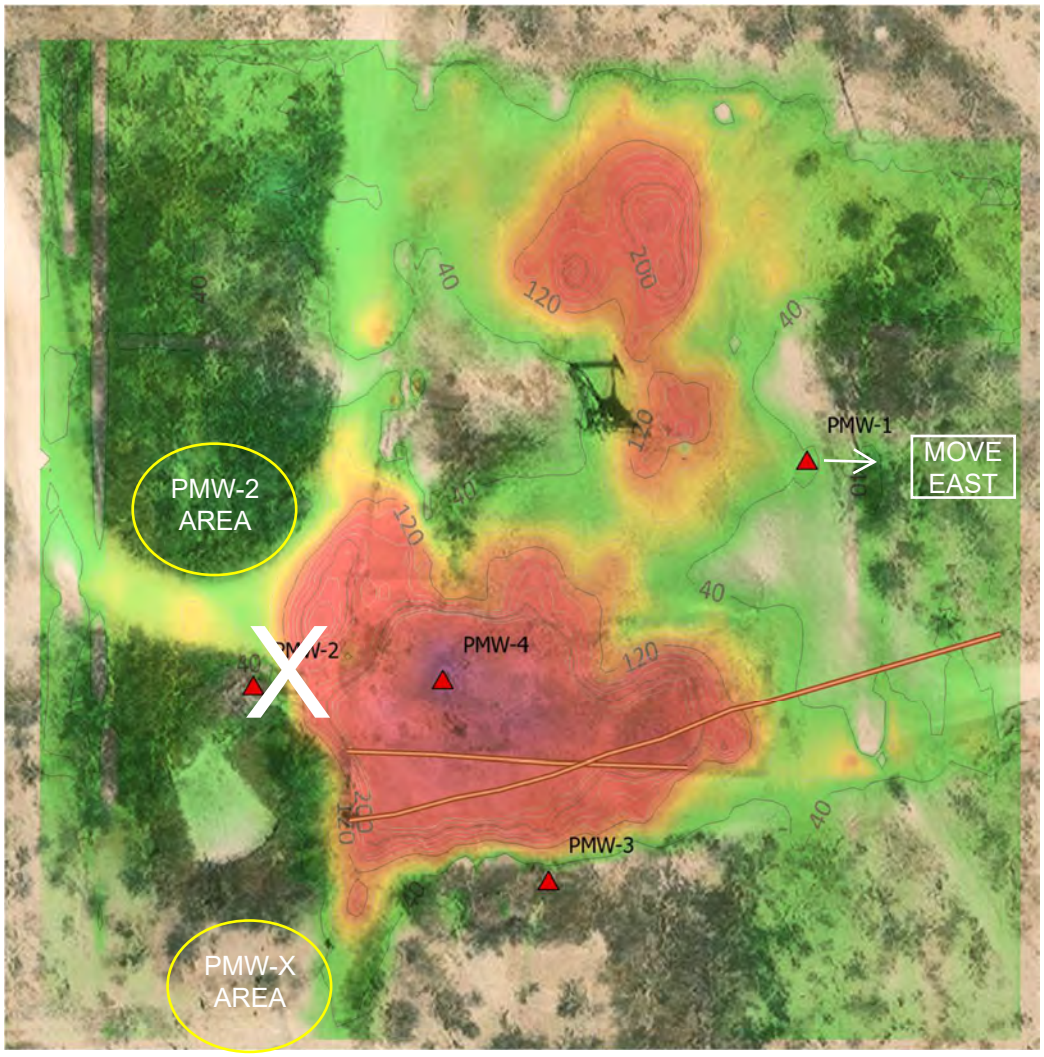
Prior to the field event, the boring locations will be white lined consistent with NM 811 standards and a "One Call" will be placed at least three days before the start of drilling. The landowner and NMOCD will be contacted at least one week before the field activities.

Four Borings (MW-1, MW-2, MW-3, MW-4) will be installed using a hollow stem auger (HSA) rig. The boreholes shall be a minimum of 4" greater than the 2.375" outside diameter of the well materials. The borings will be drilled to a total depth of approximately seventy-seven (77) feet

below ground surface (ft bgs) at the locations shown on Figure 1, below. A static water level of sixty-seven (67) ft bgs is anticipated at the site. The exact depth of each boring will be determined in the field by the on-site geologist/scientist.

The preferred approach is to install boring/well MW-4 after the excavation of impacts and placement of the McNabb proposed geosynthetic liner. This workplan could be separated into two mobilizations with the first to install wells MW-1, MW-2, and MW-3, and the second to install MW-4.

Figure 1: Approximate Soil Boring/Monitoring Well Locations



Each of the boreholes will be logged using the Universal Soil Classification System (USCS) method. Well logs will be maintained on forms for submission to the OSE. Discrete soil samples will be collected with a sterile split-spoon sampler continuously from ground surface to six feet

below land surface, then with five-foot intervals through the balance of the length of the borings. Prior to, and between samples, the split spoon will be decontaminated with a phosphate free detergent using a coarse scrub brush, triple rinsed and allowed to air dry between sample collection.

Each boring will be converted to a monitoring well (MW-1, MW-2, MW-3, MW-4) using 2-inch diameter well materials consisting of 15 feet of 0.010-inch-slot, Schedule 40 (SCH 40) polyvinyl chloride (PVC), machine-cut, flush-threaded well screen with blank SCH 40 PVC casing to approximately 3 feet above ground surface. Target placement of the screen will be 10-feet below the static water table and 5-feet above the static water table.

In each of the wells, a filter pack consisting of 10/20 or 12/20 silica sand will be installed in the well annulus from the bottom of the soil boring to about 2 feet above the top of the screen. Mesh-prepack screen can be substituted if needed. A minimum 3-foot-thick activated bentonite pellet seal will then be installed on top of the filter pack. The remaining annulus will be filled with a cement/bentonite grout.

The above ground surface completion will consist of a 4-inch by 4-inch by 5-foot steel vault with lid, set in a 2-foot by 2-foot by 6-inch, 5000-psi Quickrete pad. The pad will slope away from the vault, and the vault will be filled with clean silica to stabilize the Sch 40 riser. A weep hole will be drilled into the base of the vault above the concrete pad, and the riser will be capped with a Sch 40 J-plug. The monitor well ID will be etched in the concrete pad as it dries. Four bollards will be placed around the monitor well to protect it from vehicles.

Soil Sampling

Three (3) subsamples will be collected immediately from each sampled interval; one for field screening, one for geologic description, and one for laboratory analysis. Soil samples will be field assessed with a calibrated electrical conductivity (EC) meter.

Five (5) soil samples will be submitted for laboratory analysis from each soil boring. Samples will be sent from each boring from the samples collected at 0-2 feet, 2-4 feet and 4-6 feet below land surface, from the balance of the vadose zone interval yielding the highest EC reading or visually showing impact, and the last sample will be collected from the air-water interface. It is

assumed that a total of twenty (20) samples will be collected and submitted for laboratory analysis from the four (4) borings.

The collected soil samples will be analyzed for Chlorides using EPA Method 300.1. Soil samples will be collected in 4-ounce sterile jars, and immediately placed in a cooler on ice. Soil samples will remain on ice or refrigerated throughout the field event. When the soil samples are ready for shipment, they will be packaged and placed into a laboratory-supplied cooler with ice, sealed, and shipped overnight or delivered under Chain of Custody procedures to EuroFins (formerly Hall Environmental Analysis Laboratory) of Albuquerque, New Mexico.

Well Development

After completion and an approximate 12-hour stabilization period, the wells will be developed by mechanically surging the screen interval, followed by bailing and pumping until temperature, pH, and conductivity have stabilized and turbidity has been reduced to the extent practicable. Stabilization will be determined to be achieved after the removal of ten (10) well volumes or when turbidity readings are less than 10 NTU or discharged water is visually clear, if practicable.

Decontamination and Waste Management

A temporary decontamination “pit” will be constructed. Prior to and between borings all drill tooling will be decontaminated using a steam pressure washer.

Soil and Groundwater derived from the installation monitor well development and purging will be containerized in either new DOT rated steel drums or a lined roll-off. All investigative derived waste will be properly disposed of at an appropriately registered facility.

Surveying

After well completion, a registered New Mexico Land surveyor will survey the top of casing elevations referenced to US Geological Survey (USGS) datum, and state plane coordinates of the monitoring wells. Vertical measurement will be to the 0.01 foot and horizontal measurements to the0.1 foot. Coordinates will be reported in Latitude and Longitude NAD 83 Decimal Degrees and New Mexico State Plane East Grid.

The surveyor will establish a project benchmark tied to the nearest available National Geodetic Survey Benchmark. The top of casing of each monitoring well will be tied to the project benchmark using an engineer's level loop. Horizontal position can be provided via RTK surveying equipment.

The surveyor will provide a stamped table of data showing the positional data together with an ESRI .shp and a Google Earth .kml.

Groundwater Measuring and Sampling

Prior to groundwater sampling, a minimum of one week will be allowed for the new wells to stabilize after development. Fluid levels in each well (MW-1, MW-2, MW-3, MW-4) will be measured with the use of an oil-water Solinist Interface probe, or equivalent.

Following water level determination, wells MW-1, MW-2, MW-3, MW-4 will be purged using new dedicated, disposable, polyethylene bailers. A minimum of three (3) casing volumes will be removed from each well prior to sampling to ensure that a representative sample of groundwater is obtained. If a well is purged dry, it will be sampled once the well has recharged. During purging, groundwater field parameters, including dissolved oxygen [DO], oxidation/reduction potential [ORP], electrical conductivity [EC], pH, and temperature, will be measured using a calibrated YSI Professional Plus or equivalent multi-parameter device and recorded on field datasheets. Purge and decontamination water will be containerized and properly disposed of at an appropriately registered facility.

Once purged, the wells will be sampled. To minimize volatilization and ensure sample integrity, polyethylene bottom-emptying devices will be used to transfer groundwater samples from the bailers to the appropriate laboratory-prepared sample containers. Care will be exercised to fill the container completely, without overflowing.

The samples will be labeled and preserved on ice in an insulated cooler for shipment or delivery to Eurofins (formerly Hall Environmental Analysis Laboratory) in Albuquerque, New Mexico. Groundwater samples will be analyzed for Chlorides using EPA Method 300.1.

Reporting

Data collected from the installation and sampling event will be presented in a report. The report will discuss the activities performed and summarize the observed site conditions. The following will be included in the report:

Figures

- Site Map
- Potentiometric Surface Map – illustrating the groundwater contour intervals and flow direction.
- Chloride Concentration Map(s) – showing the distribution of chlorides in the groundwater.

Tables and Graphs

- Groundwater Elevation and Field Parameters – including dates of measurement, top of casing elevations, depths to water, water level elevations, field parameters, and well completion data including total depth and screen interval
- Groundwater Analytical Results of Contaminants of Concern
- Soil Analytical Results of Contaminants of Concern

Appendices

- Permitting Documentation
- Field Notes/Datasheets
- Well Logs
- Survey Data Table
- Laboratory Datasheets
- Waste Disposal Manifest

Summary

The above-proposed work can be used as a starting point to assess the suspected groundwater impacts. If the horizontal extent of the impacts is not delineated, additional soil borings/monitor wells will need to be installed to completely define the plume.

If you have any questions, please contact Chris Cortez at chris@atkinseng.com or 575.914.0174.

Sincerely

Jessica Atkins

Jessica Atkins, PE
Principal Engineer

Appendix D

EM Survey Introduction

Electromagnetic Induction Survey Orientation

Electromagnetic Induction Surveys (EM Surveys) are commonly used to measure apparent electrical conductivity (ECa, "soil salinity") in soils without intrusive sampling. Employing a Geonics EM38-MK2 (Exhibit 1), field personnel can effectively delineate the horizontal extent of saline soils by measuring ECa and monitoring for ECa changes between background and higher EC readings.

Exhibit 1: Measuring ECa with the EM38 in the horizontal dipole position.

The EM Survey is conducted in the horizontal (h) and vertical (v) dipole modes at 0.5 and 1.0-meter coil separations. The EM38 can effectively measure salinity to a depth of 1-meter (4.9-feet). Sensitivity to surface material is presented in Table 1 and Figures 1a & 1b. Each coil separation and dipole mode listed in Table 1 is recorded by the EM38; allowing for the evaluation of salinity relative to depth over the four (4) depth ranges. The EM38 can record up to 5 measurements per second.

Coil Separation	Dipole Mode	Greatest Sensitivity	Relative Range	
meters		meters (feet)	Depth (meters)	Depth (feet)
0.5				
	Horizontal	0	0 - 0.4	0 - 1.3
	Vertical	0.2 (0.66)	0.2 - 0.8	0.7 - 2.5
1				
	Horizontal	0	0 - 0.8	0 - 2.5
	Vertical	0.4 (1.31)	0.4 - 1.5	1.3 - 4.9

Table 1: EM38-MK2 Sensitivity Ranges

Electromagnetic Induction Survey Orientation

The difference in sensitivity ranges in the two coil configurations and dipole modes is important; the horizontal dipole mode will be relatively sensitive to variations near surface whereas the vertical dipole mode will be insensitive near the surface and sensitive at greater depths. This difference in sensitivity allows for a quick method for determining whether the near surface soil is more conductive (higher salinity) than soils at depth, where

> *if a higher EC_a reading is obtained in the horizontal position than the vertical position, chloride has likely impacted the upper surface more than soils at lower depths. If a higher EC_a reading is obtained in the vertical position than the horizontal position, chloride has likely impacted soils at lower depths than the upper surface soils.*

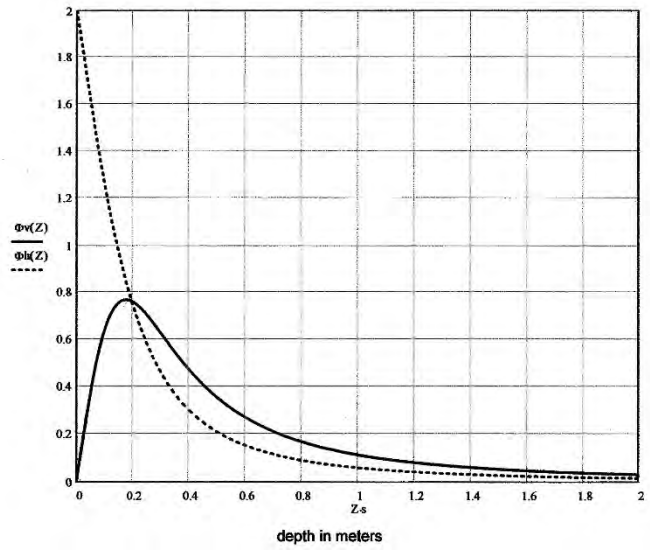


Figure 1a: 0.5-meter coil separation. Relative sensitivity with depth. Dashed line horizontal dipole mode. Solid line vertical dipole mode.

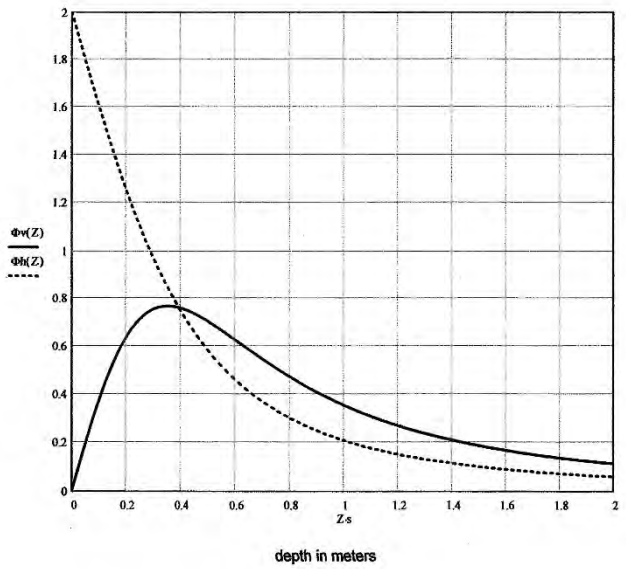


Figure 1b: 1.0-meter coil separation. Relative sensitivity with depth. Dashed line horizontal dipole mode. Solid line vertical dipole mode.

It is important to note that the EM38 is very susceptible to metal and electrical interferences. A metal object small as a steel nail can cause the apparent electrical conductivity to read high or go negative. EM Surveys near pipelines, wellheads, tank batteries, and powerlines must account for these interferences. The EM38 records both metal susceptibility and ECa during each measurement.

Andrew Parker (08/31/2023)

Electromagnetic Induction Survey Orientation

ECa concentrations measured by the Geonics EM38-MK2 instrument can be converted into effective electrical conductivity (ECe) concentrations using the generalized equation ECe=5ECa[1,2]. ECe is commonly used to determine the soil salinity class to evaluate plant productivity. Soil ECe can also be analyzed in a laboratory setting.

The Natural Resources Conservation Service (NRCS) publishes salinity classes (Table 2) 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 2: Salinity Classes as defined by Natural Resources Conservation Service (NRCS)

Furthermore, ECe can be estimated by using a set of conversion factors[3] based on common soil types, where

Eq 1. $ECe = EC_{1:5} \times CF$

$EC_{1:5}$ = 20ml soil:100ml deionized water then mix, let settle, and test[4].

Hazelton Guide[2]	CF
Sand	17
Sandy Loam	11
Loam	10
Clay Loam	9
Light Medium Clay	8
Medium Clay	7
Heavy Clay	6

Table 3: Conversion Factors (CF) to calculate between $EC_{1:5}$ and ECe.

[1] McNeill, J.D. 1986. Rapid Accurate Mapping of Soil Salinity by Electromagnetic Ground Conductivity Meters. Geonics Limited Technical Note TN-18, Geonics Ltd., Mississauga, ON.
[2] ECe is expressed in dS/m. ECa is expressed in mS/m. A conversion factor of 100 is applied to convert mS/m to dS/m. ECe = 5(ECa/100).
[3] Hazelton, P. A. and Murphy, B.W. ed. (1992) *What do all the numbers mean? A guide for the interpretation of Soil Test Results.* Department of Conservation and Land Management (incorporating the Soil Conservation Service of NSW), Sydney.
[4] $EC_{1:5}$ is measured with a Hanna DiST4 EC Tester. $EC_{1:5}$ is commonly used for salinity field screening.

