

Incident ID	nRM1926352539
District RP	1RP-5677
Facility ID	
Application ID	pRM1926352024

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?	21 (ft bgs)
Did this release impact groundwater or surface water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 1/2-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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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: Bruce Baker Title: Environmental Tech Sr.

Signature: _____ Date: _____

email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

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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: Bruce Baker Title: Environmental Tech Sr.

Signature: _____ Date: _____

email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature: _____ Date: _____

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Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Bruce Baker Title: Environmental Tech Sr.

Signature: _____ Date: _____

email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

1RP-5677
EXCAVATION CLOSURE AND GROUNDWATER REPORT
North Monument G/SA Unit #002
Produced Water and Crude Oil Release

Lea County, New Mexico

Latitude: 32.61233°

Longitude: -103.27262°

LAI Project No. 19-0112-51

June 3, 2022

Prepared for:
Apache Corporation
2350 W. Marland Blvd
Hobbs, New Mexico 88240

Prepared by:
Larson & Associates, Inc.
507 North Marienfeld, Suite 202
Midland, Texas 79701



Mark J. Larson, P.G.
Certified Professional Geologist #10490



Robert Nelson
Sr. Geoscientist

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 North Monument G/SA Unit #002
 Lea County, New Mexico
 June 3, 2022

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Excavation Closure and Groundwater Report
North Monument G/SA Unit #002
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June 3, 2022

1.0 INTRODUCTION

Larson & Associates, Inc. (LAI) has prepared this excavation closure and groundwater report for submittal to the New Mexico Oil Conservation Division (OCD) in Santa Fe and Hobbs, New Mexico, on behalf of Apache Corporation (Apache). This report presents remediation activities at the NMGSAU 2102(Site) located in Unit O (SW/4, SE/4), Section 32, Township 19 South, Range 37 East, in Lea County, New Mexico. The geodetic position is North 32.61233 and West -103.27262. Figure 1 presents a topographic map. Figure 2 presents an aerial drawing.

1.1 Background

The crude oil and produced water release occurred on August 16, 2019, due to corrosion and failure of a buried 3-inch steel flowline. The failure allowed for an unknown volume of crude oil and produced water to be released. Approximately 2.5 barrels (bbls) of crude oil and produced water were recovered. The fluid pooled in the pasture south of the well pad and west of the lease road. Immediate notice was given to Mr. Dylan Rose-Cross (NMOCD) by Mr. Jeffery Broom (Apache Environmental Tech) via email on August 16, 2019. The surface ownership is private. The initial C-141 was submitted on August 29, 2019 and assigned remediation permit number of 1RP-5677. Appendix A presents the initial C-141.

On October 10, 2019, Apache applied for a variance to backfill the excavation due to the presence of groundwater between approximately 21 to 23 feet below ground surface (bgs), and total petroleum hydrocarbon (TPH) and chloride contamination in soil beneath the excavation at approximately 12 feet bgs. The request stated that Apache would backfill the excavation with clean caliche to about 6 feet bgs, install a 20-mil polyethylene synthetic liner, and complete backfilling to surface with clean topsoil containing chloride less than 600 mg/Kg. NMOCD approved the variance request on October 16, 2019, under the condition that Apache will install two (2) monitor wells, with TMW-1 installed as close as possible to the source of the release and TMW-2 installed hydraulically down gradient approximately 150 feet southeast of the excavation. Additional, NMOCD requested one (1) monitor well be installed hydraulically upgradient to monitor background groundwater. Appendix B presents the variance request and NMOCD communications.

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 3,564 feet above mean sea level (msl).
- The topography slopes gently towards the southeast.
- There are no surface water features within 1,000 feet of the Site.
- Karst data provided by the USGS describes this site as "Low Risk Potential".
- The soils are designated Berino-Cacique fine sandy loams association, 0 to 3 percent slopes, consisting of 8 inches of fine sandy loam and 52 inches of sandy clay loam in descending order.
- The surface geology consists of Eolian and piedmont deposits (Holocene to middle Pleistocene) interlayered eolian sands and piedmont-slop deposits.

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- Groundwater occurs in the Ogallala Formation from about 21 to 23 feet below ground surface (bgs) based on depth to groundwater from two (2) monitoring wells installed near the excavation.
Appendix C presents the karst potential map.

1.3 Remediation Levels

The following remediation standards are based on closure criteria for soil impacted by a release as presented in Table 1 of 19.15.29 NMAC:

- Benzene 10 mg/Kg
- BTEX 50 mg/Kg
- TPH 100 mg/Kg
- Chloride 600 mg/Kg

Further, 19.15.29.13 NAMC (Restoration, Reclamation, and Re-Vegetation) requires the operator to restore the impacted surface area that existed prior to the release or their final land use.

2.0 SOIL REMEDIATION

Between September 4 and 23, 2019, an Apache contractor excavated contaminated soil to approximately twelve (12) feet bgs or about 10 feet above groundwater over an area measuring approximate 16,024 square feet or about 0.37 acre. Personnel from Apache collected confirmation soil samples from the excavation floor (bottom) and sidewalls. The samples were delivered under chain of custody to Cardinal Laboratories in Hobbs, New Mexico, which analyzed the samples for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA SW-846 Method 8021B, total petroleum hydrocarbons (TPH), including gasoline range organics (C6-C12), diesel range organics (>C12-C28), and oil range organics (<C28-C35) by EPA SW-846 Method 8015M and chloride by titration method SM4500 CL-B. The samples were five-point composites collected no more than every 200 square feet of the excavation sidewalls (W1 through W36) and floor (B1 through B87).

All sidewall samples reported benzene, BTEX, TPH, and chloride less than the OCD remediation limits of 10 milligrams per kilogram (mg/Kg), 50 mg/Kg, 100 mg/Kg, and 600 mg/Kg, respectively. All floor (bottom) samples reported benzene and BTEX below the OCD remediation levels. TPH was reported above the remediation level of 100 mg/Kg in the following floor samples:

Sample ID	TPH (mg/Kg)
B48	256.5
B55	119
B56	461.8
B63	136
B77	277.3

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Chloride was reported above the OCD remediation level (600 mg/Kg) in the following floor samples:

Sample ID	Chloride (mg/Kg)
B5	608
B10	688
B11	976
B19	923
B22	816
B23	720
B45	1,170
B55	720
B56	864
B57	1,120
B58	832
B59	1,120
B62	928
B63	816
B64	1,060
B65	976
B66	1,300
B67	640
B76	784
B77	1,140
B78	1,090
B79	688

On October 19, 2020, per the NMOCDC approved variance, the excavation was backfilled to approximately 6 feet bgs with non-contaminated caliche containing chloride less than 600 mg/Kg. The 20-mil polyethylene synthetic liner was installed above the caliche at approximately 6 feet bgs, and excavation backfilling was completed to surface with clean topsoil containing chloride less than 600 mg/Kg. Table 1 presents the Apache laboratory analytical data summary. Appendix D presents a drawing showing the Apache soil sample locations. Appendix E presents the Apache soil sample laboratory reports.

3.0 GROUNDWATER INVESTIGATION AND MONITORING

3.1 Groundwater Investigation

On March 11, 2020, Scarborough Drilling, Inc. (SDI) under LAI supervision installed two (2) monitor wells (TMW-1 and TMW-2) utilizing an air rotary rig. The wells were drilled to depths of approximately 30 feet bgs. Monitoring well TMW-1 was installed near the east side of the excavation. Monitoring well TMW-2 was installed southeast (down gradient) approximately 150 feet from the excavation. The monitoring wells were completed with 2-inch schedule 40 threaded casing and 20 feet of 0.010-inch factory slotted screen that was positioned above and below the groundwater level gauged at the time of drilling. Graded silica sand was placed around the screen to about 2 feet above the screen. The annular space above the

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sand was filled with bentonite chips to about 1-foot bgs. The wells were logged according to the Unified Soil Classification System (ASTM D 2487 – 06) and are secured with locking steel protectors anchored in concrete. West Company, a State of New Mexico licensed professional land surveyor (License Number 23263) surveyed the monitoring wells for position and elevation including top of casing and natural ground surface. Figure 2 presents the monitoring well locations. Appendix F presents the boring logs.

3.2 Groundwater Monitoring

3.2.1 Depth to Groundwater and Groundwater Flow

During eight (8) consecutive quarters between March 1, 2020, and December 21, 2021, LAI personnel gauged depth to groundwater in monitoring wells TMW-1, TMW-2, and the background well (MW-2) located about 300 feet northwest and hydraulically up gradient from the release. Monitoring well MW-2 is located northwest of NMGSAU #1631.

On December 21, 2021, depth to groundwater ranged from 10.88 feet bgs at monitoring well MW-2 (up gradient) to 23.54 feet bgs at TMW-2 (down gradient). The groundwater elevation ranged from 3,555.76 feet above mean sea level (AMSL) at MW-2 (up gradient) to 3,537.98 feet AMSL at TMW-2 (down gradient). The groundwater flow direction was from northwest to southeast at a gradient of approximately 0.26 feet per foot. The groundwater elevation and flow direction remained consistent through eight (8) consecutive quarters. Table 2 presents the monitoring well completion details and depth to groundwater readings. Figure 3 presents the groundwater potentiometric surface map for December 21, 2021.

3.2.2 Groundwater Samples

Groundwater samples were collected using the low stress or low flow method according to EPA protocol (EQASOP-GW4, Revision 4, September 19, 2017) where an environmental pump is submerged near the middle of the water column and the well is pumped at a low rate until environmental parameters stabilize. Groundwater samples were collected from the discharge of the dedicated disposable Tygon[®] tubing. The tubing was discarded after each use and the pump was thoroughly cleaned with a solution of potable water and laboratory grade detergent (Alconox[®]) and rinsed with distilled water. Quality assurance and quality control (duplicate) samples were collected from monitoring wells MW-2 and TMW-2. The samples were carefully transferred to laboratory containers that were labeled, packed in an ice filled chest and delivered under chain of custody control to Xenco-Eurofins Laboratories (Eurofins), a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory, located in Midland, Texas. Xenco analyzed the samples for benzene, toluene, ethylbenzene, xylene (BTEX) according to EPA SW-846 Method SW-8021B and chloride by EPA Method 300, respectively. Table 3 presents the laboratory analytical data summary. Appendix G presents the groundwater sample laboratory reports.

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3.2.2.1 Organic Analysis

All BTEX values were below the SW-846 – 8021B analytical method reporting limits (RL) and New Mexico Water Quality Control Commission (WQCC) human health standards during the eight (8) consecutive quarters. No data quality exceptions were noted in the Xenco case narratives.

3.2.2.2 Inorganic Analysis

Chloride was reported above the WQCC domestic water quality standard of 250 milligrams per liter (mg/L) in the following samples during 2020:

Sample ID	March 12, 2020 (mg/L)	July 20, 2020 (mg/L)	October 1, 2020 (mg/L)	December 8, 2020 (mg/L)
TMW-1	360	432	452	449
TMW-2	423	664	591	473

Figure 4a through 4d present isopleth drawings for chloride concentrations in groundwater samples on March 12, 2020, July 20, 2020, October 1, 2020, and December 8, 2020, respectively.

Chloride was reported above the WQCC domestic water quality standard of 250 milligrams per liter (mg/L) in the following samples during 2021:

Sample ID	March 10, 2021 (mg/L)	June 11, 2021 (mg/L)	October 12, 2021 (mg/L)	December 21, 2021 (mg/L)
TMW-1	418	361	291	406
TMW-2	428	402	325	388

Figure 5a through 5d present isopleth drawings for chloride concentrations in groundwater samples on March 10, 2021, June 11, 2021, October 12, 2021, and December 21, 2020, respectively. Figure 6 presents a control chart for chloride concentrations in groundwater. Appendix H presents photographic documentation.

4.0 CONCLUSIONS

- Soil was excavated to approximately 12 feet bgs and disposed at Sundance Disposal, a NMOCD approved landfill located east of Eunice, New Mexico.
- Per the NMOCD approved variance the excavation was backfilled caliche to approximately 6 feet bgs where a 20-mil thickness polyethylene synthetic liner was placed in the bottom of the

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excavation with the remainder of the excavation above the liner backfilled with non-contaminated soil containing less than 600 mg/Kg chloride.

- Two (2) monitor wells (TMW-1 and TMW-2) were installed in air rotary drilled borings at approximately 30 feet bgs. Monitoring well TMW-1 was installed near the east side of the excavation. Monitoring well TMW-2 was installed southeast (down gradient) approximately 150 feet from the excavation.
- Groundwater samples were collected from an upgradient monitoring well (MW-2) and the down gradient wells (TMW-1 and TMW-2) during eight consecutive quarters between March 12, 2020, and December 21, 2021, and were analyzed for BTEX and chloride.
- BTEX values were below the RL and WQCC human health standard (0.01 mg/L) in all samples during the eight (8) consecutive quarters.
- Chloride concentrations from the down gradient wells (TMW-1 and TMW-2) exceeded the WQCC domestic water quality standard (250 mg/L) during the eight (8) consecutive quarters and ranged from 290 mg/L in TMW-1 on October 12, 2021, and 664 mg/L in TMW-2 on July 20, 2020.

5.0 CLOSURE REQUEST

Apache requests closure approval for the excavation and no further action for groundwater or groundwater monitoring. The monitoring wells will be plugged according to State of New Mexico Office of the State Engineer requirements.

Tables

Floor Samples

Map ID	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
W1	W1	12'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W2	W2	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W3	W3	12'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W4	W4	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W5	W5	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W6	W6	12'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W7	W7	12'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W8	W8	12'	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W9	W9	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W10	W10	12'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W11	W11	12'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W12	W12	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W13	W13	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W14	W14	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W15	W15	12'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W16	W16	12'	96	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W17	W17	12'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W18	W18	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W19	W19	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W20	W20	12'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W21	W21	12'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W22	W22	12'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W23	W23	12'	112	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W24	W24	12'	352	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W25	W25	12'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W26	W26	12'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W27	W27	12'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W28	W28	12'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W29	W29	12'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W30	W30	12'	30	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W31	W31	12'	96	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W32	W32	12'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W33	W33	12'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W34	W34	12'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W35	W35	12'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W36	W36	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results

W37	W37	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
W38	W38	12'	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	10.1	On Lab Results

Wall Samples

Map ID	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
B1	B1	12'	176	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B2	B2	12'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B3	B3	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B4	B4	12'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B5	B5	12'	608	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B6	B6	12'	288	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B7	B7	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B8	B8	12'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B9	B9	12'	112	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B10	B10	12'	688	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B11	B11	12'	976	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B12	B12	12'	96	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B13	B13	12'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B14	B14	12'	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B15	B15	12'	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B16	B16	12'	112	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B17	B17	12'	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B18	B18	12'	272	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B19	B19	12'	928	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B20	B20	12'	112	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B21	B21	12'	528	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B22	B22	12'	816	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B23	B23	12'	720	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B24	B24	12'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B25	B25	12'	96	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B26	B26	12'	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B27	B27	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B28	B28	12'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B29	B29	12'	240	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	12	<10.0	On Lab Results
B30	B30	12'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B31	B31	12'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B32	B32	12'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B33	B33	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B34	B34	12'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B35	B35	12'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B36	B36	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results

B37	B37	12'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B38	B38	12'	144	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B39	B39	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B40	B40	12'	96	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B41	B41	12'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B42	B42	12'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B43	B43	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B44	B44	12'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B45	B45	12'	1170	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B46	B46	12'	144	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B47	B47	12'	336	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B48	B48	12'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	222	34.5	On Lab Results
B49	B49	12'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B50	B50	12'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B51	B51	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	92.4	<10.0	On Lab Results
B52	B52	12'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B53	B53	12'	256	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	19.7	<10.0	On Lab Results
B54	B54	12'	416	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B55	B55	12'	720	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	119	<10.0	On Lab Results
B56	B56	12'	864	<0.050	<0.050	<0.050	0.221	0.221	21.5	395	45.3	On Lab Results
B57	B57	12'	1120	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B58	B58	12'	832	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	11.9	<10.0	On Lab Results
B59	B59	12'	1120	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	37.8	<10.0	On Lab Results
B60	B60	12'	240	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B61	B61	12'	144	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	74.9	<10.0	On Lab Results
B62	B62	12'	928	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	29.9	<10.0	On Lab Results
B63	B63	12'	816	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	136	16.6	On Lab Results
B64	B64	12'	1060	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	85.5	12	On Lab Results
B65	B65	12'	976	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	13.6	<10.0	On Lab Results
B66	B66	12'	1300	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B67	B67	12'	640	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B68	B68	12'	496	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B69	B69	12'	192	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B70	B70	12'	112	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B71	B71	12'	464	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B72	B72	12'	496	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B73	B73	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B74	B74	12'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	14.1	<10.0	On Lab Results
B75	B75	12'	96	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B76	B76	12'	784	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	74.9	<10.0	On Lab Results
B77	B77	12'	1140	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	190	87.3	On Lab Results
B78	B78	12'	1090	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results

FIELD SAMPLING SHOWN IN RED WITH CHLORIDE FINDINGS ONLY

B79	B79	12'	688	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	12	<10.0	On Lab Results
B80	B80	12'	384	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B81	B81	12'	224	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B82	B82	12'	416	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B83	B83	12'	112	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B84	B84	12'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B85	B85	12'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B86	B86	12'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	On Lab Results
B87	B87	12'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	41.5	<10.0	On Lab Results

**Table 2
Monitor Well Completion and Gauging Summary
Apache Corporation, NMGSAU 2102
Lea County, New Mexico**

Well Information									Groundwater Data				
Well No.	Date Drilled	Well Depth (Feet TOC)	Drilled Depth (Feet BGS)	Well Diameter (inches)	Surface Elevation (Feet AMSL)	Screen Interval (Feet BGS)	Casing Stickup (Feet)	TOC Elevation (Feet AMSL)	Date Gauged	Depth to Water (feet TOC)	Depth to Water (feet BGS)	Water Column Height (feet)	Groundwater Elevation (feet AMSL)
MW-2	Unknown	62.91	60.03	2	3566.64	Unknown	2.88	3,569.52	03/12/2020	13.59	10.71	49.32	3,555.93
									07/20/2020	13.75	10.87	49.16	3,555.77
									10/01/2020	13.90	11.02	49.01	3,555.62
									12/08/2020	13.81	10.93	49.10	3,555.71
									03/10/2021	13.80	10.92	49.11	3,555.72
									06/11/2021	13.80	10.92	49.11	3,555.72
									10/12/2021	13.81	10.93	49.10	3,555.71
									12/21/2021	13.76	10.88	49.15	3,555.76
TMW-1	3/11/2020	36.23	33.33	2	3561.92	9.83 - 29.49	2.90	3,564.82	03/12/2020	24.37	21.47	11.86	3,540.45
									07/20/2020	24.95	22.05	11.28	3,539.87
									10/01/2020	24.90	22.00	11.33	3,539.92
									12/08/2020	24.65	21.75	11.58	3,540.17
									03/10/2021	24.60	21.70	11.63	3,540.22
									06/11/2021	24.80	21.9	11.43	3540.02
									10/12/2021	24.96	22.06	11.27	3539.86
									12/21/2021	24.64	21.74	11.59	3540.18
TWM-2	3/11/2020	37.07	34.03	2	3561.43	10.05 - 29.30	3.04	3,564.47	03/12/2020	26.38	23.34	10.69	3,538.09
									07/20/2020	26.70	23.66	10.37	3,537.77
									10/01/2020	26.70	23.66	10.37	3,537.77
									12/08/2020	26.51	23.47	10.56	3,537.96
									03/10/2021	26.40	23.36	10.67	3,538.07
									06/11/2021	26.57	23.53	10.50	3537.9
									10/12/2021	26.72	23.68	10.35	3537.75
									12/21/2021	26.49	23.45	10.58	3537.98

Notes: MW-2 is hydraulically upgradient. TMW-1 is near release source. TWM-2 is hydraulically down gradient.

bgs: below ground surface

TOC: top of casing

AMSL: elevation above mean sea level

Groundwater Sample Analytical Data Summary
Apache Corporation, NMGSAU 2102
Lea County, New Mexico

Sample	Collection Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	Chloride (mg/L)
WQCC Standard:		*0.005	* 1	*0.7	*0.62	**250
MW-2	3/12/2020	<0.00100	<0.00100	<0.00100	<0.00300	230
	7/20/2020	<0.00200	<0.00200	<0.00200	<0.00600	231
	10/1/2020	<0.00200	<0.00200	<0.00200	<0.00200	241
	12/8/2020	<0.00200	<0.00200	<0.00200	<0.00200	227
	3/10/2021	<0.00200	<0.00200	<0.00200	<0.00200	235
	6/11/2021	<0.00200	<0.00200	<0.00200	<0.00400	212
	10/12/2021	<0.00200	<0.00200	<0.00200	<0.00400	207
	12/21/2021	<0.00200	<0.00200	<0.00200	<0.00400	222
TMW-1	3/12/2020	<0.00100	<0.00100	<0.00100	<0.00300	360
	7/20/2020	<0.00200	<0.00200	<0.00200	<0.00600	432
	10/1/2020	<0.00200	<0.00200	<0.00200	<0.00200	452
	12/8/2020	<0.00200	<0.00200	<0.00200	<0.00200	449
	3/10/2021	<0.00200	<0.00200	<0.00200	<0.00200	418
	6/11/2021	<0.00200	<0.00200	<0.00200	<0.00400	361
	10/12/2021	<0.00200	<0.00200	<0.00200	<0.00400	291
	12/21/2021	<0.00200	<0.00200	<0.00200	<0.00400	406
TMW-2	3/12/2020	<0.00100	<0.00100	<0.00100	<0.00300	423
	7/20/2020	<0.00200	<0.00200	<0.00200	<0.00600	664
	10/1/2020	<0.00200	<0.00200	<0.00200	<0.00200	591
	12/8/2020	<0.00200	<0.00200	<0.00200	<0.00200	473
	3/10/2021	<0.00200	<0.00200	<0.00200	<0.00200	428
	6/11/2021	<0.00200	<0.00200	<0.00200	<0.00400	402
	10/12/2021	<0.00200	<0.00200	<0.00200	<0.00400	325
	12/21/2021	<0.00200	<0.00200	<0.00200	<0.00400	388
(QA/QC (Duplicate) Samples						
MW-2	3/12/2020	<0.00100	<0.00100	<0.00100	<0.00300	223
	7/20/2020	<0.00200	<0.00200	<0.00200	<0.00600	242
	10/1/2020	<0.00200	<0.00200	<0.00200	<0.00200	245
	12/8/2020	<0.00200	<0.00200	<0.00200	<0.00200	226
MW-2	3/10/2021	<0.00200	<0.00200	<0.00200	<0.00200	237
	6/11/2021	<0.00200	<0.00200	<0.00200	<0.00400	213
TMW-2	10/12/2021	<0.00200	<0.00200	<0.00200	<0.00400	305
MW-2	12/21/2021	<0.00200	<0.00200	<0.00200	<0.00400	226

Notes:

analysis performed by Xenco Laboratories, Midland, Texas by EPA SW-846 Method 8021B (BTEX) and Method 300 (chloride)

All values reported in milligrams per liter (mg/L) equivalent to parts per million (ppm)

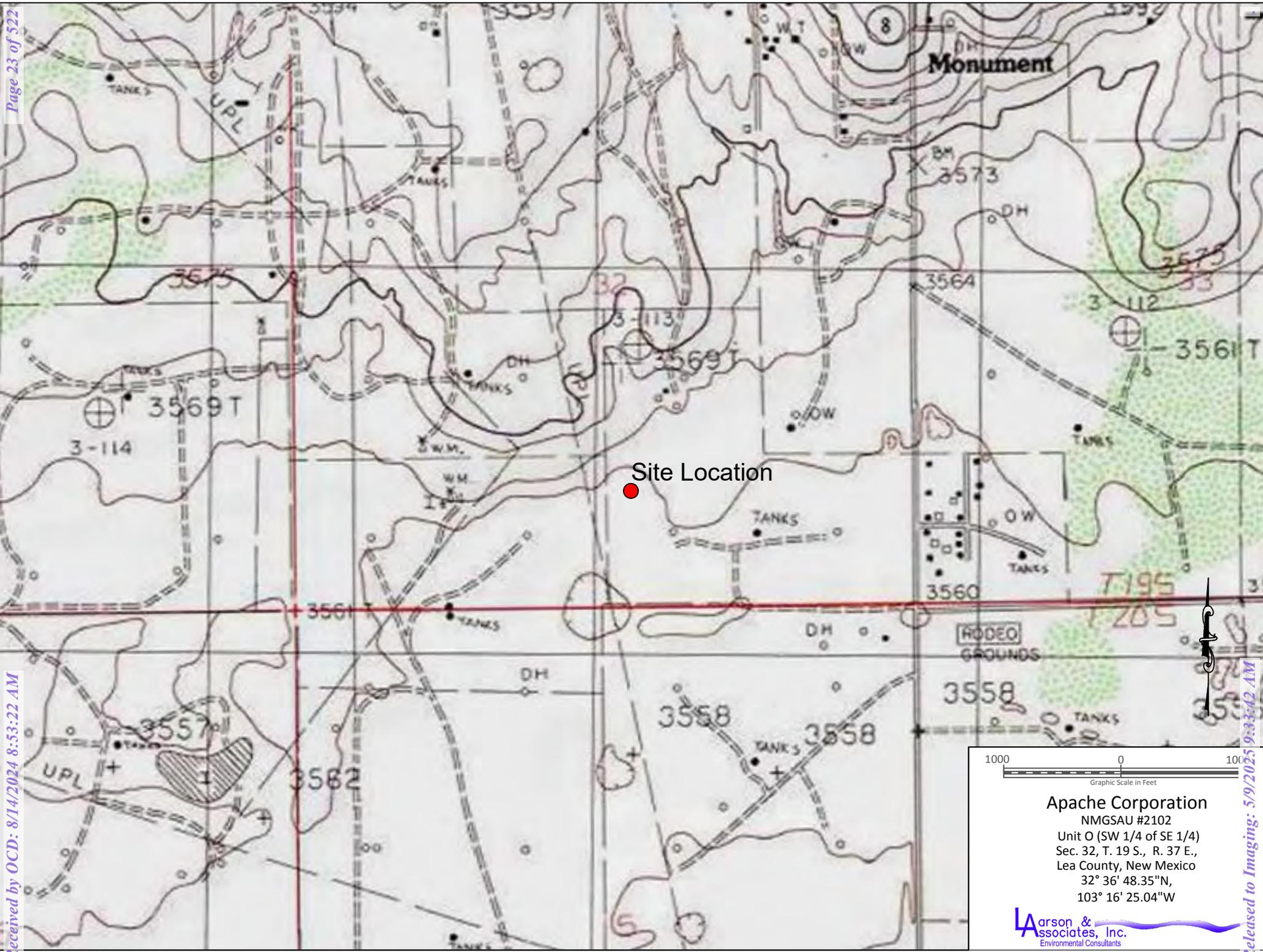
< values - denotes concentration is less than method reporting limit (RL).

* - NMWQCC human health standard

** - NMWQCC domestic water quality standard

BGS - below ground surface

Figures

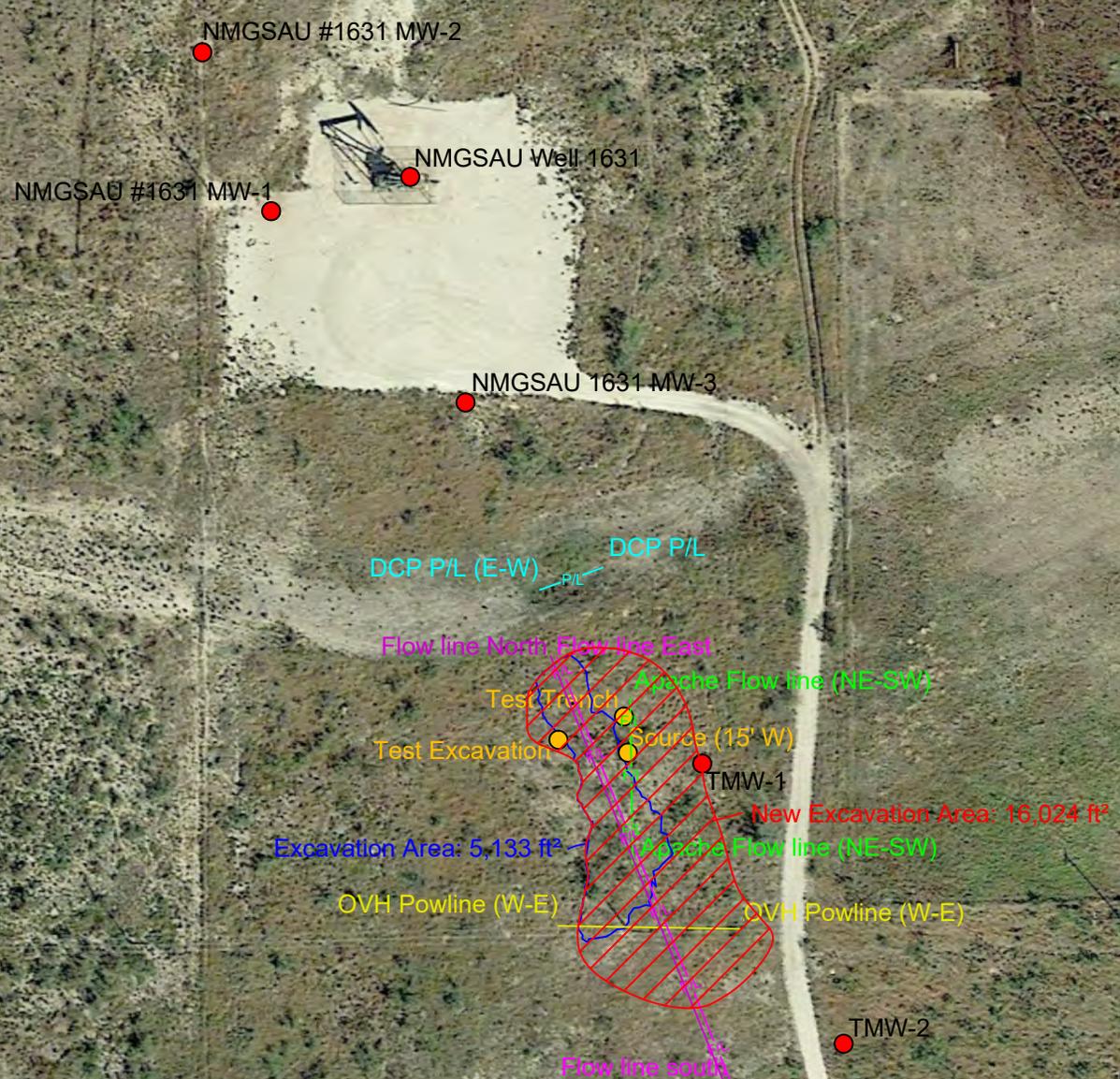


1000 0 1000
Graphic Scale in Feet

Apache Corporation
 NMGSAU #2102
 Unit O (SW 1/4 of SE 1/4)
 Sec. 32, T. 19 S., R. 37 E.,
 Lea County, New Mexico
 32° 36' 48.35"N,
 103° 16' 25.04"W

Larson & Associates, Inc.
 Environmental Consultants

Figure 1 - Topographic Map

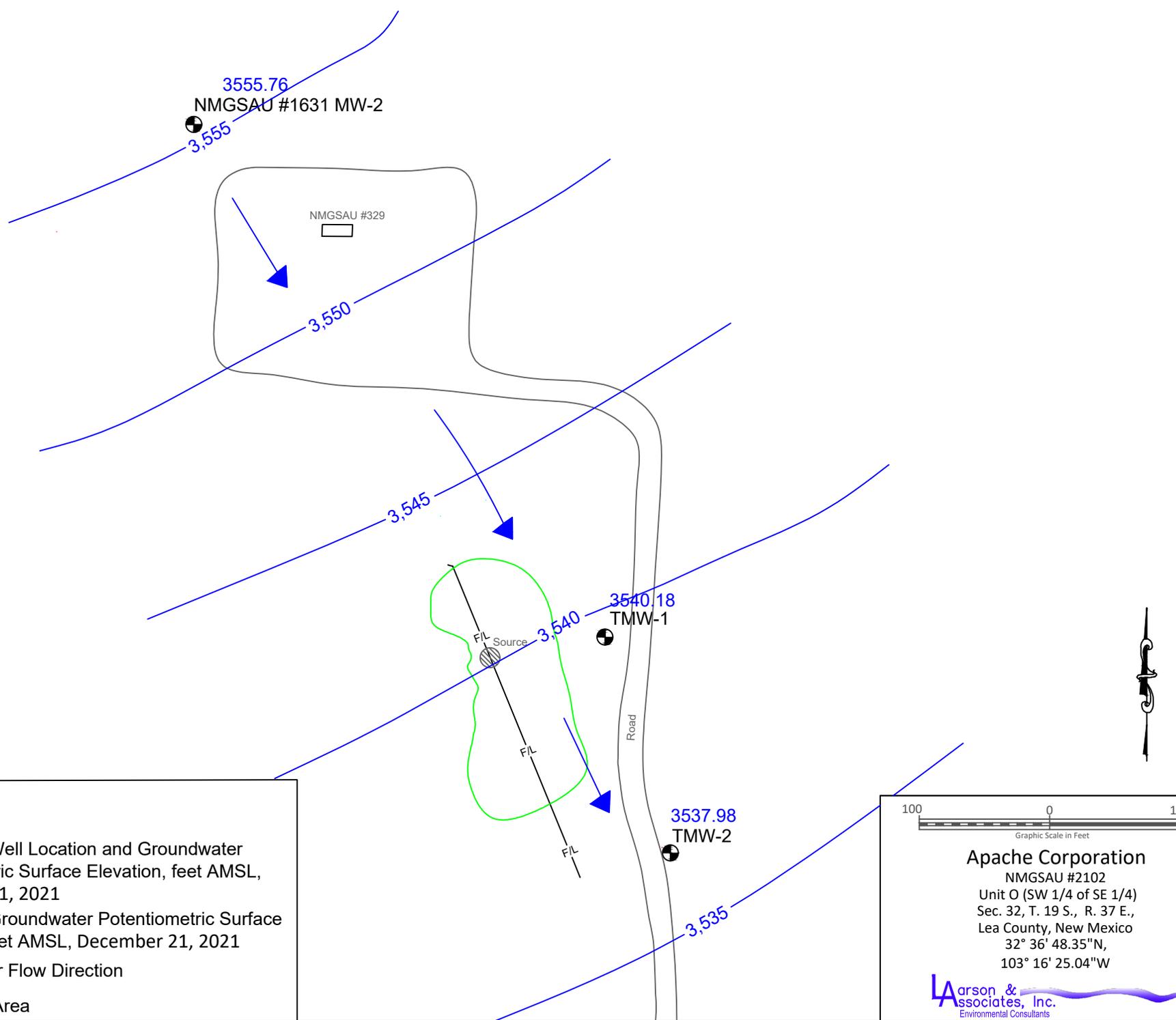


100 0 100
Graphic Scale in Feet

Apache Corporation
 NMGSAU #2102
 Unit O (SW 1/4 of SE 1/4)
 Sec. 32, T. 19 S., R. 37 E.,
 Lea County, New Mexico
 32° 36' 48.35"N,
 103° 16' 25.04"W

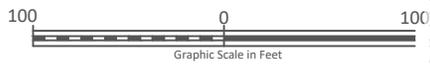
Larson & Associates, Inc.
 Environmental Consultants

Figure 2 - Aerial Map



Legend

- 3537.98 MW-2 - Monitoring Well Location and Groundwater Potentiometric Surface Elevation, feet AMSL, December 21, 2021
- 3,550 - Contour of Groundwater Potentiometric Surface Elevation, feet AMSL, December 21, 2021
- ➔ - Groundwater Flow Direction
- - Excavation Area



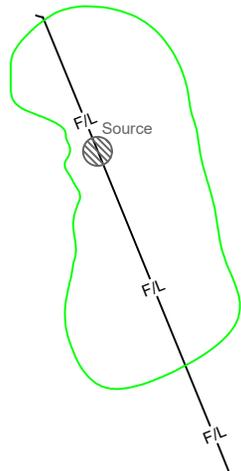
Apache Corporation
 NMGSAU #2102
 Unit O (SW 1/4 of SE 1/4)
 Sec. 32, T. 19 S., R. 37 E.,
 Lea County, New Mexico
 32° 36' 48.35"N,
 103° 16' 25.04"W

Larson &
 Associates, Inc.
 Environmental Consultants

Figure 3 - Groundwater Potentiometric Surface Map, December 21, 2021

NMGSAU #1631 MW-2
● 230

NMGSAU #329
□



360
● TMW-1

423
● TMW-2

Legend

- TMW-2 - Monitoring Well Location and Chloride Concentration in Groundwater, mg/L, March 12, 2020
- (Red) - Exceeds NMWQCC Domestic Water Ruality Standard: 250 mg/L

100 0 100
Graphic Scale in Feet

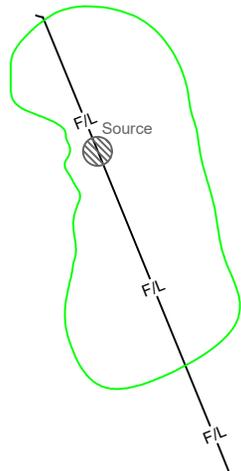
Apache Corporation
 NMGSAU #2102
 Unit O (SW 1/4 of SE 1/4)
 Sec. 32, T. 19 S., R. 37 E.,
 Lea County, New Mexico
 32° 36' 48.35"N,
 103° 16' 25.04"W

Larson & Associates, Inc.
 Environmental Consultants

Figure 4a - Chloride Concentration in Groundwater Map, March 12, 2020

NMGSAU #1631 MW-2
● 231

NMGSAU #329
□



432
● TMW-1

664
● TMW-2

Legend

- TMW-2 - Monitoring Well Location and Chloride Concentration in Groundwater, mg/L, July 20, 2020
- 432 - Exceeds NMWQCC Domestic Water Ruality Standard: 250 mg/L
- 664 - Exceeds NMWQCC Domestic Water Ruality Standard: 250 mg/L

100 0 100
Graphic Scale in Feet

Apache Corporation
 NMGSAU #2102
 Unit O (SW 1/4 of SE 1/4)
 Sec. 32, T. 19 S., R. 37 E.,
 Lea County, New Mexico
 32° 36' 48.35"N,
 103° 16' 25.04"W

Larson & Associates, Inc.
 Environmental Consultants

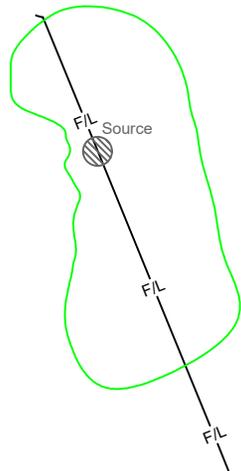
Received by OCD: 8/14/2024 8:53:22 AM

Released to Imaging: 5/9/2025 9:33:42 AM

Figure 4b - Chloride Concentration in Groundwater Map, July 20, 2020

NMGS AU #1631 MW-2
● 241

NMGS AU #329



452
● TMW-1

591
● TMW-2

Legend

- TMW-2 - Monitoring Well Location and Chloride Concentration in Groundwater, mg/L, October 20, 2020
- (Red) - Exceeds NMWQCC Domestic Water Ruality Standard: 250 mg/L

100 0 100
Graphic Scale in Feet

Apache Corporation
 NMGS AU #2102
 Unit O (SW 1/4 of SE 1/4)
 Sec. 32, T. 19 S., R. 37 E.,
 Lea County, New Mexico
 32° 36' 48.35"N,
 103° 16' 25.04"W

Larson & Associates, Inc.
 Environmental Consultants

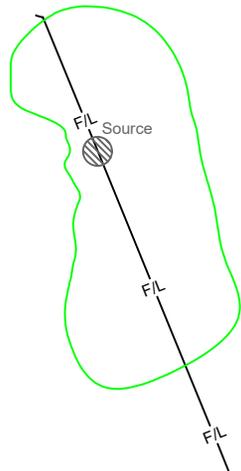
Received by OCD: 8/14/2024 8:53:22 AM

Released to Imaging: 5/9/2025 9:33:42 AM

Figure 4c - Chloride Concentration in Groundwater Map, October 1, 2020

NMGS AU #1631 MW-2
● 227

NMGS AU #329
□



449
● TMW-1

473
● TMW-2

Legend

- TMW-2 - Monitoring Well Location and Chloride Concentration in Groundwater, mg/L, December 5, 2020
- 449 - Exceeds NMWQCC Domestic Water Ruality Standard: 250 mg/L
- 473 - Exceeds NMWQCC Domestic Water Ruality Standard: 250 mg/L

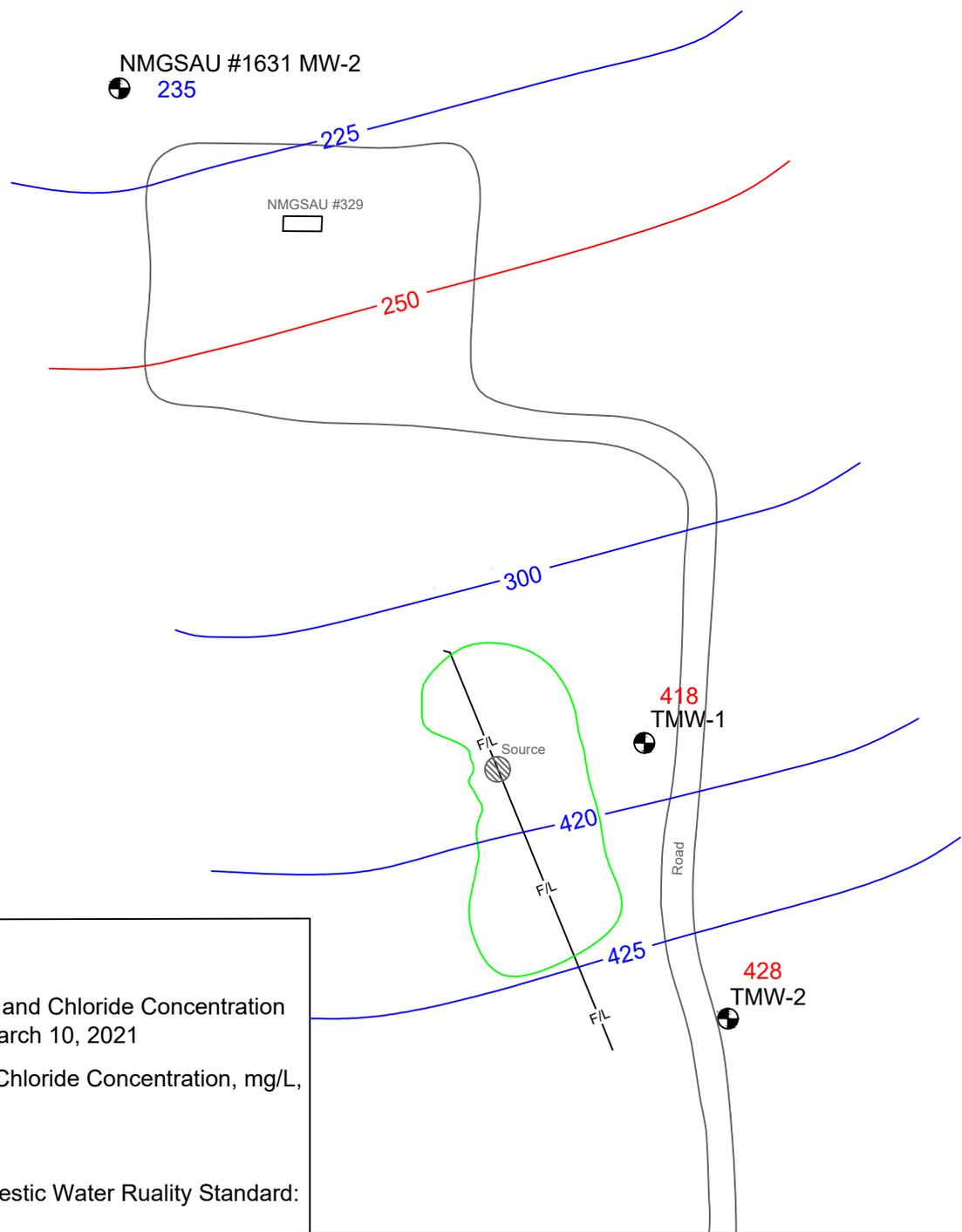
100 0 100
Graphic Scale in Feet

Apache Corporation
 NMGS AU #2102
 Unit O (SW 1/4 of SE 1/4)
 Sec. 32, T. 19 S., R. 37 E.,
 Lea County, New Mexico
 32° 36' 48.35"N,
 103° 16' 25.04"W

Larson & Associates, Inc.
 Environmental Consultants



Figure 4d - Chloride Concentration in Groundwater Map, December 8, 2020



- Legend**
- 428 TMW-2 - Monitoring Well Location and Chloride Concentration in Groundwater, mg/L, March 10, 2021
 - Contour of Groundwater Chloride Concentration, mg/L, March 10, 2021
 - Excavation Area
 - Exceeds NMWQCC Domestic Water Ruality Standard: 250 mg/L

100 0 100
Graphic Scale in Feet

Apache Corporation
 NMGS AU #2102
 Unit O (SW 1/4 of SE 1/4)
 Sec. 32, T. 19 S., R. 37 E.,
 Lea County, New Mexico
 32° 36' 48.35"N,
 103° 16' 25.04"W

Larson & Associates, Inc.
 Environmental Consultants



Figure 5a - Chloride Concentration in Groundwater Map, March 10, 2021

NMGSAU #1631 MW-2
212

NMGSAU #329

225

250

350

361
TMW-1

FIL Source

FIL

FIL

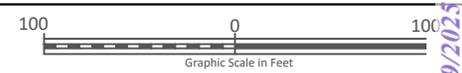
375

402
400

TMW-2

Legend

- 402 TMW-2 - Monitoring Well Location and Chloride Concentration in Groundwater, mg/L, June 11, 2021
- Contour of Groundwater Chloride Concentration, mg/L, June 11, 2021
- Excavation Area
- Exceeds NMWQCC Domestic Water Ruality Standard: 250 mg/L

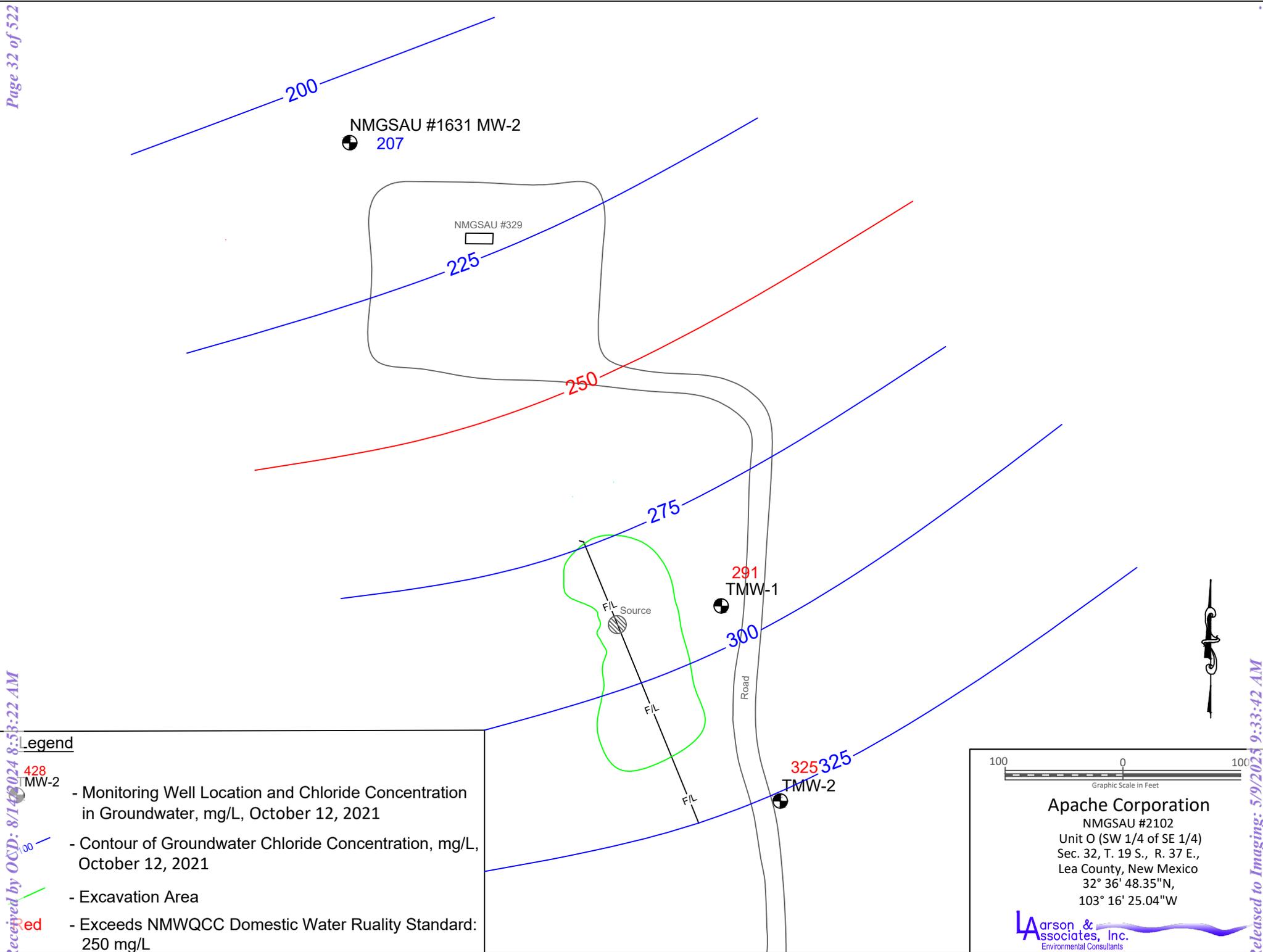


Apache Corporation
 NMGSAU #2102
 Unit O (SW 1/4 of SE 1/4)
 Sec. 32, T. 19 S., R. 37 E.,
 Lea County, New Mexico
 32° 36' 48.35"N,
 103° 16' 25.04"W

Larson & Associates, Inc.
 Environmental Consultants



Figure 5b - Chloride Concentration in Groundwater Map, June 11, 2021



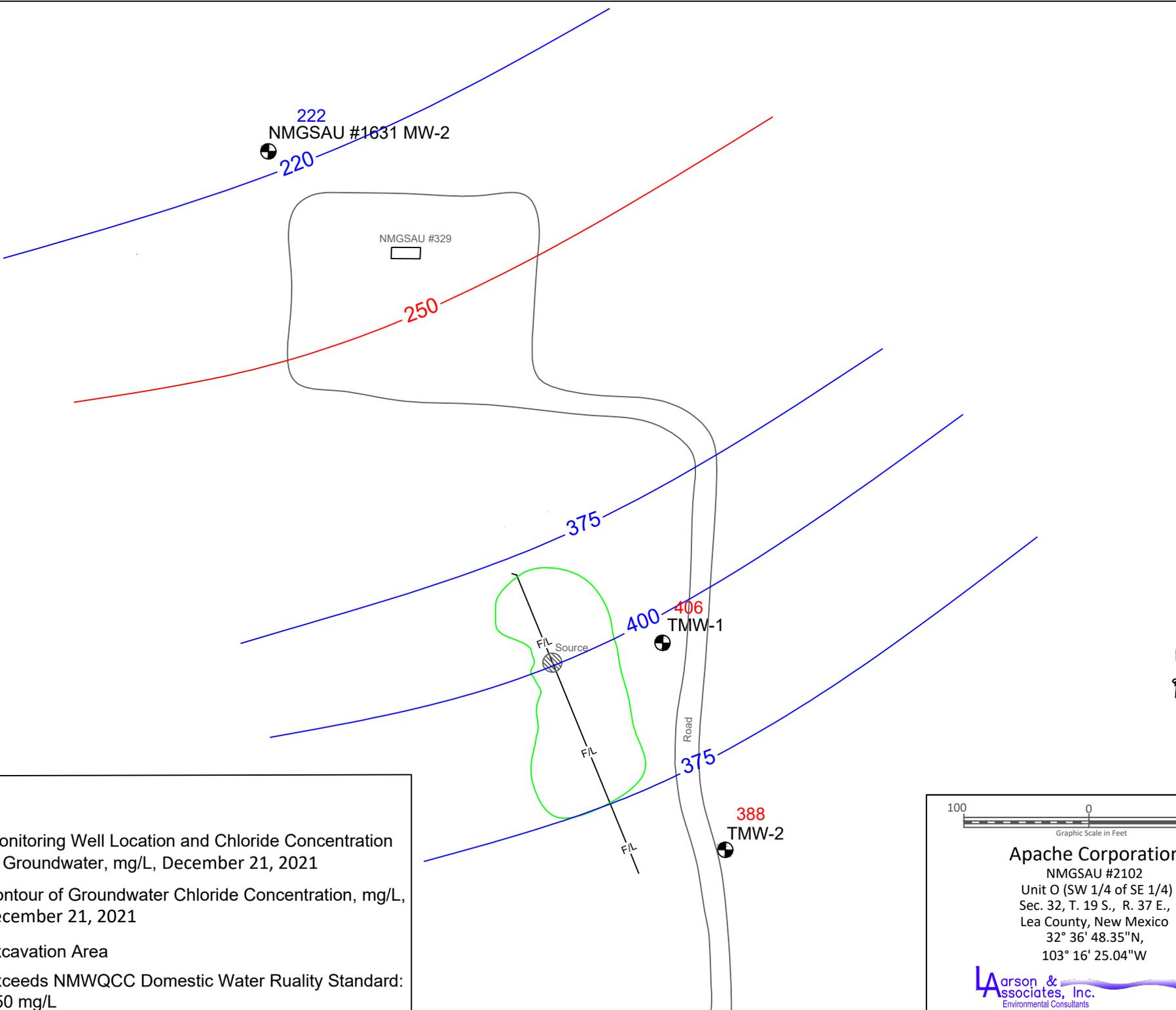
- Legend**
- 428 TMW-2 - Monitoring Well Location and Chloride Concentration in Groundwater, mg/L, October 12, 2021
 - - Contour of Groundwater Chloride Concentration, mg/L, October 12, 2021
 - - Excavation Area
 - - Exceeds NMWQCC Domestic Water Ruality Standard: 250 mg/L

100 0 100
Graphic Scale in Feet

Apache Corporation
 NMGS AU #2102
 Unit O (SW 1/4 of SE 1/4)
 Sec. 32, T. 19 S., R. 37 E.,
 Lea County, New Mexico
 32° 36' 48.35"N,
 103° 16' 25.04"W

Larson &
 Associates, Inc.
 Environmental Consultants

Figure 5c - Chloride Concentration in Groundwater Map, October 12, 2021



Legend

- 402 TMW-2 - Monitoring Well Location and Chloride Concentration in Groundwater, mg/L, December 21, 2021
- Contour - Contour of Groundwater Chloride Concentration, mg/L, December 21, 2021
- Excavation Area - Excavation Area
- Exceeds NMWQCC Domestic Water Quality Standard: 250 mg/L - Exceeds NMWQCC Domestic Water Quality Standard: 250 mg/L

100 0 100
Graphic Scale in Feet

Apache Corporation
 NMGSAU #2102
 Unit O (SW 1/4 of SE 1/4)
 Sec. 32, T. 19 S., R. 37 E.,
 Lea County, New Mexico
 32° 36' 48.35"N,
 103° 16' 25.04"W

Larson & Associates, Inc.
 Environmental Consultants



Figure 5d - Chloride Concentration in Groundwater Map, December 21, 2021

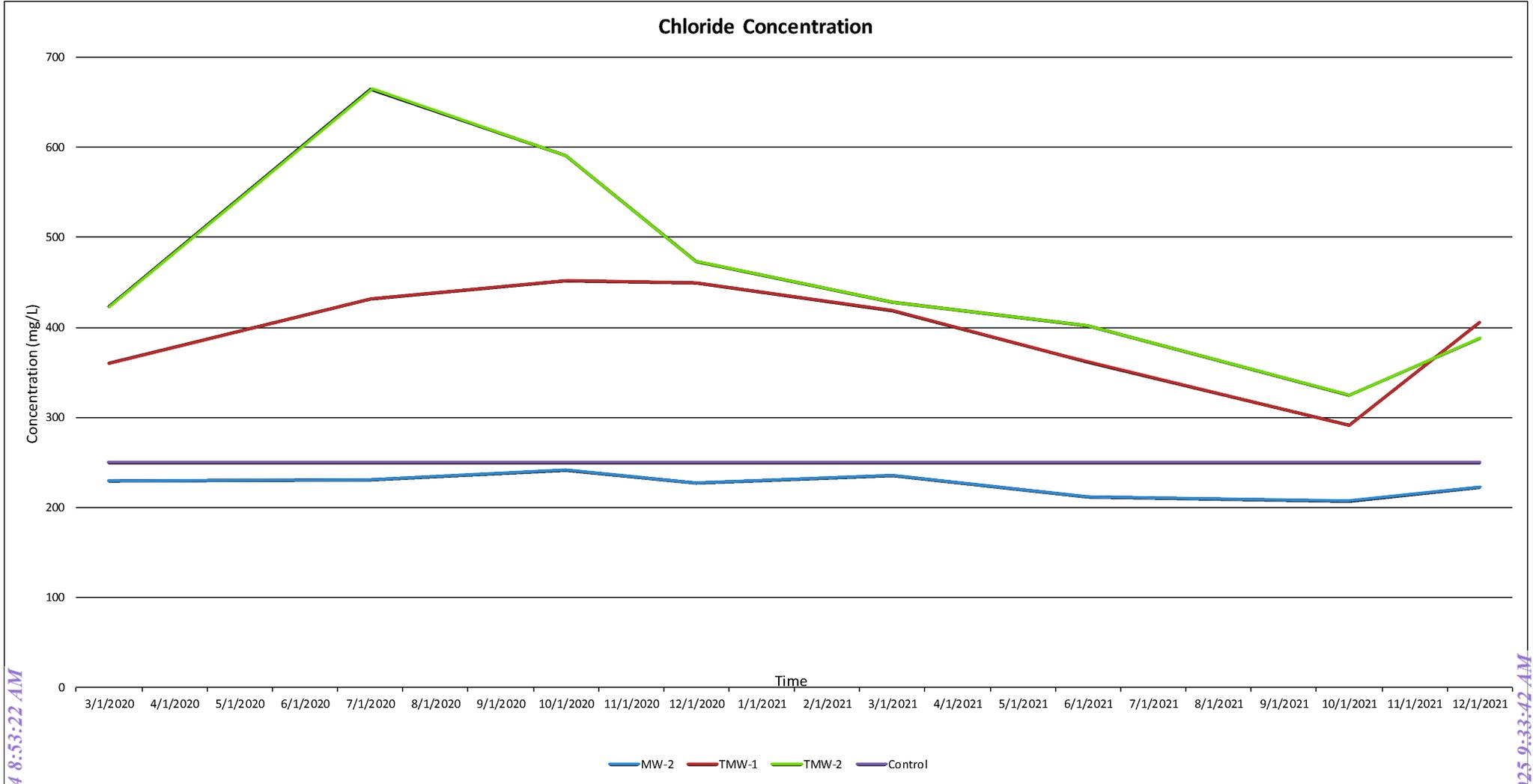


Figure 6 - Chloride Concentration Control Chart

Apache Corporation
NMGSAU #2102
Unit O (SW 1/4 of SE 1/4)
Sec. 32, T. 19 S., R. 37 E.,
Lea County, New Mexico

Larson & Associates, Inc.
Environmental Consultants

Appendix A

Initial C-141

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	NRM1926352539
District RP	1RP-5677
Facility ID	
Application ID	pRM1926352024

Release Notification

Responsible Party

Responsible Party	Apache Corporation	OGRID	873
Contact Name	Bruce Baker	Contact Telephone	432-631-6982
Contact email	larry.baker@apachecorp.com	Incident # (assigned by OCD)	
Contact mailing address	2350 W. Marland BLVD Hobbs, NM 88240		

Location of Release Source

Latitude 32.61233 Longitude -103.27262
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	North Monument G/SA Unit # 002	Site Type	Oil Well
Date Release Discovered	8/16/19	API# (if applicable)	30-025-05919

Unit Letter	Section	Township	Range	County
O	32	19S	37E	Lea

Surface Owner: State Federal Tribal Private (Name: Johnston)

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) Unknown	Volume Recovered (bbls) 2.5 barrels
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) Unknown	Volume Recovered (bbls) 2.5 barrels
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release **Buried flanged 3 inch steel pipe failed due to internal corrosion. The release occurred on the flowline in the pasture so the GPS coordinates for the actual release will not match the actual well location.**

State of New Mexico
Oil Conservation Division

Incident ID	NRM1926352539
District RP	1RP-5677
Facility ID	
Application ID	pRM1926352024

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Release is greater than 25 barrels
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Via email on 8/16/2019 given to NMOCD Rep. Dylan Rose-Coss by Jeff Broom, Environmental Tech, Apache Corporation	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Bruce Baker</u>	Title: <u>Environmental Tech. SR.</u>
Signature: <u><i>Bruce Baker</i></u>	Date: <u>8/29/19</u>
email: <u>larry.baker@apachecorp.com</u>	Telephone: <u>432-631-6982</u>
OCD Only Received by: <u>Ramona Marcus</u> Date: <u>09/20/2019</u>	

Appendix B
Variance Request

Hamlet, Robert, EMNRD

From: Hamlet, Robert, EMNRD
Sent: Wednesday, October 16, 2019 10:30 AM
To: 'Baker, Larry'
Cc: Bratcher, Mike, EMNRD; Venegas, Victoria, EMNRD; Billings, Bradford, EMNRD; Griswold, Jim, EMNRD
Subject: Variance Conditional Approval - Apache - North Monument GSA Unit #003 - (1RP-5677) 9-16-2019
Attachments: Variance Conditional Approval - Apache - North Monument GSA Unit #003 - (1RP-5677) 10.16.19.pdf

Larry,

We have received your variance request for **1RP-5677 North Monument GSA Unit #003**, thank you. This variance request is conditionally approved.

Your proposal calls for installation of two monitoring wells, with well TMW-1 installed as close as possible to the source of the release and TMW-2 installed hydraulically down gradient approximately 150 feet southeast of the excavation to monitor groundwater quality. Additionally, the OCD would like Apache to drill a monitoring well up gradient to be used for collecting back-ground groundwater samples.

Please keep us informed on your progress.

Please let me know if you have any further questions.

Regards,

Robert J Hamlet
State of New Mexico
Energy, Minerals, and Natural Resources
Oil Conservation Division
811 S. First St., Artesia NM 88210
(575) 748-1283
Robert.Hamlet@state.nm.us

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Appendix C
Karst Risk Potential Map



Browser

- ★ Favorites
- Spatial Bookmarks
- Project Home
- Home
- C:\
- D:\
- L:\
- Z:\
- GeoPackage
- SpatiaLite
- PostGIS
- MSSQL
- Oracle
- DB2
- WMS/WMTS
- XYZ Tiles
- WCS
- WFS / OGC API - Features
- OWS
- ArcGisMapServer
- ArcGisFeatureServer
- GeoNode

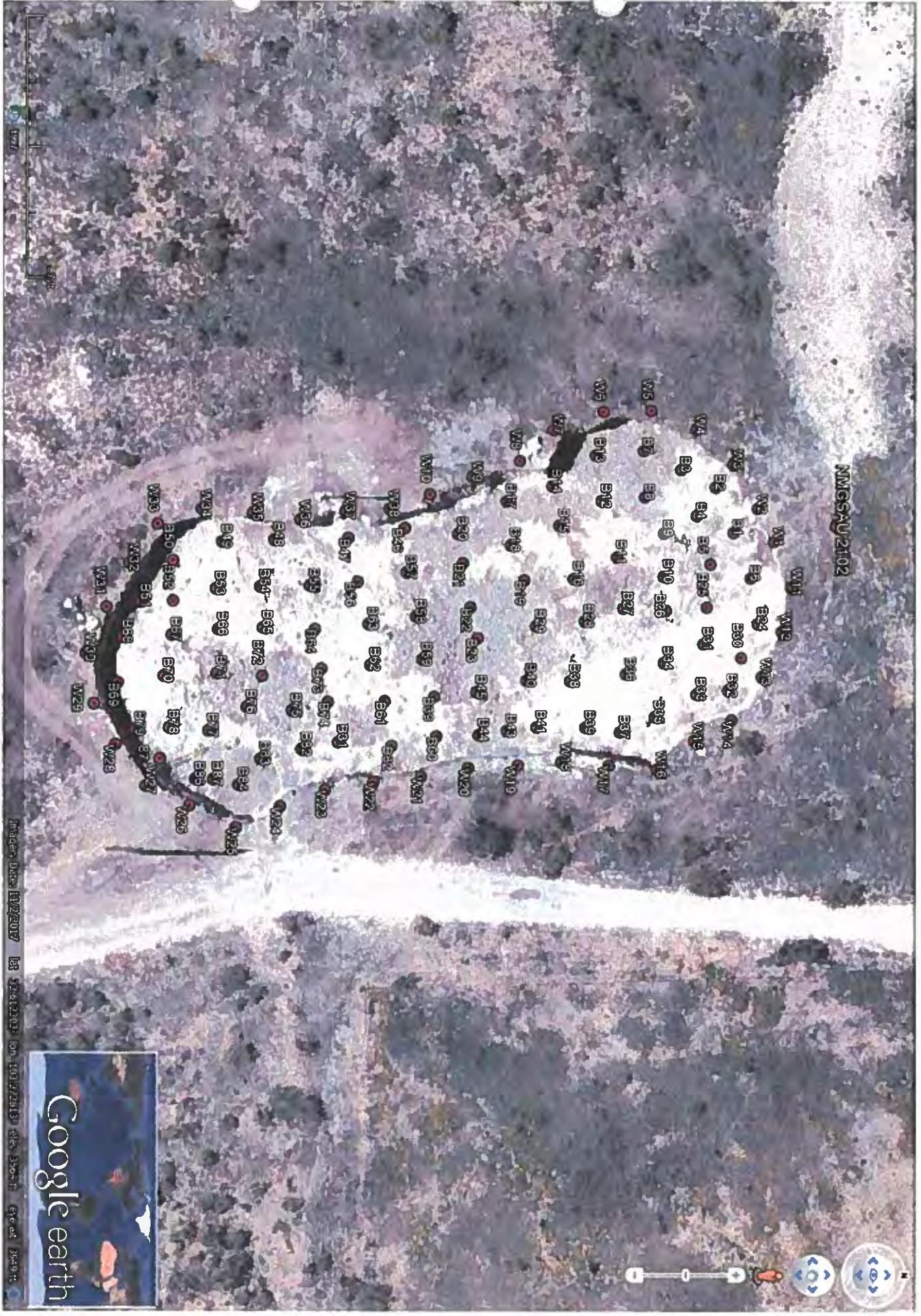
Layers

- ✓ Added geom info
- ✓ carlsbad_west
- ▾ Karst_or_No_Karst
 - ✓ High
 - ✓ Low
 - ✓ Medium
 - ✓
- ▾ Bing Satellite



Appendix D

Apache Confirmation Soil Sample Location Map



Appendix E

Apache Confirmation Soil Sample Laboratory Reports



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

September 17, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/11/19 15:35.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/11/2019 Sampling Date: 09/11/2019
Reported: 09/17/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: W 3 32.6124552-103.2730152 (H903141-01)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID) 79.2 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 87.8 % 41-142

Surrogate: 1-Chlorooctadecane 95.5 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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 client for analyses.

Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/11/2019 Sampling Date: 09/11/2019
Reported: 09/17/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: W 4 32.6123818-103.27330568 (H903141-02)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 79.2 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 85.0 % 41-142

Surrogate: 1-Chlorooctadecane 95.6 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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 client for analyses.

Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/11/2019
Reported: 09/17/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: W 5 32.6123114-103.2730431 (H903141-03)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID) 77.2 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 84.1 % 41-142

Surrogate: 1-Chlorooctadecane 93.1 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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 client for analyses.

Celey D. Keene (Signature)

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/11/2019	Sampling Date:	09/11/2019
Reported:	09/17/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 6 32.6123253-103.2730421 (H903141-04)

BTEX 8021B		mg/kg		Analyzed By: BF				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	1.84	92.0	2.00	6.79	
Toluene*	<0.050	0.050	09/16/2019	ND	1.89	94.4	2.00	4.62	
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	1.94	96.9	2.00	4.64	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	5.87	97.9	6.00	5.18	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 151 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/12/2019	ND	190	95.0	200	7.57	
DRO >C10-C28*	<10.0	10.0	09/12/2019	ND	185	92.5	200	11.7	
EXT DRO >C28-C36	<10.0	10.0	09/12/2019	ND					

Surrogate: 1-Chlorooctane 80.9 % 41-142

Surrogate: 1-Chlorooctadecane 90.5 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/11/2019 Sampling Date: 09/11/2019
Reported: 09/17/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: W 7 32.6122662-103.2729995 (H903141-05)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 75.4 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 83.4 % 41-142

Surrogate: 1-Chlorooctadecane 92.4 % 37.6-147

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Celestine Keene (Signature)

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/11/2019 Sampling Date: 09/11/2019
Reported: 09/17/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 15 32.6122705-103.2728741 (H903141-06)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID) 78.5 % 73.3-129

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 89.0 % 41-142

Surrogate: 1-Chlorooctadecane 95.4 % 37.6-147

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Handwritten signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/11/2019
Reported: 09/17/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: W 10 32.6121547-103.2729090 (H903141-07)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID) 78.3 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 93.3 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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Celestine

Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- 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 SM4500C-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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: Archie
Project Manager: Jeffrey Brown

Address: _____
City: Hobbs State: NM Zip: 88240

Phone #: _____ Fax #: _____
Project #: _____ Project Owner: _____

Project Name: _____ City: _____ State: _____ Zip: _____

Project Location: W-55A0 PIR Phone #: _____ Fax #: _____

Sampler Name: See Quincey's etc.

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX							DATE	TIME	EXT TPH	BTEX
				GROUNDWATER	WASTEWATER	SOIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL				
<u>H903141</u>	<u>1</u>	<u>C</u>	<u>1</u>								<u>9/11</u>	<u>12:09</u>		
	<u>2</u>	<u>C</u>	<u>1</u>									<u>12:11</u>		
	<u>3</u>	<u>C</u>	<u>1</u>									<u>12:13</u>		
	<u>4</u>	<u>C</u>	<u>1</u>									<u>12:15</u>		
	<u>5</u>	<u>C</u>	<u>1</u>									<u>12:17</u>		
	<u>6</u>	<u>C</u>	<u>1</u>									<u>13:15</u>		
	<u>7</u>	<u>C</u>	<u>1</u>									<u>2:33 PM</u>		

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Relinquished By: [Signature] Date: 9-11-19 Time: 5:35
Received By: [Signature] Date: _____ Time: _____

Delivered By: (Circle One) 2.22 # 497 Sample Condition: COOL Intact: YES
Sampler - UPS - Bus - Other: Corrected 260 No: NO Yes: NO CHECKED BY: [Signature] (Initials) TO

Phone Result: Yes No Add'l Phone #:
Fax Result: Yes No Add'l Fax #:
REMARKS: E-Abol? Resu Hs



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

September 18, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/13/19 7:30.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/13/2019 Sampling Date: 09/12/2019
Reported: 09/18/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Mike Snyder
Project Location: NOT GIVEN

Sample ID: B 17 @ 12' 32.6122239-103.2730310 (H903162-01)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID) 95.6% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 84.7% 41-142

Surrogate: 1-Chlorooctadecane 91.5% 37.6-147

Cardinal Laboratories

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Celey D. Keene (Signature)

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/13/2019
Reported: 09/18/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/12/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Mike Snyder

Sample ID: B 20 @ 12' 32.6121242-103.2729113 (H903162-02)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID) 95.9 % 73.3-129

Table for Chloride, SM4500Cl-B. Columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row: Chloride.

Table for TPH 8015M. Columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows: GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 88.1 % 41-142

Surrogate: 1-Chlorooctadecane 95.9 % 37.6-147

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Celestine

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/13/2019
Reported: 09/18/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/12/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Mike Snyder

Sample ID: B 15 @ 12' 32.6123148-103.2728449 (H903162-03)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID 96.3 % 73.3-129)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 93.2 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Handwritten signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/13/2019 Sampling Date: 09/12/2019
Reported: 09/18/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Mike Snyder
Project Location: NOT GIVEN

Sample ID: B 16 @ 12' 32.6123332-103.2728691 (H903162-04)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 95.8% 73.3-129

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 86.0% 41-142

Surrogate: 1-Chlorooctadecane 92.6% 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/13/2019 Sampling Date: 09/12/2019
Reported: 09/18/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Mike Snyder
Project Location: NOT GIVEN

Sample ID: W 9 32.6122163-103.2729334 (H903162-05)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID) 96.4 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

TPH 8015M mg/kg Analyzed By: MS

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 94.6 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Celestine

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/13/2019
Reported: 09/18/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/12/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Mike Snyder

Sample ID: W 8 32.6122163-103.2729334 (H903162-06)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID) 76.3 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 83.8 % 41-142

Surrogate: 1-Chlorooctadecane 89.4 % 37.6-147

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/13/2019
Reported: 09/18/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 09/12/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Mike Snyder

Sample ID: B 19 32.6122829-103.2728600 (H903162-07)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 78.8 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 78.2 % 41-142

Surrogate: 1-Chlorooctadecane 83.9 % 37.6-147

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Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/13/2019 Sampling Date: 09/12/2019
Reported: 09/18/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Mike Snyder
Project Location: NOT GIVEN

Sample ID: B 18 32.6122566-103.2728781 (H903162-08)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 76.6% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 87.1% 41-142

Surrogate: 1-Chlorooctadecane 93.4% 37.6-147

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Celestine

Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Hatch P.O. #: _____
 Project Manager: Anthony Brewer Company: _____
 Address: _____
 City: Hobbs State: NM Zip: 88240 Attn: _____
 Phone #: _____ Fax #: _____ Address: _____
 Project #: _____ Project Owner: _____ City: _____
 Project Name: _____ State: _____ Zip: _____
 Project Location: 426 S Alt #2119 Phone #: _____
 Sampler Name: See Comments Fax #: _____

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX						DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER			
1	B13 010' 32.10D239		1							9/12 8:08	01	
	-103.2730310		1							9/12 10:54	EXT. TPH	
2	B20 012' 30.61D1942		1							9/12 12:10	BTEX	
	-103.2729113		1									
3	B15 012' 30.61D23148		1									
	-103.2708449		1									
4	B16 012' 32.10D3332		1							9/12 13:14		
	-103.2728191		1									
5	B19 32.6122163		1							9/12 1:50		
	-103.2729334		1									

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Relinquished By: [Signature] Date: 9/12/12
 Received By: [Signature] Date: 9/12/12
 Time: _____ Time: _____

Delivered By: (Circle One) UPS 4:02 #197 Sample Condition: Cool Intact
 Sampler - UPS - Bus - Other: Counted 50°C Yes Yes No No CHECKED BY: [Signature]
 Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____
 REMARKS: uic
Environ/Results



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: <u>Parble</u>		P.O. #:							
Project Manager: <u>Jeffrey Bacon</u>		Company:							
Address:		Attn:							
City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>87240</u>		Address:							
Phone #: _____ Fax #: _____		City:							
Project #: _____ Project Owner:		State:							
Project Name:		Phone #:							
Project Location: <u>BLG-200 2119</u>		Fax #:							
Sampler Name: <u>Joe Gussner Jr.</u>									
FOR LAB USE ONLY									
Lab I.D.	Sample I.D.	(G)RAB OR (COM)	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE	TIME	ANALYSIS
<u>A903162</u>	<u>6108 32.6123163</u>	<input checked="" type="checkbox"/>	<u>1</u>	GROUNDWATER			<u>9/12</u>	<u>1500</u>	<u>EXT TPH</u>
	<u>-103.8729334</u>	<input checked="" type="checkbox"/>	<u>1</u>	WASTEWATER			<u>9/12</u>	<u>3:31pm</u>	<u>BTEX</u>
	<u>7 319 32.6122829</u>	<input checked="" type="checkbox"/>	<u>1</u>	SOIL					
	<u>-03 2728600</u>	<input checked="" type="checkbox"/>	<u>1</u>	OIL					
	<u>8 318 32.6123566</u>	<input checked="" type="checkbox"/>	<u>1</u>	SLUDGE			<u>9/12</u>	<u>3:29</u>	
	<u>1 -103.222.8781</u>	<input checked="" type="checkbox"/>	<u>1</u>	OTHER					
		<input checked="" type="checkbox"/>	<u>1</u>	ACID/BASE					
		<input checked="" type="checkbox"/>	<u>1</u>	CEP/COOL					
		<input checked="" type="checkbox"/>	<u>1</u>	OTHER					

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Relinquished By: [Signature] Date: 9/13/19 Time: 05:30

Received By: [Signature] Date: _____ Time: _____

Delivered By: (Circle One) 4.6C #97 Sample Condition: YD

Sampler - UPS - Bus - Other: 4.6C Yes No Intact Pres No

CHECKED BY: (Initials) 4.6C

REMARKS: 4.6C



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

September 20, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/16/19 11:40.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019 Sampling Date: 09/13/2019
Reported: 09/20/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 24 @ 12' 32.6124803-103.2728909 (H903176-01)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

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

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 93.6 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019 Sampling Date: 09/13/2019
Reported: 09/20/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: W 1 32.6124824-103.2729247 (H903176-02)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 73.3-129

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 92.0 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

Cardinal Laboratories

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Celey D. Keene (Signature)

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019
Reported: 09/20/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 09/13/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: W 2 32.6124668-103.2729945 (H903176-03)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 94.6 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 94.3 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Celestine

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/13/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 11 32.6125023-103.2728862 (H903176-04)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/19/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/19/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/19/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	217	108	200	3.39	
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	218	109	200	0.650	
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND					

Surrogate: 1-Chlorooctane 81.3 % 41-142

Surrogate: 1-Chlorooctadecane 99.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019
Reported: 09/20/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 09/13/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 25 @ 12' 32.6125097-103.2729076 (H903176-05)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 94.8 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 96.0 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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Celestine

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019 Sampling Date: 09/13/2019
Reported: 09/20/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 26 @ 12' 32.6123182-103.2727883 (H903176-06)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

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

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 83.8 % 41-142

Surrogate: 1-Chlorooctadecane 95.4 % 37.6-147

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Celestine

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019 Sampling Date: 09/13/2019
Reported: 09/20/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 27 @ 12' 32.6124058-103.2728697 (H903176-07)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 96.2% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 88.9% 41-142

Surrogate: 1-Chlorooctadecane 99.5% 37.6-147

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Celestine

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019 Sampling Date: 09/13/2019
Reported: 09/20/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: W 12 32.6125323-103.2728815 (H903176-08)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 95.5 % 73.3-129

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 87.2 % 41-142

Surrogate: 1-Chlorooctadecane 96.4 % 37.6-147

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Celestine Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019
Reported: 09/20/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/13/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 28 @ 12' 32.6123391-103.2728375 (H903176-09)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID) 95.6 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 84.8 % 41-142

Surrogate: 1-Chlorooctadecane 96.4 % 37.6-147

Cardinal Laboratories

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Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019 Sampling Date: 09/13/2019
Reported: 09/20/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 29 @ 12' 32.6122533-103.2727678 (H903176-10)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

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

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 83.9 % 41-142

Surrogate: 1-Chlorooctadecane 93.3 % 37.6-147

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Celely D. Keene (signature)

Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: <i>Agri 1st</i>		P.O. #:																
Project Manager: <i>Sell Keon</i>		Company:																
Address:		Attn:																
City: <i>Hobbs</i> State: <i>NM</i> zip: <i>88240</i>		Address:																
Phone #: _____ Fax #: _____		City:																
Project #: _____ Project Owner:		State:																
Project Name: _____		Phone #:																
Project Location: <i>NM454W 4217</i>		Zip:																
Sampler Name: <i>Soss Rowell</i>		Fax #:																
FOR USE ONLY																		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERVY	SAMPLING	DATE	TIME										
				GROUNDWATER														
				WASTEWATER														
				SOIL														
				OIL														
				SLUDGE														
				OTHER														
				ACID/BASE														
				ICE / COOL														
				OTHER														
<i>H903176</i>	<i>B24612' 32.6124803</i>	<i>C</i>	<i>1</i>				<i>9/13</i>	<i>9:20</i>	<i>C</i>	<i>BTEX</i>	<i>EXT/PH</i>							
	<i>-103.2728909</i>	<i>C</i>	<i>1</i>					<i>9:35</i>	<i>1</i>	<i>1</i>	<i>1</i>							
	<i>-103.2729247</i>	<i>C</i>	<i>1</i>					<i>9:37</i>	<i>1</i>	<i>1</i>	<i>1</i>							
	<i>-103.2729445</i>	<i>C</i>	<i>1</i>					<i>10:15</i>	<i>1</i>	<i>1</i>	<i>1</i>							
	<i>-103.2728862</i>	<i>C</i>	<i>1</i>					<i>11:00</i>	<i>1</i>	<i>1</i>	<i>1</i>							
	<i>B25012' 32.6125097</i>	<i>C</i>	<i>1</i>															
	<i>-103.2728926</i>	<i>C</i>	<i>1</i>															



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: Peche
 Project Manager: Jessie Brown

P.O. #:
 Company:

Address:
 City: Hobbs State: NM Zip: 88240

Attn:
 Address:

Phone #:
 Fax #:

City:
 State:
 Zip:

Project #:
 Project Owner:

Project Location: MESA 2114

Project Name:

Sample Name: see description

FOR LAB USE ONLY

Matrix: GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER

Lab I.D. H903716

Sample I.D. 6 P&A 012 32.6023182

(G)RAB OR (C)OMP # CONTAINERS

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX	PRESERV	SAMPLING	DATE	TIME	REMARKS	ANALYSIS REQUEST
<u>H903716</u>	<u>6 P&A 012 32.6023182</u>	<u>C 1</u>	<u>1</u>	<u>SOIL</u>	<u>CE COOL</u>	<u>OTHER</u>	<u>9/13</u>	<u>11:45</u>	<u>EXT TPH</u>	<u>BTEX</u>
	<u>-103. 2727583</u>	<u>C 1</u>	<u>1</u>				<u>9/13</u>	<u>13:00</u>		
	<u>7 R&T 012 38.624058</u>	<u>C 1</u>	<u>1</u>				<u>9/13</u>	<u>15:45</u>		
	<u>-103. 2728167</u>	<u>C 1</u>	<u>1</u>				<u>9/13</u>	<u>12:13</u>		
	<u>8 WIA 32.6125523</u>	<u>C 1</u>	<u>1</u>				<u>9/13</u>	<u>17:05</u>		
	<u>-103. 2728815</u>	<u>C 1</u>	<u>1</u>							
	<u>9 B&C 012 32.6123391</u>	<u>C 1</u>	<u>1</u>							
	<u>-103. 2728375</u>	<u>C 1</u>	<u>1</u>							
	<u>16 B&C 012 32.6123333</u>	<u>C 1</u>	<u>1</u>							
	<u>-103. 27271678</u>	<u>C 1</u>	<u>1</u>							

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Relinquished By: [Signature] Date: 9/16 Time: 9:00
 Received By: [Signature] Date: 9-16-19 Time: 11:40

Delivered By: (Circle One) 3.72
 Sampler - UPS - Bus - Other: Printed 4.12

Sample Condition: Cool Intact Yes No
 CHECKED BY: [Signature] (Initials) 70

REMARKS: Email Results



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

September 20, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/16/19 11:40.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019 Sampling Date: 09/14/2019
Reported: 09/20/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 21 @ 12' 32.6121112-103.2729187 (H903177-01)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID) 97.7% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 85.1% 41-142

Surrogate: 1-Chlorooctadecane 97.6% 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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 client for analyses.

Handwritten signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019 Sampling Date: 09/14/2019
Reported: 09/20/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 22 @ 12' 32.6121214-103.2728724 (H903177-02)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 96.1 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 86.9 % 41-142

Surrogate: 1-Chlorooctadecane 98.2 % 37.6-147

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Celestine Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019
Reported: 09/20/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/14/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 23 @ 12' 32.6121264-103.2728416 (H903177-03)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

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

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 87.8 % 41-142

Surrogate: 1-Chlorooctadecane 99.2 % 37.6-147

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Celestine Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019 Sampling Date: 09/14/2019
Reported: 09/20/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 30 @ 12' 32.6124509-103.2727966 (H903177-04)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Table for Surrogate: 4-Bromofluorobenzene (PIC) with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table for TPH 8015M with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 83.7 % 41-142
Surrogate: 1-Chlorooctadecane 88.9 % 37.6-147

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Celestine

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019 Sampling Date: 09/14/2019
Reported: 09/20/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 31 @ 12' 32.6124594-103.2727497 (H903177-05)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 96.2 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 85.2 % 41-142

Surrogate: 1-Chlorooctadecane 90.8 % 37.6-147

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Handwritten signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019 Sampling Date: 09/14/2019
Reported: 09/20/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 32 @ 12' 32.6124605-103.2727383 (H903177-06)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIL) 94.6% 73.3-129

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 86.0% 41-142

Surrogate: 1-Chlorooctadecane 91.4% 37.6-147

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Celestine

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019
Reported: 09/20/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/14/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 33 @ 12' 32.6123673-103.2727364 (H903177-07)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 95.2 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 87.5 % 41-142

Surrogate: 1-Chlorooctadecane 91.3 % 37.6-147

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Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019 Sampling Date: 09/14/2019
Reported: 09/20/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 34 @ 12' 32.6124354-103.2727041 (H903177-08)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 95.7 % 73.3-129

Table for Chloride, SM4500Cl-B. Columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row: Chloride 32.0, 16.0, 09/17/2019, ND, 432, 108, 400, 0.00.

Table for TPH 8015M. Columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows: GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 87.1 % 41-142

Surrogate: 1-Chlorooctadecane 92.0 % 37.6-147

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Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019
Reported: 09/20/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/14/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 35 @ 12' 32.6124687-103.2727859 (H903177-09)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIC) 97.0 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 85.4 % 41-142

Surrogate: 1-Chlorooctadecane 91.8 % 37.6-147

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Celestine

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019
Reported: 09/20/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/14/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 36 @ 12' 32.6123770-103.2727806 (H903177-10)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 95.0 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 88.8 % 41-142

Surrogate: 1-Chlorooctadecane 93.8 % 37.6-147

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Celestine

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/16/2019 Sampling Date: 09/14/2019
Reported: 09/20/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 37 @ 12' 32.6124351-103.2727172 (H903177-11)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

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

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

TPH 8015M mg/kg Analyzed By: MS

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 86.2 % 41-142

Surrogate: 1-Chlorooctadecane 93.3 % 37.6-147

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Celely D. Keene (Signature)

Celely D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- 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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C. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Apache Project Manager: Jeffrey Brown Address: City: Hobbs State: NM Zip: 88240 Phone #: Fax #: Project #: Project Owner: Project Name: Project Location: McESPER #8114 Sampler Name: Joe Quisler Jr. <small>FOR LAB USE ONLY</small>		BILL TO P.O. #: Company: Attn: Address: City: State: Zip: Phone #: Fax #:									
Lab I.D. H903177 1 B21 012' 82.6121112 -103.2729187 2 B22 012' 82.6121114 -103.2728724 3 B23 012' 39.619.1264 -103.2728416 4 B30 012' 39.6121509 -103.2727966 5 B31 012' 32.6121504 -103.2727099	(G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: ACID/BASE: (C) COOL OTHER:	MATRIX PRESERV SAMPLING	DATE TIME	EXT TPH BTEX	ANALYSIS REQUEST						
						01	1	9/14	8:16	✓	✓
						01	1	9/14	8:12	✓	✓
						01	1	9/14	8:20	✓	✓
						01	1	9/14	10:44	✓	✓
						01	1	9/14	12:30	✓	✓
<p>PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors, with no 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.</p>											
Relinquished By: [Signature] Date: 9/16 Time: 10:00 AM Received By: Jeff Brown		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:									
Delivered By: (Circle One) 3.72 Sampler - UPS - Bus - Other:		Sample Condition: <input type="checkbox"/> Yes <input type="checkbox"/> No Cool Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No CHECKED BY: (Initials)									
REMARKS: <i>Printed 4/12</i>											

Smart Results



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: <u>Apex</u>		P.O. #:																
Project Manager: <u>Debbie Brown</u>		Company:																
Address:		Attn:																
City: <u>Hobbs</u>		Address:																
Phone #:		City:																
Project #:		State:																
Project Name:		Zip:																
Project Location: <u>WAGS #2119</u>		Phone #:																
Sampler Name: <u>See Attached</u>		Fax #:																
FOR LAB USE ONLY																		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OM	# CONTAINERS	MATRIX	PRESERV	SAMPLING	DATE	TIME										
<u>A903177</u>	<u>B33012 32.612 4685</u>	<input checked="" type="checkbox"/>	1	GROUNDWATER		9/14 12:38												
	<u>-103.2727853</u>	<input type="checkbox"/>	1	WASTEWATER		9/14 4:77 pm												
	<u>7 B33012 32.612 3673</u>	<input type="checkbox"/>	1	SOIL		9/14 4:24 pm												
	<u>-103.2727364</u>	<input type="checkbox"/>	1	OIL		9/14 7:38												
	<u>8 B33012 32.612 4354</u>	<input type="checkbox"/>	1	SLUDGE		9/14 7:36												
	<u>-103.2727041</u>	<input type="checkbox"/>	1	OTHER:														
	<u>9 B33012 32.612 4685</u>	<input type="checkbox"/>	1	ACID/BASE														
	<u>-103.2727859</u>	<input type="checkbox"/>	1	CE / COOL														
	<u>10 B33012 32.612 3770</u>	<input type="checkbox"/>	1	OTHER:														
	<u>-103.2727806</u>	<input type="checkbox"/>	1															

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Relinquished By: [Signature] Date: 9/14 Time: 9:16 Received By: [Signature] Date: 9/16/19 Time: 10:23

Delivered By: (Circle One) 3.72 Sample Condition: 97 CHECKED BY: [Signature]

Sampler - UPS - Bus - Other: Consolidated 4.12 Yes No Yes No Yes No

REMARKS:



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Apex Brown</u> Project Manager: <u>Jessie Brown</u>		P.O. #: Company: Attn:	
Address: City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>		Address: City: State: Zip:	
Phone #: Fax #: Project #: Project Owner:		City: State: Zip:	
Project Name:			
Project Location: <u>WILSON 2119</u> <u>300 Quince St</u>			
Sampler Name:		Fax #:	
FOR LAB USE ONLY			
Lab I.D.	Sample I.D.	MATRIX	PRESERV. SAMPLING
H983177 11	B37012 3a, 612 4351 -03 272 7172	(G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER ACID/BASE ICE / COOL OTHER	DATE TIME 9/14 7:38
Relinquished By: <u>Joe Quince</u> Date: <u>9/16</u> Time: <u>10:00</u>		Received By: <u>Jessie Brown</u> Date: <u>9-16-19</u> Time: <u>11:40</u>	
Delivered By: (Circle One) <u>3.7c</u>		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sampler - UPS - Bus - Other: <u>Sampled 4.1c</u>		CHECKER BY: (Initials) <u>JS</u>	
REMARKS:			
Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #: <u>CL BTEX EXT TPH</u>			



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

September 23, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/18/19 9:15.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/18/2019 Sampling Date: 09/16/2019
Reported: 09/23/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson
Project Location: NOT GIVEN

Sample ID: B 38 @ 12' 32.6123281-103.2727551 (H903211-01)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 86.5 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 93.8 % 41-142

Surrogate: 1-Chlorooctadecane 95.5 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celestine (Handwritten signature)

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/16/2019
Reported:	09/23/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 39 @ 12' 32.6122818-103.2727108 (H903211-02)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/20/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 88.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/19/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 92.1 % 41-142

Surrogate: 1-Chlorooctadecane 96.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/16/2019
Reported:	09/23/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 40 @ 12' 32.6122623-103.2727718 (H903211-03)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/20/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 88.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/19/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 93.9 % 41-142

Surrogate: 1-Chlorooctadecane 95.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/18/2019 Sampling Date: 09/16/2019
Reported: 09/23/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson
Project Location: NOT GIVEN

Sample ID: B 41 @ 12' 32.6122730-103.2727326 (H903211-04)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIC) 86.8 % 73.3-129

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 94.7 % 41-142

Surrogate: 1-Chlorooctadecane 96.1 % 37.6-147

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Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/18/2019 Sampling Date: 09/16/2019
Reported: 09/23/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson
Project Location: NOT GIVEN

Sample ID: B 42 @ 12' 32.6122386-103.2727745 (H903211-05)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 87.4% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 94.5% 41-142

Surrogate: 1-Chlorooctadecane 96.7% 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/16/2019
Reported:	09/23/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 43 @ 12' 32.6122086-103.2727759 (H903211-06)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/20/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 88.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/19/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 93.6 % 41-142

Surrogate: 1-Chlorooctadecane 95.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/16/2019
Reported:	09/23/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 44 @ 12' 32.6121575-103.2727095 (H903211-07)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/20/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 88.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/19/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 86.7 % 41-142

Surrogate: 1-Chlorooctadecane 88.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/18/2019 Sampling Date: 09/16/2019
Reported: 09/23/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson
Project Location: NOT GIVEN

Sample ID: B 45 @ 12' 32.6121858-103.2727806 (H903211-08)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 88.6 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 93.5 % 41-142

Surrogate: 1-Chlorooctadecane 96.7 % 37.6-147

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Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: <i>Apogee</i>		P.O. #:								
Project Manager: <i>SRI Room</i>		Company:								
Address:		Attn:								
City: <i>Hobbs</i> State: <i>NM</i> Zip: <i>88240</i>		Address:								
Phone #: _____ Fax #: _____		City:								
Project #: _____ Project Owner:		State:								
Project Name:		Zip:								
Project Location: <i>NW 5th #2115</i>		Phone #:								
Sampler Name: <i>Jose Roedel</i>		Fax #:								
FOR LAB USE ONLY										
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE	TIME	REMARKS	ADD'L PHONE #:
				GROUNDWATER						
				WASTEWATER						
				SOIL						
				OIL						
				SLUDGE						
				OTHER						
				ACID/BASE						
				ICE / COOL						
				OTHER						
<i>HD9211</i>	<i>6 B43012 33.612 7559</i>	<i>C</i>	<i>1</i>				<i>9/16</i>	<i>3:03pm</i>	<i>1</i>	
	<i>-103.2727759</i>									
	<i>7 B44012 32.612 7559</i>	<i>C</i>	<i>1</i>				<i>9/16</i>	<i>5:13pm</i>	<i>1</i>	
	<i>-103.2229055</i>									
	<i>8 B45012 32.612 1858</i>	<i>C</i>	<i>1</i>				<i>9/16</i>	<i>5:15pm</i>	<i>1</i>	
	<i>-103.2727806</i>									

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Relinquished By: _____ Received By: _____
 Date: _____ Time: _____
 Phone Result: Yes No Add'l Phone #:
 Fax Result: Yes No Add'l Fax #:
 REMARKS:

Relinquished By: _____ Received By: _____
 Date: _____ Time: _____
 Delivered By: (Circle One) UPS Bus Other: *1:10*
 Sample Condition: Intact Cool Yes No
 Checked By: _____



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

September 24, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/18/19 9:15.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 46 @ 12' 32.6120666-103.2729757 (H903212-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/21/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 89.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/19/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 95.3 % 41-142

Surrogate: 1-Chlorooctadecane 97.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/18/2019 Sampling Date: 09/17/2019
Reported: 09/24/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson
Project Location: NOT GIVEN

Sample ID: B 47 @ 12' 32.6120251-103.2729522 (H903212-02)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 87.2 % 73.3-129

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 97.2 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Celestine Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 48 @ 12' 32.6129886-103.2729559 (H903212-03)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/21/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/19/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	222	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	34.5	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 88.2 % 41-142

Surrogate: 1-Chlorooctadecane 94.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 49 32.6119759-103.2728892 (H903212-04)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2019	ND	1.86	93.1	2.00	3.03	
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.6	2.00	2.04	
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.82	91.2	2.00	1.63	
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.42	90.3	6.00	0.00690	
Total BTEX	<0.300	0.300	09/21/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 87.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/19/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 91.1 % 41-142

Surrogate: 1-Chlorooctadecane 94.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/18/2019
Reported: 09/24/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/17/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B 50 32.6119697-103.2728909 (H903212-05)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIC) 89.0 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 93.4 % 41-142

Surrogate: 1-Chlorooctadecane 95.8 % 37.6-147

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Celey D. Keene (signature)

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/18/2019
Reported: 09/24/2019
Project Name: NMGS AU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/17/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B 51 @ 12' 32.6119770-103.2729381 (H903212-06)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 91.8 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row: Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows: GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 95.5 % 41-142

Surrogate: 1-Chlorooctadecane 98.7 % 37.6-147

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Celestine Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 52 @ 12' 32.6119550-103.2728067 (H903212-07)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2019	ND	1.86	93.1	2.00	3.03	
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.6	2.00	2.04	
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.82	91.2	2.00	1.63	
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.42	90.3	6.00	0.00690	
Total BTEX	<0.300	0.300	09/21/2019	ND					

Surrogate: 4-Bromofluorobenzene (PII) 89.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/19/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 91.7 % 41-142

Surrogate: 1-Chlorooctadecane 91.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/18/2019 Sampling Date: 09/17/2019
Reported: 09/24/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson
Project Location: NOT GIVEN

Sample ID: B 53 @ 12' 32.6120324-103.2728724 (H903212-08)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIC) 87.2 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 91.5 % 41-142

Surrogate: 1-Chlorooctadecane 95.3 % 37.6-147

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Handwritten signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 54 @ 12' 32.6120753-103.2728127 (H903212-09)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/21/2019	ND	1.86	93.1	2.00	3.03		
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.6	2.00	2.04		
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.82	91.2	2.00	1.63		
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.42	90.3	6.00	0.00690		
Total BTEX	<0.300	0.300	09/21/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 88.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	416	16.0	09/19/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43		
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47		
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND						

Surrogate: 1-Chlorooctane 88.2 % 41-142

Surrogate: 1-Chlorooctadecane 94.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500C-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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C. D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: Pusher Brown P.O. #: _____
 Project Manager: Wendy Brown Company: _____
 Address: _____ Attn: _____
 City: Hobbs State: NM Zip: 88240 Address: _____
 Phone #: _____ Fax #: _____ City: _____
 Project #: _____ Project Owner: _____ State: _____ Zip: _____
 Project Location: MUSGRAVE 219 Phone #: _____
 Sampler Name: Don Curren Fax #: _____

Lab I.D.	Sample I.D.	(G)RAB OR (C)OM	# CONTAINERS	MATRIX							DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE:			
H903212	1 B46 010' 32.61201000	C	1								9/17	10:14	CL EXT TPH BTEX
	-103.8729757	C	1								9/17	10:16	
	2 B47 010' 32.61202851	C	1								9/17	11:18	
	-103.2729522	C	1								9/17	14:16	
	3 B48 010' 32.61202836	C	1								9/17	14:16	
	-103.2729556	C	1								9/17	14:16	
	4 B49 32.6119759	C	1								9/17	14:16	
	-103.2728882	C	1								9/17	14:16	
	5 B50 32.6119759	C	1								9/17	14:16	
	-103.8729409	C	1								9/17	14:16	

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Relinquished By: Don Curren Date: 9/18/19 Time: 9:15
 Received By: Don Curren Date: _____ Time: _____
 Relinquished By: _____ Date: _____ Time: _____
 Received By: _____ Date: _____ Time: _____

Delivered By: (Circle One) UPS #97 Sample Condition: Cool Intact Pres Yes No Pres No Pres No
 Sampler - UPS - Bus - Other: 1.7°C Ambient air g CHEMISTRY: g
 Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____
 REMARKS: Email Results.