Andrew Parker (08/31/2023)

Electromagnetic Induction Survey Orientation

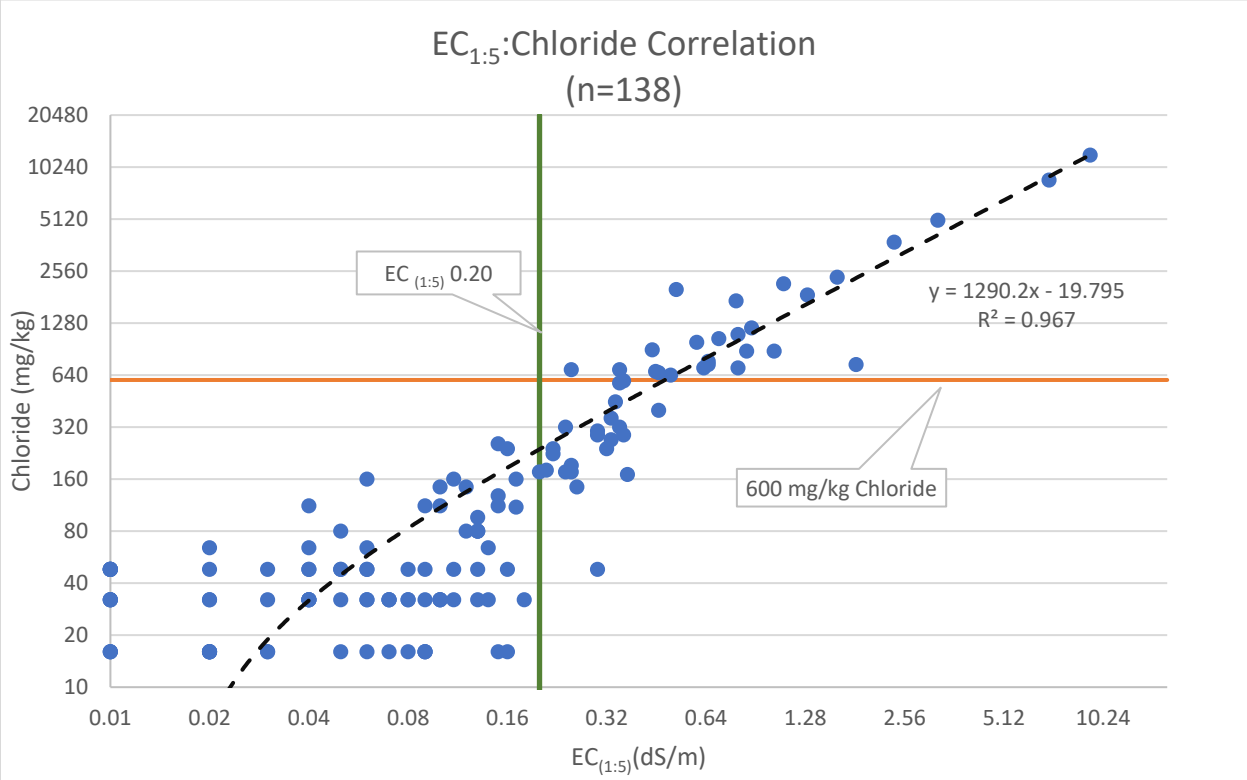
Chloride concentrations can be estimated from ECa by converting

ECa → ECe → $EC_{1:5}$ → Chloride

Converting $EC_{1:5}$ to Chloride uses regression analysis to calculate the y-intercept, where

Eq. 2: $y = 1290.2x - 19.795$

The below chart shows the correlation between $EC_{1:5}$ and laboratory analyzed chloride concentrations measured over 139 sample points (n=138). Analysis of data shows that $EC_{1:5}$ measurements greater than 0.20 dS/m (mS/cm) has potential to exhibit chloride concentrations greater than 600 mg/kg, which is NMOCD's Closure Criteria for remediation of spills in the upper 4-feet.



Equation 3 converts ECa to an estimated Chloride (Cl_{est}) concentration, where

Eq. 3: $Cl_{est} = (1290.2x) - 19.795$, where

$x = EC_{1:5} = \left(\frac{ECe}{CF}\right)$

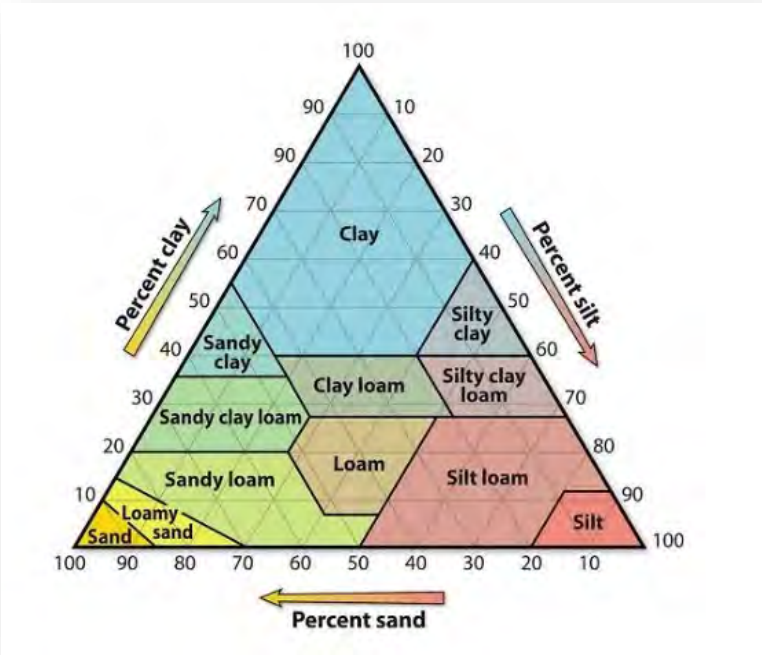
$ECe = 5\left(\frac{ECa}{100}\right)$

Andrew Parker (08/31/2023)

Electromagnetic Induction Survey Orientation

Applying Equation 3 to an ECa reading of 250 mS/m yields the following estimated chloride (Cl_{est}) concentrations.

To estimate chloride from EM38 ECa measurement					
ECa (mS/m)	ECe (dS/m)	Soil Type	CF	EC1:5 (dS/m)	Estimated Cl (mg/kg)
250	12.5	Sand	17	0.74	929
		Sandy Loam	11	1.14	1446
		Loam	10	1.25	1593
		Clay Loam	9	1.39	1772
		Light Medium Clay	8	1.56	1996
		Medium Clay	7	1.79	2284
		Heavy Clay	6	2.08	2668



Andrew Parker (08/31/2023)

Appendix E

Certificates of Analyses

Analytical Report 600715

for

Tetra Tech- Midland

Project Manager: Clair Gonzales

Mobil 22 Fed #1 Tank Battery

212C-MD-01186

03-OCT-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

XENCO LABORATORIES

03-OCT-18

Project Manager: **Clair Gonzales**
Tetra Tech- Midland
901 West Wall ST
Midland, TX 79701

Reference: XENCO Report No(s): **600715**
Mobil 22 Fed #1 Tank Battery
Project Address: Eddy County, New Mexico

Clair Gonzales:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 600715. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 600715 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 600715

Tetra Tech- Midland, Midland, TX

Mobil 22 Fed #1 Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH#1 (0-1')	S	09-26-18 00:00		600715-001
BH#1 (2-3')	S	09-26-18 00:00		600715-002
BH#1 (4-5')	S	09-26-18 00:00		600715-003
BH#1 (6-7')	S	09-26-18 00:00		600715-004
BH#1 (9-10')	S	09-26-18 00:00		600715-005
BH#1(14-15')	S	09-26-18 00:00		600715-006
BH#1 (19-20')	S	09-26-18 00:00		600715-007
BH#1 (24-25')	S	09-26-18 00:00		600715-008
BH#1 (29-30')	S	09-26-18 00:00		600715-009
BH#1 (34-35')	S	09-26-18 00:00		600715-010
BH#1 (39-40')	S	09-26-18 00:00		600715-011
BH#2 (0-1')	S	09-26-18 00:00		600715-012
BH#2 (2-3')	S	09-26-18 00:00		600715-013
BH#2 (4-5')	S	09-26-18 00:00		600715-014
BH#2 (6-7')	S	09-26-18 00:00		600715-015
BH#2 (9-10')	S	09-26-18 00:00		600715-016
BH#2 (14-15')	S	09-26-18 00:00		600715-017
BH#2 (19-20')	S	09-26-18 00:00		600715-018
BH#2 (24-25')	S	09-26-18 00:00		600715-019
BH#2 (29-30')	S	09-26-18 00:00		600715-020
BH#2 (34-35')	S	09-26-18 00:00		600715-021
BH#2 (39-40')	S	09-26-18 00:00		600715-022
BH#2 (44-45')	S	09-26-18 00:00		600715-023
BH#2 (49-50')	S	09-26-18 00:00		600715-024
BG (0-1')	S	09-26-18 00:00		600715-025
BG (2-3')	S	09-26-18 00:00		600715-026
BG (4-5')	S	09-26-18 00:00		600715-027
BG (6-7')	S	09-26-18 00:00		600715-028
BG (9-10')	S	09-26-18 00:00		600715-029
BG (14-15')	S	09-26-18 00:00		600715-030
BG (19-20')	S	09-26-18 00:00		600715-031
BG (24-25')	S	09-26-18 00:00		600715-032

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Mobil 22 Fed #1 Tank Battery

Project ID: *212C-MD-01186*
Work Order Number(s): *600715*

Report Date: *03-OCT-18*
Date Received: *09/28/2018*

Sample receipt non conformances and comments:

Corrected sample names from BG to BH. NEW VERSION GENERATED JKR 10/03/18

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 600715

Tetra Tech- Midland, Midland, TX

Project Name: Mobil 22 Fed #1 Tank Battery

Project Id: 212C-MD-01186
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Sep-28-18 11:17 am
Report Date: 03-OCT-18
Project Manager: Kelsey Brooks

Analysis Requested	*Lab Id:*	600715-001		600715-002		600715-003		600715-004		600715-005		600715-006	
	Field Id:	BH#1 (0-1')		BH#1 (2-3')		BH#1 (4-5')		BH#1 (6-7')		BH#1 (9-10')		BH#1(14-15')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00	
Inorganic Anions by EPA 300/300.1	*Extracted:*	Oct-02-18 09:00		Oct-02-18 09:00		Oct-02-18 09:00		Oct-02-18 09:00		Oct-02-18 09:00		Oct-02-18 09:00	
	Analyzed:	Oct-02-18 14:17		Oct-02-18 14:34		Oct-02-18 14:40		Oct-02-18 14:45		Oct-02-18 14:51		Oct-02-18 14:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		6710	50.0	4960	49.5	4170	24.9	8060	49.8	5270	49.7	6720	50.1

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 600715

Tetra Tech- Midland, Midland, TX

Project Name: Mobil 22 Fed #1 Tank Battery

Project Id: 212C-MD-01186
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Sep-28-18 11.17 am
Report Date: 03-OCT-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	600715-007		600715-008		600715-009		600715-010		600715-011		600715-012	
	Field Id:	BH#1 (19-20')		BH#1 (24-25')		BH#1 (29-30')		BH#1 (34-35')		BH#1 (39-40')		BH#2 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Oct-02-18 11:00		Oct-02-18 09:00		Oct-02-18 09:00		Oct-02-18 09:00		Oct-02-18 09:00		Oct-02-18 09:00	
	Analyzed:	Oct-02-18 18:29		Oct-02-18 15 19		Oct-02-18 15:25		Oct-02-18 16:02		Oct-02-18 16:07		Oct-02-18 16:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		10600	100	3180	25.1	11800	101	9880	99.2	9690	99.6	10500	99.4

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 600715

Tetra Tech- Midland, Midland, TX

Project Name: Mobil 22 Fed #1 Tank Battery

Project Id: 212C-MD-01186
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Sep-28-18 11:17 am
Report Date: 03-OCT-18
Project Manager: Kelsey Brooks

Analysis Requested	*Lab Id:*	600715-013		600715-014		600715-015		600715-016		600715-017		600715-018	
	Field Id:	BH#2 (2-3')		BH#2 (4-5')		BH#2 (6-7')		BH#2 (9-10')		BH#2 (14-15')		BH#2 (19-20')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00	
Inorganic Anions by EPA 300/300.1	*Extracted:*	Oct-02-18 09:00		Oct-02-18 09:00		Oct-02-18 09:00		Oct-02-18 09:00		Oct-02-18 11:00		Oct-02-18 11:00	
	Analyzed:	Oct-02-18 16:19		Oct-02-18 16:24		Oct-02-18 16:30		Oct-02-18 16:36		Oct-02-18 17:33		Oct-02-18 17:38	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		4270	49.5	4230	49.9	3070	24.9	1930	25.2	3240	25.0	2200	25.0

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Jessica Kramer

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 600715

Tetra Tech- Midland, Midland, TX

Project Name: Mobil 22 Fed #1 Tank Battery

Project Id: 212C-MD-01186
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Sep-28-18 11:17 am
Report Date: 03-OCT-18
Project Manager: Kelsey Brooks

Analysis Requested	*Lab Id.*	600715-019		600715-020		600715-021		600715-022		600715-023		600715-024	
	Field Id.	BH#2 (24-25')		BH#2 (29-30')		BH#2 (34-35')		BH#2 (39-40')		BH#2 (44-45')		BH#2 (49-50')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00	
Inorganic Anions by EPA 300/300.1	*Extracted:*	Oct-02-18 11:00		Oct-02-18 11:00		Oct-02-18 11:00		Oct-02-18 11:00		Oct-02-18 11:00		Oct-02-18 11:00	
	Analyzed:	Oct-02-18 17:44		Oct-02-18 17:50		Oct-02-18 18:07		Oct-02-18 18:12		Oct-02-18 18:18		Oct-02-18 18:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		4740	50.0	5710	49.5	3780	25.0	3720	24.9	5470	50.0	6590	50.0

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 600715

Tetra Tech- Midland, Midland, TX

Project Name: Mobil 22 Fed #1 Tank Battery

Project Id: 212C-MD-01186
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Sep-28-18 11:17 am
Report Date: 03-OCT-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	600715-025		600715-026		600715-027		600715-028		600715-029		600715-030	
	Field Id:	BG (0-1')		BG (2-3')		BG (4-5')		BG (6-7')		BG (9-10')		BG (14-15')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00		Sep-26-18 00:00	
Inorganic Anions by EPA 300/300.1	*Extracted:*	Oct-02-18 09:00		Oct-02-18 11:00		Oct-02-18 11:00		Oct-02-18 11:00		Oct-02-18 11:00		Oct-02-18 11:00	
	Analyzed:	Oct-02-18 15:02		Oct-02-18 17:16		Oct-02-18 18:35		Oct-02-18 18:52		Oct-02-18 18:58		Oct-02-18 19:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		239	5.00	368	5.00	109	4.95	65.7	4.97	19.8	5.00	7.14	4.99

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 600715

Tetra Tech- Midland, Midland, TX

Project Name: Mobil 22 Fed #1 Tank Battery

Project Id: 212C-MD-01186
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Sep-28-18 11:17 am
Report Date: 03-OCT-18
Project Manager: Kelsey Brooks

Analysis Requested								
	Lab Id:	600715-031		600715-032				
	Field Id:	BG (19-20')		BG (24-25')				
	Depth:							
	Matrix:	SOIL		SOIL				
	Sampled:	Sep-26-18 00:00		Sep-26-18 00:00				
Inorganic Anions by EPA 300/300.1	***Extracted:***	Oct-02-18 11:00		Oct-02-18 11:00				
	Analyzed:	Oct-02-18 19:21		Oct-02-18 19:26				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		<4.98	4.98	21.0	5.02			

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Jessica Kramer
Project Assistant

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

BS / BSD Recoveries

Project Name: Mobil 22 Fed #1 Tank Battery

Work Order #: 600715, 600715 **Project ID:** 212C-MD-01186

Analyst: SCM **Date Prepared:** 10/02/2018 **Date Analyzed:** 10/02/2018

Lab Batch ID: 3065115 **Sample:** 7663342-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

Inorganic Anions by EPA 300/300.1	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	264	106	250	264	106	0	90-110	20	

Analyst: SCM **Date Prepared:** 10/02/2018 **Date Analyzed:** 10/02/2018

Lab Batch ID: 3065118 **Sample:** 7663383-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

Inorganic Anions by EPA 300/300.1	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	264	106	250	264	106	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: Mobil 22 Fed #1 Tank Battery

Work Order # : 600715 **Project ID:** 212C-MD-01186

Lab Batch ID: 3065115 **QC- Sample ID:** 600712-028 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/02/2018 **Date Prepared:** 10/02/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.858	250	262	105	250	263	105	0	90-110	20	

Lab Batch ID: 3065115 **QC- Sample ID:** 600715-025 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/02/2018 **Date Prepared:** 10/02/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	239	250	493	102	250	496	103	1	90-110	20	

Lab Batch ID: 3065118 **QC- Sample ID:** 600715-026 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/02/2018 **Date Prepared:** 10/02/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	368	250	621	101	250	614	98	1	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is >4 times the amount spiked

Form 3 - MS / MSD Recoveries

Project Name: Mobil 22 Fed #1 Tank Battery

Work Order # : 600715 **Project ID:** 212C-MD-01186

Lab Batch ID: 3065118 **QC- Sample ID:** 600715-027 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/02/2018 **Date Prepared:** 10/02/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	109	248	368	104	248	369	105	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

L600715

Client Name:	Stephens and Johnson	**Site Manager:**	Mike Carmona
Project Name:	Mobil 22 Fed #1 Tank Battery		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-01186
Invoice to:	Stephens and Johnson/Mike Kincaid		
Receiving Laboratory:	Xenco Midland TX	**Sampler Signature:**	Mike Carmona
Comments:			

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2018 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)
	BH#1 (0-1')	9/26/2018			X				X			1	N
	BH#1 (2'-3')	9/26/2018			X				X			1	N
	BH#1 (4'-5')	9/26/2018			X				X			1	N
	BH#1 (6'-7')	9/26/2018			X				X			1	N
	BH#1 (9'-10')	9/26/2018			X				X			1	N
	BH#1 (14'-15')	9/26/2018			X				X			1	N
	BH#1 (19'-20')	9/26/2018			X				X			1	N
	BH#1 (24'-25')	9/26/2018			X				X			1	N
	BH#1 (29'-30')	9/26/2018			X				X			1	N
	BH#1 (34'-35')	9/27/2018			X				X			1	N
	BH#1 (39'-40')	9/26/2018			X				X			1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B	BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
															X							
															X							
															X							
															X							
															X							
															X							
															X							
															X							
															X							
															X							
															X							

Relinquished by: Devin Dominguez 9-28-18 Date: Time:

Received by: [signature] 9/28/18 1117 Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature 3.1/C-5 NE

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste 401 Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

60075

Client Name:	Stephens and Johnson	**Site Manager:**	Mike Carmona
Project Name:	Mobil 22 Fed #1 Tank Battery		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-01186
Invoice to:	Stephens and Johnson/Mike Kincaid		
Receiving Laboratory:	Xenco Midland TX	**Sampler Signature:**	Mike Carmona
Comments:			

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: None	# CONTAINERS	FILTERED (Y/N)
	BH#2 (0-1')	9/26/2018			X			X		1	N
	BH#2 (2'-3')	9/26/2018			X			X		1	N
	BH#2 (4'-5')	9/26/2018			X			X		1	N
	BH#2 (6'-7')	9/26/2018			X			X		1	N
	BH#2 (9'-10')	9/26/2018			X			X		1	N
	BH#2 (14'-15')	9/26/2018			X			X		1	N
	BH#2 (19'-20')	9/26/2018			X			X		1	N
	BH#2 (24'-25')	9/26/2018			X			X		1	N
	BH#2 (29'-30')	9/26/2018			X			X		1	N
	BH#2 (34'-35')	9/26/2018			X			X		1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B	BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				
															X							
															X							
															X							
															X							
															X							
															X							
															X							
															X							
															X							
															X							

1.001

Page 16 of 19 Hold

Relinquished by: Devin Dominguez Date: 9-26-18 Time:
Received by: Date: 9/28/18 Time: 1117

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

LAB USE ONLY

Sample Temperature 3.1/0.0 HE

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste 401 Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Le0715

Client Name:	Stephens and Johnson	**Site Manager:**	Mike Carmona
Project Name:	Mobil 22 Fed #1 Tank Battery		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-01186
Invoice to:	Stephens and Johnson/Mike Kincaid		
Receiving Laboratory:	Xenco Midland TX	**Sampler Signature:**	Mike Carmona
Comments:			

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2018 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance
	BH#2 (39'-40')	9/26/2018			X			X		1	N														X			
	BH#2 (44'-45')	9/26/2018			X			X		1	N														X			
	BH#2 (49'-50')	9/26/2018			X			X		1	N														X			
	BG (0-1')	9/26/2018			X			X		1	N														X			
	BG (2'-3')	9/26/2018			X			X		1	N														X			
	BG (4'-5')	9/26/2018			X			X		1	N														X			
	BG (6'-7')	9/26/2018			X			X		1	N														X			
	BG (9'-10')	9/26/2018			X			X		1	N														X			
	BG (14'-15')	9/26/2018			X			X		1	N														X			
	BG (19'-20')	9/26/2018			X			X		1	N														X			

ANALYSIS REQUEST
(Circle or Specify Method No.)

1.001

Page 17 (Hold)

Relinquished by: Devin Dominguez	Date: 9/28/18	Time:	Received by:	Date: 9/28/18	Time: 1117
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 3.1 4.6 C

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking # _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste 401 Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

CO075

Client Name:	Stephens and Johnson
Site Manager:	Mike Carmona
Project Name:	Mobil 22 Fed #1 Tank Battery
Project Location: (county, state)	Eddy County, New Mexico
Project #:	212C-MD-01186
Invoice to:	Stephens and Johnson/Mike Kincaid
Receiving Laboratory:	Xenco Midland TX
Sampler Signature:	Mike Carmona
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: None	PRESERVATIVE METHOD:	# CONTAINERS	FILTERED (Y/N)
	BG (24'-25')	9/26/2018			X				X			1	N

YEAR: 2018

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance					
														X								

1 001

Page 18 of 19

Relinquished by: Devin Dominguez	Date: 9-28-18	Time:	Received by:	Date: 9/28/18	Time: 1117
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 3/0.0 KG

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 09/28/2018 11:17:00 AM

Work Order #: 600715

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6*Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date 09/28/2018

Checklist reviewed by: Kelsey Brooks Date 10/01/2018

Certificate of Analysis Summary 604803

Tetra Tech- Midland, Midland, TX

Project Name: Stephens and Johnson-Mobil Tank Battery #1

Project Id: 212C-MD-01186 Task #300
Contact: Mike Carmona
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu Nov-08-18 09:07 am
Report Date: 13-NOV-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	604803-001		604803-002		604803-003		604803-004		604803-005		604803-006	
	Field Id:	Center BH (0-1')		Center BH (2'-3')		Center BH (4'-5')		Center BH (6'-7')		Center BH (9'-10')		Center BH (14'-15')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00	
Chloride by EPA 300	*Extracted:*	Nov-09-18 14:00		Nov-09-18 14:00		Nov-09-18 14:00		Nov-09-18 14:00		Nov-09-18 14:30		Nov-09-18 14:30	
	Analyzed:	Nov-09-18 17:58		Nov-09-18 18:03		Nov-09-18 18:09		Nov-09-18 18:14		Nov-09-18 19:02		Nov-09-18 19:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		9130	100	8880	100	9420	99.0	8380	99.0	4910	50.0	3590	50.0

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Version: 1.%

Kelsey Brooks
Project Manager

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Certificate of Analysis Summary 604803

Tetra Tech- Midland, Midland, TX

Project Name: Stephens and Johnson-Mobil Tank Battery #1

Project Id: 212C-MD-01186 Task #300
Contact: Mike Carmona
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu Nov-08-18 09:07 am
Report Date: 13-NOV-18
Project Manager: Kelsey Brooks

Analysis Requested	*Lab Id:*	604803-007		604803-008		604803-009		604803-010		604803-011		604803-012	
	Field Id:	Center BH (19'-20')		Center BH (24'-25')		Center BH (29'-30')		Center BH (34'-35')		Center BH (39'-40')		Center BH (44'-45')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00	
Chloride by EPA 300	*Extracted:*	Nov-09-18 14:30		Nov-09-18 14:30		Nov-09-18 14:30		Nov-09-18 14:30		Nov-09-18 14:30		Nov-09-18 14:30	
	Analyzed:	Nov-09-18 19:12		Nov-09-18 19:18		Nov-09-18 19:34		Nov-09-18 19:39		Nov-09-18 19:44		Nov-09-18 19:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2910	24.9	979	24.9	2910	25.0	2500	25.0	1650	24.8	369	24.9

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Version: 1.%

Kelsey Brooks
Project Manager

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Certificate of Analysis Summary 604803

Tetra Tech- Midland, Midland, TX

Project Name: Stephens and Johnson-Mobil Tank Battery #1

Project Id: 212C-MD-01186 Task #300
Contact: Mike Carmona
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu Nov-08-18 09:07 am
Report Date: 13-NOV-18
Project Manager: Kelsey Brooks

Analysis Requested	*Lab Id:*	604803-013		604803-014		604803-015		604803-016		604803-017		604803-018	
	Field Id:	Center BH (49'-50')		Center BH (54'-55')		Center BH (59'-60')		Center BH (64'-65')		Lease Rd BH (0-1)		Lease Rd BH (2'-3')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00	
Chloride by EPA 300	*Extracted:*	Nov-09-18 14:30		Nov-09-18 14:30		Nov-09-18 14:30		Nov-09-18 14:30		Nov-09-18 14:30		Nov-09-18 14:30	
	Analyzed:	Nov-09-18 18:46		Nov-09-18 19:55		Nov-09-18 20:16		Nov-09-18 20:21		Nov-09-18 20:37		Nov-09-18 20:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		756	4.96	640	49.7	666	49.7	51.9	49.9	5110	49.5	4290	49.9

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 604803

Tetra Tech- Midland, Midland, TX

Project Name: Stephens and Johnson-Mobil Tank Battery #1

Project Id: 212C-MD-01186 Task #300
Contact: Mike Carmona
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu Nov-08-18 09:07 am
Report Date: 13-NOV-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	604803-019		604803-020		604803-021		604803-022		604803-023		604803-024	
	Field Id:	Lease Rd BH (4'-5')		Lease Rd BH (6'7')		Lease Rd BH (9'-10')		Leasse Rd BH (14-15')		Lease Rd BH (19'-20')		Lease Rd BH (24'-25')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00	
Chloride by EPA 300	*Extracted:*	Nov-09-18 14:30		Nov-09-18 14:30		Nov-09-18 14:30		Nov-09-18 14:30		Nov-09-18 14:30		Nov-09-18 14:30	
	Analyzed:	Nov-09-18 20:48		Nov-09-18 20:53		Nov-09-18 20:58		Nov-09-18 21:04		Nov-09-18 21:09		Nov-09-18 20:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2190	25.0	1210	24.8	1060	25.0	2840	25.0	2900	25.0	771	4.99

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Version: 1.%

Kelsey Brooks
Project Manager

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Certificate of Analysis Summary 604803

Tetra Tech- Midland, Midland, TX

Project Name: Stephens and Johnson-Mobil Tank Battery #1

Project Id: 212C-MD-01186 Task #300
Contact: Mike Carmona
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu Nov-08-18 09:07 am
Report Date: 13-NOV-18
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	604803-025		604803-026		604803-027					
	Field Id:	Lease Rd Bll (29'-30')		Lease Rd Bll (35')		Lease Rd Bll (40')					
	Depth:										
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Nov-07-18 00:00		Nov-07-18 00:00		Nov-07-18 00:00					
Chloride by EPA 300	*Extracted:*	Nov-09-18 17:00		Nov-09-18 17:00		Nov-09-18 17:00					
	Analyzed:	Nov-09-18 21:41		Nov-09-18 21:57		Nov-09-18 22:02					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		694	5.00	231	4.96	263	4.96				

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Version: 1.%

Kelsey Brooks
Project Manager

Analytical Report 604803

for

Tetra Tech- Midland

Project Manager: Mike Carmona

Stephens and Johnson-Mobil Tank Battery #1

212C-MD-01186 Task #300

13-NOV-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

13-NOV-18

Project Manager: **Mike Carmona**
Tetra Tech- Midland
901 West Wall ST
Midland, TX 79701

Reference: XENCO Report No(s): **604803**
Stephens and Johnson-Mobil Tank Battery #1
Project Address: Eddy County, New Mexico

Mike Carmona:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 604803. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 604803 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Center BH (0-1')	S	11-07-18 00:00		604803-001
Center BH (2'-3')	S	11-07-18 00:00		604803-002
Center BH (4'-5')	S	11-07-18 00:00		604803-003
Center BH (6'-7')	S	11-07-18 00:00		604803-004
Center BH (9'-10')	S	11-07-18 00:00		604803-005
Center BH (14'-15')	S	11-07-18 00:00		604803-006
Center BH (19'-20')	S	11-07-18 00:00		604803-007
Center BH (24'-25')	S	11-07-18 00:00		604803-008
Center BH (29'-30')	S	11-07-18 00:00		604803-009
Center BH (34'-35')	S	11-07-18 00:00		604803-010
Center BH (39'-40')	S	11-07-18 00:00		604803-011
Center BH (44'-45')	S	11-07-18 00:00		604803-012
Center BH (49'-50')	S	11-07-18 00:00		604803-013
Center BH (54'-55')	S	11-07-18 00:00		604803-014
Center BH (59'-60')	S	11-07-18 00:00		604803-015
Center BH (64'-65')	S	11-07-18 00:00		604803-016
Lease Rd BH (0-1)	S	11-07-18 00:00		604803-017
Lease Rd BH (2'-3')	S	11-07-18 00:00		604803-018
Lease Rd BH (4'-5')	S	11-07-18 00:00		604803-019
Lease Rd BH (6'7')	S	11-07-18 00:00		604803-020
Lease Rd BH (9'-10')	S	11-07-18 00:00		604803-021
Leasse Rd BH (14-15')	S	11-07-18 00:00		604803-022
Lease Rd BH (19'-20')	S	11-07-18 00:00		604803-023
Lease Rd BH (24'-25')	S	11-07-18 00:00		604803-024
Lease Rd BH (29'-30')	S	11-07-18 00:00		604803-025
Lease Rd BH (35')	S	11-07-18 00:00		604803-026
Lease Rd BH (40')	S	11-07-18 00:00		604803-027

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Stephens and Johnson-Mobil Tank Battery #1

Project ID: *212C-MD-01186 Task #3*
Work Order Number(s): *604803*

Report Date: *13-NOV-18*
Date Received: *11/08/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3069220 Inorganic Anions by EPA 300
Nitrite as N RPD was outside laboratory control limits.
Samples in the analytical batch are: 604803-001, -002, -003, -004

Batch: LBA-3069222 Chloride by EPA 300
Lab Sample ID 604803-024 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 604803-005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020, -021, -022, -023, -024.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Nitrite as N Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.
Samples in the analytical batch are: 604803-005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020, -021, -022, -023, -024

Batch: LBA-3069225 Chloride by EPA 300
Lab Sample ID 605056-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 604803-025, -026, -027.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (0-1')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-001	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.00	Basis:	Wet Weight
Seq Number:	3069220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9130**	100	mg/kg	11.09.18 17.58		20

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (2'-3')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-002	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.00	Basis:	Wet Weight
Seq Number:	3069220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8880**	100	mg/kg	11.09.18 18.03		20

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (4'-5')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-003	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.00	Basis:	Wet Weight
Seq Number:	3069220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9420**	99.0	mg/kg	11.09.18 18.09		20

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (6'-7')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-004	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.00	Basis:	Wet Weight
Seq Number:	3069220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8380**	99.0	mg/kg	11.09.18 18.14		20

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (9'-10')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-005	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4910**	50.0	mg/kg	11.09.18 19.02		10

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (14'-15')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-006	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3590**	50.0	mg/kg	11.09.18 19.07		10

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (19'-20')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-007	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2910**	24.9	mg/kg	11.09.18 19.12		5

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (24'-25')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-008	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**979**	24.9	mg/kg	11.09.18 19.18		5

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (29'-30')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-009	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2910**	25.0	mg/kg	11.09.18 19.34		5

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (34'-35')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-010	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2500**	25.0	mg/kg	11.09.18 19.39		5

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (39'-40')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-011	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1650**	24.8	mg/kg	11.09.18 19.44		5

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (44'-45')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-012	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**369**	24.9	mg/kg	11.09.18 19.49		5

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (49'-50')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-013	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**756**	4.96	mg/kg	11.09.18 18.46		1

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (54'-55')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-014	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**640**	49.7	mg/kg	11.09.18 19.55		10

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (59'-60')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-015	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**666**	49.7	mg/kg	11.09.18 20.16		10

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Center BH (64'-65')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-016	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**51.9**	49.9	mg/kg	11.09.18 20.21		10

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Lease Rd BH (0-1)**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-017	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5110**	49.5	mg/kg	11.09.18 20.37		10

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Lease Rd BH (2'-3')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-018	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4290**	49.9	mg/kg	11.09.18 20.42		10

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Lease Rd BH (4'-5')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-019	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2190**	25.0	mg/kg	11.09.18 20.48		5

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Lease Rd BH (6'7')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-020	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1210**	24.8	mg/kg	11.09.18 20.53		5

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Lease Rd BH (9'-10')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-021	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1060**	25.0	mg/kg	11.09.18 20.58		5

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Leasse Rd BH (14-15')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-022	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2840**	25.0	mg/kg	11.09.18 21.04		5

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Lease Rd BH (19'-20')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-023	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2900**	25.0	mg/kg	11.09.18 21.09		5

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Lease Rd BH (24'-25')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-024	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 14.30	Basis:	Wet Weight
Seq Number:	3069222				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	771	4.99	mg/kg	11.09.18 20.00		1

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Lease Rd BH (29'-30')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-025	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 17.00	Basis:	Wet Weight
Seq Number:	3069225				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**694**	5.00	mg/kg	11.09.18 21.41		1

Final 1.000

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Lease Rd BH (35')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-026	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 17.00	Basis:	Wet Weight
Seq Number:	3069225				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**231**	4.96	mg/kg	11.09.18 21.57		1

Certificate of Analytical Results 604803

Tetra Tech- Midland, Midland, TX

Stephens and Johnson-Mobil Tank Battery #1

Sample Id:	**Lease Rd BH (40')**	Matrix:	Soil	Date Received:	11.08.18 09.07
Lab Sample Id:	604803-027	Date Collected:	11.07.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 17.00	Basis:	Wet Weight
Seq Number:	3069225				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**263**	4.96	mg/kg	11.09.18 22.02		1

Final 1.000

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 604803

Tetra Tech- Midland

Stephens and Johnson-Mobil Tank Battery #1

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3069220 — Matrix: Solid — Date Prep: 11.09.18
MB Sample Id: 7665876-1-BLK — LCS Sample Id: 7665876-1-BKS — LCSD Sample Id: 7665876-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	258	103	268	107	90-110	4	20	mg/kg	11.09.18 15:34	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3069222 — Matrix: Solid — Date Prep: 11.09.18
MB Sample Id: 7665875-1-BLK — LCS Sample Id: 7665875-1-BKS — LCSD Sample Id: 7665875-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	270	108	269	108	90-110	0	20	mg/kg	11.09.18 18:35	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3069225 — Matrix: Solid — Date Prep: 11.09.18
MB Sample Id: 7665898-1-BLK — LCS Sample Id: 7665898-1-BKS — LCSD Sample Id: 7665898-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	260	104	257	103	90-110	1	20	mg/kg	11.09.18 21:30	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3069220 — Matrix: Soil — Date Prep: 11.09.18
Parent Sample Id: 604853-004 — MS Sample Id: 604853-004 S — MSD Sample Id: 604853-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	141	250	381	96	384	97	90-110	1	20	mg/kg	11.09.18 17:04	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3069220 — Matrix: Soil — Date Prep: 11.09.18
Parent Sample Id: 604879-002 — MS Sample Id: 604879-002 S — MSD Sample Id: 604879-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.850	248	248	100	251	101	90-110	1	20	mg/kg	11.09.18 15:50	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