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: _____ P.O. #: _____
 Project Manager: _____ Company: _____
 Address: _____ Attn: _____
 City: _____ State: _____ Zip: _____
 Phone #: _____ Fax #: _____
 Project #: _____ Project Owner: _____
 Project Name: _____ State: _____ Zip: _____
 Project Location: _____ Phone #: _____
 Sampler Name: _____ Fax #: _____
 FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OM	# CONTAINERS	MATRIX						DATE	TIME	C	EPI TPH	BTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER					
H903212	6 R51 010' 82.6119770	(C)	1							9/17	5:17			
	-103.2729581									9/17	16:20			
	7 B52 012' 82.6119550	(C)	1							9/17	18:58			
	-03.8728067									9/17	17:18			
	8 B52 012' 32.6120524	(C)	1							9/17	18:58			
	-103.2728724													
	9 B54 012' 32.6120673	(C)	1							9/17	18:58			
	-103.2728187													

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Relinquished By: [Signature] Date: 9/19/15 Received By: [Signature] Date: 9/15
 Title: [Signature] Title: [Signature]
 Time: _____

Delivered By: (Circle One) UPS 1:19c [Signature] #47 Sample Condition: Good Intact Yes Yes CHECKED BY: [Signature]
 Sampler - UPS - Bus - Other: UPS 1:19c [Signature] #47 Yes Yes No No

REMARKS: Email Results



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

September 24, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/18/19 17:07.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/18/2019
Reported: 09/24/2019
Project Name: NMGS AU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 09/18/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B 55 @ 12' 32.6120731-103.2728734 (H903232-01)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 96.3 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row: Chloride

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 81.0 % 41-142

Surrogate: 1-Chlorooctadecane 86.1 % 37.6-147

Cardinal Laboratories

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Celestine Keene (Signature)

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/18/2019 Sampling Date: 09/18/2019
Reported: 09/24/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson
Project Location: NOT GIVEN

Sample ID: B 56 @ 12' 32.6120793-103.2728684 (H903232-02)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PII) 137% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

TPH 8015M mg/kg Analyzed By: MS

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 87.6% 41-142

Surrogate: 1-Chlorooctadecane 92.4% 37.6-147

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Celely D. Keene (signature)

Celely D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 57 @ 12' 32.6121233-103.2729716 (H903232-03)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109		
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71		
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09		
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02		
Total BTEX	<0.300	0.300	09/23/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1120	16.0	09/20/2019	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	190	95.0	200	0.113		
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	197	98.4	200	3.16		
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND						

Surrogate: 1-Chlorooctane 83.3 % 41-142

Surrogate: 1-Chlorooctadecane 88.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/18/2019 Sampling Date: 09/18/2019
Reported: 09/24/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson
Project Location: NOT GIVEN

Sample ID: B 58 @ 12' 32.6121260-103.2727816 (H903232-04)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 98.5 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 93.1 % 41-142

Surrogate: 1-Chlorooctadecane 95.3 % 37.6-147

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Celestina

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 59 @ 12' 32.6121327-103.2727604 (H903232-05)

BTEX 80218		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109		
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71		
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09		
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02		
Total BTEX	<0.300	0.300	09/23/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1120	16.0	09/20/2019	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	207	104	200	2.29		
DRO >C10-C28*	37.8	10.0	09/19/2019	ND	200	100	200	1.97		
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND						

Surrogate: 1-Chlorooctane 93.2 % 41-142

Surrogate: 1-Chlorooctadecane 93.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 60 @ 12' 32.6121496-103.2727276 (H903232-06)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109		
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71		
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09		
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02		
Total BTEX	<0.300	0.300	09/23/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	09/20/2019	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	207	104	200	2.29		
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	200	100	200	1.97		
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND						

Surrogate: 1-Chlorooctane 88.0 % 41-142

Surrogate: 1-Chlorooctadecane 90.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 61 @ 12' 32.6119948-103.2728627 (H903232-07)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109	
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.0 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/20/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	207	104	200	2.29	
DRO >C10-C28*	74.9	10.0	09/19/2019	ND	200	100	200	1.97	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 91.6 % 41-142

Surrogate: 1-Chlorooctadecane 97.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 62 @ 12' 32.6120276-103.2728493 (H903232-08)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109	
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 96.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	09/20/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	207	104	200	2.29	
DRO >C10-C28*	29.9	10.0	09/20/2019	ND	200	100	200	1.97	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 93.6 % 41-142

Surrogate: 1-Chlorooctadecane 94.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/18/2019 Sampling Date: 09/18/2019
Reported: 09/24/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson
Project Location: NOT GIVEN

Sample ID: B 63 @ 12' 32.6119728-103.2729059 (H903232-09)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 73.3-129

Table for Chloride analysis with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row: Chloride 816 16.0 09/20/2019 ND 432 108 400 3.64

Table for TPH 8015M analysis with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows: GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36

Surrogate: 1-Chlorooctane 89.6 % 41-142

Surrogate: 1-Chlorooctadecane 94.4 % 37.6-147

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Celey D. Keene (Signature)

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/18/2019 Sampling Date: 09/18/2019
Reported: 09/24/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson
Project Location: NOT GIVEN

Sample ID: B 64 @ 12' 32.6120652-103.2727886 (H903232-10)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 91.8 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 89.7 % 41-142

Surrogate: 1-Chlorooctadecane 94.1 % 37.6-147

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Handwritten signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 65 @ 12' 32.6120756-103.2727755 (H903232-11)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.58	79.1	2.00	7.18	
Toluene*	<0.050	0.050	09/23/2019	ND	1.55	77.6	2.00	7.16	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.56	77.9	2.00	6.01	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	4.66	77.7	6.00	5.89	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 89.6 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	976	16.0	09/20/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	207	104	200	2.29	
DRO >C10-C28*	13.6	10.0	09/20/2019	ND	200	100	200	1.97	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 90.9 % 41-142

Surrogate: 1-Chlorooctadecane 95.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- GC-NC 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
- 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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: Archuleta
Project Manager: Jeffrey Brown
Address:
City: Hobbs State: NM Zip: 88240
Phone #: Fax #: Project Owner:
Project #: City: State: Zip:

Project Location: WUB SAN AIR
Sample Name: Joe Quinlan
FOR LAB USE ONLY

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

Lab I.D.	Sample I.D.	(G)RAB OR (COMB)	# CONTAINERS	MATRIX						DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER			
H903332	1 B55 012' 33.612.0731		1							9/18	7:38	EXT TRH
	-103. 2728734		1							9/18	8:43	BTEX
	2 B56 012' 32.422.0743		1							9/18	10:09	
	-103. 2728684		1							9/18	10:13	
	3 B57 012' 32.612.1933		1							9/18	13:05	
	-103. 2729716		1									
	4 B58 012' 32.612.1940		1									
	-103. 27272816		1									
	5 B59 012' 32.612.1937		1									
	-103. 2727604		1									

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Relinquished By: Joe Quinlan
Received By: Joe Quinlan
Date: 9/18/19
Time: 11:19
Received By: Joe Quinlan

Delivered By: (Circle One) 2.02
Cool Intact Yes No
Sample Condition Yes No
Checked By: gjt
Time Correction: #97

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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

3

BILL TO

ANALYSIS REQUEST

Company Name:		P.O. #:	
Project Manager:		Company:	
Address:		Attn:	
City:	State: Zip:	Address:	
Phone #:	Fax #:	City:	
Project #:	Project Owner:	State:	Zip:
Project Name:		Phone #:	
Project Location: <u>WAGSFAU 2119</u>		Fax #:	
Sampler Name:			

FOR LAB USE ONLY	MATRIX	PRESERV	SAMPLING	DATE	TIME						
Lab I.D. <u>H903232</u>											
Sample I.D. <u>BUS 010' 32.6120756</u>	(G)RAB OR (C)OM			<u>9/18</u>	<u>16:36</u>						
<u>103. 0721755</u>	# CONTAINERS										
	GROUNDWATER										
	WASTEWATER										
	SOIL										
	OIL										
	SLUDGE										
	OTHER :										
	ACID/BASE:										
	<input checked="" type="checkbox"/> COOL										
	OTHER :										

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Reinquisitioned By: [Signature] Date: 9/18/19 Received By: [Signature]

Time: 17:07

Verbal Result: Yes No Add'l Phone #:

All Results are emailed. Please provide Email address:

Delivered By: (Circle One) UPS Bus Other: FORM-006 R 3.0

Observed Temp. °C: 2.0 Corrected Temp. °C: 2.4

Sample Condition: Intact Cool Yes No

Checked By: [Signature]

Turnaround Time: Standard Rush

Bacteria (only) Sample Condition: Cool Intact Yes No

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



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

September 25, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/19/19 17:05.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 66 @ 12' 32.6120883-103.2727075 (H903252-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 88.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1300	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 95.3 % 41-142

Surrogate: 1-Chlorooctadecane 94.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 67 @ 12' 32.6120324-103.2727400 (H903252-02)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 88.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 96.2 % 41-142

Surrogate: 1-Chlorooctadecane 96.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 68 @ 12' 32.6120239-103.2727504 (H903252-03)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 88.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 90.7 % 41-142

Surrogate: 1-Chlorooctadecane 92.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/19/2019 Sampling Date: 09/19/2019
Reported: 09/25/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 69 32.6120188-103.2727537 (H903252-04)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 89.8 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

TPH 8015M mg/kg Analyzed By: MS

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 97.0 % 41-142

Surrogate: 1-Chlorooctadecane 96.4 % 37.6-147

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Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 70 32.6120217-103.2727578 (H903252-05)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 86.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 94.1 % 41-142

Surrogate: 1-Chlorooctadecane 94.9 % 37.6-147

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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/19/2019 Sampling Date: 09/19/2019
Reported: 09/25/2019 Sampling Type: Soil
Project Name: NMGS AU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NOT GIVEN

Sample ID: B 71 @ 12' 32.6120217-103.2727578 (H903252-06)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIC) 90.1 % 73.3-129

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 94.1 % 41-142

Surrogate: 1-Chlorooctadecane 94.2 % 37.6-147

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Celestine

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 72 @ 12' 32.6119186-103.2727507 (H903252-07)

BTEX 80218		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID 87.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 93.6 % 41-142

Surrogate: 1-Chlorooctadecane 93.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 73 @ 12' 32.6119110-103.2727598 (H903252-08)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 90.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 96.2 % 41-142

Surrogate: 1-Chlorooctadecane 98.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 74 @ 12' 32.6119056-103.2727762 (H903252-09)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84		
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35		
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48		
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74		
Total BTEX	<0.300	0.300	09/23/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 88.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	09/23/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456		
DRO >C10-C28*	14.1	10.0	09/20/2019	ND	177	88.5	200	0.973		
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND						

Surrogate: 1-Chlorooctane 95.6 % 41-142

Surrogate: 1-Chlorooctadecane 95.8 % 37.6-147

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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 75 @ 12' 32.6119189-103.2727712 (H903252-10)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 90.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/23/2019	ND	201	100	200	7.30	
DRO >C10-C28*	<10.0	10.0	09/23/2019	ND	191	95.7	200	17.4	
EXT DRO >C28-C36	<10.0	10.0	09/23/2019	ND					

Surrogate: 1-Chlorooctane 91.4 % 41-142

Surrogate: 1-Chlorooctadecane 95.2 % 37.6-147

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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 76 @ 12' 32.6119612-103.2727239 (H903252-11)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/24/2019	ND	1.78	88.8	2.00	0.673		
Toluene*	<0.050	0.050	09/24/2019	ND	1.54	77.1	2.00	0.403		
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.54	77.1	2.00	0.245		
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.77	79.5	6.00	0.227		
Total BTEX	<0.300	0.300	09/24/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	784	16.0	09/23/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/23/2019	ND	201	100	200	7.30		
DRO >C10-C28*	74.9	10.0	09/23/2019	ND	191	95.7	200	17.4		
EXT DRO >C28-C36	<10.0	10.0	09/23/2019	ND						

Surrogate: 1-Chlorooctane 88.0 % 41-142

Surrogate: 1-Chlorooctadecane 89.1 % 37.6-147

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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 77 @ 12' 32.6119985-103.2727396 (H903252-12)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2019	ND	1.78	88.8	2.00	0.673	
Toluene*	<0.050	0.050	09/24/2019	ND	1.54	77.1	2.00	0.403	
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.54	77.1	2.00	0.245	
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.77	79.5	6.00	0.227	
Total BTEX	<0.300	0.300	09/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 95.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1140	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/23/2019	ND	201	100	200	7.30	
DRO >C10-C28*	190	10.0	09/23/2019	ND	191	95.7	200	17.4	
EXT DRO >C28-C36	87.3	10.0	09/23/2019	ND					

Surrogate: 1-Chlorooctane 90.2 % 41-142

Surrogate: 1-Chlorooctadecane 98.3 % 37.6-147

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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 78 @ 12' 32.6120200-103.2727286 (H903252-13)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2019	ND	1.78	88.8	2.00	0.673	
Toluene*	<0.050	0.050	09/24/2019	ND	1.54	77.1	2.00	0.403	
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.54	77.1	2.00	0.245	
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.77	79.5	6.00	0.227	
Total BTEX	<0.300	0.300	09/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 96.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1090	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/23/2019	ND	201	100	200	7.30	
DRO >C10-C28*	<10.0	10.0	09/23/2019	ND	191	95.7	200	17.4	
EXT DRO >C28-C36	<10.0	10.0	09/23/2019	ND					

Surrogate: 1-Chlorooctane 91.3 % 41-142

Surrogate: 1-Chlorooctadecane 93.5 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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Celey D. Keene, Lab Director/Quality Manager



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Apache Corp</u> Project Manager: <u>Jeffrey Brown</u>		P.O. #: Company:						
Address: City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>87406</u>		Attn: Address: City: State: Zip:						
Phone #: Fax #: Project #: Project Owner:		Phone #: Fax #:						
Project Location: <u>NECSTAN 2119</u>								
Sampler Name: <u>Dea Dunsicker Jr</u>		Date:						
FOR LAB USE ONLY								
Lab I.D.	Sample I.D.	(G)RAB OR (COM) # CONTAINERS	MATRIX	PRESERV	SAMPLING	DATE	TIME	ANALYSIS REQUEST
<u>H03252</u>	<u>816 @ 12.32 (612085)3</u>	<u>1</u>	<u>(G)RAB OR (COM)</u>	<u>CE COOL</u>	<u>1</u>	<u>9/19</u>	<u>8:13</u>	<u>EXT TPH</u> <u>BTEX</u>
	<u>-103.8727075</u>	<u>1</u>	<u>GROUNDWATER</u>	<u>CE COOL</u>	<u>1</u>	<u>9/19</u>	<u>11:30</u>	
	<u>2 B67 FTX 32 (612085)4</u>	<u>1</u>	<u>WASTEWATER</u>	<u>CE COOL</u>	<u>1</u>	<u>9/19</u>	<u>11:30</u>	
	<u>-103.8727400</u>	<u>1</u>	<u>SOIL</u>	<u>CE COOL</u>	<u>1</u>	<u>9/19</u>	<u>11:30</u>	
	<u>3 B68 @ 12.32 (612085)3</u>	<u>1</u>	<u>SOIL</u>	<u>CE COOL</u>	<u>1</u>	<u>9/19</u>	<u>11:30</u>	
	<u>-103.8727504</u>	<u>1</u>	<u>SOIL</u>	<u>CE COOL</u>	<u>1</u>	<u>9/19</u>	<u>11:42</u>	
	<u>4 B69 32.612085</u>	<u>1</u>	<u>SOIL</u>	<u>CE COOL</u>	<u>1</u>	<u>9/19</u>	<u>11:57</u>	
	<u>-103.8727537</u>	<u>1</u>	<u>SOIL</u>	<u>CE COOL</u>	<u>1</u>	<u>9/19</u>	<u>11:57</u>	
	<u>5 B70 @ 32.612085</u>	<u>1</u>	<u>SOIL</u>	<u>CE COOL</u>	<u>1</u>	<u>9/19</u>	<u>11:57</u>	
	<u>-103.8727572</u>	<u>1</u>	<u>SOIL</u>	<u>CE COOL</u>	<u>1</u>	<u>9/19</u>	<u>11:57</u>	

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Relinquished By: Dea Dunsicker Jr Date: 9/19/19 Received By: Jawara Okada
 Time: 17:05

Delivered By: (Circle One) UPS Observed Temp. °C 16 Sample Condition COOL CHECKED BY: JO
 Corrected Temp. °C 1.0 Intact Yes No

Vertical Result: Yes No Add'l Phone #:
 All Results are emailed. Please provide Email address:
 REMARKS: Email! Results to Jeff Brown

Turnaround Time: Standard Bacteria (only) Sample Condition COOL
 Thermometer ID #97 Yes No Yes No
 Correction Factor +0.4 °C Yes No Yes No



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Hooper Corp</u> Project Manager: <u>Jeffrey Brown</u> Address: _____ City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u> Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: _____ Project Location: <u>WILKIE 0119</u> Sampler Name: <u>Jeffrey Brown</u> FOR LAB USE ONLY		BILL TO P.O. #: _____ Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____		ANALYSIS REQUEST					
Lab I.D.	Sample I.D.	(G)GRAB OR (C)COMP	# CONTAINERS	MATRIX	PRESERV	SAMPLING	DATE	TIME	REMARKS
<u>HP03252</u>	<u>B71 @ 12.32.612.0217</u>	<input checked="" type="checkbox"/>	<u>1</u>	<input checked="" type="checkbox"/> GROUNDWATER <input type="checkbox"/> WASTEWATER <input type="checkbox"/> SOIL <input type="checkbox"/> OIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> ACID/BASE <input checked="" type="checkbox"/> COOL <input type="checkbox"/> OTHER		<u>9/19</u>	<u>12:03</u>	<u>EXT TPH</u> <u>BTEX</u>
<u>6</u>	<u>-103.2727578</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>		<u>9/19</u>	<u>13:30</u>	
<u>7</u>	<u>B72 @ 12.32.619.816</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>		<u>9/19</u>	<u>13:30</u>	
<u>8</u>	<u>-103.2727507</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>		<u>9/19</u>	<u>13:30</u>	
<u>9</u>	<u>B74 @ 12.32.619.056</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>		<u>9/19</u>	<u>14:51</u>	
<u>10</u>	<u>-103.2727768</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>		<u>9/19</u>	<u>14:57</u>	
	<u>B75 @ 12.32.619.189</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>		<u>9/19</u>	<u>14:57</u>	

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Relinquished By: Jeffrey Brown Date: 9/19-19 Time: 17:05
 Received By: Jessica Adams

Delivered By: (Circle One) Observed Temp. °C: 0.6 Sample Condition: Cool Intact
 Corrected Temp. °C: 1.0 Yes No

Turnaround Time: _____ Standard Rush
 Bacteria (only) Sample Condition: Cool Intact
 Yes No Corrected Temp. °C: _____

REMARKS: Email Results to Jeffrey Brown

Verbal Result: Yes No Add'l Phone #: _____
 All Results are emailed. Please provide Email address: _____



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <i>Heach Corp</i> Project Manager: <i>Judith Brown</i> Address: City: <i>Hobbs</i> State: <i>NM</i> Zip: <i>88240</i> Phone #: Fax #: Project #: Project Owner: Project Name: Project Location: <i>MUSAU AIG</i> Sampler Name: <i>Judy Quisenberry</i> <small>FOR LAB USE ONLY</small>		BILL TO P.O. #: Company: Attn: Address: City: State: Zip: Phone #: Fax #:						
Lab I.D. H903352 11 12 13	Sample I.D. B76 012 82.611912 -103. 2727354 B77 012 32.611985 -103. 2727356 B78 012 32.6120200 -103. 2727290.	(G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER ACID/BASE (C)/ COOL OTHER	DATE TIME 9/19 15:28 9/19 16:30 9/19 16:36	EXT TPH BTEX	ANALYSIS REQUEST			
						1 1 1	1 1 1	1 1 1
						C C C	1 1 1	1 1 1
						1 1 1	1 1 1	1 1 1
<small>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 analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.</small>								
Relinquished By: <i>Judy Quisenberry</i> Date: <i>9-19-19</i> Time:		Received By: <i>Janara Walker</i> Date: <i>9-19-19</i> Time:		Vertical Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #: All Results are emailed. Please provide Email address: REMARKS: <i>Email Result to Judith Brown</i>				
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C <i>0.6</i> Corrected Temp. °C <i>1.0</i>		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No CHECKED BY: (Initials) <i>JA</i> Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID #97 Bacteria (only) Sample Condition Correction Factor + 0.4 °C <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No Observed Temp. °C Corrected Temp. °C				

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



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

September 27, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/24/19 7:30.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/20/2019
Reported:	09/27/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 79 @ 12' 32.6119567-103.2727105 (H903272-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL Chloride, SM4500Cl-B)		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
	83.7 %	73.3-129							
Chloride	688	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	12.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 82.9 % 41-142
 Surrogate: 1-Chlorooctadecane 87.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/24/2019
Reported: 09/27/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/20/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Mike Snyder

Sample ID: B 80 @ 12' 32.6120273-103.2726743 (H903272-02)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 85.0 % 73.3-129

Table for Chloride, SM4500Cl-B. Columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row: Chloride 384, 16.0, 09/25/2019, ND, 416, 104, 400, 0.00.

Table for TPH 8015M. Columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows: GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 88.2 % 41-142

Surrogate: 1-Chlorooctadecane 90.8 % 37.6-147

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Handwritten signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/20/2019
Reported:	09/27/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 81 32.6121375-103.2726961 (H903272-03)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 84.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 89.8 % 41-142

Surrogate: 1-Chlorooctadecane 94.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/24/2019 Sampling Date: 09/20/2019
Reported: 09/27/2019 Sampling Type: Soil
Project Name: NMGSAU #2119 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Mike Snyder
Project Location: NOT GIVEN

Sample ID: B 82 @ 12' 32.6120784-103.2726877 (H903272-04)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PID) 84.9 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

TPH 8015M mg/kg Analyzed By: MS

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 86.4 % 41-142

Surrogate: 1-Chlorooctadecane 89.2 % 37.6-147

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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September 05, 2019

JEFFREY BROOM
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/05/19 7:40.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	09/05/2019	Sampling Date:	09/04/2019
Reported:	09/05/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: V 2 SURFACE (H903065-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/05/2019	ND	416	104	400	0.00		

Sample ID: V 2 @ 4' (H903065-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	09/05/2019	ND	416	104	400	0.00		

Sample ID: V 2 @ 8' (H903065-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	720	16.0	09/05/2019	ND	416	104	400	0.00		

Sample ID: V 1 @ SURFACE (H903065-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/05/2019	ND	416	104	400	0.00		

Cardinal Laboratories

*=Accredited Analyte

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 client for 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 thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	09/05/2019	Sampling Date:	09/04/2019
Reported:	09/05/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: V 1 @ 2' (H903065-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1650	16.0	09/05/2019	ND	416	104	400	0.00		

Sample ID: V 1 @ 4' (H903065-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	416	16.0	09/05/2019	ND	416	104	400	0.00		

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: Apple Tree Bar P.O. #: _____
 Project Manager: Jeff Brown Company: _____
 Address: _____ Attn: _____
 City: Hobbs State: NM ZIP: _____
 Phone #: _____ Fax #: _____
 Project #: _____ Project Owner: _____
 Project Name: _____ State: _____ Zip: _____
 Project Location: WINGSPAN 42115 Phone #: _____
 Sampler Name: Jose Alvarez Fax #: _____

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER		
<u>HPD3065</u>	<u>1</u>	<u>1</u>	<u>5</u>							<u>7/4</u>	<u>4:58pm</u>
	<u>2</u>	<u>1</u>	<u>6</u>								<u>5:00pm</u>
	<u>3</u>	<u>1</u>	<u>6</u>								<u>5:02pm</u>
	<u>4</u>	<u>1</u>	<u>6</u>								<u>5:04pm</u>
	<u>5</u>	<u>1</u>	<u>6</u>								<u>5:06pm</u>

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

Relinquished By: [Signature] Date: 08/19 Time: 07:40
 Received By: [Signature]

Delivered By: (Circle One) C.S.E Sample Condition: Intact CHECKED BY: [Signature]
 Sampler - UPS - Bus - Other: Collected 0.9% Cool Yes No
 Yes No

Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____
 REMARKS: Email Results



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

September 11, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/06/19 17:00.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/06/2019	Sampling Date:	09/06/2019
Reported:	09/11/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 1 @ 12' 32.6124168-103.2729871 (H903092-01)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.10	105	2.00	1.07		
Toluene*	<0.050	0.050	09/10/2019	ND	2.10	105	2.00	1.29		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.15	108	2.00	1.28		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.52	109	6.00	1.83		
Total BTEX	<0.300	0.300	09/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 89.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	09/09/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	207	103	200	2.73		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	215	107	200	2.83		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 76.2 % 41-142

Surrogate: 1-Chlorooctadecane 79.2 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/06/2019	Sampling Date:	09/06/2019
Reported:	09/11/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 4 @ 12' 32.6122356-103.2729844 (H903092-02)

BTEX 8021B		mg/kg		Analyzed By: 8F						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.10	105	2.00	1.07		
Toluene*	<0.050	0.050	09/10/2019	ND	2.10	105	2.00	1.29		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.15	108	2.00	1.28		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.52	109	6.00	1.83		
Total BTEX	<0.300	0.300	09/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	09/09/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	207	103	200	2.73		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	215	107	200	2.83		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 75.0 % 41-142

Surrogate: 1-Chlorooctadecane 78.7 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: <i>4095th</i>		P.O. #:															
Project Manager: <i>Settler Brown</i>		Company:															
Address:		Attn:															
City: <i>Hobbs</i> State: <i>NM</i> Zip: <i>88240</i>		Address:															
Phone #: _____ Fax #: _____		City: _____ State: _____ Zip: _____															
Project #: _____ Project Owner: _____		Phone #: _____ Fax #: _____															
Project Location: <i>NMESA #2119</i>		Sampler Name: <i>Tom Rowland</i>															
FOR LAB USE ONLY																	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	REMARKS			
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER						ACID/BASE	ICE / COOL	OTHER
<i>H00302</i>	<i>1 B1012 - 3M GROUNDWATER</i>	<i>C</i>	<i>1</i>			<i>1</i>						<i>9/6</i>	<i>12:09</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>CI</i>
	<i>2 B1012 - 3M GROUNDWATER</i>	<i>C</i>	<i>1</i>			<i>1</i>						<i>9/6</i>	<i>3:52pm</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>BTEX EXT PH</i>

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 services. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: *Scott Roberts* Date: *9-6-19* Received By: *James [Signature]*
 Time: *19:00*

Delivered By: (Circle One) *3.9c* Sample Condition: Intact Cool Pres No No
 Sampler - UPS - Bus - Other: *3.3c* CHECKED BY: *TS*

Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____
 REMARKS: *E Mail Results*



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

September 12, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/10/19 12:25.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/10/2019	Sampling Date:	09/10/2019
Reported:	09/12/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 11 @ 12' 32.6123450-103.2729049 (H903114-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/11/2019	ND	1.98	98.9	2.00	0.722	
Toluene*	<0.050	0.050	09/11/2019	ND	1.96	97.9	2.00	2.85	
Ethylbenzene*	<0.050	0.050	09/11/2019	ND	2.02	101	2.00	0.247	
Total Xylenes*	<0.150	0.150	09/11/2019	ND	6.09	102	6.00	0.208	
Total BTEX	<0.300	0.300	09/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 90.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	976	16.0	09/11/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/11/2019	ND	214	107	200	1.48	
DRO >C10-C28*	<10.0	10.0	09/11/2019	ND	215	108	200	2.86	
EXT DRO >C28-C36	<10.0	10.0	09/11/2019	ND					

Surrogate: 1-Chlorooctane 80.9 % 41-142

Surrogate: 1-Chlorooctadecane 83.4 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/10/2019	Sampling Date:	09/10/2019
Reported:	09/12/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 12 @ 12' 32.6123964-103.2729328 (H903114-02)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/11/2019	ND	1.98	98.9	2.00	0.722		
Toluene*	<0.050	0.050	09/11/2019	ND	1.96	97.9	2.00	2.85		
Ethylbenzene*	<0.050	0.050	09/11/2019	ND	2.02	101	2.00	0.247		
Total Xylenes*	<0.150	0.150	09/11/2019	ND	6.09	102	6.00	0.208		
Total BTEX	<0.300	0.300	09/11/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	09/11/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/11/2019	ND	214	107	200	1.48		
DRO >C10-C28*	<10.0	10.0	09/11/2019	ND	215	108	200	2.86		
EXT DRO >C28-C36	<10.0	10.0	09/11/2019	ND						

Surrogate: 1-Chlorooctane 80.9 % 41-142

Surrogate: 1-Chlorooctadecane 86.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/10/2019
Reported: 09/12/2019
Project Name: NMGSAU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/10/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 13 @ 12' 32.6123561-103.2729757 (H903114-03)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 90.3 % 73.3-129

Table for Chloride, SM4500Cl-B. Columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row: Chloride 128, 16.0, 09/11/2019, ND, 416, 104, 400, 0.00.

Table for TPH 8015M. Columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows: GRO C6-C10*, DRO >C10-C28*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 80.7 % 41-142

Surrogate: 1-Chlorooctadecane 86.9 % 37.6-147

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Handwritten signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/10/2019	Sampling Date:	09/10/2019
Reported:	09/12/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 14 @ 12' 32.6122143-103.2729556 (H903114-04)

BTEX 80218		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/11/2019	ND	1.98	98.9	2.00	0.722		
Toluene*	<0.050	0.050	09/11/2019	ND	1.96	97.9	2.00	2.85		
Ethylbenzene*	<0.050	0.050	09/11/2019	ND	2.02	101	2.00	0.247		
Total Xylenes*	<0.150	0.150	09/11/2019	ND	6.09	102	6.00	0.208		
Total BTEX	<0.300	0.300	09/11/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 87.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	09/11/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/11/2019	ND	214	107	200	1.48		
DRO >C10-C28*	<10.0	10.0	09/11/2019	ND	215	108	200	2.86		
EXT DRO >C28-C36	<10.0	10.0	09/11/2019	ND						

Surrogate: 1-Chlorooctane 81.6 % 41-142

Surrogate: 1-Chlorooctadecane 86.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: Agache P.O. #:
 Project Manager: Jeffrey Bacon Company:
 Address: _____ Attn:
 City: Hobbs State: NM zip: 88240 Address:
 Phone #: _____ Fax #: _____ City: _____
 Project #: _____ Project Owner: _____ State: _____ Zip: _____
 Project Name: _____
 Project Location: WUGSALL 2119 Phone #: _____ Fax #: _____
 Sampler Name: Joe Cassella

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX						DATE	TIME	EXT. TPH	BTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER				
11903114	32.618348E		1							9/10	7:57		
2	33.072909G		1							9/10	7:59		
3	33.418338G		1							9/10	8:01		
4	32.618348E		1							9/10	11:47		

ACID/BASE: _____ (C)/COOL _____ OTHER _____ PRESERV: _____ SAMPLING _____

Relinquished By: Joe Cassella Date: 9/10 Received By: Yvonne Blake Date: 9/10
 Time: 12:25 Time: _____
 Relinquished By: _____ Received By: _____
 Delivered By: (Circle One) 5.6°C # 97 Sample Condition: Intact CHECKED BY: YB
 Sampler - UPS - Bus - Other: Permitted 60°C Cool Intact Pres BTEX No

REMARKS: _____
 Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____
Final Results.
(Regular)



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

September 13, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/09/19 16:54.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B3 @ 12' 32.6123770-103.2730927 (H903102-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82	
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16	
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74	GC-NC
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49	
Total BTEX	<0.300	0.300	09/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/10/2019	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54	
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91	
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND					

Surrogate: 1-Chlorooctane 74.9 % 41-142

Surrogate: 1-Chlorooctadecane 77.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B5 @ 12' 32.612403-103.2728533 (H903102-02)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82		
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49		
Total BTEX	<0.300	0.300	09/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	09/10/2019	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 75.4 % 41-142

Surrogate: 1-Chlorooctadecane 78.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B6 @ 12' 32.6124535-103.2729123 (H903102-03)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82		
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49		
Total BTEX	<0.300	0.300	09/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	09/10/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 79.3 % 41-142

Surrogate: 1-Chlorooctadecane 83.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 09/09/2019
Reported: 09/13/2019
Project Name: NMGS AU #2119
Project Number: NONE GIVEN
Project Location: NOT GIVEN
Sampling Date: 09/09/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B7 @ 12' 32.6123532-103.27230508 (H903102-04)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene*, Toluene*, Ethylbenzene*, Total Xylenes*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PII) 88.7 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10*, DRO >C10-C28*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 80.2 % 41-142

Surrogate: 1-Chlorooctadecane 84.7 % 37.6-147

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Celestine Keene (signature)

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B8 @ 12' 32.6123688-103.2730307 (H903102-05)

BTEX 80218		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82		
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49		
Total BTEX	<0.300	0.300	09/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PII) 90.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	09/10/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 80.5 % 41-142

Surrogate: 1-Chlorooctadecane 85.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B9 @ 12' 32.612363-103.2728852 (H903102-06)

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82		
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49		
Total BTX	<0.300	0.300	09/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 90.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	09/10/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 78.8 % 41-142

Surrogate: 1-Chlorooctadecane 83.4 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B10 @ 12' 32.6123023-103.2728238 (H903102-07)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82		
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49		
Total BTEX	<0.300	0.300	09/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 92.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	688	16.0	09/10/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 79.3 % 41-142

Surrogate: 1-Chlorooctadecane 83.3 % 37.6-147

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Coley D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B2 @ 12' 32.6124219-103.2730907 (H903102-08)

BTEX 80218		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82		
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49		
Total BTEX	<0.300	0.300	09/10/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	09/10/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 79.1 % 41-142

Surrogate: 1-Chlorooctadecane 82.8 % 37.6-147

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- GC-NC 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
- 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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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: <i>Apex</i>		P.O. #:												
Project Manager: <i>Bruce Baker/Jeffrey Brown</i>		Company:												
Address:		Attn:												
City: <i>Hobbs</i>		Address:												
State: <i>NM</i> Zip: <i>88240</i>		City:												
Phone #: _____ Fax #: _____		State: _____ Zip: _____												
Project #: _____		Project Owner:												
Project Name: _____		Project Location: <i>ALBESALE #819</i>												
Sampler Name: <i>Jim Querecena</i>		Phone #: _____												
FOR LAB USE ONLY		Fax #: _____												
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX						DATE	TIME	REMARKS	ANALYSIS REQUEST	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER					
<i>H903102</i>	<i>31-02-23770</i>	<input checked="" type="checkbox"/>	<i>1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>9/9</i>	<i>7:55</i>	<i>Ext TPH</i>	<i>OTEX</i>					
<i>1</i>	<i>B5 @ 12' - 10.5 220973</i>	<input type="checkbox"/>	<i>1</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>9/9</i>	<i>0:45</i>			
<i>2</i>	<i>35 @ 12' 32.5 410195</i>	<input type="checkbox"/>	<i>1</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>9/9</i>	<i>0:47</i>			
<i>3</i>	<i>81 @ 12' 50.5 375535</i>	<input type="checkbox"/>	<i>1</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>9/9</i>	<i>10:59</i>			
<i>4</i>	<i>81 @ 12' 50.5 375535</i>	<input type="checkbox"/>	<i>1</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>9/9</i>	<i>13:56</i>			
<i>5</i>	<i>88 @ 12' 51.5 410195</i>	<input type="checkbox"/>	<i>1</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>9/9</i>	<i>15:58</i>			
<i>6</i>	<i>89 @ 12' 52.5 410195</i>	<input type="checkbox"/>	<i>1</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>9/9</i>	<i>15:58</i>			
<i>7</i>	<i>81 @ 12' 32.5 410195</i>	<input type="checkbox"/>	<i>1</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>9/9</i>	<i>13:40</i>			
<i>8</i>	<i>82 @ 12' 32.5 410195</i>	<input type="checkbox"/>	<i>1</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>9/9</i>	<i>4:03</i>			



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

September 05, 2019

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/05/19 7:40.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 JEFFREY BROOM
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/05/2019	Sampling Date:	09/04/2019
Reported:	09/05/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: V 2 SURFACE (H903065-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/05/2019	ND	416	104	400	0.00		

Sample ID: V 2 @ 4' (H903065-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	09/05/2019	ND	416	104	400	0.00		

Sample ID: V 2 @ 8' (H903065-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	720	16.0	09/05/2019	ND	416	104	400	0.00		

Sample ID: V 1 @ SURFACE (H903065-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/05/2019	ND	416	104	400	0.00		

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 JEFFREY BROOM
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/05/2019	Sampling Date:	09/04/2019
Reported:	09/05/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: V 1 @ 2' (H903065-05)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1650	16.0	09/05/2019	ND	416	104	400	0.00	

Sample ID: V 1 @ 4' (H903065-06)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	09/05/2019	ND	416	104	400	0.00	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: Apple
 Project Manager: Jeff Brown
 Address: _____
 City: Hobbs State: NM Zip: _____
 Phone #: _____ Fax #: _____
 Project #: _____ Project Owner: _____
 Project Name: _____
 Project Location: NMGS AU 42119
 Sampler Name: Sosa Reynolds

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

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME								
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :										
<u>HPD3065</u>	<u>1</u>	<u>1</u>	<u>1</u>							<u>9/4</u>	<u>4:54pm</u>								
	<u>2</u>	<u>1</u>	<u>1</u>								<u>4:58pm</u>								
	<u>3</u>	<u>1</u>	<u>1</u>								<u>5:00pm</u>								
	<u>4</u>	<u>1</u>	<u>1</u>								<u>5:02</u>								
	<u>5</u>	<u>1</u>	<u>1</u>								<u>5:04</u>								
	<u>6</u>	<u>1</u>	<u>1</u>								<u>5:06</u>								

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Relinquished By: [Signature] Date: 9/5/19 Time: 07:40
 Received By: [Signature] Date: _____ Time: _____

Delivered By: (Circle One) OS #97 Sample Condition: Intact Cool Yes No
 Sampler - UPS - Bus - Other: Collected 0.9% Yes No No No
 CHECKED BY: [Signature] (Initials)

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

EMail Results
Rush



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

September 11, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/06/19 17:00.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/06/2019	Sampling Date:	09/06/2019
Reported:	09/11/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 1 @ 12' 32.6124168-103.2729871 (H903092-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2019	ND	2.10	105	2.00	1.07	
Toluene*	<0.050	0.050	09/10/2019	ND	2.10	105	2.00	1.29	
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.15	108	2.00	1.28	
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.52	109	6.00	1.83	
Total BTEX	<0.300	0.300	09/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	09/09/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	207	103	200	2.73	
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	215	107	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND					

Surrogate: 1-Chlorooctane 76.2 % 41-142

Surrogate: 1-Chlorooctadecane 79.2 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/06/2019	Sampling Date:	09/06/2019
Reported:	09/11/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 4 @ 12' 32.6122356-103.2729844 (H903092-02)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.10	105	2.00	1.07		
Toluene*	<0.050	0.050	09/10/2019	ND	2.10	105	2.00	1.29		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.15	108	2.00	1.28		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.52	109	6.00	1.83		
Total BTEX	<0.300	0.300	09/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	09/09/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	207	103	200	2.73		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	215	107	200	2.83		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 75.0 % 41-142

Surrogate: 1-Chlorooctadecane 78.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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

September 13, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/09/19 16:54.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B3 @ 12' 32.6123770-103.2730927 (H903102-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82	
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16	
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74	GC-NC
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49	
Total BTEX	<0.300	0.300	09/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/10/2019	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54	
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91	
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND					

Surrogate: 1-Chlorooctane 74.9 % 41-142

Surrogate: 1-Chlorooctadecane 77.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B5 @ 12' 32.612403-103.2728533 (H903102-02)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82		
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49		
Total BTEX	<0.300	0.300	09/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	09/10/2019	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 75.4 % 41-142

Surrogate: 1-Chlorooctadecane 78.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B6 @ 12' 32.6124535-103.2729123 (H903102-03)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82		
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49		
Total BTEX	<0.300	0.300	09/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	09/10/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 79.3 % 41-142

Surrogate: 1-Chlorooctadecane 83.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B7 @ 12' 32.6123532-103.27230508 (H903102-04)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82	
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16	
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74	
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49	
Total BTEX	<0.300	0.300	09/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/10/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54	
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91	
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND					

Surrogate: 1-Chlorooctane 80.2 % 41-142

Surrogate: 1-Chlorooctadecane 84.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B8 @ 12' 32.6123688-103.2730307 (H903102-05)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82	
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16	
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74	
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49	
Total BTEX	<0.300	0.300	09/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/10/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54	
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91	
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND					

Surrogate: 1-Chlorooctane 80.5 % 41-142

Surrogate: 1-Chlorooctadecane 85.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B9 @ 12' 32.612363-103.2728852 (H903102-06)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82		
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49		
Total BTEX	<0.300	0.300	09/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	09/10/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 78.8 % 41-142

Surrogate: 1-Chlorooctadecane 83.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B10 @ 12' 32.6123023-103.2728238 (H903102-07)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82		
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49		
Total BTEX	<0.300	0.300	09/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	688	16.0	09/10/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 79.3 % 41-142

Surrogate: 1-Chlorooctadecane 83.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/09/2019	Sampling Date:	09/09/2019
Reported:	09/13/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B2 @ 12' 32.6124219-103.2730907 (H903102-08)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2019	ND	2.06	103	2.00	3.82		
Toluene*	<0.050	0.050	09/10/2019	ND	2.07	103	2.00	4.16		
Ethylbenzene*	<0.050	0.050	09/10/2019	ND	2.08	104	2.00	3.74		
Total Xylenes*	<0.150	0.150	09/10/2019	ND	6.21	103	6.00	3.49		
Total BTEX	<0.300	0.300	09/10/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	09/10/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2019	ND	191	95.3	200	1.54		
DRO >C10-C28*	<10.0	10.0	09/10/2019	ND	200	100	200	2.91		
EXT DRO >C28-C36	<10.0	10.0	09/10/2019	ND						

Surrogate: 1-Chlorooctane 79.1 % 41-142

Surrogate: 1-Chlorooctadecane 82.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
GC-NC 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
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

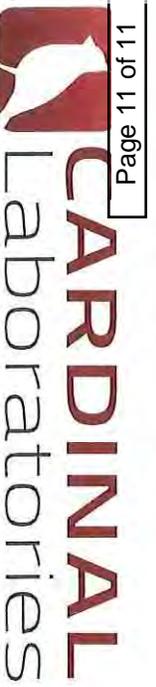
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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: <i>Apex</i>		P.O. #:																
Project Manager: <i>Bruce Baker / Jeffrey Beem</i>		Company:																
Address:		Attn:																
City: <i>Hobbs</i> State: <i>NM</i> Zip: <i>88240</i>		Address:																
Phone #: _____ Fax #: _____		City:																
Project #: _____ Project Owner:		State:																
Project Name:		Zip:																
Project Location: <i>MUSGRAVE #2119</i>		Phone #:																
Sampler Name: <i>Jim Quevedo</i>		Fax #:																
FOR LAB USE ONLY																		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE	TIME	REMARKS	EXT	TPH	BTEX						
<i>H903102</i>	<i>1</i>	<i>31.045370</i>	<i>1</i>	<input checked="" type="checkbox"/> SOIL	<input checked="" type="checkbox"/> COOL	<i>T</i>	<i>9/9</i>	<i>7:55</i>	<i>101</i>	<i>EXT</i>	<i>TPH</i>	<i>BTEX</i>						
	<i>2</i>	<i>32.812123</i>	<i>1</i>	<input checked="" type="checkbox"/> SOIL	<input checked="" type="checkbox"/> COOL	<i>T</i>	<i>9/9</i>	<i>9:45</i>	<i>101</i>	<i>EXT</i>	<i>TPH</i>	<i>BTEX</i>						
	<i>3</i>	<i>32.812123</i>	<i>1</i>	<input checked="" type="checkbox"/> SOIL	<input checked="" type="checkbox"/> COOL	<i>T</i>	<i>9/9</i>	<i>9:47</i>	<i>101</i>	<i>EXT</i>	<i>TPH</i>	<i>BTEX</i>						
	<i>4</i>	<i>32.812123</i>	<i>1</i>	<input checked="" type="checkbox"/> SOIL	<input checked="" type="checkbox"/> COOL	<i>T</i>	<i>9/9</i>	<i>10:59</i>	<i>101</i>	<i>EXT</i>	<i>TPH</i>	<i>BTEX</i>						
	<i>5</i>	<i>32.812123</i>	<i>1</i>	<input checked="" type="checkbox"/> SOIL	<input checked="" type="checkbox"/> COOL	<i>T</i>	<i>9/9</i>	<i>13:56</i>	<i>101</i>	<i>EXT</i>	<i>TPH</i>	<i>BTEX</i>						
	<i>6</i>	<i>32.812123</i>	<i>1</i>	<input checked="" type="checkbox"/> SOIL	<input checked="" type="checkbox"/> COOL	<i>T</i>	<i>9/9</i>	<i>13:58</i>	<i>101</i>	<i>EXT</i>	<i>TPH</i>	<i>BTEX</i>						
	<i>7</i>	<i>32.812123</i>	<i>1</i>	<input checked="" type="checkbox"/> SOIL	<input checked="" type="checkbox"/> COOL	<i>T</i>	<i>9/9</i>	<i>13:40</i>	<i>101</i>	<i>EXT</i>	<i>TPH</i>	<i>BTEX</i>						
	<i>8</i>	<i>32.812123</i>	<i>1</i>	<input checked="" type="checkbox"/> SOIL	<input checked="" type="checkbox"/> COOL	<i>T</i>	<i>9/9</i>	<i>4:03</i>	<i>101</i>	<i>EXT</i>	<i>TPH</i>	<i>BTEX</i>						

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Relinquished By: *[Signature]* Date: *9/9* Received By: *[Signature]* Date: *10/5/24*

Delivered By: (Circle One) *2.72* *497* Sample Condition: Cool Intact
 Sampler - UPS - Bus - Other: *Consulated 3.16* CHECKED BY: *[Signature]*

Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____
 REMARKS: *Emergi Results -*



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

September 12, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/10/19 12:25.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/10/2019	Sampling Date:	09/10/2019
Reported:	09/12/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 11 @ 12' 32.6123450-103.2729049 (H903114-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/11/2019	ND	1.98	98.9	2.00	0.722	
Toluene*	<0.050	0.050	09/11/2019	ND	1.96	97.9	2.00	2.85	
Ethylbenzene*	<0.050	0.050	09/11/2019	ND	2.02	101	2.00	0.247	
Total Xylenes*	<0.150	0.150	09/11/2019	ND	6.09	102	6.00	0.208	
Total BTEX	<0.300	0.300	09/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	976	16.0	09/11/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/11/2019	ND	214	107	200	1.48	
DRO >C10-C28*	<10.0	10.0	09/11/2019	ND	215	108	200	2.86	
EXT DRO >C28-C36	<10.0	10.0	09/11/2019	ND					

Surrogate: 1-Chlorooctane 80.9 % 41-142

Surrogate: 1-Chlorooctadecane 83.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/10/2019	Sampling Date:	09/10/2019
Reported:	09/12/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 12 @ 12' 32.6123964-103.2729328 (H903114-02)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/11/2019	ND	1.98	98.9	2.00	0.722		
Toluene*	<0.050	0.050	09/11/2019	ND	1.96	97.9	2.00	2.85		
Ethylbenzene*	<0.050	0.050	09/11/2019	ND	2.02	101	2.00	0.247		
Total Xylenes*	<0.150	0.150	09/11/2019	ND	6.09	102	6.00	0.208		
Total BTEX	<0.300	0.300	09/11/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	09/11/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/11/2019	ND	214	107	200	1.48		
DRO >C10-C28*	<10.0	10.0	09/11/2019	ND	215	108	200	2.86		
EXT DRO >C28-C36	<10.0	10.0	09/11/2019	ND						

Surrogate: 1-Chlorooctane 80.9 % 41-142

Surrogate: 1-Chlorooctadecane 86.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/10/2019	Sampling Date:	09/10/2019
Reported:	09/12/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 13 @ 12' 32.6123561-103.2729757 (H903114-03)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/11/2019	ND	1.98	98.9	2.00	0.722	
Toluene*	<0.050	0.050	09/11/2019	ND	1.96	97.9	2.00	2.85	
Ethylbenzene*	<0.050	0.050	09/11/2019	ND	2.02	101	2.00	0.247	
Total Xylenes*	<0.150	0.150	09/11/2019	ND	6.09	102	6.00	0.208	
Total BTEX	<0.300	0.300	09/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/11/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/11/2019	ND	214	107	200	1.48	
DRO >C10-C28*	<10.0	10.0	09/11/2019	ND	215	108	200	2.86	
EXT DRO >C28-C36	<10.0	10.0	09/11/2019	ND					

Surrogate: 1-Chlorooctane 80.7 % 41-142

Surrogate: 1-Chlorooctadecane 86.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/10/2019	Sampling Date:	09/10/2019
Reported:	09/12/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 14 @ 12' 32.6122143-103.2729556 (H903114-04)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/11/2019	ND	1.98	98.9	2.00	0.722	
Toluene*	<0.050	0.050	09/11/2019	ND	1.96	97.9	2.00	2.85	
Ethylbenzene*	<0.050	0.050	09/11/2019	ND	2.02	101	2.00	0.247	
Total Xylenes*	<0.150	0.150	09/11/2019	ND	6.09	102	6.00	0.208	
Total BTEX	<0.300	0.300	09/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 87.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/11/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/11/2019	ND	214	107	200	1.48	
DRO >C10-C28*	<10.0	10.0	09/11/2019	ND	215	108	200	2.86	
EXT DRO >C28-C36	<10.0	10.0	09/11/2019	ND					

Surrogate: 1-Chlorooctane 81.6 % 41-142

Surrogate: 1-Chlorooctadecane 86.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

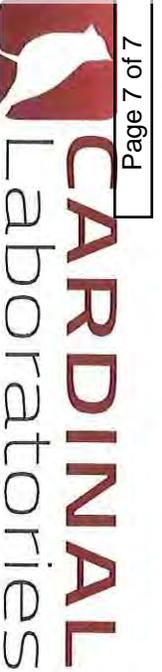
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on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

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Aguelva</u> Project Manager: <u>Jeffrey Brown</u> Address: _____ City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u> Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: _____ Project Location: <u>MUSAN 2119</u> Sampler Name: <u>one container</u>		P.O. #: _____ Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____		
Project Name: _____ Project Location: _____ Sampler Name: _____		BILL TO		
Project Name: _____ Project Location: _____ Sampler Name: _____		ANALYSIS REQUEST		
FOR LAB USE ONLY				
Lab I.D. <u>H903114</u> Sample I.D.	1 <u>B1101</u> <u>32.6123450</u> 2 <u>B1201</u> <u>32.6123450</u> 3 <u>B1301</u> <u>32.6123450</u> 4 <u>B1401</u> <u>32.6123450</u>	(G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER :	MATRIX ACID/BASE: (C) COOL OTHER :	
	1 1 1 1	1 1 1 1	1 1 1 1	DATE 9/10 7:57 9/10 7:59 9/10 8:01 9/10 11:47
	1 1 1 1	1 1 1 1	1 1 1 1	TIME 7:57 7:59 8:01 11:47
	1 1 1 1	1 1 1 1	1 1 1 1	EXT. TPH BTEX
	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1
PLEASE NOTE: Liability and Damages, Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.				
Relinquished By: _____ Date: <u>9/10</u> Time: <u>12:25</u>		Received By: _____ Date: _____ Time: _____		
Delivered By: (Circle One) <u>5:62</u> Sampler - UPS - Bus - Other: <u>Commercial 605</u>		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
CHECKED BY: _____ (Initials) <u>70</u>		REMARKS: <u>Envi! Results,</u> <u>(Regular)</u>		



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

September 17, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/11/19 15:35.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/11/2019	Sampling Date:	09/11/2019
Reported:	09/17/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 3 32.6124552-103.2730152 (H903141-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	1.84	92.0	2.00	6.79	
Toluene*	<0.050	0.050	09/16/2019	ND	1.89	94.4	2.00	4.62	
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	1.94	96.9	2.00	4.64	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	5.87	97.9	6.00	5.18	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 79.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/12/2019	ND	190	95.0	200	7.57	
DRO >C10-C28*	<10.0	10.0	09/12/2019	ND	185	92.5	200	11.7	
EXT DRO >C28-C36	<10.0	10.0	09/12/2019	ND					

Surrogate: 1-Chlorooctane 87.8 % 41-142

Surrogate: 1-Chlorooctadecane 95.5 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/11/2019	Sampling Date:	09/11/2019
Reported:	09/17/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 4 32.6123818-103.27330568 (H903141-02)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	1.84	92.0	2.00	6.79	
Toluene*	<0.050	0.050	09/16/2019	ND	1.89	94.4	2.00	4.62	
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	1.94	96.9	2.00	4.64	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	5.87	97.9	6.00	5.18	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 79.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/12/2019	ND	190	95.0	200	7.57	
DRO >C10-C28*	<10.0	10.0	09/12/2019	ND	185	92.5	200	11.7	
EXT DRO >C28-C36	<10.0	10.0	09/12/2019	ND					

Surrogate: 1-Chlorooctane 85.0 % 41-142

Surrogate: 1-Chlorooctadecane 95.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/11/2019	Sampling Date:	09/11/2019
Reported:	09/17/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 5 32.6123114-103.2730431 (H903141-03)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/16/2019	ND	1.84	92.0	2.00	6.79		
Toluene*	<0.050	0.050	09/16/2019	ND	1.89	94.4	2.00	4.62		
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	1.94	96.9	2.00	4.64		
Total Xylenes*	<0.150	0.150	09/16/2019	ND	5.87	97.9	6.00	5.18		
Total BTEX	<0.300	0.300	09/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 77.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	09/16/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/12/2019	ND	190	95.0	200	7.57		
DRO >C10-C28*	<10.0	10.0	09/12/2019	ND	185	92.5	200	11.7		
EXT DRO >C28-C36	<10.0	10.0	09/12/2019	ND						

Surrogate: 1-Chlorooctane 84.1 % 41-142

Surrogate: 1-Chlorooctadecane 93.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/11/2019	Sampling Date:	09/11/2019
Reported:	09/17/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 6 32.6123253-103.2730421 (H903141-04)

BTEX 8021B		mg/kg		Analyzed By: BF				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	1.84	92.0	2.00	6.79	
Toluene*	<0.050	0.050	09/16/2019	ND	1.89	94.4	2.00	4.62	
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	1.94	96.9	2.00	4.64	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	5.87	97.9	6.00	5.18	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 151 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/12/2019	ND	190	95.0	200	7.57	
DRO >C10-C28*	<10.0	10.0	09/12/2019	ND	185	92.5	200	11.7	
EXT DRO >C28-C36	<10.0	10.0	09/12/2019	ND					

Surrogate: 1-Chlorooctane 80.9 % 41-142

Surrogate: 1-Chlorooctadecane 90.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/11/2019	Sampling Date:	09/11/2019
Reported:	09/17/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 7 32.6122662-103.2729995 (H903141-05)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	1.84	92.0	2.00	6.79	
Toluene*	<0.050	0.050	09/16/2019	ND	1.89	94.4	2.00	4.62	
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	1.94	96.9	2.00	4.64	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	5.87	97.9	6.00	5.18	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 75.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/12/2019	ND	190	95.0	200	7.57	
DRO >C10-C28*	<10.0	10.0	09/12/2019	ND	185	92.5	200	11.7	
EXT DRO >C28-C36	<10.0	10.0	09/12/2019	ND					

Surrogate: 1-Chlorooctane 83.4 % 41-142

Surrogate: 1-Chlorooctadecane 92.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/11/2019	Sampling Date:	09/11/2019
Reported:	09/17/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 15 32.6122705-103.2728741 (H903141-06)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	1.84	92.0	2.00	6.79	
Toluene*	<0.050	0.050	09/16/2019	ND	1.89	94.4	2.00	4.62	
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	1.94	96.9	2.00	4.64	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	5.87	97.9	6.00	5.18	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 78.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/12/2019	ND	195	97.7	200	6.40	
DRO >C10-C28*	<10.0	10.0	09/12/2019	ND	198	99.0	200	7.79	
EXT DRO >C28-C36	<10.0	10.0	09/12/2019	ND					

Surrogate: 1-Chlorooctane 89.0 % 41-142

Surrogate: 1-Chlorooctadecane 95.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/11/2019	Sampling Date:	09/11/2019
Reported:	09/17/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 10 32.6121547-103.2729090 (H903141-07)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	1.84	92.0	2.00	6.79	
Toluene*	<0.050	0.050	09/16/2019	ND	1.89	94.4	2.00	4.62	
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	1.94	96.9	2.00	4.64	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	5.87	97.9	6.00	5.18	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 78.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/12/2019	ND	195	97.7	200	6.40	
DRO >C10-C28*	<10.0	10.0	09/12/2019	ND	198	99.0	200	7.79	
EXT DRO >C28-C36	<10.0	10.0	09/12/2019	ND					

Surrogate: 1-Chlorooctane 93.3 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

September 18, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/13/19 7:30.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/13/2019	Sampling Date:	09/12/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 17 @ 12' 32.6122239-103.2730310 (H903162-01)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	2.14	107	2.00	2.36	
Toluene*	<0.050	0.050	09/16/2019	ND	1.96	98.0	2.00	4.79	
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	2.42	121	2.00	17.2	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	6.01	100	6.00	1.48	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/16/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2019	ND	198	98.8	200	5.98	
DRO >C10-C28*	<10.0	10.0	09/14/2019	ND	201	100	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	09/14/2019	ND					

Surrogate: 1-Chlorooctane 84.7 % 41-142

Surrogate: 1-Chlorooctadecane 91.5 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/13/2019	Sampling Date:	09/12/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 20 @ 12' 32.6121242-103.2729113 (H903162-02)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	2.14	107	2.00	2.36	
Toluene*	<0.050	0.050	09/16/2019	ND	1.96	98.0	2.00	4.79	
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	2.42	121	2.00	17.2	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	6.01	100	6.00	1.48	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/16/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2019	ND	198	98.8	200	5.98	
DRO >C10-C28*	<10.0	10.0	09/14/2019	ND	201	100	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	09/14/2019	ND					

Surrogate: 1-Chlorooctane 88.1 % 41-142

Surrogate: 1-Chlorooctadecane 95.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/13/2019	Sampling Date:	09/12/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 15 @ 12' 32.6123148-103.2728449 (H903162-03)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	2.14	107	2.00	2.36	
Toluene*	<0.050	0.050	09/16/2019	ND	1.96	98.0	2.00	4.79	
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	2.42	121	2.00	17.2	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	6.01	100	6.00	1.48	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2019	ND	198	98.8	200	5.98	
DRO >C10-C28*	<10.0	10.0	09/14/2019	ND	201	100	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	09/14/2019	ND					

Surrogate: 1-Chlorooctane 93.2 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/13/2019	Sampling Date:	09/12/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 16 @ 12' 32.6123332-103.2728691 (H903162-04)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/16/2019	ND	2.14	107	2.00	2.36		
Toluene*	<0.050	0.050	09/16/2019	ND	1.96	98.0	2.00	4.79		
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	2.42	121	2.00	17.2		
Total Xylenes*	<0.150	0.150	09/16/2019	ND	6.01	100	6.00	1.48		
Total BTEX	<0.300	0.300	09/16/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	09/16/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/14/2019	ND	198	98.8	200	5.98		
DRO >C10-C28*	<10.0	10.0	09/14/2019	ND	201	100	200	7.76		
EXT DRO >C28-C36	<10.0	10.0	09/14/2019	ND						

Surrogate: 1-Chlorooctane 86.0 % 41-142

Surrogate: 1-Chlorooctadecane 92.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/13/2019	Sampling Date:	09/12/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 9 32.6122163-103.2729334 (H903162-05)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	2.14	107	2.00	2.36	
Toluene*	<0.050	0.050	09/16/2019	ND	1.96	98.0	2.00	4.79	
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	2.42	121	2.00	17.2	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	6.01	100	6.00	1.48	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2019	ND	198	98.8	200	5.98	
DRO >C10-C28*	<10.0	10.0	09/14/2019	ND	201	100	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	09/14/2019	ND					

Surrogate: 1-Chlorooctane 94.6 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/13/2019	Sampling Date:	09/12/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 8 32.6122163-103.2729334 (H903162-06)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	1.84	92.0	2.00	6.79	
Toluene*	<0.050	0.050	09/16/2019	ND	1.89	94.4	2.00	4.62	
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	1.94	96.9	2.00	4.64	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	5.87	97.9	6.00	5.18	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 76.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/16/2019	ND	202	101	200	3.54	
DRO >C10-C28*	<10.0	10.0	09/16/2019	ND	193	96.6	200	4.33	
EXT DRO >C28-C36	<10.0	10.0	09/16/2019	ND					

Surrogate: 1-Chlorooctane 83.8 % 41-142

Surrogate: 1-Chlorooctadecane 89.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/13/2019	Sampling Date:	09/12/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 19 32.6122829-103.2728600 (H903162-07)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/16/2019	ND	1.84	92.0	2.00	6.79		
Toluene*	<0.050	0.050	09/16/2019	ND	1.89	94.4	2.00	4.62		
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	1.94	96.9	2.00	4.64		
Total Xylenes*	<0.150	0.150	09/16/2019	ND	5.87	97.9	6.00	5.18		
Total BTEX	<0.300	0.300	09/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 78.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	928	16.0	09/16/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/16/2019	ND	202	101	200	3.54		
DRO >C10-C28*	<10.0	10.0	09/16/2019	ND	193	96.6	200	4.33		
EXT DRO >C28-C36	<10.0	10.0	09/16/2019	ND						

Surrogate: 1-Chlorooctane 78.2 % 41-142

Surrogate: 1-Chlorooctadecane 83.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/13/2019	Sampling Date:	09/12/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 18 32.6122566-103.2728781 (H903162-08)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/16/2019	ND	1.84	92.0	2.00	6.79		
Toluene*	<0.050	0.050	09/16/2019	ND	1.89	94.4	2.00	4.62		
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	1.94	96.9	2.00	4.64		
Total Xylenes*	<0.150	0.150	09/16/2019	ND	5.87	97.9	6.00	5.18		
Total BTEX	<0.300	0.300	09/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 76.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	09/16/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/16/2019	ND	202	101	200	3.54		
DRO >C10-C28*	<10.0	10.0	09/16/2019	ND	193	96.6	200	4.33		
EXT DRO >C28-C36	<10.0	10.0	09/16/2019	ND						

Surrogate: 1-Chlorooctane 87.1 % 41-142

Surrogate: 1-Chlorooctadecane 93.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Roche
 Project Manager: Anthony Brown
 Address: _____
 City: Hobbs State: NM Zip: 88240
 Phone #: _____ Fax #: _____
 Project #: _____ Project Owner: _____
 Project Name: _____
 Project Location: W & SALT #2119
 Sampler Name: Steve Duracela Jr.

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

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	CI	EXT. TPH	BTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :							
<u>H003162</u>	<u>B17 012' 32.612239</u>	<input type="checkbox"/>	<u>1</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>9/12 8:08</u>	<u>11:50</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
	<u>103.2730310</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>9/12 10:54</u>	<u>13:10</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<u>B20 012' 32.6121242</u>	<input type="checkbox"/>	<u>1</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>9/12 13:10</u>	<u>15:14</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
	<u>B15 012' 32.6123148</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>9/12 13:10</u>	<u>15:14</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<u>B16 012' 32.1023332</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>9/12 13:10</u>	<u>15:14</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<u>B10 32.6122163</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>9/12 13:10</u>	<u>15:14</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<u>-103.2729113</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>9/12 13:10</u>	<u>15:14</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<u>-103.2728448</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>9/12 13:10</u>	<u>15:14</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<u>-103.27281691</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>9/12 13:10</u>	<u>15:14</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<u>-103.2729334</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>9/12 13:10</u>	<u>15:14</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

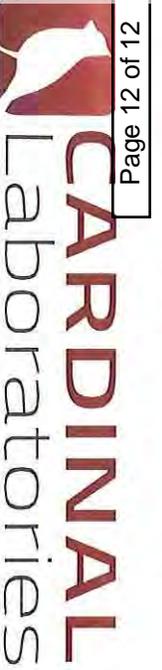
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Relinquished By: [Signature] Date: 08/13/19
 Relinquished By: [Signature] Date: 07/13/19
 Received By: [Signature]

Phone Result: Yes No Add'l Phone #:
 Fax Result: Yes No Add'l Fax #:
 REMARKS: u.c.c

Delivered By: (Circle One) 4.6c # 97
 Sampler - UPS - Bus - Other: Corrected 50c
 Sample Condition: Cool Intact
 Yes No Yes No

CHECKED BY: (Initials) TC
 Email/Resc/TS



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>ADAPTEK</u> Project Manager: <u>Jeffrey Brown</u> Address: _____ City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u> Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: _____ Project Location: <u>WUGSTAR 2119</u> Sampler Name: <u>Joe Quisenberry Jr.</u> FOR LAB USE ONLY		BILL TO P.O. #: _____ Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____					
Lab I.D. <u>A903162</u> Sample I.D. _____	(G)RAB OR (C)OMP. <input type="checkbox"/> (G) <input checked="" type="checkbox"/> (C)	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE TIME EXT TPH BTEX	ANALYSIS REQUEST
	6 W8 32.61228165 -103.8729334	1	GROUNDWATER WASTEWATER SOIL <input checked="" type="checkbox"/> OIL SLUDGE OTHER:	ACID/BASE: <input checked="" type="checkbox"/> C/ <input type="checkbox"/> COOL OTHER:	9/12 1500		
	7 319 32.61228229 -103.2728600	1	SOIL <input checked="" type="checkbox"/> OIL SLUDGE OTHER:	9/12 3:31pm	1 1 1		
	8 318 32.6122866 -103.2228781	1	SOIL <input checked="" type="checkbox"/> OIL SLUDGE OTHER:	9/12 3:29	1 1 1		

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Relinquished By: _____ Date: <u>9/13/19</u> Time: <u>5:35</u>	Received By: _____ Date: _____ Time: _____	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: _____ Add'l Fax #: _____
Delivered By: (Circle One) <u>4.6°C</u> Sampler - UPS - Bus - Other: <u>Cooled 5.0°C</u>	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Checked BY: _____ (Initials) <u>4.6°C</u>	REMARKS: _____



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

September 20, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/16/19 11:40.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/13/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 24 @ 12' 32.6124803-103.2728909 (H903176-01)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/19/2019	ND	2.08	104	2.00	2.41	QR-03	
Toluene*	<0.050	0.050	09/19/2019	ND	1.84	91.9	2.00	1.76		
Ethylbenzene*	<0.050	0.050	09/19/2019	ND	1.86	93.1	2.00	2.77		
Total Xylenes*	<0.150	0.150	09/19/2019	ND	5.70	95.1	6.00	2.71		
Total BTEX	<0.300	0.300	09/19/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/17/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	217	108	200	3.39		
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	218	109	200	0.650		
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND						

Surrogate: 1-Chlorooctane 93.6 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/13/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 1 32.6124824-103.2729247 (H903176-02)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/19/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/19/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/19/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	217	108	200	3.39	
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	218	109	200	0.650	
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND					

Surrogate: 1-Chlorooctane 92.0 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/13/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 2 32.6124668-103.2729945 (H903176-03)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/19/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/19/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/19/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	217	108	200	3.39	
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	218	109	200	0.650	
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND					

Surrogate: 1-Chlorooctane 94.3 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/13/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 11 32.6125023-103.2728862 (H903176-04)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/19/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/19/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/19/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	217	108	200	3.39	
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	218	109	200	0.650	
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND					

Surrogate: 1-Chlorooctane 81.3 % 41-142

Surrogate: 1-Chlorooctadecane 99.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/13/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 25 @ 12' 32.6125097-103.2729076 (H903176-05)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/19/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/19/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/19/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	217	108	200	3.39	
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	218	109	200	0.650	
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND					

Surrogate: 1-Chlorooctane 96.0 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/13/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 26 @ 12' 32.6123182-103.2727883 (H903176-06)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/19/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/19/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/19/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/19/2019	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/17/2019	ND	432	108	400	0.00	QR-03

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	195	97.7	200	0.849	
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	189	94.3	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND					