Final 1.000

QC Summary 604803

Tetra Tech- Midland

Stephens and Johnson-Mobil Tank Battery #1

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3069222 — Matrix: Soil — Date Prep: 11.09.18
Parent Sample Id: 604803-013 — MS Sample Id: 604803-013 S — MSD Sample Id: 604803-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	756	248	993	96	987	93	90-110	1	20	mg/kg	11.09.18 18:51	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3069222 — Matrix: Soil — Date Prep: 11.09.18
Parent Sample Id: 604803-024 — MS Sample Id: 604803-024 S — MSD Sample Id: 604803-024 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	771	250	971	80	954	73	90-110	2	20	mg/kg	11.09.18 20:05	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3069225 — Matrix: Soil — Date Prep: 11.09.18
Parent Sample Id: 604803-025 — MS Sample Id: 604803-025 S — MSD Sample Id: 604803-025 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	694	250	931	95	910	86	90-110	2	20	mg/kg	11.09.18 21:46	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3069225 — Matrix: Soil — Date Prep: 11.09.18
Parent Sample Id: 605056-005 — MS Sample Id: 605056-005 S — MSD Sample Id: 605056-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	657	252	899	96	880	88	90-110	2	20	mg/kg	11.09.18 23:00	X

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

Analysis Request of Chain of Custody Record

11/8/18

Page 1 of 3

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: Stephens and Johnson	**Site Manager:** Mike Carmona
Mobil Tank Battery #1	
Project Location: (county, state) Eddy County, New Mexico	**Project #:** 212C-MD-01186 Task #300
Invoice to: MIKE Kincaid / Stephens & Johnson	
Receiving Laboratory: Xenco	**Sampler Signature:** Mike Carmona
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2018 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)
	Center BH (0-1')	11/7/2018			X				X			1	N
	Center BH (2'-3')	11/7/2018			X				X			1	N
	Center BH (4'-5')	11/7/2018			X				X			1	N
	Center BH (6'-7')	11/7/2018			X				X			1	N
	Center BH (9'-10')	11/7/2018			X				X			1	N
	Center BH (14'-15')	11/7/2018			X				X			1	N
	Center BH (19'-20')	11/7/2018			X				X			1	N
	Center BH (24'-25')	11/7/2018			X				X			1	N
	Center BH (29'-30')	11/7/2018			X				X			1	N
	Center BH (34'-35')	11/7/2018			X				X			1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B	BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R			
															X							
															X							
															X							
															X							
															X							
															X							
															X							
															X							
															X							
															X							

Final 1.000

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Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	11/8/18	0907		11/8/18	0907
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

9.3/0.0 pb

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Page 2 of 3

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: Stephens and Johnson	Site Manager: Mike Carmona
Mobil Tank Battery #1	
Project Location: (county, state) Eddy County, New Mexico	Project #: 212C-MD-01186 Task #300
Invoice to: Mike Kincaid - Stephens & Johnson	
Receiving Laboratory: Xenco	Sampler Signature: Mike Carmona
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: None	PRESERVATIVE METHOD:	# CONTAINERS	FILTERED (Y/N)
	Center BH (39'-40')	11/7/2018			X				X			1	N
	Center BH (44'-45')	11/7/2018			X				X			1	N
	Center BH (49'-50')	11/7/2018			X				X			1	N
	Center BH (54'-55')	11/7/2018			X				X			1	N
	Center BH (59'-60')	11/7/2018			X				X			1	N
	Center BH (64'-65')	11/7/2018			X				X			1	N
	Lease Rd BH (0-1')	11/7/2018			X				X			1	N
	Lease Rd BH (2'-3')	11/7/2018			X				X			1	N
	Lease Rd BH (4'-5')	11/7/2018			X				X			1	N
	Lease Rd BH (6'-7')	11/7/2018			X				X			1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R			
														X							
														X							
														X							
														X							
														X							
														X							
														X							
														X							
														X							
														X							
														X							

Final 1.000

Page 41 of 43

Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	11/8/18	0907		11/8/18	0907
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 9-3 | 0.0 | 1.0

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

100803

Page 3 of 3

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: Stephens and Johnson	Site Manager: Mike Carmona
Mobil Tank Battery #1	
Project Location: (county, state) Eddy County, New Mexico	Project #: 212C-MD-01186 Task #300
Invoice to: Mike Kincaid / Stephens & Johnson	
Receiving Laboratory: Xenco	Sampler Signature: Mike Carmona
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: None	PRESERVATIVE METHOD:	# CONTAINERS	FILTERED (Y/N)
	Lease Rd BH (9'-10')	11/7/2018			X				X			1	N
	Lease Rd BH (14'-15')	11/7/2018			X				X			1	N
	Lease Rd BH (19'-20')	11/7/2018			X				X			1	N
	Lease Rd BH (24'-25')	11/7/2018			X				X			1	N
	Lease Rd BH (29'-30')	11/7/2018			X				X			1	N
	Lease Rd BH (35')	11/7/2018			X				X			1	N
	Lease Rd BH (40')	11/7/2018			X				X			1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Sulfate	TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R			
														X								
														X								
														X								
														X								
														X								
														X								
														X								

Final 1.000

Page 42 of 49 Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	11/8/18	0907		11/8/18	0907
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 9.3 bo

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 11/08/2018 09:07:00 AM

Work Order #: 604803

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	N/A
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6*Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 11/08/2018
Brianna Teel

Checklist reviewed by: Kelsey Brooks Date: 11/08/2018
Kelsey Brooks

CARDINAL Laboratories

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

August 02, 2022

LUCAS MIDDLETON

ATKINS ENGINEERING

2904 W. 2ND STREET

ROSWELL, NM 88203

RE: MOBIL 22 FED #1

Enclosed are the results of analyses for samples received by the laboratory on 07/28/22 9:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

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

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

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

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TW 1 - 4-6	H223322-01	Soil	25-Jul-22 10:31	28-Jul-22 09:30
TW 1 - 9-11	H223322-02	Soil	25-Jul-22 10:40	28-Jul-22 09:30
TW 1 - 14-16	H223322-03	Soil	25-Jul-22 10:48	28-Jul-22 09:30
TW 1 - 19-21	H223322-04	Soil	25-Jul-22 10:57	28-Jul-22 09:30
TW 1 - 24-26	H223322-05	Soil	25-Jul-22 11:07	28-Jul-22 09:30
TW 1 - 29-31	H223322-06	Soil	25-Jul-22 11:24	28-Jul-22 09:30
TW 1 - 34-36	H223322-07	Soil	25-Jul-22 11:37	28-Jul-22 09:30
TW 1 - 39-41	H223322-08	Soil	25-Jul-22 12:05	28-Jul-22 09:30
TW 1 - 44-46	H223322-09	Soil	25-Jul-22 13:14	28-Jul-22 09:30
TW 1 - 49-51	H223322-10	Soil	25-Jul-22 13:39	28-Jul-22 09:30
TW 1 - 54-56	H223322-11	Soil	26-Jul-22 14:22	28-Jul-22 09:30
TW 1 - 59-61	H223322-12	Soil	26-Jul-22 15:02	28-Jul-22 09:30
TW 1 - 64-66	H223322-13	Soil	26-Jul-22 15:39	28-Jul-22 09:30
TW 1 - 69-71	H223322-14	Soil	26-Jul-22 16:22	28-Jul-22 09:30
TW 1 - 74-76	H223322-15	Soil	26-Jul-22 16:45	28-Jul-22 09:30
TW 1 - WATER	H223322-16	Water	26-Jul-22 08:25	28-Jul-22 09:30

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 4-6

H223322-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**1600**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*96.6 %*	*69.9-140*		*2072903*	JH/	*30-Jul-22*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
Surrogate: 1-Chlorooctane			*80.0 %*	*43-149*		*2072906*	MS	*29-Jul-22*	*8015B*	
Surrogate: 1-Chlorooctadecane			*76.0 %*	*42.5-161*		*2072906*	MS	*29-Jul-22*	*8015B*	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 9-11

H223322-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**1230**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*97.2 %*	*69.9-140*		*2072903*	JH/	*30-Jul-22*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
Surrogate: 1-Chlorooctane			*91.3 %*	*43-149*		*2072906*	MS	*29-Jul-22*	*8015B*	
Surrogate: 1-Chlorooctadecane			*87.7 %*	*42.5-161*		*2072906*	MS	*29-Jul-22*	*8015B*	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 14-16

H223322-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**688**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*96.7 %*	*69.9-140*		*2072903*	JH/	*30-Jul-22*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
Surrogate: 1-Chlorooctane			*84.8 %*	*43-149*		*2072906*	MS	*29-Jul-22*	*8015B*	
Surrogate: 1-Chlorooctadecane			*79.5 %*	*42.5-161*		*2072906*	MS	*29-Jul-22*	*8015B*	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 19-21

H223322-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**1090**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 24-26

H223322-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**720**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 29-31

H223322-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**3400**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 34-36

H223322-07 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**1490**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 39-41

H223322-08 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**2880**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 44-46

H223322-09 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**4080**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 49-51

H223322-10 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**5200**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 54-56

H223322-11 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**12000**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 59-61

H223322-12 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**5360**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 64-66

H223322-13 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**2040**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*96.9 %*	*69.9-140*		*2072903*	JH/	*30-Jul-22*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
Surrogate: 1-Chlorooctane			*87.4 %*	*43-149*		*2072906*	MS	*29-Jul-22*	*8015B*	
Surrogate: 1-Chlorooctadecane			*83.5 %*	*42.5-161*		*2072906*	MS	*29-Jul-22*	*8015B*	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 69-71

H223322-14 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**13000**		16.0	mg/kg	4	2072932	AC	29-Jul-22	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*98.8 %*	*69.9-140*		*2072903*	JH/	*30-Jul-22*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
Surrogate: 1-Chlorooctane			*80.0 %*	*43-149*		*2072906*	MS	*29-Jul-22*	*8015B*	
Surrogate: 1-Chlorooctadecane			*77.3 %*	*42.5-161*		*2072906*	MS	*29-Jul-22*	*8015B*	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - 74-76

H223322-15 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**5730**		16.0	mg/kg	4	2072933	AC	29-Jul-22	4500-Cl-B	QM-07

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CARDINAL Laboratories

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

TW 1 - WATER

H223322-16 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride*	**46300**		4.00	mg/L	1	2072821	AC	01-Aug-22	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	**0.002**		0.001	mg/L	1	2072629	JH/	28-Jul-22	8021B	
Toluene*	<0.001		0.001	mg/L	1	2072629	JH/	28-Jul-22	8021B	
Ethylbenzene*	<0.001		0.001	mg/L	1	2072629	JH/	28-Jul-22	8021B	
Total Xylenes*	<0.003		0.003	mg/L	1	2072629	JH/	28-Jul-22	8021B	
Total BTEX	<0.006		0.006	mg/L	1	2072629	JH/	28-Jul-22	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*94.4 %*	*77.1-124*		*2072629*	JH/	*28-Jul-22*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<1.00		1.00	mg/L	0.1	2072831	MS	29-Jul-22	8015B	
DRO >C10-C28*	<1.00		1.00	mg/L	0.1	2072831	MS	29-Jul-22	8015B	
EXT DRO >C28-C36	<1.00		1.00	mg/L	0.1	2072831	MS	29-Jul-22	8015B	
Surrogate: 1-Chlorooctane			*62.8 %*	*44.9-146*		*2072831*	MS	*29-Jul-22*	*8015B*	
Surrogate: 1-Chlorooctadecane			*75.1 %*	*39.8-162*		*2072831*	MS	*29-Jul-22*	*8015B*	

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2072821 - General Prep - Wet Chem										
Blank (2072821-BLK1)				Prepared & Analyzed: 01-Aug-22						
Chloride	ND	4.00	mg/L							
LCS (2072821-BS1)				Prepared & Analyzed: 01-Aug-22						
Chloride	100	4.00	mg/L	100		100	80-120			
LCS Dup (2072821-BSD1)				Prepared & Analyzed: 01-Aug-22						
Chloride	104	4.00	mg/L	100		104	80-120	3.92	20	
Batch 2072932 - 1:4 DI Water										
Blank (2072932-BLK1)				Prepared & Analyzed: 29-Jul-22						
Chloride	ND	16.0	mg/kg							
LCS (2072932-BS1)				Prepared & Analyzed: 29-Jul-22						
Chloride	416	16.0	mg/kg	400		104	80-120			
LCS Dup (2072932-BSD1)				Prepared & Analyzed: 29-Jul-22						
Chloride	432	16.0	mg/kg	400		108	80-120	3.77	20	
Batch 2072933 - 1:4 DI Water										
Blank (2072933-BLK1)				Prepared & Analyzed: 29-Jul-22						
Chloride	ND	16.0	mg/kg							
LCS (2072933-BS1)				Prepared & Analyzed: 29-Jul-22						
Chloride	432	16.0	mg/kg	400		108	80-120			

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CARDINAL Laboratories

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2072933 - 1:4 DI Water										
LCS Dup (2072933-BSD1)				Prepared & Analyzed: 29-Jul-22						
Chloride	416	16.0	mg/kg	400		104	80-120	3.77	20	

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2072629 - Volatiles										
Blank (2072629-BLK1)				Prepared: 26-Jul-22 Analyzed: 28-Jul-22						
Benzene	ND	0.001	mg/L							
Toluene	ND	0.001	mg/L							
Ethylbenzene	ND	0.001	mg/L							
Total Xylenes	ND	0.003	mg/L							
Total BTEX	ND	0.006	mg/L							
Surrogate: 4-Bromofluorobenzene (PID)	*0.0491*		mg/L	*0.0500*		*98.1*	*77.1-124*			
LCS (2072629-BS1)				Prepared: 26-Jul-22 Analyzed: 28-Jul-22						
Benzene	0.020	0.001	mg/L	0.0200		100	94.7-118			
Toluene	0.020	0.001	mg/L	0.0200		98.1	89-115			
Ethylbenzene	0.020	0.001	mg/L	0.0200		99.5	94-114			
m,p-Xylene	0.042	0.002	mg/L	0.0400		104	94.6-114			
o-Xylene	0.020	0.001	mg/L	0.0200		101	94.6-114			
Total Xylenes	0.062	0.003	mg/L	0.0600		103	94.6-114			
Surrogate: 4-Bromofluorobenzene (PID)	*0.0506*		mg/L	*0.0500*		*101*	*77.1-124*			
LCS Dup (2072629-BSD1)				Prepared: 26-Jul-22 Analyzed: 28-Jul-22						
Benzene	0.019	0.001	mg/L	0.0200		95.3	94.7-118	5.05	3.83	QR-04
Toluene	0.019	0.001	mg/L	0.0200		93.7	89-115	4.55	3.48	QR-04
Ethylbenzene	0.019	0.001	mg/L	0.0200		93.2	94-114	6.50	3.79	BS-3, QR-04
m,p-Xylene	0.039	0.002	mg/L	0.0400		96.6	94.6-114	7.49	3.91	QR-04
o-Xylene	0.019	0.001	mg/L	0.0200		93.3	94.6-114	8.02	3.91	BS-3, QR-04
Total Xylenes	0.057	0.003	mg/L	0.0600		95.5	94.6-114	7.67	3.91	QR-04
Surrogate: 4-Bromofluorobenzene (PID)	*0.0482*		mg/L	*0.0500*		*96.4*	*77.1-124*			
Batch 2072903 - Volatiles										
Blank (2072903-BLK1)				Prepared & Analyzed: 29-Jul-22						
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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CARDINAL Laboratories

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2072903 - Volatiles										
Blank (2072903-BLK1)				Prepared & Analyzed: 29-Jul-22						
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	*ND*		mg/kg	*0.0500*		*96.5*	*69.9-140*			
LCS (2072903-BS1)				Prepared & Analyzed: 29-Jul-22						
Benzene	1.99	0.050	mg/kg	2.00		99.6	83.4-122			
Toluene	2.09	0.050	mg/kg	2.00		105	84.2-126			
Ethylbenzene	2.15	0.050	mg/kg	2.00		108	84.2-121			
m,p-Xylene	4.43	0.100	mg/kg	4.00		111	89.9-126			
o-Xylene	2.11	0.050	mg/kg	2.00		106	84.3-123			
Total Xylenes	6.54	0.150	mg/kg	6.00		109	89.1-124			
Surrogate: 4-Bromofluorobenzene (PID)	*0.0481*		mg/kg	*0.0500*		*96.3*	*69.9-140*			
LCS Dup (2072903-BSD1)				Prepared & Analyzed: 29-Jul-22						
Benzene	1.82	0.050	mg/kg	2.00		90.8	83.4-122	9.21	12.6	
Toluene	1.89	0.050	mg/kg	2.00		94.5	84.2-126	10.1	13.3	
Ethylbenzene	1.94	0.050	mg/kg	2.00		97.1	84.2-121	10.1	13.9	
m,p-Xylene	4.00	0.100	mg/kg	4.00		100	89.9-126	10.2	13.6	
o-Xylene	1.91	0.050	mg/kg	2.00		95.3	84.3-123	10.3	14.1	
Total Xylenes	5.91	0.150	mg/kg	6.00		98.4	89.1-124	10.2	13.4	
Surrogate: 4-Bromofluorobenzene (PID)	*0.0468*		mg/kg	*0.0500*		*93.6*	*69.9-140*			