Surrogate: 1-Chlorooctane 83.8 % 41-142

Surrogate: 1-Chlorooctadecane 95.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/13/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 27 @ 12' 32.6124058-103.2728697 (H903176-07)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/19/2019	ND	2.08	104	2.00	2.41		
Toluene*	<0.050	0.050	09/19/2019	ND	1.84	91.9	2.00	1.76		
Ethylbenzene*	<0.050	0.050	09/19/2019	ND	1.86	93.1	2.00	2.77		
Total Xylenes*	<0.150	0.150	09/19/2019	ND	5.70	95.1	6.00	2.71		
Total BTEX	<0.300	0.300	09/19/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	09/17/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	195	97.7	200	0.849		
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	189	94.3	200	4.14		
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND						

Surrogate: 1-Chlorooctane 88.9 % 41-142

Surrogate: 1-Chlorooctadecane 99.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/13/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 12 32.6125323-103.2728815 (H903176-08)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/19/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/19/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/19/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	195	97.7	200	0.849	
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	189	94.3	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND					

Surrogate: 1-Chlorooctane 87.2 % 41-142

Surrogate: 1-Chlorooctadecane 96.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/13/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 28 @ 12' 32.6123391-103.2728375 (H903176-09)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/19/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/19/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/19/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	195	97.7	200	0.849	
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	189	94.3	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND					

Surrogate: 1-Chlorooctane 84.8 % 41-142

Surrogate: 1-Chlorooctadecane 96.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/13/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 29 @ 12' 32.6122533-103.2727678 (H903176-10)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/19/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/19/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/19/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/19/2019	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	195	97.7	200	0.849	
DRO >C10-C28*	12.0	10.0	09/17/2019	ND	189	94.3	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND					

Surrogate: 1-Chlorooctane 83.9 % 41-142

Surrogate: 1-Chlorooctadecane 93.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

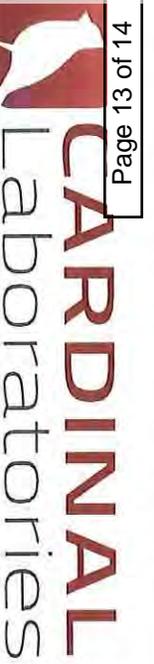
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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>ADP L1</u> Project Manager: <u>Sgt Koon</u>		P.O. #: Company:																	
Address: City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>		Attn: Address: City: State: Zip:																	
Phone #: Fax #: Project #: Project Owner:		Phone #: Zip: Fax #:																	
Project Name: <u>MMASAN 43117</u> Project Location: <u>Sosa Road</u> Sampler Name: <u>Sosa Road</u>																			
FOR LAB USE ONLY																			
Lab I.D.	Sample I.D.	MATRIX						DATE	TIME	ANALYSIS REQUEST									
		(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL			SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :					
<u>H903179</u>	<u>B24@12' 32.6124803</u>	<u>1</u>	<u>1</u>	<u>1</u>				<u>9/13</u>	<u>9:20</u>	<u>1</u>	<u>1</u>	<u>1</u>							
	<u>-103.2728909</u>	<u>1</u>	<u>1</u>	<u>1</u>				<u>9:35</u>	<u>9:35</u>	<u>1</u>	<u>1</u>	<u>1</u>							
	<u>2 W1 32.6124824</u>	<u>1</u>	<u>1</u>	<u>1</u>				<u>9:37</u>	<u>9:37</u>	<u>1</u>	<u>1</u>	<u>1</u>							
	<u>-103.2729247</u>	<u>1</u>	<u>1</u>	<u>1</u>				<u>9:37</u>	<u>9:37</u>	<u>1</u>	<u>1</u>	<u>1</u>							
	<u>3 W2. 32.6124668</u>	<u>1</u>	<u>1</u>	<u>1</u>				<u>9:37</u>	<u>9:37</u>	<u>1</u>	<u>1</u>	<u>1</u>							
	<u>-103.2729945</u>	<u>1</u>	<u>1</u>	<u>1</u>				<u>10:15</u>	<u>10:15</u>	<u>1</u>	<u>1</u>	<u>1</u>							
	<u>4 W1 32.6125023</u>	<u>1</u>	<u>1</u>	<u>1</u>				<u>10:15</u>	<u>10:15</u>	<u>1</u>	<u>1</u>	<u>1</u>							
	<u>-103.2728862</u>	<u>1</u>	<u>1</u>	<u>1</u>				<u>11:00</u>	<u>11:00</u>	<u>1</u>	<u>1</u>	<u>1</u>							
	<u>5 B25@12' 32.6125997</u>	<u>1</u>	<u>1</u>	<u>1</u>				<u>11:00</u>	<u>11:00</u>	<u>1</u>	<u>1</u>	<u>1</u>							
	<u>-103.2728026</u>	<u>1</u>	<u>1</u>	<u>1</u>															

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Relinquished By: [Signature] Date: 8/16/19 Received By: [Signature]

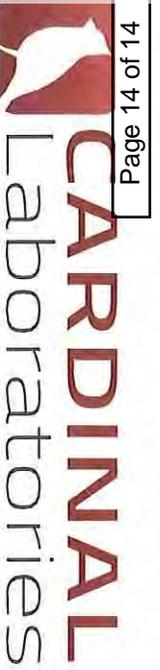
Refinquired By: [Signature] Date: 9/16/19 Received By: [Signature]

Delivered By: (Circle One) 3.7c #97 [Signature] Sample Condition: Intact Cool Yes No

Sampler - UPS - Bus - Other: Prescribed 4.1.12 Yes No

CHECKED BY: [Signature] (Initials) AD

REMARKS:



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: <u>Pruchin Jeffrey Brown</u>		P.O. #:																	
Project Manager: <u>Jeffrey Brown</u>		Company:																	
Address:		Attn:																	
City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>		Address:																	
Phone #: _____ Fax #: _____		City:																	
Project #: _____ Project Owner:		State:																	
Project Name:		Zip:																	
Project Location: <u>MUSTAU 0114</u>		Phone #:																	
Sampler Name: <u>Chris Quastler Jr</u>		Fax #:																	
FOR LAB USE ONLY																			
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	ACID/BASE:	DATE	TIME												
					CE COOL														
<u>H903716</u>	<u>BAG 012 32.6123182</u>	<u>C 1</u>	<u>1</u>	<u>SOIL</u>	<u>CE COOL</u>	<u>9/13</u>	<u>11:45</u>	<u>✓</u>	<u>EXT TPH</u>										
	<u>-103.9727883</u>																		
	<u>327012 32.6124058</u>	<u>C 1</u>	<u>1</u>	<u>SOIL</u>		<u>9/13</u>	<u>13:00</u>	<u>✓</u>											
	<u>-103.8728647</u>																		
	<u>8 W12 32.6125323</u>	<u>C 1</u>	<u>1</u>	<u>SOIL</u>		<u>9/13</u>	<u>15:25</u>	<u>✓</u>											
	<u>-103.8728815</u>																		
	<u>9 BAG 012 32.6123391</u>	<u>C 1</u>	<u>1</u>	<u>SOIL</u>		<u>9/13</u>	<u>12:13</u>	<u>✓</u>											
	<u>-103.8728375</u>																		
	<u>16 BAG 012 32.6122533</u>	<u>C 1</u>	<u>1</u>	<u>SOIL</u>		<u>9/13</u>	<u>17:05</u>	<u>✓</u>											
	<u>-103.8727678</u>																		

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Relinquished By: _____ Date: 9/10 Time: _____ Received By: Jeff Brown

Relinquished By: _____ Date: 9-16-19 Time: _____ Received By: _____

Delivered By: (Circle One) 3.72 Sample Condition: Intact CHECKED BY: _____ (Initials)

Sampler - UPS - Bus - Other: Assisted 4.12 Cool Intact Yes No Yes No

REMARKS: Email Results



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

September 20, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/16/19 11:40.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/14/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 21 @ 12' 32.6121112-103.2729187 (H903177-01)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/19/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/19/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/19/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	195	97.7	200	0.849	
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	189	94.3	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND					

Surrogate: 1-Chlorooctane 85.1 % 41-142

Surrogate: 1-Chlorooctadecane 97.6 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/14/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 22 @ 12' 32.6121214-103.2728724 (H903177-02)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/20/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/20/2019	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	816	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	195	97.7	200	0.849	
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	189	94.3	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND					

Surrogate: 1-Chlorooctane 86.9 % 41-142

Surrogate: 1-Chlorooctadecane 98.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/14/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 23 @ 12' 32.6121264-103.2728416 (H903177-03)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/20/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/20/2019	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2019	ND	195	97.7	200	0.849	
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	189	94.3	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND					

Surrogate: 1-Chlorooctane 87.8 % 41-142

Surrogate: 1-Chlorooctadecane 99.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/14/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 30 @ 12' 32.6124509-103.2727966 (H903177-04)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/20/2019	ND	2.08	104	2.00	2.41		
Toluene*	<0.050	0.050	09/20/2019	ND	1.84	91.9	2.00	1.76		
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.86	93.1	2.00	2.77		
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.70	95.1	6.00	2.71		
Total BTEX	<0.300	0.300	09/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	09/17/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	220	110	200	4.74		
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	226	113	200	3.61		
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND						

Surrogate: 1-Chlorooctane 83.7 % 41-142

Surrogate: 1-Chlorooctadecane 88.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/14/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 31 @ 12' 32.6124594-103.2727497 (H903177-05)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/20/2019	ND	2.08	104	2.00	2.41		
Toluene*	<0.050	0.050	09/20/2019	ND	1.84	91.9	2.00	1.76		
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.86	93.1	2.00	2.77		
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.70	95.1	6.00	2.71		
Total BTEX	<0.300	0.300	09/20/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	09/17/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	220	110	200	4.74		
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	226	113	200	3.61		
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND						

Surrogate: 1-Chlorooctane 85.2 % 41-142

Surrogate: 1-Chlorooctadecane 90.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/14/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 32 @ 12' 32.6124605-103.2727383 (H903177-06)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/20/2019	ND	2.08	104	2.00	2.41		
Toluene*	<0.050	0.050	09/20/2019	ND	1.84	91.9	2.00	1.76		
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.86	93.1	2.00	2.77		
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.70	95.1	6.00	2.71		
Total BTEX	<0.300	0.300	09/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/17/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	220	110	200	4.74		
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	226	113	200	3.61		
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND						

Surrogate: 1-Chlorooctane 86.0 % 41-142

Surrogate: 1-Chlorooctadecane 91.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/14/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 33 @ 12' 32.6123673-103.2727364 (H903177-07)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/20/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	220	110	200	4.74	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	226	113	200	3.61	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 87.5 % 41-142

Surrogate: 1-Chlorooctadecane 91.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/14/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 34 @ 12' 32.6124354-103.2727041 (H903177-08)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/20/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	220	110	200	4.74	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	226	113	200	3.61	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 87.1 % 41-142

Surrogate: 1-Chlorooctadecane 92.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/14/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 35 @ 12' 32.6124687-103.2727859 (H903177-09)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/20/2019	ND	2.08	104	2.00	2.41		
Toluene*	<0.050	0.050	09/20/2019	ND	1.84	91.9	2.00	1.76		
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.86	93.1	2.00	2.77		
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.70	95.1	6.00	2.71		
Total BTEX	<0.300	0.300	09/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/17/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	220	110	200	4.74		
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	226	113	200	3.61		
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND						

Surrogate: 1-Chlorooctane 85.4 % 41-142

Surrogate: 1-Chlorooctadecane 91.8 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/14/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 36 @ 12' 32.6123770-103.2727806 (H903177-10)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	2.08	104	2.00	2.41	
Toluene*	<0.050	0.050	09/20/2019	ND	1.84	91.9	2.00	1.76	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.86	93.1	2.00	2.77	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.70	95.1	6.00	2.71	
Total BTEX	<0.300	0.300	09/20/2019	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	220	110	200	4.74	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	226	113	200	3.61	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 88.8 % 41-142

Surrogate: 1-Chlorooctadecane 93.8 % 37.6-147

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/16/2019	Sampling Date:	09/14/2019
Reported:	09/20/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 37 @ 12' 32.6124351-103.2727172 (H903177-11)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2019	ND	2.05	103	2.00	4.77	
Toluene*	<0.050	0.050	09/19/2019	ND	1.97	98.3	2.00	0.984	
Ethylbenzene*	<0.050	0.050	09/19/2019	ND	1.88	94.2	2.00	8.89	QR-03
Total Xylenes*	<0.150	0.150	09/19/2019	ND	5.71	95.1	6.00	7.38	QR-03
Total BTEX	<0.300	0.300	09/19/2019	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/17/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	220	110	200	4.74	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	226	113	200	3.61	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 86.2 % 41-142

Surrogate: 1-Chlorooctadecane 93.3 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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

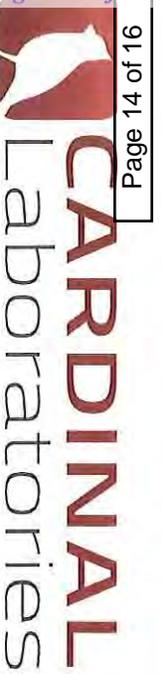
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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Apache</u>		P.O. #:		ANALYSIS REQUEST	
Project Manager: <u>Jeffrey Brown</u>		Company:			
Address:		Attn:			
City: <u>Hobbs</u>		Address:			
State: <u>NM</u> Zip: <u>88240</u>		City:			
Phone #:		State:			
Project #:		Zip:			
Project Name:		Phone #:			
Project Location: <u>Delgado #2114</u>		Fax #:			
Sampler Name: <u>Dr. Chusick Dr.</u>		PRESERV			
FOR LAB USE ONLY		SAMPLING			
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	DATE	TIME
<u>A903177</u>	<u>B21 @ 12' 80.10.12.11.2</u>	<input checked="" type="checkbox"/>	1	<u>9/14</u>	<u>8:16</u>
	<u>-103.2729187</u>				
	<u>2 B22 @ 12' 82.10.12.14</u>		1	<u>9/14</u>	<u>8:12</u>
	<u>-103.2728724</u>				
	<u>3 B23 @ 12' 82.10.12.14</u>		1	<u>9/14</u>	<u>8:20</u>
	<u>-103.2728416</u>				
	<u>4 B30 @ 12' 80.10.12.14</u>		1	<u>9/14</u>	<u>10:44</u>
	<u>-103.2727966</u>				
	<u>5 B31 @ 12' 82.10.12.14</u>		1	<u>9/14</u>	<u>12:34</u>
	<u>-103.2727099</u>				

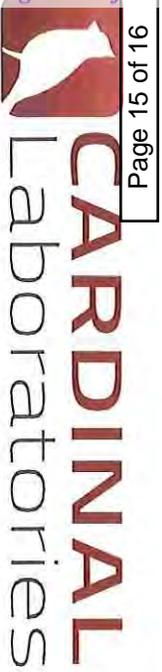
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Relinquished By: <u>Jeff Chusick</u>	Date: <u>9/16</u>	Received By: <u>Jeff Swan</u>	Date: <u>9-16-19</u>
Relinquished By: <u>Jeff Swan</u>	Date: <u>9-16-19</u>	Received By: <u>Jeff Swan</u>	Date: <u>9-16-19</u>

Delivered By: (Circle One) 3.7c #97 Sample Condition
 Cooler Intact
 Cooler Intact
 Sampler - UPS - Bus - Other: Collected 4.1c Yes No No No

CHECKED BY: Jeff Swan (Initials)

REMARKS: Small Results.



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Apex</u>		P.O. #:		BILL TO		ANALYSIS REQUEST														
Project Manager: <u>Jeffrey Brown</u>		Company:																		
Address:		Attn:																		
City: <u>Hobbs</u>		Address:																		
State: <u>NM</u> Zip: <u>88240</u>		City:																		
Phone #:		State:																		
Project #:		Zip:																		
Project Name:		Phone #:																		
Project Location: <u>WML GSHA #2119</u>		Fax #:																		
Sampler Name: <u>Joe L. Pinescales Jr.</u>		Matrix:																		
FOR LAB USE ONLY		PRESERV		SAMPLING																
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	(C)E / COOL	OTHER :	DATE	TIME						
<u>A903177</u>	<u>B30012 32.612 46805</u>		<u>1</u>										<u>9/14</u>	<u>12:38</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			
	<u>-103.2727885</u>																			
	<u>7 B33012 32.612 3673</u>		<u>1</u>										<u>9/14</u>	<u>4:20 pm</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			
	<u>-103.2727364</u>																			
	<u>8 B34002 32.612 4354</u>		<u>1</u>										<u>9/14</u>	<u>4:24 pm</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			
	<u>-103.2727041</u>																			
	<u>9 B35012 32.612 4682</u>		<u>1</u>										<u>9/14</u>	<u>7:34</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			
	<u>-103.2727859</u>																			
	<u>10 B36012 32.612 3720</u>		<u>1</u>										<u>9/14</u>	<u>7:36</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			
	<u>-103.2727806</u>																			

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Relinquished By: [Signature] Date: 9/16 Received By: [Signature] Date: 9/16/19

Delivered By: (Circle One) 3.72 Sample Condition: Intact Checked By: [Signature]

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



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

September 23, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/18/19 9:15.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/16/2019
Reported:	09/23/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 38 @ 12' 32.6123281-103.2727551 (H903211-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/20/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 86.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/19/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 93.8 % 41-142

Surrogate: 1-Chlorooctadecane 95.5 % 37.6-147

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/16/2019
Reported:	09/23/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 39 @ 12' 32.6122818-103.2727108 (H903211-02)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/20/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/19/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 92.1 % 41-142

Surrogate: 1-Chlorooctadecane 96.0 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/16/2019
Reported:	09/23/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 40 @ 12' 32.6122623-103.2727718 (H903211-03)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/20/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/19/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 93.9 % 41-142

Surrogate: 1-Chlorooctadecane 95.7 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/16/2019
Reported:	09/23/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 41 @ 12' 32.6122730-103.2727326 (H903211-04)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/20/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 86.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/19/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 94.7 % 41-142

Surrogate: 1-Chlorooctadecane 96.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/16/2019
Reported:	09/23/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 42 @ 12' 32.6122386-103.2727745 (H903211-05)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/20/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 87.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/19/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 94.5 % 41-142

Surrogate: 1-Chlorooctadecane 96.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/16/2019
Reported:	09/23/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 43 @ 12' 32.6122086-103.2727759 (H903211-06)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/20/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/19/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 93.6 % 41-142

Surrogate: 1-Chlorooctadecane 95.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/16/2019
Reported:	09/23/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 44 @ 12' 32.6121575-103.2727095 (H903211-07)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/20/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/20/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/20/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/19/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 86.7 % 41-142

Surrogate: 1-Chlorooctadecane 88.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/16/2019
Reported:	09/23/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 45 @ 12' 32.6121858-103.2727806 (H903211-08)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/21/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1170	16.0	09/19/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 93.5 % 41-142

Surrogate: 1-Chlorooctadecane 96.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Agilent</u>		P.O. #:		ANALYSIS REQUEST	
Project Manager: <u>Sally Brown</u>		Company:			
Address:		Attn:			
City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>		Address:			
Phone #:		City:			
Project #:		State:			
Project Name:		Zip:			
Project Location: <u>NW 55th #2115</u>		Phone #:			
Sampler Name: <u>SSC Cooper</u>		Fax #:			
FOR LAB USE ONLY		PRESERV		SAMPLING	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER
<u>HPD5211</u>	<u>1343@12 32.612 2095</u>	<u>C</u>	<u>1</u>	<u>1</u>	<u>1</u>
	<u>-103.272 7759</u>				
	<u>7 1344@12 32.612 1575</u>	<u>C</u>	<u>1</u>	<u>1</u>	<u>1</u>
	<u>-103.272 9095</u>				
	<u>8 1345@12 32.612 1858</u>	<u>C</u>	<u>1</u>	<u>1</u>	<u>1</u>
	<u>-103.272 7804</u>				

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Relinquished By: [Signature] Date: 8/14/24 Received By: [Signature] Date: 8/14/24

Relinquished By: [Signature] Date: 9/18/19 Received By: [Signature] Date: 9/15

Delivered By: (Circle One) UPS 1.70 Container 2.12

Sample Condition: Intact Cool Yes No

CHECKED BY: [Signature]

REMARKS: 9-Mar Rest 1Hs



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

September 24, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/18/19 9:15.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 46 @ 12' 32.6120666-103.2729757 (H903212-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/21/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/19/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 95.3 % 41-142

Surrogate: 1-Chlorooctadecane 97.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 47 @ 12' 32.6120251-103.2729522 (H903212-02)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/21/2019	ND	1.82	91.1	2.00	0.321		
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.4	2.00	0.798		
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.76	88.0	2.00	1.50		
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.40	89.9	6.00	0.509		
Total BTEX	<0.300	0.300	09/21/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 87.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	09/19/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43		
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47		
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND						

Surrogate: 1-Chlorooctane 97.2 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 48 @ 12' 32.6129886-103.2729559 (H903212-03)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2019	ND	1.82	91.1	2.00	0.321	
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.4	2.00	0.798	
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.76	88.0	2.00	1.50	
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.40	89.9	6.00	0.509	
Total BTEX	<0.300	0.300	09/21/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/19/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	222	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	34.5	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 88.2 % 41-142

Surrogate: 1-Chlorooctadecane 94.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 49 32.6119759-103.2728892 (H903212-04)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/21/2019	ND	1.86	93.1	2.00	3.03		
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.6	2.00	2.04		
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.82	91.2	2.00	1.63		
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.42	90.3	6.00	0.00690		
Total BTEX	<0.300	0.300	09/21/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 87.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/19/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43		
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47		
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND						

Surrogate: 1-Chlorooctane 91.1 % 41-142

Surrogate: 1-Chlorooctadecane 94.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 50 32.6119697-103.2728909 (H903212-05)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2019	ND	1.86	93.1	2.00	3.03	
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.6	2.00	2.04	
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.82	91.2	2.00	1.63	
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.42	90.3	6.00	0.00690	
Total BTEX	<0.300	0.300	09/21/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/19/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 93.4 % 41-142

Surrogate: 1-Chlorooctadecane 95.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 51 @ 12' 32.6119770-103.2729381 (H903212-06)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2019	ND	1.86	93.1	2.00	3.03	
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.6	2.00	2.04	
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.82	91.2	2.00	1.63	
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.42	90.3	6.00	0.00690	
Total BTEX	<0.300	0.300	09/21/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/19/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	92.4	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 95.5 % 41-142

Surrogate: 1-Chlorooctadecane 98.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 52 @ 12' 32.6119550-103.2728067 (H903212-07)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2019	ND	1.86	93.1	2.00	3.03	
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.6	2.00	2.04	
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.82	91.2	2.00	1.63	
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.42	90.3	6.00	0.00690	
Total BTEX	<0.300	0.300	09/21/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/19/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 91.7 % 41-142

Surrogate: 1-Chlorooctadecane 91.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 53 @ 12' 32.6120324-103.2728724 (H903212-08)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2019	ND	1.86	93.1	2.00	3.03	
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.6	2.00	2.04	
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.82	91.2	2.00	1.63	
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.42	90.3	6.00	0.00690	
Total BTEX	<0.300	0.300	09/21/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 87.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	09/19/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	19.7	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 91.5 % 41-142

Surrogate: 1-Chlorooctadecane 95.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/17/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 54 @ 12' 32.6120753-103.2728127 (H903212-09)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2019	ND	1.86	93.1	2.00	3.03	
Toluene*	<0.050	0.050	09/21/2019	ND	1.81	90.6	2.00	2.04	
Ethylbenzene*	<0.050	0.050	09/21/2019	ND	1.82	91.2	2.00	1.63	
Total Xylenes*	<0.150	0.150	09/21/2019	ND	5.42	90.3	6.00	0.00690	
Total BTEX	<0.300	0.300	09/21/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	09/19/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	202	101	200	2.43	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	194	96.8	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 88.2 % 41-142

Surrogate: 1-Chlorooctadecane 94.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

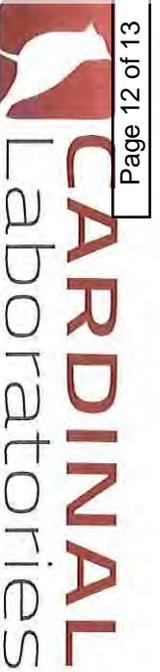
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on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

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

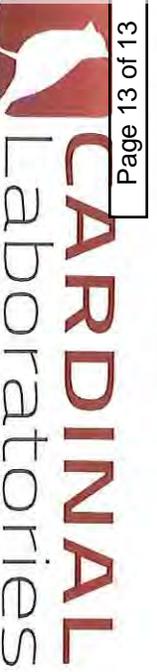
101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

31 of 121 page

Company Name: <i>Apex</i>		P.O. #:		BILL TO		ANALYSIS REQUEST														
Project Manager: <i>Jill May Brown</i>		Company:																		
Address:		Attn:																		
City: <i>Hobbs</i>		State: <i>NM</i>		Zip: <i>88240</i>																
Phone #:		Project Owner:																		
Project #:		City:		State:		Zip:														
Project Name:		Phone #:		Fax #:																
Project Location: <i>MUSGRAVE 219</i>		Phone #:																		
Sampler Name: <i>Doc Cunniff</i>		Fax #:																		
FOR LAB USE ONLY																				
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX	PRESERV	SAMPLING	DATE	TIME	EXT TPH	BTEX										
<i>H903212</i>	<i>1 Byle 012 32.61201111</i>	<input checked="" type="checkbox"/>	<i>1</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>9/17</i>	<i>10:14</i>	<i>✓</i>	<i>✓</i>										
	<i>-103.2729757</i>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
	<i>2 Byle 012 32.6120251</i>	<input checked="" type="checkbox"/>	<i>1</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>9/17</i>	<i>10:16</i>	<i>✓</i>	<i>✓</i>										
	<i>-103.2729522</i>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
	<i>3 Byle 012 32.6120286</i>	<input checked="" type="checkbox"/>	<i>1</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>9/17</i>	<i>11:18</i>	<i>✓</i>	<i>✓</i>										
	<i>-103.2729554</i>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
	<i>4 Byle 012 32.6120259</i>	<input checked="" type="checkbox"/>	<i>1</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>9/17</i>	<i>14:16</i>	<i>✓</i>	<i>✓</i>										
	<i>-103.2728892</i>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
	<i>5 Byle 012 32.6120297</i>	<input checked="" type="checkbox"/>	<i>1</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>9/17</i>	<i>14:22</i>	<i>✓</i>	<i>✓</i>										
	<i>-103.2729909</i>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														

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Relinquished By: *Doc Cunniff* Date: *9/18/19* Time: *9:15*
 Received By: *Joaki Henderson*
 Delivered By: (Circle One) *#97* Sample Condition: Intact Cool Intact Yes No No No
 Sampler - UPS - Bus - Other: *1.9% Permitted Site*
 REMARKS: *Small Results.*



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

31 of 13 page

BILL TO

ANALYSIS REQUEST

Company Name: _____ P.O. #: _____
 Project Manager: _____ Company: _____
 Address: _____ Attn: _____
 City: _____ State: _____ Zip: _____
 Phone #: _____ Fax #: _____
 Project #: _____ Project Owner: _____
 Project Name: _____ City: _____ State: _____ Zip: _____
 Project Location: _____ Phone #: _____
 Sampler Name: _____ Fax #: _____
 FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OM	# CONTAINERS	MATRIX							PRESERV.	SAMPLING	DATE	TIME	C1	EXT TPH	BTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:							
H903212	6 R51 012' 32.6119770	C 1	1									9/17	15:17	✓	✓	✓	
	-103. 2729381	C 1	1									9/17	16:20	✓	✓	✓	
	7 R52 012' 32.6119550	C 1	1									9/17	17:18	✓	✓	✓	
	-103. 2728067	C 1	1									9/17	18:58	✓	✓	✓	
	8 R53 012' 32.6120324	C 1	1									9/17	18:58	✓	✓	✓	
	-103. 2728724	C 1	1									9/17	18:58	✓	✓	✓	
	9 R54 012' 32.6120673	C 1	1									9/17	18:58	✓	✓	✓	
	-103. 2728127	C 1	1									9/17	18:58	✓	✓	✓	

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Relinquished By: Lee Dunsell Date: 9/19/19 Received By: Spacie Henderson
 Time: _____ Date: _____

Delivered By: (Circle One) UPS 1.95 497 Sample Condition: Intact Cool Yes No
 CHECKED BY: [Signature]

REMARKS: Email Results

Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____



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

September 24, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/18/19 17:07.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 55 @ 12' 32.6120731-103.2728734 (H903232-01)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109	
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	09/20/2019	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	190	95.0	200	0.113	
DRO >C10-C28*	119	10.0	09/19/2019	ND	197	98.4	200	3.16	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 81.0 % 41-142

Surrogate: 1-Chlorooctadecane 86.1 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 56 @ 12' 32.6120793-103.2728684 (H903232-02)

BTEX 8021B		mg/kg		Analyzed By: CK					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109		
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71	GC-NC	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09		
Total Xylenes*	0.221	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02		
Total BTEX	0.221	0.100	09/23/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 137 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	864	16.0	09/20/2019	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	21.5	10.0	09/20/2019	ND	190	95.0	200	0.113	
DRO >C10-C28*	395	10.0	09/20/2019	ND	197	98.4	200	3.16	
EXT DRO >C28-C36	45.3	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 87.6 % 41-142

Surrogate: 1-Chlorooctadecane 92.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 57 @ 12' 32.6121233-103.2729716 (H903232-03)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109		
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71		
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09		
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02		
Total BTEX	<0.300	0.300	09/23/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1120	16.0	09/20/2019	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	190	95.0	200	0.113		
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	197	98.4	200	3.16		
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND						

Surrogate: 1-Chlorooctane 83.3 % 41-142

Surrogate: 1-Chlorooctadecane 88.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 58 @ 12' 32.6121260-103.2727816 (H903232-04)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109	
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	832	16.0	09/20/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	207	104	200	2.29	
DRO >C10-C28*	11.9	10.0	09/19/2019	ND	200	100	200	1.97	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 93.1 % 41-142

Surrogate: 1-Chlorooctadecane 95.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 59 @ 12' 32.6121327-103.2727604 (H903232-05)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109	
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1120	16.0	09/20/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	207	104	200	2.29	
DRO >C10-C28*	37.8	10.0	09/19/2019	ND	200	100	200	1.97	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 93.2 % 41-142

Surrogate: 1-Chlorooctadecane 93.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 60 @ 12' 32.6121496-103.2727276 (H903232-06)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109	
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02	
Total BTEX	<0.300	0.300	09/23/2019	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	09/20/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	207	104	200	2.29	
DRO >C10-C28*	<10.0	10.0	09/19/2019	ND	200	100	200	1.97	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 88.0 % 41-142

Surrogate: 1-Chlorooctadecane 90.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 61 @ 12' 32.6119948-103.2728627 (H903232-07)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109	
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/20/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2019	ND	207	104	200	2.29	
DRO >C10-C28*	74.9	10.0	09/19/2019	ND	200	100	200	1.97	
EXT DRO >C28-C36	<10.0	10.0	09/19/2019	ND					

Surrogate: 1-Chlorooctane 91.6 % 41-142

Surrogate: 1-Chlorooctadecane 97.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 62 @ 12' 32.6120276-103.2728493 (H903232-08)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109	
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	09/20/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	207	104	200	2.29	
DRO >C10-C28*	29.9	10.0	09/20/2019	ND	200	100	200	1.97	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 93.6 % 41-142

Surrogate: 1-Chlorooctadecane 94.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 63 @ 12' 32.6119728-103.2729059 (H903232-09)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.97	98.4	2.00	0.109	
Toluene*	<0.050	0.050	09/23/2019	ND	1.74	87.2	2.00	1.71	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.75	87.5	2.00	1.09	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.36	89.4	6.00	1.02	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	816	16.0	09/20/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	207	104	200	2.29	
DRO >C10-C28*	136	10.0	09/20/2019	ND	200	100	200	1.97	
EXT DRO >C28-C36	16.6	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 89.6 % 41-142

Surrogate: 1-Chlorooctadecane 94.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 64 @ 12' 32.6120652-103.2727886 (H903232-10)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.58	79.1	2.00	7.18	
Toluene*	<0.050	0.050	09/23/2019	ND	1.55	77.6	2.00	7.16	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.56	77.9	2.00	6.01	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	4.66	77.7	6.00	5.89	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1060	16.0	09/20/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	207	104	200	2.29	
DRO >C10-C28*	85.5	10.0	09/20/2019	ND	200	100	200	1.97	
EXT DRO >C28-C36	12.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 89.7 % 41-142

Surrogate: 1-Chlorooctadecane 94.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/18/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: B 65 @ 12' 32.6120756-103.2727755 (H903232-11)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.58	79.1	2.00	7.18	
Toluene*	<0.050	0.050	09/23/2019	ND	1.55	77.6	2.00	7.16	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.56	77.9	2.00	6.01	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	4.66	77.7	6.00	5.89	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	976	16.0	09/20/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	207	104	200	2.29	
DRO >C10-C28*	13.6	10.0	09/20/2019	ND	200	100	200	1.97	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 90.9 % 41-142

Surrogate: 1-Chlorooctadecane 95.5 % 37.6-147

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
GC-NC 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

91 of 151 page

Company Name: <u>Apex</u> Project Manager: <u>Jeff Brown</u> Address: _____ City: <u>Hobbs</u> State: <u>NM</u> zip: <u>88240</u> Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: _____ Project Location: <u>DUGSSAN 8119</u> Sampler Name: <u>Joe Overcash Jr.</u> FOR LAB USE ONLY		BILL TO P.O. #: _____ Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____		ANALYSIS REQUEST		
Lab I.D. <u>H9903252</u> Sample I.D. _____ 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 analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.	6 <u>360 @12' (12)1446</u> -103. 2727276 7 <u>BU @12 32. 6119448</u> -103. 2728627 8 <u>BU @12 32. 6119276</u> -103. 2728093 9 <u>BU @12 32. 6119728</u> -103. 2729059 10 <u>BU @12 32. 6120652</u> -103. 2727886	(G)RAB OR (C)OMP. # CONTAINERS MATRIX GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: (C) COOL OTHER :	PRESERV. SAMPLING	DATE TIME	C EXT TPH BTEX	
Releasement By: _____ Date: _____ Releasement By: _____ Date: _____ Received By: _____ Date: _____ Received By: _____ Date: _____ Turnaround Time: _____ Standard <input checked="" type="checkbox"/> <u>RUSH</u> Bacteria (only) Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No Corrected Temp. °C _____		Verbal Results: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: _____ All Results are emailed. Please provide Email address: _____ REMARKS: <u>Email Results</u>				