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CARDINAL Laboratories

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2072831 - General Prep - Organics										
Blank (2072831-BLK2)				Prepared: 28-Jul-22 Analyzed: 01-Aug-22						
GRO C6-C10	ND	1.00	mg/L							
DRO >C10-C28	ND	1.00	mg/L							
EXT DRO >C28-C36	ND	1.00	mg/L							
Surrogate: 1-Chlorooctane	*3.32*		mg/L	*5.00*		*66.4*	*44.9-146*			
Surrogate: 1-Chlorooctadecane	*2.81*		mg/L	*5.00*		*56.2*	*39.8-162*			
LCS (2072831-BS2)				Prepared: 28-Jul-22 Analyzed: 01-Aug-22						
GRO C6-C10	43.9	1.00	mg/L	50.0		87.8	72.4-116			
DRO >C10-C28	44.2	1.00	mg/L	50.0		88.4	70-121			
Surrogate: 1-Chlorooctane	*4.56*		mg/L	*5.00*		*91.3*	*44.9-146*			
Surrogate: 1-Chlorooctadecane	*4.31*		mg/L	*5.00*		*86.3*	*39.8-162*			
LCS Dup (2072831-BSD2)				Prepared: 28-Jul-22 Analyzed: 01-Aug-22						
GRO C6-C10	43.9	1.00	mg/L	50.0		87.8	72.4-116	0.0296	8.73	
DRO >C10-C28	44.8	1.00	mg/L	50.0		89.5	70-121	1.27	24.8	
Surrogate: 1-Chlorooctane	*4.90*		mg/L	*5.00*		*98.0*	*44.9-146*			
Surrogate: 1-Chlorooctadecane	*4.63*		mg/L	*5.00*		*92.7*	*39.8-162*			
Batch 2072906 - General Prep - Organics										
Blank (2072906-BLK1)				Prepared & Analyzed: 29-Jul-22						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	*47.3*		mg/kg	*50.0*		*94.7*	*43-149*			
Surrogate: 1-Chlorooctadecane	*45.2*		mg/kg	*50.0*		*90.4*	*42.5-161*			

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:35

Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2072906 - General Prep - Organics										
LCS (2072906-BS1)				Prepared & Analyzed: 29-Jul-22						
GRO C6-C10	221	10.0	mg/kg	200		110	78.5-128			
DRO >C10-C28	233	10.0	mg/kg	200		116	75.8-135			
Total TPH C6-C28	453	10.0	mg/kg	400		113	81.5-127			
Surrogate: 1-Chlorooctane	*53.0*		mg/kg	*50.0*		*106*	*43-149*			
Surrogate: 1-Chlorooctadecane	*51.2*		mg/kg	*50.0*		*102*	*42.5-161*			
LCS Dup (2072906-BSD1)				Prepared & Analyzed: 29-Jul-22						
GRO C6-C10	225	10.0	mg/kg	200		113	78.5-128	2.05	21.4	
DRO >C10-C28	235	10.0	mg/kg	200		117	75.8-135	1.04	17.9	
Total TPH C6-C28	460	10.0	mg/kg	400		115	81.5-127	1.53	17.6	
Surrogate: 1-Chlorooctane	*50.5*		mg/kg	*50.0*		*101*	*43-149*			
Surrogate: 1-Chlorooctadecane	*51.7*		mg/kg	*50.0*		*103*	*42.5-161*			

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Notes and Definitions

QR-04	The RPD for the BS/BSD was outside of historical limits.
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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TW-1

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Atkins Eng
Project Manager:	Lucas Middleton
Address:	2909 W 2nd
City:	Roswell State: NM Zip: 88201
Phone #:	575.499.9244 Fax #:
Project #:	6 Jamobi. 01.22 Project Owner:
Project Name:	Mobil 22 Fed 1
Project Location:	
Sampler Name:	LM

BILL TO

P.O. #:	
Company:	Atkins Eng
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE / COOL	OTHER:	SAMPLING DATE	SAMPLING TIME	Chlorides	BTEX	TPH
H223322																	
1	TW1 - 4-6		1			X							7-25-22	1031	X	X	X
2	TW1 - 9-11													1040	X	X	X
3	TW1 14-16													1049	X	X	X
4	TW1 19-21													1057	X		
5	TW1 24-26													1107	X		
6	TW1 29-31													1124	X		
7	TW1 34-36													1137	X		
8	TW1 39-41													1205	X		
9	TW1 44-46													1314	X		
10	TW1 49-51													1339	X		

Relinquished By:	Date: 7-28-22	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 0930		All Results are emailed. Please provide Email address: Lucas@atkins Eng.com
Relinquished By:	Date:	Received By:	REMARKS: 1/2
	Time:		

Delivered By: (Circle One)	Observed Temp. °C 3.8	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials) TO	Turnaround Time: Standard ☐ Rush ☐
Sampler - UPS - Bus - Other:	Corrected Temp. °C 3.2			Thermometer ID #113 Correction Factor ~~None~~ -0.6c

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No; Observed Temp. °C; Corrected Temp. °C

FORM-006 R 3.1 06/04/20

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

TW-1

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Atkins Engineering
Project Manager:	Lucas Middleton
Address:	2700 W 2nd
City:	Roswell State: NM Zip: 88201
Phone #:	575.499.9264 Fax #:
Project #:	Synobi.drl.22 Project Owner:
Project Name:	Mobil 22 Fed 7
Project Location:	
Sampler Name:	LM

BILL TO

P.O. #:	
Company:	Atkins Eng
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Chlorides	BTEX	TPH
H223322																	
11	TW1-54-56					X							7-26-22	1422	X		
12	TW1 59-61					X								1502	X		
13	TW1 64-66					X								1539	X	X	X
14	TW1 69-71					X								1622	X	X	X
15	TW1 74-76					X								1645	X		
16	TW1- water			X									7-26-22	1625	X	X	X

Relinquished By:	Date: 7-28-22	Received By:	Tamara Oldaker
	Time: 0930		
Relinquished By:	Date:	Received By:	
	Time:		

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:
lucas@atkinseng.com
REMARKS:
7/2

Delivered By: (Circle One)	Observed Temp. °C 3.8	Sample Condition Cool: ☑ Yes ☐ No	Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) TD	Turnaround Time: ☐ Standard ☑ Rush
Sampler - UPS - Bus - Other:	Corrected Temp. °C 3.2				Thermometer ID #113 Correction Factor ~~None~~ -0.6°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.1 08/04/20

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

CARDINAL Laboratories

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

August 02, 2022

LUCAS MIDDLETON

ATKINS ENGINEERING

2904 W. 2ND STREET

ROSWELL, NM 88203

RE: MOBIL 22 FED #1

Enclosed are the results of analyses for samples received by the laboratory on 07/28/22 9:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

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

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

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

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:39

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TW 2 - 0-4	H223323-01	Soil	26-Jul-22 10:59	28-Jul-22 09:30
TW 2 - 4-6	H223323-02	Soil	26-Jul-22 11:03	28-Jul-22 09:30
TW 2 - 9-11	H223323-03	Soil	26-Jul-22 11:18	28-Jul-22 09:30
TW 2 - 10-16	H223323-04	Soil	26-Jul-22 11:27	28-Jul-22 09:30
TW 2 - 19-21	H223323-05	Soil	26-Jul-22 11:39	28-Jul-22 09:30
TW 2 - WATER	H223323-16	Water	27-Jul-22 10:15	28-Jul-22 09:30

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:39

TW 2 - 0-4

H223323-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**1020**		16.0	mg/kg	4	2072933	AC	01-Aug-22	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*98.3 %*	*69.9-140*		*2072903*	JH/	*30-Jul-22*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
Surrogate: 1-Chlorooctane			*86.8 %*	*43-149*		*2072906*	MS	*29-Jul-22*	*8015B*	
Surrogate: 1-Chlorooctadecane			*81.5 %*	*42.5-161*		*2072906*	MS	*29-Jul-22*	*8015B*	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:39

TW 2 - 4-6

H223323-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**2280**		16.0	mg/kg	4	2072933	AC	01-Aug-22	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*98.0 %*	*69.9-140*		*2072903*	JH/	*30-Jul-22*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
Surrogate: 1-Chlorooctane			*90.1 %*	*43-149*		*2072906*	MS	*29-Jul-22*	*8015B*	
Surrogate: 1-Chlorooctadecane			*88.1 %*	*42.5-161*		*2072906*	MS	*29-Jul-22*	*8015B*	

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CARDINAL Laboratories

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:39

TW 2 - 9-11

H223323-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**1090**		16.0	mg/kg	4	2072933	AC	01-Aug-22	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*98.1 %*	*69.9-140*		*2072903*	JH/	*30-Jul-22*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
Surrogate: 1-Chlorooctane			*96.8 %*	*43-149*		*2072906*	MS	*29-Jul-22*	*8015B*	
Surrogate: 1-Chlorooctadecane			*92.3 %*	*42.5-161*		*2072906*	MS	*29-Jul-22*	*8015B*	

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CARDINAL Laboratories

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:39

TW 2 - 10-16

H223323-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**912**		16.0	mg/kg	4	2072933	AC	01-Aug-22	4500-Cl-B	

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:39

TW 2 - 19-21

H223323-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**608**		16.0	mg/kg	4	2072933	AC	01-Aug-22	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2072903	JH/	30-Jul-22	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*98.2 %*	*69.9-140*		*2072903*	JH/	*30-Jul-22*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2072906	MS	29-Jul-22	8015B	
Surrogate: 1-Chlorooctane			*95.2 %*	*43-149*		*2072906*	MS	*29-Jul-22*	*8015B*	
Surrogate: 1-Chlorooctadecane			*91.5 %*	*42.5-161*		*2072906*	MS	*29-Jul-22*	*8015B*	

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:39

TW 2 - WATER

H223323-16 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride*	**2970**		4.00	mg/L	1	2072821	AC	01-Aug-22	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.001		0.001	mg/L	1	2072629	JH/	28-Jul-22	8021B	
Toluene*	<0.001		0.001	mg/L	1	2072629	JH/	28-Jul-22	8021B	
Ethylbenzene*	<0.001		0.001	mg/L	1	2072629	JH/	28-Jul-22	8021B	
Total Xylenes*	<0.003		0.003	mg/L	1	2072629	JH/	28-Jul-22	8021B	
Total BTEX	<0.006		0.006	mg/L	1	2072629	JH/	28-Jul-22	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*97.5 %*	*77.1-124*		*2072629*	JH/	*28-Jul-22*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<1.00		1.00	mg/L	0.1	2072831	MS	29-Jul-22	8015B	
DRO >C10-C28*	<1.00		1.00	mg/L	0.1	2072831	MS	29-Jul-22	8015B	
EXT DRO >C28-C36	<1.00		1.00	mg/L	0.1	2072831	MS	29-Jul-22	8015B	
Surrogate: 1-Chlorooctane			*73.4 %*	*44.9-146*		*2072831*	MS	*29-Jul-22*	*8015B*	
Surrogate: 1-Chlorooctadecane			*79.1 %*	*39.8-162*		*2072831*	MS	*29-Jul-22*	*8015B*	

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:39

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2072821 - General Prep - Wet Chem										
Blank (2072821-BLK1)				Prepared & Analyzed: 01-Aug-22						
Chloride	ND	4.00	mg/L							
LCS (2072821-BS1)				Prepared & Analyzed: 01-Aug-22						
Chloride	100	4.00	mg/L	100		100	80-120			
LCS Dup (2072821-BSD1)				Prepared & Analyzed: 01-Aug-22						
Chloride	104	4.00	mg/L	100		104	80-120	3.92	20	
Batch 2072933 - 1:4 DI Water										
Blank (2072933-BLK1)				Prepared & Analyzed: 29-Jul-22						
Chloride	ND	16.0	mg/kg							
LCS (2072933-BS1)				Prepared & Analyzed: 29-Jul-22						
Chloride	432	16.0	mg/kg	400		108	80-120			
LCS Dup (2072933-BSD1)				Prepared & Analyzed: 29-Jul-22						
Chloride	416	16.0	mg/kg	400		104	80-120	3.77	20	

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:39

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2072629 - Volatiles										
Blank (2072629-BLK1)				Prepared: 26-Jul-22 Analyzed: 28-Jul-22						
Benzene	ND	0.001	mg/L							
Toluene	ND	0.001	mg/L							
Ethylbenzene	ND	0.001	mg/L							
Total Xylenes	ND	0.003	mg/L							
Total BTEX	ND	0.006	mg/L							
Surrogate: 4-Bromofluorobenzene (PID)	*0.0491*		mg/L	*0.0500*		*98.1*	*77.1-124*			
LCS (2072629-BS1)				Prepared: 26-Jul-22 Analyzed: 28-Jul-22						
Benzene	0.020	0.001	mg/L	0.0200		100	94.7-118			
Toluene	0.020	0.001	mg/L	0.0200		98.1	89-115			
Ethylbenzene	0.020	0.001	mg/L	0.0200		99.5	94-114			
m,p-Xylene	0.042	0.002	mg/L	0.0400		104	94.6-114			
o-Xylene	0.020	0.001	mg/L	0.0200		101	94.6-114			
Total Xylenes	0.062	0.003	mg/L	0.0600		103	94.6-114			
Surrogate: 4-Bromofluorobenzene (PID)	*0.0506*		mg/L	*0.0500*		*101*	*77.1-124*			
LCS Dup (2072629-BSD1)				Prepared: 26-Jul-22 Analyzed: 28-Jul-22						
Benzene	0.019	0.001	mg/L	0.0200		95.3	94.7-118	5.05	3.83	QR-04
Toluene	0.019	0.001	mg/L	0.0200		93.7	89-115	4.55	3.48	QR-04
Ethylbenzene	0.019	0.001	mg/L	0.0200		93.2	94-114	6.50	3.79	BS-3, QR-04
m,p-Xylene	0.039	0.002	mg/L	0.0400		96.6	94.6-114	7.49	3.91	QR-04
o-Xylene	0.019	0.001	mg/L	0.0200		93.3	94.6-114	8.02	3.91	BS-3, QR-04
Total Xylenes	0.057	0.003	mg/L	0.0600		95.5	94.6-114	7.67	3.91	QR-04
Surrogate: 4-Bromofluorobenzene (PID)	*0.0482*		mg/L	*0.0500*		*96.4*	*77.1-124*			
Batch 2072903 - Volatiles										
Blank (2072903-BLK1)				Prepared & Analyzed: 29-Jul-22						
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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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:39

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2072903 - Volatiles										
Blank (2072903-BLK1)				Prepared & Analyzed: 29-Jul-22						
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	*ND*		mg/kg	*0.0500*		*96.5*	*69.9-140*			
LCS (2072903-BS1)				Prepared & Analyzed: 29-Jul-22						
Benzene	1.99	0.050	mg/kg	2.00		99.6	83.4-122			
Toluene	2.09	0.050	mg/kg	2.00		105	84.2-126			
Ethylbenzene	2.15	0.050	mg/kg	2.00		108	84.2-121			
m,p-Xylene	4.43	0.100	mg/kg	4.00		111	89.9-126			
o-Xylene	2.11	0.050	mg/kg	2.00		106	84.3-123			
Total Xylenes	6.54	0.150	mg/kg	6.00		109	89.1-124			
Surrogate: 4-Bromofluorobenzene (PID)	*0.0481*		mg/kg	*0.0500*		*96.3*	*69.9-140*			
LCS Dup (2072903-BSD1)				Prepared & Analyzed: 29-Jul-22						
Benzene	1.82	0.050	mg/kg	2.00		90.8	83.4-122	9.21	12.6	
Toluene	1.89	0.050	mg/kg	2.00		94.5	84.2-126	10.1	13.3	
Ethylbenzene	1.94	0.050	mg/kg	2.00		97.1	84.2-121	10.1	13.9	
m,p-Xylene	4.00	0.100	mg/kg	4.00		100	89.9-126	10.2	13.6	
o-Xylene	1.91	0.050	mg/kg	2.00		95.3	84.3-123	10.3	14.1	
Total Xylenes	5.91	0.150	mg/kg	6.00		98.4	89.1-124	10.2	13.4	
Surrogate: 4-Bromofluorobenzene (PID)	*0.0468*		mg/kg	*0.0500*		*93.6*	*69.9-140*			

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:39

Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2072831 - General Prep - Organics										
Blank (2072831-BLK2)				Prepared: 28-Jul-22 Analyzed: 01-Aug-22						
GRO C6-C10	ND	1.00	mg/L							
DRO >C10-C28	ND	1.00	mg/L							
EXT DRO >C28-C36	ND	1.00	mg/L							
Surrogate: 1-Chlorooctane	*3.32*		mg/L	*5.00*		*66.4*	*44.9-146*			
Surrogate: 1-Chlorooctadecane	*2.81*		mg/L	*5.00*		*56.2*	*39.8-162*			
LCS (2072831-BS2)				Prepared: 28-Jul-22 Analyzed: 01-Aug-22						
GRO C6-C10	43.9	1.00	mg/L	50.0		87.8	72.4-116			
DRO >C10-C28	44.2	1.00	mg/L	50.0		88.4	70-121			
Surrogate: 1-Chlorooctane	*4.56*		mg/L	*5.00*		*91.3*	*44.9-146*			
Surrogate: 1-Chlorooctadecane	*4.31*		mg/L	*5.00*		*86.3*	*39.8-162*			
LCS Dup (2072831-BSD2)				Prepared: 28-Jul-22 Analyzed: 01-Aug-22						
GRO C6-C10	43.9	1.00	mg/L	50.0		87.8	72.4-116	0.0296	8.73	
DRO >C10-C28	44.8	1.00	mg/L	50.0		89.5	70-121	1.27	24.8	
Surrogate: 1-Chlorooctane	*4.90*		mg/L	*5.00*		*98.0*	*44.9-146*			
Surrogate: 1-Chlorooctadecane	*4.63*		mg/L	*5.00*		*92.7*	*39.8-162*			
Batch 2072906 - General Prep - Organics										
Blank (2072906-BLK1)				Prepared & Analyzed: 29-Jul-22						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	*47.3*		mg/kg	*50.0*		*94.7*	*43-149*			
Surrogate: 1-Chlorooctadecane	*45.2*		mg/kg	*50.0*		*90.4*	*42.5-161*			

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ATKINS ENGINEERING 2904 W. 2ND STREET ROSWELL NM, 88203	Project: MOBIL 22 FED #1 Project Number: SJOMOBIL.DRL.22 Project Manager: LUCAS MIDDLETON Fax To:	Reported: 02-Aug-22 08:39

Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2072906 - General Prep - Organics										
LCS (2072906-BS1)				Prepared & Analyzed: 29-Jul-22						
GRO C6-C10	221	10.0	mg/kg	200		110	78.5-128			
DRO >C10-C28	233	10.0	mg/kg	200		116	75.8-135			
Total TPH C6-C28	453	10.0	mg/kg	400		113	81.5-127			
Surrogate: 1-Chlorooctane	*53.0*		mg/kg	*50.0*		*106*	*43-149*			
Surrogate: 1-Chlorooctadecane	*51.2*		mg/kg	*50.0*		*102*	*42.5-161*			
LCS Dup (2072906-BSD1)				Prepared & Analyzed: 29-Jul-22						
GRO C6-C10	225	10.0	mg/kg	200		113	78.5-128	2.05	21.4	
DRO >C10-C28	235	10.0	mg/kg	200		117	75.8-135	1.04	17.9	
Total TPH C6-C28	460	10.0	mg/kg	400		115	81.5-127	1.53	17.6	
Surrogate: 1-Chlorooctane	*50.5*		mg/kg	*50.0*		*101*	*43-149*			
Surrogate: 1-Chlorooctadecane	*51.7*		mg/kg	*50.0*		*103*	*42.5-161*			

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

QR-04	The RPD for the BS/BSD was outside of historical limits.
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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

TW-2

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	ATKINS Engineering
Project Manager:	Lucas Middleton
Address:	2904 W 2nd Roswell, NM
City:	Roswell State: NM Zip: 88201
Phone #:	575-626-9246 Fax #:
Project #:	Lombardo 22 Project Owner:
Project Name:	Mobil 22 Fed 1
Project Location:	
Sampler Name:	

BILL TO

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

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING DATE	SAMPLING TIME	Chloride	TPH	BTEX	Hold
H223323																		
1	TW-2 0-4												7-20-22	1059	X	X	X	
2	TW-2 4-6													1103	X	X	X	
3	TW-2 9-11													1118	X	X	X	
4	TW-2 14-16													1127	X			
5	TW-2 19-21													1139	X	X	X	
6	TW-2 24-26													1154	X			X
7	TW-2 29-31													1211	X			X
8	TW-2 34-36													1226	X			X
9	TW-2 39-41													1240	X			X
10	TW-2 44-46													1257	X			X

Relinquished By:	Date: 7-21-22	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: ~~1330~~ 0930		All Results are emailed. Please provide Email address: Lucas@atkinsng.com
Relinquished By:	Date:	Received By:	REMARKS: 1/2
	Time:		

Delivered By: (Circle One)	Observed Temp. °C 9.3 3.8	Sample Condition	CHECKED BY: (Initials)	Turnaround Time: Standard ☑ Rush ☐	Bacteria (only) Sample Condition
Sampler - UPS - Bus - Other:	Corrected Temp. °C 8.2 3.2	Cool Intact ☑ Yes ☑ Yes ☐ No ☐ No		Thermometer ID #113 Correction Factor -0.5°C	Cool Intact Observed Temp. °C ☐ Yes ☐ Yes ☐ No ☐ No Corrected Temp. °C

TO 7/21/22

FORM-006 R 3.2 10/07/21

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

CARDINAL Laboratories

TW-2

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Atkins Engineering
Project Manager: Lucas Middleton
Address: 2904 W 2nd
City: Roswell State: NM Zip: 88201
Phone #: 575 499 9240 Fax #:
Project #: 5jomobil.dr122 Project Owner:
Project Name: Mobil 22 Fed 1
Project Location:
Sampler Name:

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

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING DATE	TIME	Chlorides	TPH	BTEX	Hold
H223323																		
11	TW2-49-51		1			X							7-26	1320				X
12	TW2-54-56					X								1350				X
13	TW2-59-61					X								1420				X
14	TW2-64-66					X								1445				X
15	TW2-69-71					X								1514	X	X	X	X
16	TW-2-water			X									7-27-22	1015	X	X	X	

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

Relinquished By: Date: 7-27-22 Time: 1320 Received By:
Relinquished By: Date: 0930 Received By:
Time:

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:
Observed Temp. °C 9.3 (vm 3.8)
Corrected Temp. °C 8.7 (3.2)
Sample Condition: Cool: Yes / No; Intact: Yes / No
CHECKED BY: (Initials)

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:
lucas@atkinseng.com
REMARKS:
2/2
Turnaround Time: Standard ☑ Rush ☐
Thermometer ID #113
Correction Factor -0.5°C
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No
Observed Temp. °C
Corrected Temp. °C
TO 7/28/22

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

FORM-006 R 3.2 10/07/21

Appendix F

Correspondence

From: Bratcher, Michael, EMNRD
To: Andrew Parker
Cc: Mike Kincaid; "Morgan, Crisha A"; Hamlet, Robert, EMNRD; Buchanan, Michael, EMNRD; Christopher Cortez; Maxwell, Ashley, EMNRD
Subject: RE: [EXTERNAL] Mobile Fed CTB
Date: Monday, November 20, 2023 2:51:28 PM

All,

Incident number **NAPP2319455890** has been canceled and is no longer valid. The incident number for the SJOC Mobil 22 Federal Tank Battery @ 30-015-24955 is now **NAPP2320031997.** Every submittal relative the CTB project needs to come through this incident number including dirt work and groundwater docs. The C-141 is submitted under this incident number and is correct. No additional submittal necessary for the C-141.

Sorry for any confusion on my part.

Thanks,

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/ocd

From: Andrew Parker <andrew@mcnabbpartners.com>
Sent: Monday, November 20, 2023 8:24 AM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Mike Kincaid <MKincaid@sjoc.net>; 'Morgan, Crisha A' <camorgan@blm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>; Christopher Cortez <chris@atkinseng.com>
Subject: RE: [EXTERNAL] Mobile Fed CTB

Mr. Bratcher,

Per my relocation and discussions with you, a new C-141 was submitted and a new incident # was assigned (nAPP2320031997). The new incident number was to replace the rejected NAPP2319455890. As there are two incident numbers associated with the Mobil Fed CTB, would it

be acceptable to assign the groundwater assessment report to NAPP2319455890 and keep the soil remediation under nAPP2320031997? Or mark NAPP2319455890 obsolete and keep all reporting under nAPP2320031997; don't know if this is possible in NMOCD's system.

Thanks,

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

From: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Sent: Monday, November 20, 2023 7:38 AM
To: Christopher Cortez <chris@atkinseng.com>
Cc: Mike Kincaid <MKincaid@sjoc.net>; Andrew Parker <andrew@mcnabbpartners.com>; 'Morgan, Crisha A' <camorgan@blm.gov>; dwmeyer@verizon.net; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>
Subject: RE: [EXTERNAL] Mobile Fed CTB

Chris,

Thanks for the submittal.

Mr. Kincaid: This document will need to be submitted through OCD Permitting to Incident number: **NAPP2319455890** Currently, this incident has had two NOR's (Notice of Release) submitted. The first one was rejected due to release volumes listed for existing release incidents. OCD requested a resubmittal listing release volumes for the battery area as unknown, and the NOR was submitted as requested. To date, an actual Form C-141 has **not** been submitted. The best way to tell on the operator end is that there is no monetary fee associated with the NOR, however the Form C-141 has a $150 fee associated and the system will request a credit card during that submittal process. **PLEASE HAVE THE Form C-141 SUBMITTED ASAP**, as well as the Atkins document.

Also, the contractors will need to coordinate the dirt work with the ground water investigation. The latest proposal submitted for the dirt work has been rejected, and an alternate proposal will need to be submitted. Be advised that OCD has recently made a decision to greatly limit liner installation as a remedial method.

Please contact me with any questions.

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/ocd

From: Christopher Cortez <chris@atkinseng.com>
Sent: Friday, November 17, 2023 5:39 PM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Mike Kincaid <MKincaid@sjoc.net>; Andrew Parker <andrew@mcnabbpartners.com>; 'Morgan, Crisha A' <camorgan@blm.gov>; dwmeyer@verizon.net
Subject: [EXTERNAL] Mobile Fed CTB

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

On Behalf of Stephens and Johnson Operating Company (SJOC)

See attached groundwater assessment plan.

Chris Cortez

Operations Manager

575.914.0174 mobile

From: Morgan, Crisha A
To: Martinez-Colon, Jose F; Andrew Parker; Mike Kincaid
Cc: dwmeyer@verizon.net; mike.bratcher@emnrd.nm.gov; Morgan, Crisha A
Subject: Re: [EXTERNAL] SJOC Mobil 22 CTB
Date: Thursday, November 2, 2023 5:29:42 PM
Attachments: image007.png
image008.png
image009.png
Outlook-dbj1eqik.png
Outlook-qzwpjird.png
Outlook-fewoqezl.png
Outlook-rh0nhmco.png

Bureau of Land Management

Regarding NAB1819054040/NAB1822240516/NMC30331657138/NAPP2320031997 ONLY

All,

With much review, the BLM is needing a few things regarding this site.

The BLM will require a copy of the new, signed surface use agreement that has been requested by the surface owner. This surface use plan will need to address any new surface disturbance required for clean up. This includes but is not limited to undisturbed pasture disturbance outside of the approved Right-of-Way and any additional areas outside of the lease into pasture areas for load out areas, turn arounds, wash areas, etc. The BLM's mission is to work with the operator and the surface owner together during all delineation, and remediation of spills/releases and take both parties needs into account for better overall site clean up and stability.

Also, I am not able to find any reports on updated composite sampling. I show the EM data, but nothing more concrete. Can you get this information to me for review?

Please let me know if no new disturbance will be created with remediation efforts, and that both parties are in agreement, so that the BLM can get approval/denial out to you all for this workplan as well as the composite sampling tables to verify full delineation (horizontal & vertical extents). To my knowledge, there have only been 2 BH samples completed and an EM survey. The BLM requires full delineation (both horizontal & vertical extents) before a workplan can be approved with composite sampling data.

Please let me know if I have overlooked anything, or if you have any questions. There have been many email threads for this location. Please try to remain on this thread so that the BLM isn't missing any updated information.

Thank you,

Crisha A. Morgan |Certified - Environmental Protection Specialist | Program Officer|COR| Spills Coordinator| Orphaned & Idled Well POC Lead
Bureau of Land Management | Carlsbad Field Office
620 E. Greene Street Carlsbad, NM 88220
Cell 575-200-8648 | Office 575-234-5987 |camorgan@blm.gov

official. FOR OFFICIAL USE ONLY

From: Martinez-Colon, Jose F <jfmartinezcolon@blm.gov>
Sent: Tuesday, October 17, 2023 1:52 PM
To: andrew@mcnabbpartners.com <andrew@mcnabbpartners.com>; Mike Kincaid <MKincaid@sjoc.net>
Cc: dwmeyer@verizon.net <dwmeyer@verizon.net>; Morgan, Crisha A <camorgan@blm.gov>; mike.bratcher@emnrd.nm.gov <mike.bratcher@emnrd.nm.gov>
Subject: Re: [EXTERNAL] SJOC Mobil 22 CTB

Greetings,

We have received your workplan for these releases. However, as part of the Conditions of Approval for this plan, we need a time table detailing the stages and dates of the work that will be conducted at this location.

Going forward, I will be serving as the default point of contact for the Bureau of Land Management (BLM-CFO). You may email me this time table whenever possible so we can evaluate the submitted plan.

Thank you for your attention to this matter. Please feel free to contact me if there are any concerns.

Best,

José F. Martínez-Colón
Environmental Protection Specialist
Contact: 575-234-5951
Bureau of Land Management | Carlsbad Field Office
620 E. Greene St.
Carlsbad, NM 88220

From: Morgan, Crisha A <camorgan@blm.gov>
Sent: Tuesday, October 17, 2023 1:12 PM
To: Martinez-Colon, Jose F <jfmartinezcolon@blm.gov>
Subject: Fw: [EXTERNAL] SJOC Mobil 22 CTB

Bureau of Land Management

Crisha A. Morgan |Certified - Environmental Protection Specialist | Program Officer|COR| Spills Coordinator| Orphaned Well POC Lead
Bureau of Land Management | Carlsbad Field Office
620 E. Greene Street Carlsbad, NM 88220
Cell 575-200-8648 | Office 575-234-5987 |camorgan@blm.gov

From: Andrew Parker <andrew@mcnabbpartners.com>
Sent: Tuesday, October 17, 2023 7:29 AM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Mike Kincaid <MKincaid@sjoc.net>; dwmeyer@verizon.net <dwmeyer@verizon.net>; Morgan, Crisha A <camorgan@blm.gov>
Subject: RE: [EXTERNAL] SJOC Mobil 22 CTB

Mr. Bratcher,

Stephens & Johnson Operating Company submitted the remediation plan for the four (4) incidents below associated with the Mobil 22 Fed Tank Battery via the NMOCD portal. A copy of the remediation plan is attached. The remediation workplan was submitted under separate C-141 submittals for each Incident # for tracking purposes.

Incident #	Date	RP #	AKA
1. NAPP2320031997	(Legacy Release) Submitted 07/19/2023		Tank Battery Area
2. NAB1822240516	07/26/2018	2RP-4904	Flowline Header
3. NAB1819054040	06/24/2018	2RP-4839	Water Injection
4. NMCS0331657138	07/16/2004		Tank Pump

The below Incident will be reported under a separate report cover. The incident is located offsite and to the northwest of the active production pad. The remediated release was recently sampled for confirmation and a remediation plan will be submitted next week.

Incident #	Date	RP #	AKA
NAB1822243840	07/27/2018	2RP-4905	Oil Well Flowline

Regards,

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

From: Mike Kincaid <MKincaid@sjoc.net>
Sent: Friday, July 14, 2023 1:54 PM
To: Christopher Cortez <chris@atkinseng.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Morgan, Crisha A <camorgan@blm.gov>
Cc: Lucas Middleton <lucas@atkinseng.com>; dwmeyer@verizon.net; Andrew Parker <andrew@mcnabbpartners.com>
Subject: RE: [EXTERNAL] SJOC Mobil 22 CTB

Crisha,

SJOC has contracted Andrew Parker of McNabb Partners, LLC (Hobbs, NM) for the physical work such as soil removal, reclamation work and further soil contamination delineation if necessary. I have included Andrew's email in the Cc field above. Andrew has assisted me in submitting the "Legacy Release" C-141 this morning July 14, 2023. Please expect future communication from Andrew Parker in the near future.

Mike Kincaid
Stephens & Johnson Operating Co.

From: Christopher Cortez <chris@atkinseng.com>
Sent: Thursday, July 13, 2023 7:19 PM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Morgan, Crisha A <camorgan@blm.gov>
Cc: Lucas Middleton <lucas@atkinseng.com>; dwmeyer@verizon.net; Mike Kincaid <MKincaid@sjoc.net>
Subject: Re: [EXTERNAL] SJOC Mobil 22 CTB

Crisha

I'm traveling on my phone so please excuse any typos see below in white because it's hard to do colors

Chris Cortez
575.914.0174 mobile

From: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Sent: Thursday, July 13, 2023 15:30
To: Morgan, Crisha A <camorgan@blm.gov>; Christopher Cortez <chris@atkinseng.com>
Cc: Lucas Middleton <lucas@atkinseng.com>; dwmeyer@verizon.net <dwmeyer@verizon.net>; Mike Kincaid <MKincaid@sjoc.net>
Subject: RE: [EXTERNAL] SJOC Mobil 22 CTB

Crisha,

I will answer for NMOCD below.

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/ocd

From: Morgan, Crisha A <camorgan@blm.gov>
Sent: Thursday, July 13, 2023 2:40 PM
To: Christopher Cortez <chris@atkinseng.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Lucas Middleton <lucas@atkinseng.com>; dwmeyer@verizon.net; Mike Kincaid <MKincaid@sjoc.net>
Subject: Re: [EXTERNAL] SJOC Mobil 22 CTB

All,

I would like to get some clarity from everyone.

*With this new information, are you stating that you are penciling in having your analytical data research plan submitted in September? We are penciling in our drilling rig to install monitor wells. Prior to that a plan will be submitted for approval. Usually labs are 14 days so reporting follows generally 40 days from sampling. There is a week between the well installation and sampling. Generally we install wells to the NMED guidelines.

*Is the AEA plan just for monitoring wells, vertical and horizontal delineation, ground water determination, analytical data etc.?
We will install three monitor wells on upgradiwnt and two down cross gradient to start. Those will be sampled and surveyed in. Then we will generate a groundwater table map for the local conditions. With the analyticals and that information we will continue as needed to define the extent. Since monitor wells and that network are intended to be permanent we need to consider placement versus other activities per your questions below.

I will say as well. We have not be included in any correspondence since October last year. The recent request by OCD was made when our primary O&G staff was on vacation into the fourth holiday so it took awhile to gather and coordinate a response to the request but the requested C-141 is pending today or tomorrow.

*SJOC, do you have a 3rd party contractor to do the physical work after AEA completes their release analytical data research? Such as soil removal, reclamation work for final abandonment, etc.?

*NMCOD- is there specific time frames required by the state for plan submission vs work completion due dates etc.? The C-141 to create an incident number was to be submitted by June 30, 2023. SJOC requested a 10 day extension making that submittal due July 10, 2023. To date, that deadline has not been met. The next deadline was to be 90 days from the submittal, which will now be October 10, 2023 to submit a soil remediation proposal and a proposal for the groundwater investigation. OCD has 60 days to review submittals but we are running closer to 90 days at this time. We will do what we can to move things along, but another 90 day clock begins with the proposal approval, unless as a condition of approval, that time frame may be altered. That deadline will be for a closure report on the soil remediation portion. At some point, if groundwater is determined to be impacted from produced fluid release/releases at the well site, that portion of the project will be continued under an AP number (Abatement Plan) and will have it's own timeframes.

*Is there anything that needs prior approval from the surface owner after all of these plans are submitted? We will need access for monitor well locations of not covered by any existing agreements

Sorry for my confusion, I am trying to get dates and such lined out for follow up on my end. There is some documentation required for the BLM, but I would like to gather all of this other information before requesting anything from SJOC.