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

September 24, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NEDU #929

Enclosed are the results of analyses for samples received by the laboratory on 09/19/19 15:50.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NEDU #929	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 3 @ 5' (H903247-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2019	ND	1.58	79.1	2.00	7.18	
Toluene*	0.058	0.050	09/24/2019	ND	1.55	77.6	2.00	7.16	
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.56	77.9	2.00	6.01	
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.66	77.7	6.00	5.89	
Total BTEX	<0.300	0.300	09/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	30400	16.0	09/20/2019	ND	432	108	400	3.77	QM-07

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	12.3	10.0	09/20/2019	ND	205	103	200	0.584	
DRO >C10-C28*	515	10.0	09/20/2019	ND	205	103	200	2.08	
EXT DRO >C28-C36	88.8	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 121 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NEDU #929	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 3 @ 10' (H903247-02)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2019	ND	1.58	79.1	2.00	7.18	
Toluene*	<0.050	0.050	09/24/2019	ND	1.55	77.6	2.00	7.16	
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.56	77.9	2.00	6.01	
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.66	77.7	6.00	5.89	
Total BTEX	<0.300	0.300	09/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	24800	16.0	09/20/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	205	103	200	0.584	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	205	103	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 93.9 % 41-142

Surrogate: 1-Chlorooctadecane 96.7 % 37.6-147

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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NEDU #929	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 3 @ 15' (H903247-03)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2019	ND	1.58	79.1	2.00	7.18	
Toluene*	<0.050	0.050	09/24/2019	ND	1.55	77.6	2.00	7.16	
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.56	77.9	2.00	6.01	
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.66	77.7	6.00	5.89	
Total BTEX	<0.300	0.300	09/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.1 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	17200	16.0	09/20/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	205	103	200	0.584	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	205	103	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 94.8 % 41-142

Surrogate: 1-Chlorooctadecane 96.1 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NEDU #929	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 3 @ 19' (H903247-04)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2019	ND	1.58	79.1	2.00	7.18	
Toluene*	<0.050	0.050	09/24/2019	ND	1.55	77.6	2.00	7.16	
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.56	77.9	2.00	6.01	
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.66	77.7	6.00	5.89	
Total BTEX	<0.300	0.300	09/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 87.6 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	24400	16.0	09/20/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	205	103	200	0.584	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	205	103	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 94.1 % 41-142

Surrogate: 1-Chlorooctadecane 97.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <i>Arada Corporation</i>		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager: <i>Grace Galen</i>		Company:					
Address:		Attn:					
City:		Address:					
Phone #:		State:					
Project #:		City:					
Project Name:		State:					
Project Location: <i>NEDX 929</i>		Phone #:					
Sampler Name: <i>Jeff Ross</i>		Fax #:					
FOR LAB USE ONLY		PRESERV.		SAMPLING			
Lab I.D.		MATRIX					
Sample I.D.		GROUNDWATER					
		WASTEWATER					
		SOIL					
		OIL					
		SLUDGE					
		OTHER :					
		ACID/BASE:					
		ICE / COOL					
		OTHER :					
		DATE		TIME			
<i>H903247</i>							
1 <i>SP3 @ 5'</i>		<i>9/14/14</i>		<i>11:08</i>		<i>CL</i>	
2 <i>SP3 @ 10'</i>		<i>9/14/14</i>		<i>11:35</i>		<i>BTEX</i>	
3 <i>SP3 @ 15'</i>		<i>9/14/14</i>		<i>11:52</i>		<i>EXT. TPH</i>	
4 <i>SP3 @ 19'</i>							

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Relinquished By: *Jeff Ross* Date: *9/14/14* Received By: *Samanta Stedje*

Delivered By: (Circle One) Observed Temp. °C *3.8* Sample Condition Cool Intact Yes No Yes No CHECKED BY: (Initials) *TS*

Sampler - UPS - Bus - Other: Corrected Temp. °C *4.2* Turnaround Time: Standard Rush Bacteria (only) Cool Intact Yes No Yes No Sample Condition Observed Temp. °C Corrected Temp. °C

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



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

September 24, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NEDU #928

Enclosed are the results of analyses for samples received by the laboratory on 09/19/19 15:44.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NEDU #928	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 2 @ 5' (H903248-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2019	ND	1.58	79.1	2.00	7.18	
Toluene*	<0.050	0.050	09/24/2019	ND	1.55	77.6	2.00	7.16	
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.56	77.9	2.00	6.01	
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.66	77.7	6.00	5.89	
Total BTEX	<0.300	0.300	09/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/20/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	205	103	200	0.584	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	205	103	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 95.6 % 41-142

Surrogate: 1-Chlorooctadecane 98.7 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NEDU #928	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 2 @ 10' (H903248-02)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2019	ND	1.58	79.1	2.00	7.18	
Toluene*	<0.050	0.050	09/24/2019	ND	1.55	77.6	2.00	7.16	
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.56	77.9	2.00	6.01	
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.66	77.7	6.00	5.89	
Total BTEX	<0.300	0.300	09/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.2 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4560	16.0	09/20/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	205	103	200	0.584	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	205	103	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 96.0 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NEDU #928	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 2 @ 15' (H903248-03)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2019	ND	1.58	79.1	2.00	7.18	
Toluene*	<0.050	0.050	09/24/2019	ND	1.55	77.6	2.00	7.16	
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.56	77.9	2.00	6.01	
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.66	77.7	6.00	5.89	
Total BTEX	<0.300	0.300	09/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 87.9 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9330	16.0	09/20/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	205	103	200	0.584	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	205	103	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 98.6 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/18/2019
Reported:	09/24/2019	Sampling Type:	Soil
Project Name:	NEDU #928	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 2 @ 20' (H903248-04)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2019	ND	1.58	79.1	2.00	7.18	
Toluene*	<0.050	0.050	09/24/2019	ND	1.55	77.6	2.00	7.16	
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.56	77.9	2.00	6.01	
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.66	77.7	6.00	5.89	
Total BTEX	<0.300	0.300	09/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 87.5 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8800	16.0	09/20/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	205	103	200	0.584	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	205	103	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 93.4 % 41-142

Surrogate: 1-Chlorooctadecane 97.1 % 37.6-147

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

September 25, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/19/19 17:05.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 66 @ 12' 32.6120883-103.2727075 (H903252-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1300	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 95.3 % 41-142

Surrogate: 1-Chlorooctadecane 94.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 67 @ 12' 32.6120324-103.2727400 (H903252-02)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84		
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35		
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48		
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74		
Total BTEX	<0.300	0.300	09/23/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 88.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	640	16.0	09/23/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456		
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973		
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND						

Surrogate: 1-Chlorooctane 96.2 % 41-142

Surrogate: 1-Chlorooctadecane 96.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 68 @ 12' 32.6120239-103.2727504 (H903252-03)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 90.7 % 41-142

Surrogate: 1-Chlorooctadecane 92.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 69 32.6120188-103.2727537 (H903252-04)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84		
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35		
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48		
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74		
Total BTEX	<0.300	0.300	09/23/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	09/23/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456		
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973		
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND						

Surrogate: 1-Chlorooctane 97.0 % 41-142

Surrogate: 1-Chlorooctadecane 96.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 70 32.6120217-103.2727578 (H903252-05)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 86.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 94.1 % 41-142

Surrogate: 1-Chlorooctadecane 94.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 71 @ 12' 32.6120217-103.2727578 (H903252-06)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 94.1 % 41-142

Surrogate: 1-Chlorooctadecane 94.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 72 @ 12' 32.6119186-103.2727507 (H903252-07)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 87.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 93.6 % 41-142

Surrogate: 1-Chlorooctadecane 93.0 % 37.6-147

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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 73 @ 12' 32.6119110-103.2727598 (H903252-08)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456	
DRO >C10-C28*	<10.0	10.0	09/20/2019	ND	177	88.5	200	0.973	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 96.2 % 41-142

Surrogate: 1-Chlorooctadecane 98.4 % 37.6-147

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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 74 @ 12' 32.6119056-103.2727762 (H903252-09)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2019	ND	199	99.7	200	0.456	
DRO >C10-C28*	14.1	10.0	09/20/2019	ND	177	88.5	200	0.973	
EXT DRO >C28-C36	<10.0	10.0	09/20/2019	ND					

Surrogate: 1-Chlorooctane 95.6 % 41-142

Surrogate: 1-Chlorooctadecane 95.8 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 75 @ 12' 32.6119189-103.2727712 (H903252-10)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2019	ND	1.81	90.7	2.00	3.84	
Toluene*	<0.050	0.050	09/23/2019	ND	1.77	88.4	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/23/2019	ND	1.76	88.2	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/23/2019	ND	5.25	87.5	6.00	2.74	
Total BTEX	<0.300	0.300	09/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/23/2019	ND	201	100	200	7.30	
DRO >C10-C28*	<10.0	10.0	09/23/2019	ND	191	95.7	200	17.4	
EXT DRO >C28-C36	<10.0	10.0	09/23/2019	ND					

Surrogate: 1-Chlorooctane 91.4 % 41-142

Surrogate: 1-Chlorooctadecane 95.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 76 @ 12' 32.6119612-103.2727239 (H903252-11)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2019	ND	1.78	88.8	2.00	0.673	
Toluene*	<0.050	0.050	09/24/2019	ND	1.54	77.1	2.00	0.403	
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.54	77.1	2.00	0.245	
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.77	79.5	6.00	0.227	
Total BTEX	<0.300	0.300	09/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	784	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/23/2019	ND	201	100	200	7.30	
DRO >C10-C28*	74.9	10.0	09/23/2019	ND	191	95.7	200	17.4	
EXT DRO >C28-C36	<10.0	10.0	09/23/2019	ND					

Surrogate: 1-Chlorooctane 88.0 % 41-142

Surrogate: 1-Chlorooctadecane 89.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 77 @ 12' 32.6119985-103.2727396 (H903252-12)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2019	ND	1.78	88.8	2.00	0.673	
Toluene*	<0.050	0.050	09/24/2019	ND	1.54	77.1	2.00	0.403	
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.54	77.1	2.00	0.245	
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.77	79.5	6.00	0.227	
Total BTEX	<0.300	0.300	09/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1140	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/23/2019	ND	201	100	200	7.30	
DRO >C10-C28*	190	10.0	09/23/2019	ND	191	95.7	200	17.4	
EXT DRO >C28-C36	87.3	10.0	09/23/2019	ND					

Surrogate: 1-Chlorooctane 90.2 % 41-142

Surrogate: 1-Chlorooctadecane 98.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/19/2019	Sampling Date:	09/19/2019
Reported:	09/25/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 78 @ 12' 32.6120200-103.2727286 (H903252-13)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2019	ND	1.78	88.8	2.00	0.673	
Toluene*	<0.050	0.050	09/24/2019	ND	1.54	77.1	2.00	0.403	
Ethylbenzene*	<0.050	0.050	09/24/2019	ND	1.54	77.1	2.00	0.245	
Total Xylenes*	<0.150	0.150	09/24/2019	ND	4.77	79.5	6.00	0.227	
Total BTEX	<0.300	0.300	09/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1090	16.0	09/23/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/23/2019	ND	201	100	200	7.30	
DRO >C10-C28*	<10.0	10.0	09/23/2019	ND	191	95.7	200	17.4	
EXT DRO >C28-C36	<10.0	10.0	09/23/2019	ND					

Surrogate: 1-Chlorooctane 91.3 % 41-142

Surrogate: 1-Chlorooctadecane 93.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

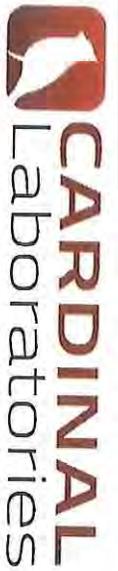
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on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

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Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Apache Corp.
Project Manager: Jeffery Beem
Address:
City: Hobbs State: NM Zip: 88240
Phone #: Fax #:
Project #: Project Owner:
Project Name:

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

BILL TO

ANALYSIS REQUEST

Project Location: NECSAN 0119
Sampler Name: Dee Dumbauld Jr
FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (DOM)	# CONTAINERS	MATRIX						DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:			
H903252	B.00012.32.6120803	C	1							9/19	8:13	C1 EYT TPH BTEX
	-103.0727025											
	B607 01232.6120504	C	1							9/19	11:30	
	-103.0727400											
	B68 01232.6120239	C	1							9/19	11:36	
	-103.0727504											
	B69 32.6120198	C	1							9/19	11:42	
	-103.0727537											
	B70 01232.6120217	C	1							9/19	11:57	
	-103.0727572											

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Relinquished By: [Signature]
Date: 9/19/19
Received By: [Signature]
Date: 9/19/19
Time: 11:05

Verbal Result: Yes No Add'l Phone #:
All Results are emailed. Please provide Email address:
REMARKS: Email Results by Jeff Beem

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: FORM-006 R.3.0
Observed Temp. °C: 06
Corrected Temp. °C: 1.0

Turnaround Time: Standard Rush
Thermometer ID #97
Correction Factor +0.4 °C
Bacteria (only) Sample Condition Cool Intact Yes No Yes No
Corrected Temp. °C

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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <i>Hoach Corp</i> Project Manager: <i>Jeffrey Brown</i>		P.O. #: Company:								
Address: City: <i>Hobbs</i> State: <i>NM</i> Zip: <i>88240</i>		Attn: Address:								
Phone #: Fax #: Project #: Project Owner:		City: State: Zip:								
Project Name: Project Location: <i>Dillsdale 019</i>		Phone #: Zip:								
Sampler Name: <i>Dr. Quisenberry Jr.</i>		Fax #:								
FOR LAB USE ONLY										
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE	TIME	REMARKS	ANALYSIS REQUEST
<i>H03252</i>	<i>1571 012 32.6120217</i>	<input checked="" type="checkbox"/>	1	SOIL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	9/19	12:03	<i>C/ EXT TPH</i>	<i>BTEX</i>
<i>6</i>	<i>-103 2727578</i>	<input type="checkbox"/>		WASTEWATER						
<i>7</i>	<i>872.012 32.619186</i>	<input type="checkbox"/>	1	SOIL			9/19	13:30		
<i>8</i>	<i>-103.2727507</i>	<input type="checkbox"/>	1	SOIL			9/19	13:36		
<i>9</i>	<i>874.012 32.619056</i>	<input type="checkbox"/>	1	SOIL			9/19	14:51		
<i>10</i>	<i>-103 2727762</i>	<input type="checkbox"/>	1	SOIL			9/19	14:57		

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Relinquished By: <i>[Signature]</i> Date: <i>8/19-19</i>	Received By: <i>[Signature]</i> Date: <i>8/19-19</i>
Turnaround Time: Thermometer ID #97 Correction Factor + 0.4 °C	Standard: <input checked="" type="checkbox"/> Rush: <input type="checkbox"/> Bacteria (only) Sample Condition: Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No Observed Temp. °C Corrected Temp. °C

REMARKS: *Email Results to Jeffrey Brown*

Verbal Result: Yes No **Add'l Phone #:**

All Results are emailed. Please provide Email address:

Delivered By: (Circle One) **Observed Temp. °C:** *0.6* **Corrected Temp. °C:** *1.0*

Sampler - UPS - Bus - Other: **FORM-006 R 3.0**

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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Frederick Corp.</u> Project Manager: <u>Jeffrey Brown</u> Address: _____ City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u> Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: _____ Project Location: <u>MUSAU 019</u> Sampler Name: <u>J. Quisenberry</u> FOR LAB USE ONLY: _____		BILL TO P.O. #: _____ Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____		
Lab I.D. _____ Sample I.D. _____ <u>A903252</u> <u>11</u> B76 012 82.6119412 <u>103.2727334</u> <u>12</u> B77 012 32.6119485 <u>-103.2727334</u> <u>13</u> B28 012 32.6119485 <u>-103.2727334</u>		(G)RAB OR (C)OMP # CONTAINERS MATRIX GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : _____ PRESERV: ACID/BASE: _____ (C) / COOL OTHER : _____	DATE TIME 9/19 15:28 9/19 16:30 9/19 16:36	ANALYSIS REQUEST EXT TPH BTEX
Relinquished By: _____ Date: <u>9-19-19</u> Received By: _____ Time: <u>7:05</u> Remunished By: _____ Date: _____ Received By: _____ Time: _____		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: _____ All Results are emailed. Please provide Email address: _____ REMARKS: <u>Email Result to Jeffrey Brown</u>		
Delivered By: (Circle One) Observed Temp. °C <u>0.6</u> Sampler - UPS - Bus - Other: Corrected Temp. °C <u>1.0</u> FORM-006 R 3.0		Sample Condition: Cool Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Checked BY: _____ (Initials) Turnaround Time: _____ Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID #97 Correction Factor + 0.4 °C Bacteria (only) Sample Condition Cool Intact Yes <input type="checkbox"/> No <input type="checkbox"/> Observed Temp. °C Corrected Temp. °C		

† Cardinal cannot accept verbal changes. Please email changes to caley.keene@cardinallabsonm.com



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

September 27, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/24/19 7:30.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/20/2019
Reported:	09/27/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 79 @ 12' 32.6119567-103.2727105 (H903272-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 83.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	12.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 82.9 % 41-142

Surrogate: 1-Chlorooctadecane 87.4 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/20/2019
Reported:	09/27/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 80 @ 12' 32.6120273-103.2726743 (H903272-02)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 85.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 88.2 % 41-142

Surrogate: 1-Chlorooctadecane 90.8 % 37.6-147

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/20/2019
Reported:	09/27/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 81 32.6121375-103.2726961 (H903272-03)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83		
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39		
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18		
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956		
Total BTEX	<0.300	0.300	09/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 84.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	09/25/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80		
DRO >C10-C28*	<10.0	10.0	09/24/2019	ND	193	96.6	200	1.78		
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND						

Surrogate: 1-Chlorooctane 89.8 % 41-142

Surrogate: 1-Chlorooctadecane 94.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/20/2019
Reported:	09/27/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 82 @ 12' 32.6120784-103.2726877 (H903272-04)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 84.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 86.4 % 41-142

Surrogate: 1-Chlorooctadecane 89.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

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Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: <u>Apacive Corp</u>		P.O. #:
Project Manager: <u>Jeffrey Brown</u>		Company:
Address:		Attn:
City: <u>Kelso</u>	State: <u>NM</u> Zip: <u>88240</u>	Address:
Phone #:	Fax #:	City:
Project #:	Project Owner:	State:
Project Name:		Zip:
Project Location: <u>MESQUITE</u>		Phone #:
Sampler Name: <u>Joe Overland</u>		Fax #:
FOR LAB USE ONLY		

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV		DATE	TIME	REMARKS	STANDARD	ADD'l PHONE #
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	(ICE)/COOL					
<u>H903212</u>	<u>BTH012 320119567</u>	<u>0</u>	<u>1</u>			<input checked="" type="checkbox"/>					<u>9/20</u>	<u>2:36</u>	<u>Ext TPII</u>			
	<u>-103222-7105</u>	<u>0</u>	<u>1</u>			<input checked="" type="checkbox"/>					<u>9/20</u>	<u>13:50</u>	<u>BTEY</u>			
	<u>B80 012 32.6122275</u>	<u>0</u>	<u>1</u>			<input checked="" type="checkbox"/>					<u>9/20</u>	<u>13:54</u>				
	<u>-103.272.6743</u>	<u>0</u>	<u>1</u>			<input checked="" type="checkbox"/>					<u>9/20</u>	<u>13:50</u>				
	<u>B51 32.612.1375</u>	<u>0</u>	<u>1</u>			<input checked="" type="checkbox"/>					<u>9/20</u>	<u>13:54</u>				
	<u>-103.272.62161</u>	<u>0</u>	<u>1</u>			<input checked="" type="checkbox"/>					<u>9/20</u>	<u>13:54</u>				
	<u>R82012 32.6120784</u>	<u>0</u>	<u>1</u>			<input checked="" type="checkbox"/>					<u>9/20</u>	<u>13:54</u>				
	<u>-103.272.62161</u>	<u>0</u>	<u>1</u>			<input checked="" type="checkbox"/>					<u>9/20</u>	<u>13:54</u>				

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Relinquished By: Joe Overland Date: 9/20 Received By: Mike Buhl

Relinquished By: Jeffrey Brown Date: 7:30 Received By: Jeffrey Brown

Delivered By: (Circle One) Observed Temp. °C 5.3 Sample Condition: Cool Intact Yes No

Sampler - UPS - Bus - Other: Corrected Temp. °C 5.7 Bacteria (only) Sample Condition: Cool Intact Yes No

Thermometer ID #97 Correction Factor + 0.4 °C Standard Rush Add'l Phone #:

Turnaround Time: Standard Rush

Remarks: Email to Jeffrey Brown

Verbal Result: Yes No All Results are emailed. Please provide Email address:

Corrected Temp. °C 5.3 5.7

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



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

September 30, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/24/19 7:30.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 13 32.61248 - 103.2727665 (H903273-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 82.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/30/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/30/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/30/2019	ND					

Surrogate: 1-Chlorooctane 85.7 % 41-142

Surrogate: 1-Chlorooctadecane 93.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 14 32.6124795 - 103.2727571 (H903273-02)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 82.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/30/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/30/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/30/2019	ND					

Surrogate: 1-Chlorooctane 86.9 % 41-142

Surrogate: 1-Chlorooctadecane 91.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 15 32.6124631 - 103.2727360 (H903273-03)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 82.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 87.2 % 41-142

Surrogate: 1-Chlorooctadecane 91.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 16 32.6124199 - 103.2727075 (H903273-04)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 81.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 84.6 % 41-142

Surrogate: 1-Chlorooctadecane 87.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 17 32.6123939 - 103.2726937 (H903273-05)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 81.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/30/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/30/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/30/2019	ND					

Surrogate: 1-Chlorooctane 86.8 % 41-142

Surrogate: 1-Chlorooctadecane 90.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 18 32.6123357 - 103.2726951 (H903273-06)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 80.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 84.6 % 41-142

Surrogate: 1-Chlorooctadecane 89.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 19 32.6123092 - 103.2726910 (H903273-07)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 78.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 81.8 % 41-142

Surrogate: 1-Chlorooctadecane 85.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 20 32.6122682 - 103.2726873 (H903273-08)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 78.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 83.6 % 41-142

Surrogate: 1-Chlorooctadecane 90.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 21 32.6122346 - 103.2726930 (H903273-09)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 81.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 84.5 % 41-142

Surrogate: 1-Chlorooctadecane 89.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 22 32.6122019 - 103.2726934 (H903273-10)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 80.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 85.9 % 41-142

Surrogate: 1-Chlorooctadecane 90.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 23 32.6120985 - 103.2726837 (H903273-11)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 82.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 87.9 % 41-142

Surrogate: 1-Chlorooctadecane 91.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 26 32.6120011 - 103.2726267 (H903273-14)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 82.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/24/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/24/2019	ND					

Surrogate: 1-Chlorooctane 83.2 % 41-142

Surrogate: 1-Chlorooctadecane 85.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 27 32.6119516 - 103.2726119 (H903273-15)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 79.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 83.7 % 41-142

Surrogate: 1-Chlorooctadecane 88.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 28 32.6119220 - 103.272662 (H903273-16)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 81.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	196	97.8	200	1.80	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	193	96.6	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 81.0 % 41-142

Surrogate: 1-Chlorooctadecane 85.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 29 32.6118895 - 103.2727079 (H903273-17)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/25/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 81.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	192	96.2	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 87.9 % 41-142

Surrogate: 1-Chlorooctadecane 99.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 30 32.6118697 - 103.2727410 (H903273-18)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2019	ND	1.89	94.7	2.00	1.83	
Toluene*	<0.050	0.050	09/26/2019	ND	1.88	94.2	2.00	1.39	
Ethylbenzene*	<0.050	0.050	09/26/2019	ND	1.86	93.0	2.00	1.18	
Total Xylenes*	<0.150	0.150	09/26/2019	ND	5.52	92.1	6.00	0.956	
Total BTEX	<0.300	0.300	09/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 80.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	192	96.2	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 81.6 % 41-142

Surrogate: 1-Chlorooctadecane 91.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 31 32.6118570 - 103.2727785 (H903273-19)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	2.14	107	2.00	0.302	
Toluene*	<0.050	0.050	09/25/2019	ND	1.90	94.9	2.00	1.27	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.91	95.6	2.00	0.902	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.80	96.7	6.00	0.683	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	192	96.2	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 80.1 % 41-142

Surrogate: 1-Chlorooctadecane 86.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 32 32.6118898 - 103.2728308 (H903273-20)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	2.14	107	2.00	0.302	
Toluene*	<0.050	0.050	09/25/2019	ND	1.90	94.9	2.00	1.27	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.91	95.6	2.00	0.902	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.80	96.7	6.00	0.683	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	192	96.2	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 89.1 % 41-142

Surrogate: 1-Chlorooctadecane 96.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 33 32.6118974 - 103.2728855 (H903273-21)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	2.14	107	2.00	0.302	
Toluene*	<0.050	0.050	09/25/2019	ND	1.90	94.9	2.00	1.27	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.91	95.6	2.00	0.902	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.80	96.7	6.00	0.683	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	192	96.2	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 85.4 % 41-142

Surrogate: 1-Chlorooctadecane 91.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 34 32.6119175 - 103.2729113 (H903273-22)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	2.14	107	2.00	0.302	
Toluene*	<0.050	0.050	09/25/2019	ND	1.90	94.9	2.00	1.27	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.91	95.6	2.00	0.902	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.80	96.7	6.00	0.683	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/25/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	192	96.2	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 92.1 % 41-142

Surrogate: 1-Chlorooctadecane 95.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 35 32.6119641 - 103.2729160 (H903273-23)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	2.14	107	2.00	0.302	
Toluene*	<0.050	0.050	09/25/2019	ND	1.90	94.9	2.00	1.27	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.91	95.6	2.00	0.902	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.80	96.7	6.00	0.683	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/25/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	192	96.2	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 91.1 % 41-142

Surrogate: 1-Chlorooctadecane 94.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 36 32.6120036 - 103.2729210 (H903273-24)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	2.14	107	2.00	0.302	
Toluene*	<0.050	0.050	09/25/2019	ND	1.90	94.9	2.00	1.27	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.91	95.6	2.00	0.902	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.80	96.7	6.00	0.683	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/25/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	192	96.2	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 88.2 % 41-142

Surrogate: 1-Chlorooctadecane 92.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: W 37 32.6120561 - 103.2729204 (H903273-25)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	2.14	107	2.00	0.302	
Toluene*	<0.050	0.050	09/25/2019	ND	1.90	94.9	2.00	1.27	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.91	95.6	2.00	0.902	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.80	96.7	6.00	0.683	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/25/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	192	96.2	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 94.5 % 41-142

Surrogate: 1-Chlorooctadecane 96.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 83 @ 12' 32.6120968-103.2726927 (H903273-27)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	2.14	107	2.00	0.302	
Toluene*	<0.050	0.050	09/25/2019	ND	1.90	94.9	2.00	1.27	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.91	95.6	2.00	0.902	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.80	96.7	6.00	0.683	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/25/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	192	96.2	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 94.2 % 41-142

Surrogate: 1-Chlorooctadecane 97.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 84 @ 12' 32.6120595-103.2726910 (H903273-28)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/25/2019	ND	2.14	107	2.00	0.302		
Toluene*	<0.050	0.050	09/25/2019	ND	1.90	94.9	2.00	1.27		
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.91	95.6	2.00	0.902		
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.80	96.7	6.00	0.683		
Total BTEX	<0.300	0.300	09/25/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	09/25/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35		
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	192	96.2	200	1.88		
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND						

Surrogate: 1-Chlorooctane 96.1 % 41-142

Surrogate: 1-Chlorooctadecane 97.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 85 @ 12' 32.6120426-103.2726833 (H903273-29)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	2.14	107	2.00	0.302	
Toluene*	<0.050	0.050	09/25/2019	ND	1.90	94.9	2.00	1.27	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.91	95.6	2.00	0.902	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.80	96.7	6.00	0.683	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/25/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	192	96.2	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 89.7 % 41-142

Surrogate: 1-Chlorooctadecane 91.0 % 37.6-147

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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 86 @ 12' 32.6119847 - 103.2726350 (H903273-30)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	2.14	107	2.00	0.302	
Toluene*	<0.050	0.050	09/25/2019	ND	1.90	94.9	2.00	1.27	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.91	95.6	2.00	0.902	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.80	96.7	6.00	0.683	
Total BTEX	<0.300	0.300	09/25/2019	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/25/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	192	96.2	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 94.9 % 41-142

Surrogate: 1-Chlorooctadecane 96.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/23/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Mike Snyder
Project Location:	NOT GIVEN		

Sample ID: B 87 @ 12' 32.6119386 - 103.2726686 (H903273-31)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2019	ND	2.14	107	2.00	0.302	
Toluene*	<0.050	0.050	09/25/2019	ND	1.90	94.9	2.00	1.27	
Ethylbenzene*	<0.050	0.050	09/25/2019	ND	1.91	95.6	2.00	0.902	
Total Xylenes*	<0.150	0.150	09/25/2019	ND	5.80	96.7	6.00	0.683	
Total BTEX	<0.300	0.300	09/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/25/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	204	102	200	1.35	
DRO >C10-C28*	41.5	10.0	09/25/2019	ND	192	96.2	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 98.1 % 41-142

Surrogate: 1-Chlorooctadecane 98.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

①

Company Name: <u>Apex Corp.</u> Project Manager: <u>Jeffrey Brown</u>		P.O. #: _____ Company: _____	
Address: _____ City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>		Attn: _____ Address: _____	
Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____		City: _____ State: _____ Zip: _____	
Project Name: _____ Project Location: <u>Wagon 2119</u>		Phone #: _____ Fax #: _____	
Sampler Name: <u>Joe Quiscales Jr.</u>		Matrix: _____	
Lab I.D. _____ Sample I.D. _____		PRESERV. _____ SAMPLING _____	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
<u>1</u>	<u>W13 32.61248</u>	<u>C</u>	<u>1</u>	<input checked="" type="checkbox"/>						<u>9/23 11:30</u>	<u>EXT TPH</u> <u>PTER</u>	
<u>2</u>	<u>W14 32.6124795</u>	<u>C</u>	<u>1</u>							<u>9/23 13:38</u>		
<u>3</u>	<u>W15 32.6124631</u>	<u>C</u>	<u>1</u>							<u>9/23 13:40</u>		
<u>4</u>	<u>W16 32.6124194</u>	<u>C</u>	<u>1</u>							<u>9/23 11:42</u>		
<u>5</u>	<u>W17 32.6123939</u>	<u>C</u>	<u>1</u>							<u>9/23 11:50</u>		

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Requisitioned By: _____ Date: <u>9/24</u>	Received By: _____ Date: <u>9/24</u>
Requisitioned By: _____ Date: _____	Received By: _____ Date: _____

Turnaround Time: _____ Standard Rush Add'l Phone #: _____

Thermometer ID #97 Correction Factor + 0.4 °C Bacteria (only) Sample Condition Cool Intact Yes No Yes No Yes No

Observed Temp. °C 5.3 Corrected Temp. °C 5.7

REMARKS: Emeri Results to Jeff Brown



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

26 of 32 page

Company Name: <i>Apache</i>		P.O. #:																	
Project Manager: <i>Jeleney Brown</i>		Company:																	
Address:		Attn:																	
City: <i>Lubbock</i> State: <i>NM</i> Zip: <i>88240</i>		Address:																	
Phone #: _____ Fax #: _____		City: _____																	
Project #: _____ Project Owner:		State: _____ Zip: _____																	
Project Name:		Phone #: _____																	
Project Location: <i>Nuesku 2119</i>		Fax #: _____																	
Sampler Name: <i>Joe Quisada Jr.</i>		PRESERV: _____																	
FOR LAB USE ONLY		SAMPLING																	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OM?	# CONTAINERS	MATRIX	ACID/BASE:	DATE	TIME												
<i>A4903273</i>	<i>W18 32.619 3357</i>	<input checked="" type="checkbox"/>	<i>1</i>	<input checked="" type="checkbox"/>	<i>7</i>	<i>9/23</i>	<i>11:44</i>	<i>1</i>											
	<i>-103. 272.6951</i>																		
	<i>W14 32.6123092</i>		<i>1</i>				<i>11:48</i>												
	<i>-103. 272.6910</i>																		
	<i>W20 32.61221682</i>		<i>1</i>				<i>11:50</i>												
	<i>-103. 272.6873</i>																		
	<i>W21 32.6122346</i>		<i>1</i>				<i>11:52</i>												
	<i>-103. 272.6980</i>																		
	<i>W22 32.6122019</i>		<i>1</i>				<i>11:54</i>												
	<i>-103. 272.6934</i>																		

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Relinquished By: *Joe Quisada*

Date: *9/24* Received By: *Mike Smith*
 Time: *7:31*

REMARKS: _____

Delivered By: (Circle One)	Observed Temp. °C	Sample Condition	CHECKED BY: (Initials)	Turnaround Time:	Standard	Bacteria (only)	Sample Condition
<i>Other</i>	<i>5.3</i>	<input checked="" type="checkbox"/> Cool <input checked="" type="checkbox"/> Intact			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Cool <input checked="" type="checkbox"/> Intact	<i>5.3</i>
Sampler - UPS - Bus - Other:	Corrected Temp. °C	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Thermometer ID #97	<i>RUSH</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<i>5.7</i>
FORM-006 R 3.0	<i>5.7</i>			Correction Factor + 0.4 °C			<i>5.7</i>