Thank you,

Crisha A. Morgan |Certified - Environmental Protection Specialist | Program Officer|COR| Spills Coordinator| Orphaned Well POC Lead
Bureau of Land Management | Carlsbad Field Office
620 E. Greene Street Carlsbad, NM 88220
Cell 575-200-8648 | Office 575-234-5987 |camorgan@blm.gov

From: Christopher Cortez <chris@atkinseng.com>

Sent: Thursday, July 13, 2023 1:58 PM
To: mike.bratcher@emnrd.nm.gov <mike.bratcher@emnrd.nm.gov>
Cc: Morgan, Crisha A <camorgan@blm.gov>; Lucas Middleton <lucas@atkinseng.com>; dwmeyer@verizon.net <dwmeyer@verizon.net>; Mike Kincaid <MKincaid@sjoc.net>
Subject: FW: [EXTERNAL] SJOC Mobil 22 CTB

Mr. Bratcher,

After some review, Atkins Engineering Associates, Inc (AEA) has coordinated with S&J Operating in contracting a separate consultant to address this matter. AEA will supplement that consultant with drilling, and environmental support regarding the apparent impacts to the shallow groundwater beneath the site.

You should expect the requested C-141 today or tomorrow.

We anticipate that we will be submitted a supplemental groundwater investigation plan including the installation of a minimum of three monitoring wells: one upgradient, two down /crossgradient in the near future. Installation specifications, soil sampling protocol, development ground water sampling and surveying details will be included in that plan.

Based on our current drilling commitments, we have soft penciled that in September of this year. If we get earlier availability or a cancellation we will attempt to move that up.

If you have any questions, feel free to contact me, mobile is always best.

Thanks

Chris

Christopher R. Cortez | Operations Manager
NM Licensed Drill Rig Supervisor for WD #1249
Atkins Engineering Associates Inc.
2904 W 2nd St | Roswell, NM 88201
Office 575.624.2420 | Mobile 575.914.0174
chris@atkinseng.com

From: Mike Kincaid <MKincaid@sjoc.net>
Sent: Wednesday, June 21, 2023 2:54 PM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Morgan, Crisha A <camorgan@blm.gov>; Lucas Middleton <lucas@atkinseng.com>; dwmeyer@verizon.net
Cc: Christopher Cortez <chris@atkinseng.com>
Subject: RE: [EXTERNAL] SJOC Mobil 22 CTB

Mr. Bratcher,

Please be advised that Lucas Middleton of Atkins Engineering Associates, Inc has been and will continue to be the third party environmental contractor to perform investigations, formulate proposals and file all necessary OCD forms necessary for this contamination case. Unfortunately, Lucas Middleton is away on vacation through June 28, 2023. As a result, I would respectfully request that a ten day extension to the deadlines expressed in your email below be granted to Stephens & Johnson Operating Co.

Your consideration in the matter will be greatly appreciated.

STEPHENS ENGINEERING
PETROLEUM ENGINEERS
WICHITA FALLS, TEXAS

STEPHENS & JOHNSON OPERATING CO.

WILLIAM (MIKE) KINCAID | PETROLEUM ENGINEER
PO BOX 2249 | WICHITA FALLS, TX 76307-2249
811 6TH ST., STE 300 | WICHITA FALLS, TX 76301-5322
WORK (940) 723-2166 | CELL (940) 704-0063
FAX (940) 723-8113 | MKINCAID@SJOC.NET

From: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Sent: Thursday, June 15, 2023 11:07 AM
To: Mike Kincaid <MKincaid@sjoc.net>; Morgan, Crisha A <camorgan@blm.gov>; Lucas Middleton <lucas@atkinseng.com>; dwmeyer@verizon.net
Subject: RE: [EXTERNAL] SJOC Mobil 22 CTB

RE: Stephens & Johnson Operating Company (OGRID: 19958)
Mobil 22 Federal 001
30-015-24955
P-22-26s-29e
Eddy County, New Mexico

Mr. Kincaid,

Based on analytical data obtained in the vicinity of the former tank battery area that was situated at the above referenced production well site, the Oil Conservation Division (OCD) requests Stephens & Johnson Operating Company (SJOC) initiate a complete vertical and horizontal delineation of any and all impacted soils that may exist at, or in the immediate vicinity of, this production well and tank battery site. In addition, and again based on previously obtained analytical data, OCD requests SJOC initiate an investigation into potential groundwater contamination that may exist at this production site. SJOC will need to retain third party environmental contractor/contractors to perform these investigations and formulate proposals that may be necessary for the identification and remediation of impacted soils and any contaminated ground water that may be identified, as a result of produced fluid releases that have occurred at this production site. OCD requests SJOC submit a Form C-141 through OCD Permitting for "Legacy Releases" believed to have occurred at this site. This submittal will generate an Incident Number that will be utilized to track and document this project as it progresses. OCD requests that all previously obtained analytical data from this site, as well as this and all past correspondence and/or directives pertaining to potential contamination at this site, be included with the initial C-141 submittal. Please note that investigation and remedial efforts will be subject to OCD rules, regulations and directives, as well as Bureau of Land Management (BLM) rules, regulations and directives as may be applicable.

OCD notes the following open "Incidents" (unauthorized produced fluid releases) associated with this production site:

NMCS0331657138 (Dated 07/16/2004)
NAB1819054040 (Date of discovery listed as 06/24/2018)
NAB1822243840 (Date of discovery listed as 07/27/2018)
NAB1822240516 (Date of discovery listed as 07/26/2018)

These open incidents are to be addressed by SJOC during this investigation/remediation process. OCD notes that one of the last two incidents listed may be a duplicate entry. If so, OCD will close any duplicated entry.

The requested form C-141 is to be submitted not later than 15 (fifteen) days from the date of this correspondence. Delineation efforts are to commence not later than 30 (thirty) days from the date of this correspondence. If for any reason these deadlines can not be met, SJOC is to immediately contact OCD and BLM with reasoning for why the deadlines can not be met and a proposed date for compliance with the deadlines.

If after reviewing this correspondence SJOC believes a meeting is necessary, please advise. Be aware that OCD will not, for the most part, give specific direction for formulating proposals. It is SJOC's responsibility to have proposals formulated for review by OCD and BLM.

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/ocd

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Sent: Wednesday, June 14, 2023 3:43 PM
To: Morgan, Crisha A <camorgan@blm.gov>; Lucas Middleton <lucas@atkinseng.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; dwmeyer@verizon.net
Subject: [EXTERNAL] SJOC Mobil 22 CTB

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

Stephens & Johnson Operating Co. (SJOC) is requesting a joint meeting of all parties for the purpose of creating a detailed outline of the requirements and procedures for the complete vertical and horizontal delineation of the subject site and for the remediation and monitoring of the contamination. If monitor wells are required, then we would need to know the location, number and exact purpose of the monitor wells.

Due to the overlapping nature of authority between the New Mexico OCD and the BLM it would be in the best interest of all parties that both the NMOCD and the BLM approve any overall plan that is ultimately submitted by SJOC. Naturally the surface owner would also need to agree to the resulting plan.

Therefore, SJOC respectfully requests a joint meeting of the New Mexico OCD, the BLM, surface owner George Ross Ranch, LLC and SJOC's representative in this matter Lucas Middleton of Akins Engineering Associates, Inc.

Mr. Bratcher, it is my understanding that you indicated you would be assigning a hydrologist to this case and assuming this hydrologist would be present at the joint meeting I would suggest that you put forth a location and some possible dates and times for the joint meeting so that we could all agree on a suitable date and time for all parties.

Thank you all for your consideration in this matter.

STEPHENS & JOHNSON OPERATING CO.

WILLIAM (MIKE) KINCAID | PETROLEUM ENGINEER
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FAX (940) 723-8113 | MKINCAID@SJOC.NET

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Cc: Morgan, Crisha A <camorgan@blm.gov>
Subject: Re: [EXTERNAL] FW: mobil22

All,

This is the last information that the BLM has received on the progress of clean up at the Mobil 22 CTB. Where are we at for the complete vertical and horizontal delineation of this site? Has a remediation plan been made for clean up and/or monitoring wells that was advised many years ago by the NMOCD? The BLM will not continue to let this contamination sit. Please advise updates. Failure to do so will result in immediate enforcement action.

Thank you,

Crisha A. Morgan |Certified - Environmental Protection Specialist | Program Officer|COR| Spills Coordinator| Orphaned Well POC Lead
Bureau of Land Management | Carlsbad Field Office
620 E. Greene Street Carlsbad, NM 88220
Cell 575-200-8648 | Office 575-234-5987 |camorgan@blm.gov

From: Lucas Middleton <lucas@atkinseng.com>
Sent: Tuesday, September 6, 2022 11:37 AM
To: mike.bratcher@state.nm.us <mike.bratcher@state.nm.us>; dwmeyer@verizon.net <dwmeyer@verizon.net>; Morgan, Crisha A <camorgan@blm.gov>
Cc: Mike Kincaid <MKincaid@sjoc.net>
Subject: [EXTERNAL] FW: mobil22

To all, See attached map of the EM survey. This show the top four feet of the soil.

Mike Bratcher we are open this week to discuss the hydrology portion of this project. Let me know when a good time for you is.

Lucas

Below is a explain of the color map

The conductivity values are not specific values from discrete depths; they are weighted averages of conductivity between the

surface and the depth of exploration of the EM field and are termed “apparent conductivities”. The apparent conductivity values obtained are in units of millisiemens per meter (mS/m). The apparent conductivity (ECa) of the soil has been related to the paste extract conductivity {ECe) by the relationship ECa=5ECe (McNeill, 1986a). Table 2 (from McNeill, 1986a) illustrates this general relationship. Measurements are expressed in millisiemens/meter (mS/m).

Table 2: ECe to ECa Conversion

Soil Conductivity vs Salinity (from McNeill, 1986a)			
Salinity (NRCS)	**ECe (mS/cm) (Lab)**	**ECa (mS/m) (EM-38)**	**Figure #2 Color**
NRCS Soil Background	0-2	0-20	White
Slight	2-4	40-80	Green
Moderate	4-8	80-100	Yellow-Orange
High	8-12	160-240	Red
Saline	>12	>240	Purple

Andrew Parker

From: Devire Crabb <DCrabb@sjoc.net>
Sent: Tuesday, October 24, 2023 11:11 AM
To: Andrew Parker; Mike Kincaid
Subject: FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 276284

Follow Up Flag: Follow up
Flag Status: Flagged

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Tuesday, October 24, 2023 11:40 AM
To: Devire Crabb <DCrabb@sjoc.net>
Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 276284

To whom it may concern (c/o Devire Crabb for STEPHENS & JOHNSON OP CO),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nMCS0331657138,
for the following reasons:

- **Remediation plan denied.**
- **Submitted Site Assessment/Characterization indicates that the release impacted groundwater or surface water. The submitted remediation plan does address remedial activities to address impacted groundwater or surface water.**
- **All areas not reasonably needed for production or subsequent drilling operations must be reclaimed to contain a minimum of four feet of non- waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene.**
- **Remediation on an active site can be deferred in areas immediately under or around production equipment such as production tanks, wellheads, and pipelines where remediation could cause a major facility deconstruction so long as the contamination is fully delineated and does not cause an imminent risk to human health, the environment, or ground water. The deferral request must specify which sample points are being requested for deferral including an explanation why the contaminants can't be removed.**
- **Submit a report via the OCD permitting portal by January 15, 2024.**

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 276284.
Please review and make the required correction(s) prior to resubmitting.
If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you,
Ashley Maxwell
Projects Environmental Specialist - A
505-635-5000
Ashley.Maxwell@emnrd.nm.gov

Andrew Parker

From: Christopher Cortez <chris@atkinseng.com>
Sent: Thursday, July 13, 2023 11:05 AM
To: Andrew Parker
Subject: FW: [EXTERNAL] SJOC Mobil 22 CTB

From: Mike Kincaid <MKincaid@sjoc.net>
Sent: Wednesday, June 21, 2023 2:54 PM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Morgan, Crisha A <camorgan@blm.gov>; Lucas Middleton <lucas@atkinseng.com>; dwmeyer@verizon.net
Cc: Christopher Cortez <chris@atkinseng.com>
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Your consideration in the matter will be greatly appreciated.

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STEPHENS & JOHNSON OPERATING CO

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Environmental Bureau
EMNRD - Oil Conservation Division
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Cris ha A. Morgan |Certified - Environmental Protection Specialist | Program Officer|COR| Spills Coordinator| Orphaned Well POC Lead
Bureau of Land Management | Carlsbad Field Office
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Moderate	4-8	80-100	Yellow-Orange
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Saline	>12	>240	Purple

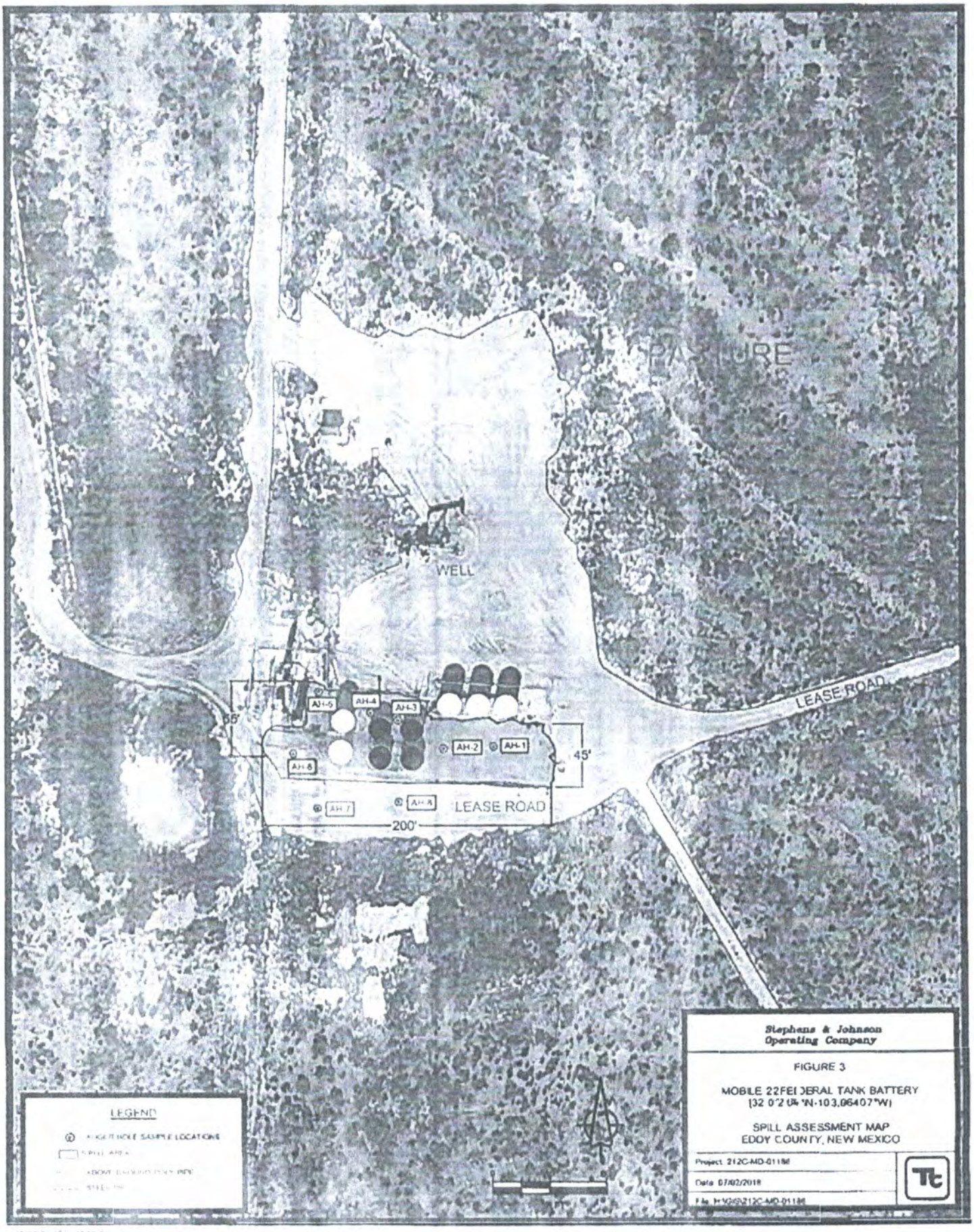
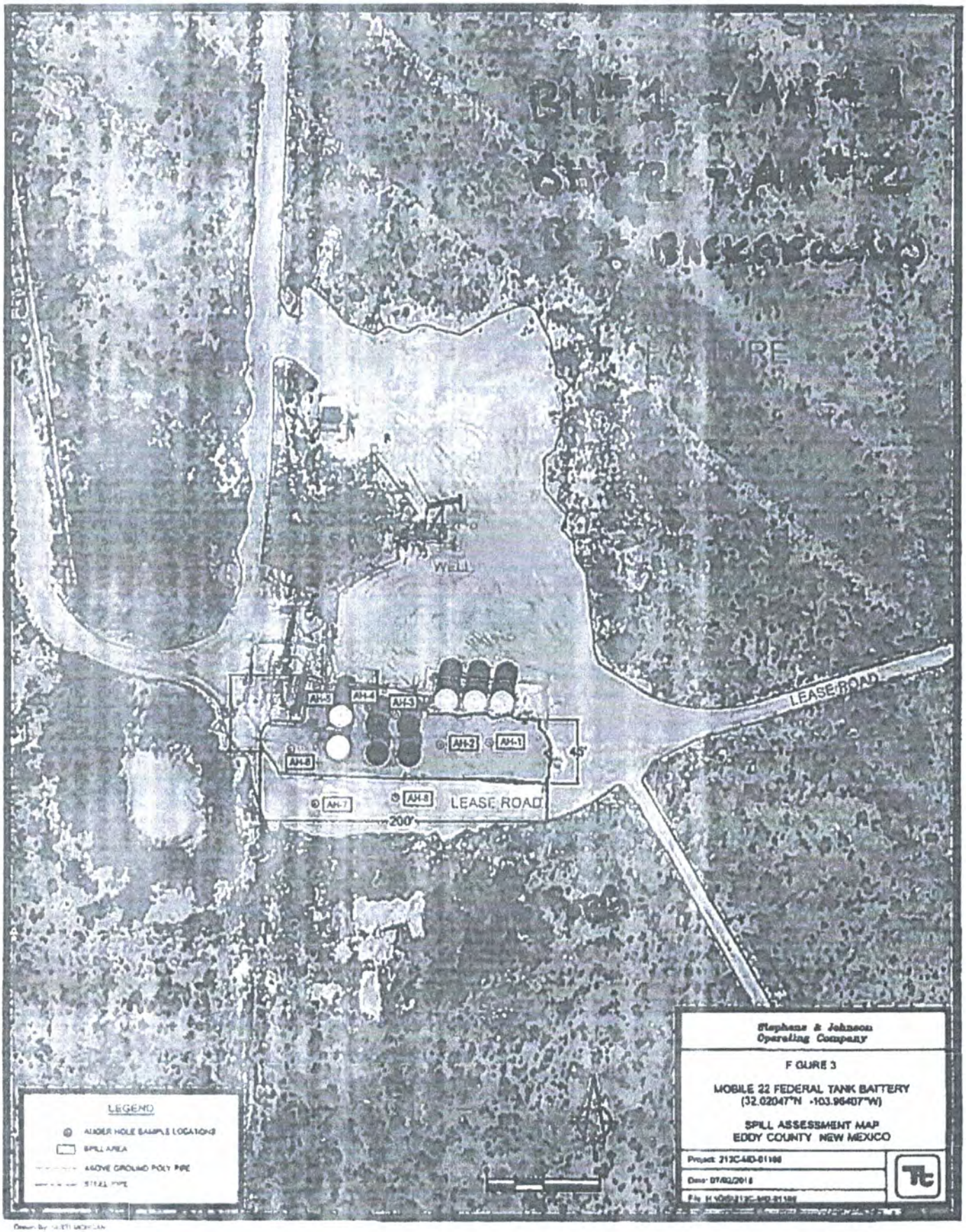

PASTURE
WELL
AH-6
AH-5
AH-4
AH-3
AH-2
AH-1
AH-7
AH-8
55'
45'
200'
LEASE ROAD
LEASE ROAD
LEGEND
Stephens & Johnson Operating Company
FIGURE 3
MOBILE 22FEDERAL TANK BATTERY
(32.0°2'0"N-103.06407°W)
SPILL ASSESSMENT MAP
EDDY COUNTY, NEW MEXICO
Project: 212C-MD-01186
Date: 07/02/2018

Table 1
Stephens & Johsnon
Mobil 22 Federal TB
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (in)	Soil Status		Chloride (mg/kg)
				In-Situ	Removed	
AH-1	6/20/2018	0-1	-	X		17,700
AH-2	6/20/2018	0-1	-	X		15,400
	"	1-1.5	-	X		12,500
AH-3	6/20/2018	0-1	-	X		2,960
	"	1-1.5	-	X		2,050
AH-4	6/20/2018	0-1	-	X		2,580
	"	1-1.5	-	X		3,200
AH-5	6/20/2018	0-1	-	X		25,200
	"	1-1.5	-	X		13,300
AH-6	6/20/2018	0-1	-	X		714
	"	1-1.5	-	X		752
AH-7	6/20/2018	0-1	-	X		17,700
	"	1-1.5	-	X		12,600
AH-8	6/20/2018	0-1	-	X		7,150

(-) Not Analyzed


WELL
AH-5
AH-4
AH-3
AH-2
AH-1
AH-6
AH-7
AH-8
LEASE ROAD
200'
45'
LEASE ROAD
LEGEND
AUGER HOLE SAMPLE LOCATIONS
SPILL AREA
ABOVE GROUND POLY PIPE
STEEL PIPE
Stephens & Johnson Operating Company
FIGURE 3
MOBILE 22 FEDERAL TANK BATTERY
(32.02047°N -103.96407°W)
SPILL ASSESSMENT MAP
EDDY COUNTY NEW MEXICO

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Stephens & Johnson
Mobil 22 Federal TB
Eddy County, New Mexico

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				In-Situ	Removed	
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BH-1	9/26/2018	0-1	-	X		6710
	"	2-3	-	X		4,960
	"	4-5	-	X		4,170
	"	6-7	-	X		8,060
	"	9-10	-	X		5,270
	"	14-15	-	X		6,720
	"	19-20	-	X		10,600
	"	24-25	-	X		3,180
	"	29-30	-	X		11,800
	"	34-35	-	X		8,880
	"	39-40	-	X		9,690
AH-2	6/20/2018	0-1		X		15,400
	"	1-1.5		X		12,500
BH-2	9/26/2018	0-1				10,500
	"	2-3				4,270
	"	4-5				4,230
	"	6-7				3,070
	"	9-10				1,930
	"	14-15				3,240
	"	19-20				2,200
	"	24-25				4,740
	"	29-30				5,710
	"	34-35				3,780
	"	39-40				3,720
	"	44-45				5,470
	"	49-50				6,590
AH-3	6/20/2018	0-1	-	X		2,960
	"	1-1.5	-	X		2,050
AH-4	6/20/2018	0-1	-	X		2,580
	"	1-1.5	-	X		3,200
AH-5	6/20/2018	0-1	-	X		25,200
	"	1-1.5	-	X		13,300
AH-6	6/20/2018	0-1		X		714
	"	1-1.5		X		752
AH-7	6/20/2018	0-1		X		17,700
	"	1-1.5		X		12,600
AH-8	6/20/2018	0-1		X		7,150
Background	9/26/2018	0-1		X		239
	"	2-3		X		388
	"	4-5		X		109
	"	6-7		X		65.7
	"	9-10		X		19.8
	"	14-15		X		71.4
	"	19-20		X		<4.98
	"	24-25		X		21

Table #1
Stephens & Johnson
Mobil 22 Federal TB
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (in)	Soil Status		Chloride (mg/kg)
				In-Situ	Removed	
Lease Rd. BH	11/7/2018	0-1	-	X		5,110
	"	2-3	-	X		4,290
	"	4-5	-	X		2,190
	"	6-7	-	X		1,210
	"	9-10	-	X		1,060
	"	14-15	-	X		2,840
	"	19-20	-	X		2,900
	"	24-25	-	X		771
	"	29-30	-	X		894
	"	34-35	-	X		231
	"	39-40	-	X		263
Background	9/26/2018	0-1	-	X		239
	"	2-3	-	X		368
	"	4-5	-	X		109
	"	6-7	-	X		65.7
	"	9-10	-	X		19.8
	"	14-15	-	X		7.14
	"	19-20	-	X		<4.98
	"	24-25	-	X		21

(1) Not Analyzed

Exceeds BLM threshold of 600 mg/kg

Location: Mobil 22 Fed #1				
Date: 3/1/2022				
Sampled by: Lucas Middleton (Splits)				
Location	Depth(Feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH(mg/kg)
BH-1	0-1	<0.050	3720	2483
BH-1	2	<0.050	2680	508
BH-1	3	<0.050	3400	307.8
BH-1	4	<0.050	3240	701
BH-1	5	<0.050	3000	487.4
BH-1	7	<0.050	1640	632
BH-1	10	<0.050	3480	508
BH-1	15	<0.050	2760	52.7
BH-1	20	<0.050	2520	<10.0
BH-1	30	<0.050	3640	<10.0
BH-1	35	<0.050	3200	<10.0
BH-1	40	<0.050	3160	<10.0
BH-2	0-1	<0.050	4360	7150
BH-2	2	<0.050	4160	28
BH-2	3	<0.050	3840	<10.0
BH-2	5	<0.050	1440	<10.0
BH-2	7	<0.050	336	<10.0
West Boring	0-1	<0.050	6240	462
West Boring	2	<0.050	10000	41.6

Mobil 22 Fed #1

Soil Borning ID	Sample Interval (ft. bgs)	Date	TPH- DRO (mg/Kg)	TPH- GRO (mg/Kg)	TPH- MRO (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total TPH GRO/DRO/MRO (mg/Kg)	Total BTEX (mg/Kg)	Chloride (mg/Kg)
TW-1	4-6	7/25/2022	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	1600
TW-1	9-11	7/25/2022	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	1230
TW-1	14-16	7/25/2022	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	688
TW-1	19-21	7/25/2022	--	--	--	--	--	--	--	--	--	1090
TW-1	24-26	7/25/2022	--	--	--	--	--	--	--	--	--	720
TW-1	29-31	7/25/2022	--	--	--	--	--	--	--	--	--	3400
TW-1	34-36	7/25/2022	--	--	--	--	--	--	--	--	--	1490
TW-1	39-41	7/25/2022	--	--	--	--	--	--	--	--	--	2880
TW-1	44-46	7/25/2022	--	--	--	--	--	--	--	--	--	4080
TW-1	49-51	7/25/2022	--	--	--	--	--	--	--	--	--	5200
TW-1	54-56	7/25/2022	--	--	--	--	--	--	--	--	--	12000
TW-1	59-61	7/25/2022	--	--	--	--	--	--	--	--	--	5360
TW-1	64-66	7/25/2022	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	2040
TW-1	69-71	7/25/2022	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	13000
TW-1	74-76	7/25/2022	--	--	--	--	--	--	--	--	--	5730
TW-1	Water	7/25/2022	<1.0	<1.0	<1.0	0.002	<0.001	<0.001	<0.003	<1.0	0.002	46300
TW-2	0-4	7/25/2022	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	1020
TW-2	4-6	7/25/2022	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	2280
TW-2	9-11	7/26/2022	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	1090
TW-2	14-16	7/25/2022	--	--	--	--	--	--	--	--	--	912
TW-2	19-21	7/25/2022	<10.00	<10.00	<10.00	<0.050	<0.050	<0.050	<0.150	<10.00	<0.300	608
TW-2	Water	7/25/2022	<1.0	<1.0	<1.0	0.002	<0.001	<0.001	<0.003	<1.0	<0.006	2970

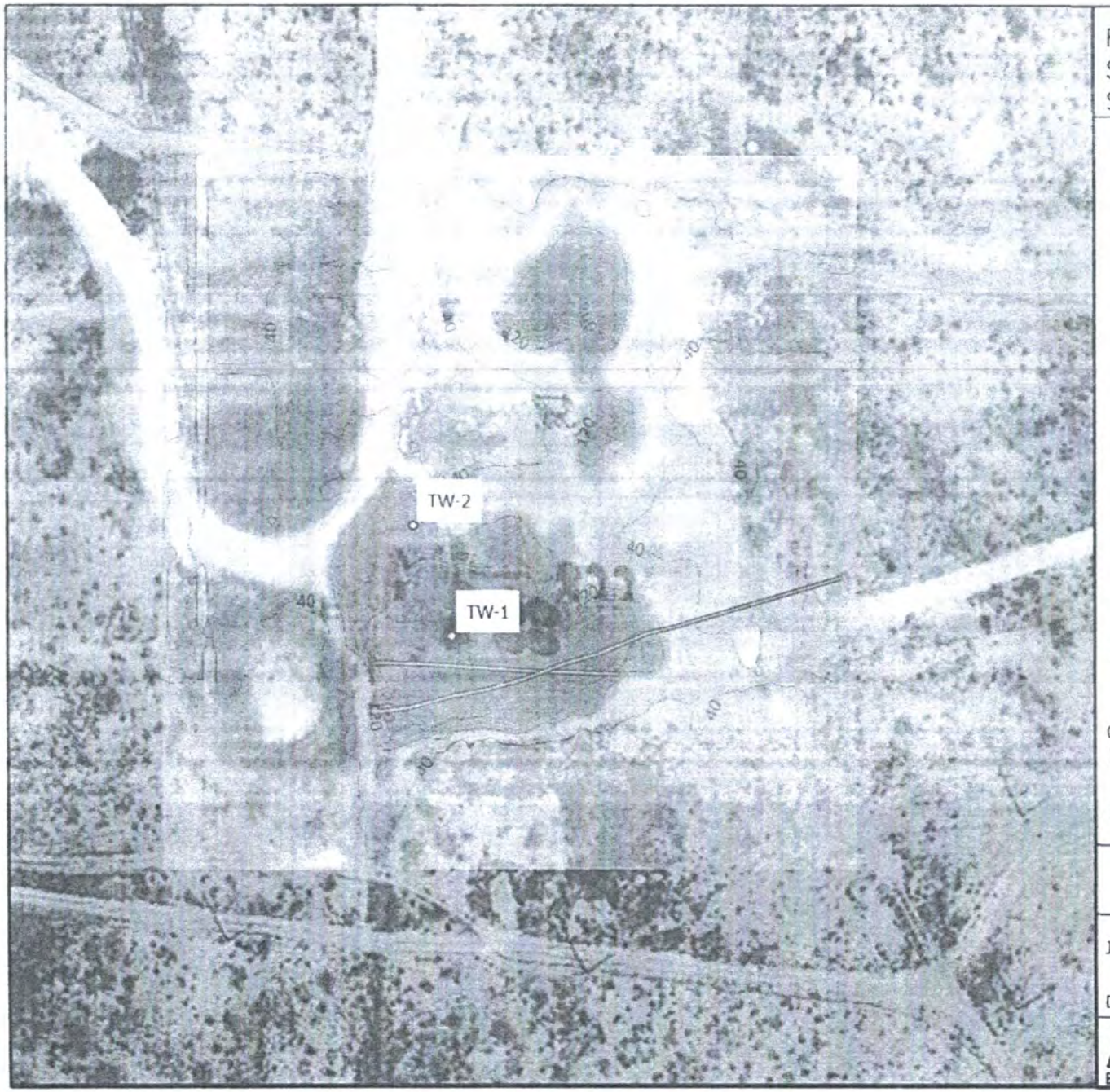

FIGURE 1
S& J Mobil 22 Fed #1
Sample Location

LEGEND

- SampleLocations
- Pipeline

280
260
240
220
200
180
160
140
100
100
80
60
4
20
0

N

0 55 110 Feet

Scale: 1:1,300

JOB No. sjemobil.drl.22 DRAWN LCM

DATE DRAWN: 8/29/2022

Atkins
ENGINEERING ASSOCIATES

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QUESTIONS

Action 382207

QUESTIONS

Operator: STEPHENS & JOHNSON OP CO P.O. Box 2249 Wichita Falls, TX 76307	OGRID: 19958
	Action Number: 382207
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2320031997**
Incident Name	**NAPP2320031997 MOBIL 22 FEDERAL TANK BATTERY - GWA @ 30-015-24955**
Incident Type	**Other**
Incident Status	**Remediation Plan Received**
Incident Well	**[30-015-24955] MOBIL 22 FEDERAL #001**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	MOBIL 22 FEDERAL TANK BATTERY - GWA
Date Release Discovered	01/01/2017
Surface Owner	Private

Incident Details	
Please answer all the questions in this group.	
Incident Type	Other
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	Yes
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	Yes

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Other | Production Tank | Crude Oil | Released: 0 BBL (Unknown Released Amount) | Recovered: 0 BBL | Lost: 0 BBL.
Produced Water Released (bbls) Details	Cause: Other | Production Tank | Produced Water | Released: 0 BBL (Unknown Released Amount) | Recovered: 0 BBL | Lost: 0 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)	Legacy Release of unknown volume

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QUESTIONS (continued)

Operator: STEPHENS & JOHNSON OP CO P.O. Box 2249 Wichita Falls, TX 76307	OGRID: 19958
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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;** **(2) an unauthorized release of a volume that:** **(d) substantially damages property or the environment;** **(4) a release of a volume that may with reasonable probability be detrimental to fresh water.**
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: Andrew Parker Title: Consultant Email: andrew@mcnabbpartners.com Date: 09/11/2024

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QUESTIONS (continued)

Operator: STEPHENS & JOHNSON OP CO P.O. Box 2249 Wichita Falls, TX 76307	OGRID: 19958
	Action Number: 382207
	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 51 and 75 (ft.)
What method was used to determine the depth to ground water	Direct Measurement
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 500 and 1000 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between ½ and 1 (mi.)
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 1 and 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 500 and 1000 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between ½ and 1 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

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)	25200
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	11/04/2024
On what date will (or did) the final sampling or liner inspection occur	12/16/2024
On what date will (or was) the remediation complete(d)	12/16/2024
What is the estimated surface area (in square feet) that will be reclaimed	60208
What is the estimated volume (in cubic yards) that will be reclaimed	35735
What is the estimated surface area (in square feet) that will be remediated	60208
What is the estimated volume (in cubic yards) that will be remediated	35735
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: STEPHENS & JOHNSON OP CO P.O. Box 2249 Wichita Falls, TX 76307	OGRID: 19958
	Action Number: 382207
	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	OWL LANDFILL JAL [fJEG1635837366]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	Yes
Other Non-listed Remedial Process. Please specify	Geosynthetic Clay Liner at technically feasible depth of equipment capabilities as presented in the remediation plan. Full delineation will be completed at time of remedial activities.
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: 09/11/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: STEPHENS & JOHNSON OP CO P.O. Box 2249 Wichita Falls, TX 76307	OGRID: 19958
	Action Number: 382207
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

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QUESTIONS (continued)

Operator: STEPHENS & JOHNSON OP CO P.O. Box 2249 Wichita Falls, TX 76307	OGRID: 19958
	Action Number: 382207
	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 382207

CONDITIONS

Operator: STEPHENS & JOHNSON OP CO P.O. Box 2249 Wichita Falls, TX 76307	OGRID: 19958
	Action Number: 382207
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Conditionally approved the incident remediation plan as stated below; 1. variance to sample for chloride only per 19.15.29.14A NMAC is approved. 2. alternative sampling plan to increase the frequency from 200 to 400 square feet per each 5-point composite sample is approved per 19.15.29.12D (1b) NMAC. 3. must remediate all impacts that exceed Table 1 of 19.15.29.12 NMAC closure standards or develop an amended remediation plan that addresses those soils not practicably removed via excavation. 4. liner as proposed is approved per 19.15.29.14A NMAC. Installation must be at a minimum, 6 ft. below ground surface.	10/10/2024
nvelez	5. the proposed groundwater assessment plan has been reviewed and must meet these requirements; 1. an alternative or addition well in the suspected southwest down gradient direction 2. move PMW-2 further north as shown on page 60 of this report 3. PMW-1 should be moved further east and off the well pad into native & undisturbed parcel 6. 90-days (January 8, 2025) to submit its appropriate or final remediation closure report.	10/10/2024