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



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

④

Company Name: <u>Apache</u>		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager: <u>Jeffrey Brown</u>		Company:					
Address:		Attn:					
City: <u>20005</u> State: <u>NM</u> zip: <u>88200</u>		Address:					
Phone #: _____ Fax #: _____		City:					
Project #: _____ Project Owner:		State:		Zip:			
Project Name:		Phone #:					
Project Location: <u>WILSON 2119</u>		Fax #:					
Sampler Name: <u>Doc Quessada Jr.</u>		PRESERV:					
FOR LAB USE ONLY		DATE		TIME			
Lab I.D. Sample I.D.		(G)RAB OR (C)OMP					
		# CONTAINERS					
		MATRIX					
		GROUNDWATER					
		WASTEWATER					
		SOIL					
		OIL					
		SLUDGE					
		OTHER :					
		ACID/BASE:					
		(ICE) COOL					
		OTHER :					
		DATE		TIME			
<u>4903373</u>		<u>14</u>		<u>9/23 15:30</u>		<u>10</u>	
<u>W 28 32.6119220</u>		<u>17</u>		<u>15:32</u>		<u>EXT TPH</u>	
<u>-103. 2722662</u>		<u>18</u>		<u>15:34</u>		<u>13TEX</u>	
<u>W 29 32.6118895</u>		<u>19</u>		<u>15:36</u>			
<u>-103. 2727079</u>		<u>20</u>		<u>15:38</u>			
<u>W 30 32.61181697</u>							
<u>-103. 2727410</u>							
<u>W 31 32.6118670</u>							
<u>-103. 2727785</u>							
<u>W 32. 6118898</u>							
<u>-103. 2728308</u>							

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Reinquinshed By: Doc Quessada Date: 9/24 Received By: Michael Smith

Time: 7:32 Date: _____ Received By: _____

Time: _____ Date: _____ Received By: _____

REMARKS: Email to Jeff Brown

Delivered By: (Circle One) 5.3 Observed Temp. °C 5.3 Sample Condition Cool Intact

Sampler - UPS - Bus - Other: 5.7 Corrected Temp. °C 5.7 Yes No Yes No

Turnaround Time: Standard Standard Rush Add'l Phone #:

Thermometer ID #97 Correction Factor + 0.4 °C Yes No Yes No

Bacteria (only) Sample Condition Observed Temp. °C 5.8 Corrected Temp. °C 5.7

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



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

5

BILL TO

ANALYSIS REQUEST

Company Name: APACHE		P.O. #:	
Project Manager: Jeffrey Brown		Company:	
Address:		Attn:	
City: Hobbs		Address:	
State: NM Zip: 88240		City:	
Phone #: _____		State: _____ Zip: _____	
Project #: _____		Phone #: _____	
Project Name: _____		Fax #: _____	
Project Location: Mesquite 211a		Sample I.D.:	
Sampler Name: Joe Keene		Sample I.D.:	
FOR LAB USE ONLY		FOR LAB USE ONLY	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX						PRESERV		DATE	TIME	REMARKS	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL				OTHER :
4903273															
21	W33. 82.4118974	C	1	/							9/23	15:20	-	-	EXT TPH BTEX
	-103. 828 8855														
22	W34 82.4118175	C	1	/											
	-103. 828 4113														
23	W35 82.4119411	C	1	/											
	-103. 82291100														
24	W36 32.4120034	C	1	/											
	-103. 2729210														
25	W37 82.4120561			/											
	-103. 2729204														

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Relinquished By: **Joe Keene** Date: **9/24** Received By: **Jeffrey Brown** Date: **9/23** Time: **7:33**

Delivered By: (Circle One) **UPS** Observed Temp. °C: **5.3** Corrected Temp. °C: **5.7** Sample Condition: **Cool Intact** CHECKED BY: (Initials) _____

Turnaround Time: _____ Standard Add'l Phone #: _____ Bacteria (only) Sample Condition: **Cool Intact**

Thermometer ID #97 Correction Factor + 0.4 °C _____ Corrected Temp. °C: **5.7**

REMARKS: **Envi! Jeffrey Brown**

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

6

Company Name: <u>Aspen</u>		BILL TO		ANALYSIS REQUEST	
Project Manager: <u>Jeffrey Brown</u>		P.O. #:			
Address:		Company:			
City: <u>Hobbs</u>		Attn:			
State: <u>NM</u> zip: <u>88240</u>		Address:			
Phone #:		City:			
Project #: <u>110105</u>		State:			
Project Name:		Zip:			
Project Location: <u>WASTON 5154</u>		Phone #:			
Sampler Name: <u>Dr. Keene</u>		Fax #:			
FOR LAB USE ONLY		MATRIX		PRESERV	
Lab I.D.		Sample I.D.		DATE	
AP03273		W38 32.16.12.11		9/23 15:50	
26		-103.2721610		16:12	
27		B3309 32.16.12.11		16:14	
28		-103.2721610		16:16	
29		B84 32.16.12.11			
30		-103.2721610			

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Reinquished By: Joe Ruscsek Date: 9/24 Received By: Jeffrey Brown Date: 9/24

Delivered By: (Circle One) Observed Temp. °C 5.3 Sample Condition Cool Intact Yes No Yes No CHECKED BY: (Initials) JB

Sampler - UPS - Bus - Other: FORM-006 R.3.0 Corrected Temp. °C 5.7 Thermometer ID #97 Correction Factor + 0.4 °C Standard Rush Bacteria (only) Cool Intact Yes No Yes No Sample Condition Observed Temp. °C 5.3 Corrected Temp. °C 5.7

REMARKS: Cancel Results to Jeffrey Brown



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

10

Company Name: Appar		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager: Jeffrey Brown		Company:					
Address:		Attn:					
City: Hobbs		Address:					
State: NM Zip: 88240		City:					
Phone #:		State:					
Project #:		City:					
Project Name:		State:					
Project Location: WUGSKU 079		Phone #:					
Sampler Name: Joe Quiscales Jr		Fax #:					
FOR LAB USE ONLY		PRESERV		SAMPLING			
Lab I.D. 14903873		(G)RAB OR (C)OMP		DATE		TIME	
Sample I.D. 31		# CONTAINERS C1		9/23		10:18	
		GROUNDWATER					
		WASTEWATER					
		SOIL					
		OIL					
		SLUDGE					
		OTHER :					
		ACID/BASE:					
		COOL					
		OTHER :					

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Relinquished By: **Joe Quiscales** Date: **9/24** Time: **7:15** Received By: **Michael King**

Relinquished By: **Joe Quiscales** Date: **9/23** Time: **10:18** Received By: **Michael King**

Verbal Result: Yes No Add'l Phone #:

All Results are emailed. Please provide Email address: **gmsw@Barriffs**

REMARKS:

Delivered By: (Circle One) Observed Temp. °C **5.3** Sample Condition Cool Intact Yes No Intact Yes No

Sampler - UPS - Bus - Other: Corrected Temp. °C **5.7** CHECKED BY: (Initials)

Thermometer ID #97 Standard Rush Bacteria (only) Sample Condition Cool Intact Yes No Intact Yes No

Correction Factor + 0.4 °C Observed Temp. °C **5.3** Corrected Temp. °C **5.1**

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

September 30, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NMGSAU #2119

Enclosed are the results of analyses for samples received by the laboratory on 09/24/19 16:15.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/24/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 24 32.6120392 - 103.2726575 (H903288-01)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2019	ND	1.96	98.0	2.00	4.45	
Toluene*	<0.050	0.050	09/26/2019	ND	1.73	86.7	2.00	3.99	
Ethylbenzene*	<0.050	0.050	09/26/2019	ND	1.73	86.5	2.00	3.91	
Total Xylenes*	<0.150	0.150	09/26/2019	ND	5.31	88.4	6.00	3.67	
Total BTEX	<0.300	0.300	09/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	09/26/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	192	95.8	200	1.40	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	188	94.0	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 91.7 % 41-142

Surrogate: 1-Chlorooctadecane 99.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/24/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 38 32.6121266 - 103.2729116 (H903288-02)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2019	ND	1.96	98.0	2.00	4.45	
Toluene*	<0.050	0.050	09/26/2019	ND	1.73	86.7	2.00	3.99	
Ethylbenzene*	<0.050	0.050	09/26/2019	ND	1.73	86.5	2.00	3.91	
Total Xylenes*	<0.150	0.150	09/26/2019	ND	5.31	88.4	6.00	3.67	
Total BTEX	<0.300	0.300	09/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/26/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	192	95.8	200	1.40	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	188	94.0	200	2.83	
EXT DRO >C28-C36	10.1	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 96.3 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	09/24/2019	Sampling Date:	09/24/2019
Reported:	09/30/2019	Sampling Type:	Soil
Project Name:	NMGSAU #2119	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W 25 32.6120527 - 103.2726072 (H903288-03)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2019	ND	1.96	98.0	2.00	4.45	
Toluene*	<0.050	0.050	09/26/2019	ND	1.73	86.7	2.00	3.99	
Ethylbenzene*	<0.050	0.050	09/26/2019	ND	1.73	86.5	2.00	3.91	
Total Xylenes*	<0.150	0.150	09/26/2019	ND	5.31	88.4	6.00	3.67	
Total BTEX	<0.300	0.300	09/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/26/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	192	95.8	200	1.40	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	188	94.0	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane 90.7 % 41-142

Surrogate: 1-Chlorooctadecane 98.0 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Agape Inc Corp. Project Manager: Jeffery Brown		P.O. #: Company:							
Address: Hobbs City: Hobbs State: NM Zip: 88240		Attn: Address: City: State: Zip:							
Project #: 1111 Project Owner:		Phone #: Fax #:							
Project Location: NM State 2119		Phone #: Fax #:							
Sampler Name: Joe Guadalupe		P.O. #: Company:							
FOR LAB USE ONLY		ANALYSIS REQUEST							
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE	TIME	REMARKS
H903288									
1	W 24 32. 612 0392	C	1	GROUNDWATER	ICE COOL		9/24	10:30	C1 EXT TPH BTEX
2	-103. 072 0578	C	1	WASTEWATER			9/24	14:15	
3	W 05 32. 612 0527	C	1	SOIL			9/24	14:21	
	-103. 072 0578			OIL					
				SLUDGE					
				OTHER :					
				ACID/BASE:					
				OTHER :					

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether caused in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or caused by 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: *[Signature]* Date: **9/24/19** Time: **16:15**
 Received By: *[Signature]* Date: **9/24/19** Time: **16:15**

Delivered By: (Circle One) Observed Temp. °C **4.0** Sample Condition Cool Intact Yes No
 Corrected Temp. °C **4.4** CHECKED BY: (Initials) **TO**

Turnaround Time: Standard Rush
 Bacteria (only) Cool Intact Yes No
 Sample Condition Observed Temp. °C Corrected Temp. °C

REMARKS: **Email Jeffery Brown**

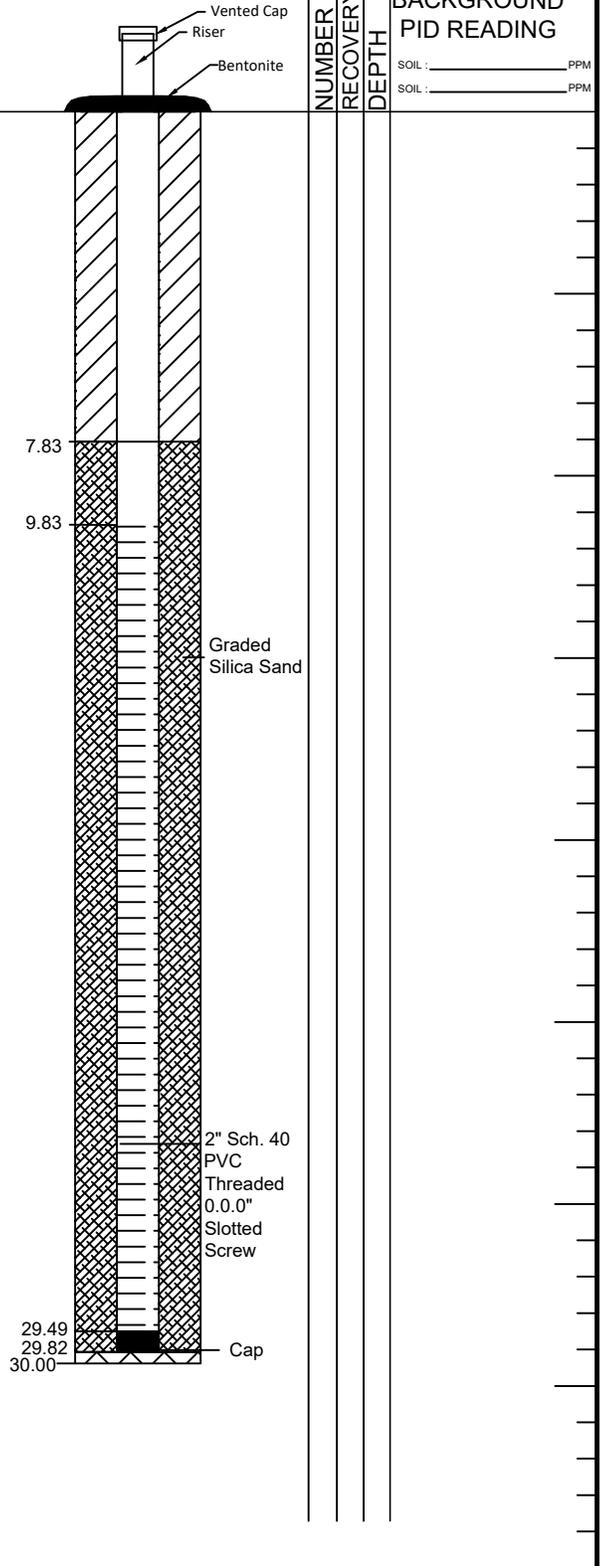
† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

Appendix F

Boring Logs

BORING RECORD

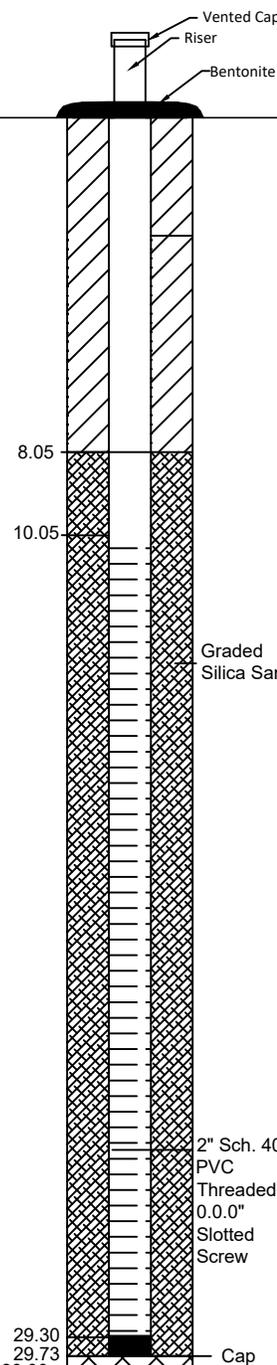
GEOLOGIC UNIT	DEPTH	Start: 10:29 Finish: 11:45 DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	Surface Elevation: TOC Elevation:			REMARKS
					NUMBER	RECOVERY	DEPTH	
	0	Sand, 7.5YR, 6/5 to 6/4, Well Sorted, Very Fine Grained Quartz Sand, Light Brown	ML					BACKGROUND PID READING SOIL : _____ PPM SOIL : _____ PPM
	5	Caliche, 7.5YR, 8/3, Pink, 2-10mm Subangular Clast Inclusions, Fine Grained	Caliche					
	10	Silty Sand, 7.5YR, 8/4, Pink, Moderately Sorted with Subangular 1-6mm Clast Inclusions			7.83			
	15	7.5YR, 8/6, Reddish Yellow, Moderately Sorted with Subangular 2-6mm Clast Inclusions	ML		9.83			
	20							
	25							
	30							
		TD: 30'			29.49			
					29.82			
					30.00			



	ONE CONTINUOUS AUGER SAMPLER		WATER TABLE (TIME OF BORING)	JOB NUMBER : <u>19-0112-51 / Apache Corp.</u>
	STANDARD PENETRATION TEST		LABORATORY TEST LOCATION	HOLE DIAMETER : <u>2"</u>
	UNDISTURBED SAMPLE		PENETROMETER (TONS/ SQ. FT)	LOCATION : <u>NMGSAU 2102</u>
	WATER TABLE (24 HRS)		NR NO RECOVERY	LAI GEOLOGIST : <u>R. Nelson</u>
		DRILL DATE : <u>03-11-2020</u>	BORING NUMBER : <u>TMW-1</u>	DRILLING CONTRACTOR : <u>SDI</u>
				DRILLING METHOD : <u>Air Rotary</u>

BORING RECORD

GEOLOGIC UNIT	DEPTH	DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	Surface Elevation: TOC Elevation:			REMARKS
					NUMBER	RECOVERY	DEPTH	
	0	Sand, 7.5YR, 6/5 to 6/4, Well Sorted, Very Fine Quartz Grained Sand, Light Brown	ML					BACKGROUND PID READING SOIL : _____ PPM SOIL : _____ PPM
	5	Caliche, 7.5YR, 8/3, Pink, 2-10mm Subangular Clast Inclusions, Fine Grained	Caliche					
	10	Silty Sand, 7.5YR, 8/4, Pink, Moderately Sorted with Subangular 1-6mm Clast Inclusions			8.05			
	15	7.5YR, 8/6, Reddish Yellow, Moderately Sorted with Subangular 2-6mm Clast Inclusions	ML		10.05			
	20							
	25							
	30							
		TD: 30'			29.30			
					29.73			
					30.00			



- ONE CONTINUOUS AUGER SAMPLER
- STANDARD PENETRATION TEST
- UNDISTURBED SAMPLE
- WATER TABLE (24 HRS)
- WATER TABLE (TIME OF BORING)
- LABORATORY TEST LOCATION
- PENETROMETER (TONS/ SQ. FT)
- NR NO RECOVERY

JOB NUMBER : 19-0112-51 / Apache Corp.
 HOLE DIAMETER : 2"
 LOCATION : NMGSAU 2102
 LAI GEOLOGIST : R. Nelson
 DRILLING CONTRACTOR : SDI
 DRILLING METHOD : Air Rotary



DRILL DATE : 03-11-2020

BORING NUMBER : TMW-2

Appendix G
Groundwater Sample Laboratory Reports



Certificate of Analysis Summary 655568

Larson and Associates, Inc., Midland, TX

Project Name: Apache-NM GSAU 2102

Project Id: 19-0112-51

Contact: Mark Larson

Project Location:

Date Received in Lab: Fri 03.13.2020 08:45

Report Date: 03.19.2020 14:19

Project Manager: Holly Taylor

Analysis Requested	Lab Id:	655568-001	655568-002	655568-003	655568-004		
	Field Id:	MW-2	DUP-1	TMW-2	TMW-1		
	Depth:						
	Matrix:	WATER	WATER	WATER	WATER		
	Sampled:	03.12.2020 11:25	03.12.2020 11:30	03.12.2020 12:15	03.12.2020 13:00		
BTEX by EPA 8021B SUB: T104704219-19-21	Extracted:	03.17.2020 15:30	03.17.2020 15:30	03.17.2020 15:30	03.17.2020 15:30		
	Analyzed:	03.17.2020 21:04	03.17.2020 22:41	03.17.2020 23:06	03.17.2020 23:30		
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL		
Benzene		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100		
Toluene		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100		
Ethylbenzene		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100		
m,p-Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
o-Xylene		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100		
Total Xylenes		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100		
Total BTEX		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100		
Chloride by EPA 300	Extracted:	03.13.2020 18:30	03.13.2020 18:30	03.13.2020 18:30	03.13.2020 18:30		
	Analyzed:	03.13.2020 23:22	03.13.2020 22:14	03.13.2020 22:21	03.13.2020 22:28		
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL		
Chloride		230 2.50	223 2.50	423 5.00	360 5.00		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Holly Taylor
Project Manager



Analytical Report 655568

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Apache-NM GSAU 2102

19-0112-51

03.19.2020

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNi02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



03.19.2020

Project Manager: **Mark Larson**
Larson and Associates, Inc.
P. O. Box 50685
Midland, TX 79710

Reference: XENCO Report No(s): **655568**
Apache-NM GSAU 2102
Project Address:

Mark Larson :

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) 655568. 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. 655568 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,

A handwritten signature in black ink that reads 'Holly Taylor'. The signature is written in a cursive, flowing style.

Holly Taylor
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 655568

Larson and Associates, Inc., Midland, TX

Apache-NM GSAU 2102

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	03.12.2020 11:25		655568-001
DUP-1	W	03.12.2020 11:30		655568-002
TMW-2	W	03.12.2020 12:15		655568-003
TMW-1	W	03.12.2020 13:00		655568-004

**CASE NARRATIVE***Client Name: Larson and Associates, Inc.**Project Name: Apache-NM GSAU 2102*Project ID: 19-0112-51
Work Order Number(s): 655568Report Date: 03.19.2020
Date Received: 03.13.2020**Sample receipt non conformances and comments:****Sample receipt non conformances and comments per sample:**

None

Analytical non conformances and comments:

Batch: LBA-3120085 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7699174-1-BKS,7699174-1-BLK,655568-001 S,655568-001 SD,655568-001,655568-003,655568-002.

Surrogate a,a,a-Trifluorotoluene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7699174-1-BKS,7699174-1-BLK,7699174-1-BSD,655568-001 S,655568-001 SD,655568-003,655568-004,655568-002,655568-001.

Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.

Samples in the analytical batch are: 655568-001, -002, -003, -004

Lab Sample ID 655568-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). m,p-Xylenes, o-Xylene 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: 655568-001, -002, -003, -004.

The Laboratory Control Sample for m,p-Xylenes, o-Xylene is within laboratory Control Limits, therefore the data was accepted.



Certificate of Analytical Results 655568

Larson and Associates, Inc., Midland, TX

Apache-NM GSAU 2102

Sample Id: **MW-2**
 Lab Sample Id: 655568-001

Matrix: Water
 Date Collected: 03.12.2020 11:25

Date Received: 03.13.2020 08:45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.13.2020 18:30

Seq Number: 3119665

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	230	2.50	mg/L	03.13.2020 23:22		5

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 03.17.2020 15:30

Seq Number: 3120085

SUB: T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/L	03.17.2020 21:04	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/L	03.17.2020 21:04	UF	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/L	03.17.2020 21:04	UF	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/L	03.17.2020 21:04	UXF	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/L	03.17.2020 21:04	UXF	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/L	03.17.2020 21:04	U	1
Total BTEX		<0.00100	0.00100	mg/L	03.17.2020 21:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
a,a,a-Trifluorotoluene	98-08-8	124	%	66-120	03.17.2020 21:04	**
4-Bromofluorobenzene	460-00-4	124	%	67-120	03.17.2020 21:04	**



Certificate of Analytical Results 655568

Larson and Associates, Inc., Midland, TX

Apache-NM GSAU 2102

Sample Id: **DUP-1**
Lab Sample Id: 655568-002

Matrix: Water
Date Collected: 03.12.2020 11:30

Date Received: 03.13.2020 08:45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.13.2020 18:30

Seq Number: 3119665

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	223	2.50	mg/L	03.13.2020 22:14		5

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 03.17.2020 15:30

Seq Number: 3120085

SUB: T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/L	03.17.2020 22:41	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/L	03.17.2020 22:41	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/L	03.17.2020 22:41	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/L	03.17.2020 22:41	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/L	03.17.2020 22:41	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/L	03.17.2020 22:41	U	1
Total BTEX		<0.00100	0.00100	mg/L	03.17.2020 22:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
a,a,a-Trifluorotoluene	98-08-8	123	%	66-120	03.17.2020 22:41	**
4-Bromofluorobenzene	460-00-4	125	%	67-120	03.17.2020 22:41	**



Certificate of Analytical Results 655568

Larson and Associates, Inc., Midland, TX

Apache-NM GSAU 2102

Sample Id: **TMW-2**
Lab Sample Id: 655568-003

Matrix: Water
Date Collected: 03.12.2020 12:15

Date Received: 03.13.2020 08:45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.13.2020 18:30

Seq Number: 3119665

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	423	5.00	mg/L	03.13.2020 22:21		10

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 03.17.2020 15:30

Seq Number: 3120085

SUB: T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/L	03.17.2020 23:06	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/L	03.17.2020 23:06	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/L	03.17.2020 23:06	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/L	03.17.2020 23:06	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/L	03.17.2020 23:06	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/L	03.17.2020 23:06	U	1
Total BTEX		<0.00100	0.00100	mg/L	03.17.2020 23:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
a,a,a-Trifluorotoluene	98-08-8	129	%	66-120	03.17.2020 23:06	**
4-Bromofluorobenzene	460-00-4	129	%	67-120	03.17.2020 23:06	**



Certificate of Analytical Results 655568

Larson and Associates, Inc., Midland, TX

Apache-NM GSAU 2102

Sample Id: **TMW-1** Matrix: Water Date Received: 03.13.2020 08:45
 Lab Sample Id: 655568-004 Date Collected: 03.12.2020 13:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 03.13.2020 18:30
 Seq Number: 3119665

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	360	5.00	mg/L	03.13.2020 22:28		10

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: MIT % Moisture:
 Analyst: MIT Date Prep: 03.17.2020 15:30
 Seq Number: 3120085 SUB: T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/L	03.17.2020 23:30	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/L	03.17.2020 23:30	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/L	03.17.2020 23:30	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/L	03.17.2020 23:30	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/L	03.17.2020 23:30	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/L	03.17.2020 23:30	U	1
Total BTEX		<0.00100	0.00100	mg/L	03.17.2020 23:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
a,a,a-Trifluorotoluene	98-08-8	126	%	66-120	03.17.2020 23:30	**
4-Bromofluorobenzene	460-00-4	96	%	67-120	03.17.2020 23:30	



Larson and Associates, Inc.
Apache-NM GSAU 2102

Analytical Method: Chloride by EPA 300

Seq Number: 3119665
MB Sample Id: 7698877-1-BLK

Matrix: Water

LCS Sample Id: 7698877-1-BKS

Prep Method: E300P

Date Prep: 03.13.2020

LCSD Sample Id: 7698877-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	0.0549	25.0	25.1	100	25.2	101	90-110	0	20	mg/L	03.13.2020 21:38	

Analytical Method: Chloride by EPA 300

Seq Number: 3119665
Parent Sample Id: 655568-001

Matrix: Water

MS Sample Id: 655568-001 S

Prep Method: E300P

Date Prep: 03.13.2020

MSD Sample Id: 655568-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	230	125	352	98	351	97	90-110	0	20	mg/L	03.13.2020 23:27	

Analytical Method: Chloride by EPA 300

Seq Number: 3119665
Parent Sample Id: 655579-001

Matrix: Drinking Water

MS Sample Id: 655579-001 S

Prep Method: E300P

Date Prep: 03.13.2020

MSD Sample Id: 655579-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.33	25.0	32.6	101	32.5	101	90-110	0	20	mg/L	03.13.2020 21:59	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3120085
MB Sample Id: 7699174-1-BLK

Matrix: Water

LCS Sample Id: 7699174-1-BKS

Prep Method: SW5030B

Date Prep: 03.17.2020

LCSD Sample Id: 7699174-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0994	99	0.0982	98	74-120	1	20	mg/L	03.17.2020 19:01	
Toluene	<0.00100	0.100	0.106	106	0.103	103	74-120	3	20	mg/L	03.17.2020 19:01	
Ethylbenzene	<0.00100	0.100	0.109	109	0.106	106	74-120	3	20	mg/L	03.17.2020 19:01	
m,p-Xylenes	<0.00200	0.200	0.219	110	0.212	106	73-120	3	25	mg/L	03.17.2020 19:01	
o-Xylene	<0.00100	0.100	0.108	108	0.106	106	73-120	2	25	mg/L	03.17.2020 19:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	124	**	124	**	121	**	66-120	%	03.17.2020 19:01
4-Bromofluorobenzene	123	**	123	**	118	**	67-120	%	03.17.2020 19:01

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



Larson and Associates, Inc.
Apache-NM GSAU 2102

Analytical Method: BTEX by EPA 8021B
Seq Number: 3120085
Parent Sample Id: 655568-001

Matrix: Water
MS Sample Id: 655568-001 S

Prep Method: SW5030B
Date Prep: 03.17.2020
MSD Sample Id: 655568-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0186	19	0.0234	23	15-147	23	25	mg/L	03.17.2020 21:28	
Toluene	<0.00100	0.100	0.0187	19	0.0242	24	11-147	26	25	mg/L	03.17.2020 21:28	F
Ethylbenzene	<0.00100	0.100	0.0186	19	0.0254	25	10-149	31	25	mg/L	03.17.2020 21:28	F
m,p-Xylenes	<0.00200	0.200	0.0295	15	0.0421	21	62-124	35	25	mg/L	03.17.2020 21:28	XF
o-Xylene	<0.00100	0.100	0.0180	18	0.0249	25	62-124	32	25	mg/L	03.17.2020 21:28	XF

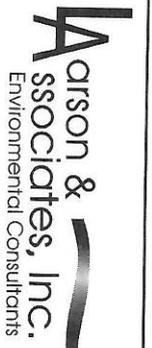
Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	123	**	122	**	66-120	%	03.17.2020 21:28
4-Bromofluorobenzene	123	**	124	**	67-120	%	03.17.2020 21:28

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

0555108

CHAIN-OF-CUSTODY

NO 0892

Data Reported to:

DATE: 3/13/2020
PO#:
PROJECT LOCATION OR NAME: Apache - NMS SAC 2102
LAI PROJECT #: 19-012-S1 COLLECTOR: RW105
LAB WORK ORDER#:
PAGE 1 OF 1

TRRP report?
 Yes No

S=SOIL
W=WATER
A=AIR
P=PAINT
SL=SLUDGE
OT=OTHER

TIME ZONE:
Time zone/State:

MST

Field Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ NaOH

ICE

UNPRESERVED

X

X

X

X

X

X

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MW-2

Dup-1

Tmw-2

Tmw-1

3/13/20

11:30

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13:00

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TOTAL

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

LABORATORY: Xenco

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

NORMAL

1 DAY

2 DAY

OTHER

LABORATORY USE ONLY:

RECEIVING TEMP: 53.50 THERM#: 129

CUSTODY SEALS - BROKEN INTACT NOT USED

CARRIER BILL #

HAND DELIVERED

- ANALYSES**
- BTEX MTBE
 - TRPH 4-18.1 TPH 1005 TPH 7006
 - GASOLINE MOD 8015
 - DIESEL - MOD 8015
 - OIL - MOD 8015
 - VOC 8260
 - SVOC 8270
 - 8081 PESTICIDES PAH 8270 HOLDPAH
 - 8082 PCBS 8151 HERBICIDES
 - TBLP - METALS
 - TCLP - METALS (RCRA) TCLP VOC
 - TOTAL METALS (RCRA) OTHER LIST
 - LEAD - TOTAL D.W. 200.8 TCLP
 - RCI TOX FLASHPOINT
 - TDS TSS % MOISTURE CYANIDE
 - pH HEXAVALENT CHROMIUM
 - EXPLOSIVES PECTHORATE
 - CHLORIDE ANIONS ALKALINITY

FIELD NOTES

Inter-Office Shipment

IOS Number : 60346

Date/Time: 03.16.2020

Created by: Allison Johnson

Please send report to: Holly Taylor

Lab# From: **Midland**

Delivery Priority:

Address: 1211 W. Florida Ave

Lab# To: **Lubbock**

Air Bill No.: 770044520695

E-Mail: holly.taylor@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
655568-001	W	MW-2	03.12.2020 11:25	SW8021B	BTEX by EPA 8021B	03.19.2020	03.26.2020	HTA	BR4FBZ BZ BZME EBZ	
655568-002	W	DUP-1	03.12.2020 11:30	SW8021B	BTEX by EPA 8021B	03.19.2020	03.26.2020	HTA	BR4FBZ BZ BZME EBZ	
655568-003	W	TMW-2	03.12.2020 12:15	SW8021B	BTEX by EPA 8021B	03.19.2020	03.26.2020	HTA	BR4FBZ BZ BZME EBZ	
655568-004	W	TMW-1	03.12.2020 13:00	SW8021B	BTEX by EPA 8021B	03.19.2020	03.26.2020	HTA	BR4FBZ BZ BZME EBZ	

Inter Office Shipment or Sample Comments:

Relinquished By: 
Allison Johnson

Date Relinquished: 03.16.2020

Received By: 
Ashley Derstine

Date Received: 03.17.2020

Cooler Temperature: 2.9



Inter Office Report- Sample Receipt Checklist

Sent To: Lubbock

Acceptable Temperature Range: 0 - 6 degC

IOS #: 60346

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sent By: Allison Johnson

Date Sent: 03.16.2020 03.33 PM

Received By: Ashley Derstine

Date Received: 03.17.2020 10.45 AM

Sample Receipt Checklist

Comments

- #1 *Temperature of cooler(s)? 2.9
- #2 *Shipping container in good condition? Yes
- #3 *Samples received with appropriate temperature? Yes
- #4 *Custody Seals intact on shipping container/ cooler? N/A
- #5 *Custody Seals Signed and dated for Containers/coolers N/A
- #6 *IOS present? Yes
- #7 Any missing/extra samples? No
- #8 IOS agrees with sample label(s)/matrix? Yes
- #9 Sample matrix/ properties agree with IOS? Yes
- #10 Samples in proper container/ bottle? Yes
- #11 Samples properly preserved? Yes
- #12 Sample container(s) intact? Yes
- #13 Sufficient sample amount for indicated test(s)? Yes
- #14 All samples received within hold time? Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Ashley Derstine

Date: 03.17.2020



Certificate of Analysis Summary 667700

Larson and Associates, Inc., Midland, TX

Project Name: NMGSAU #2102

Project Id: 19-0112-51

Contact: Mark Larson

Project Location:

Date Received in Lab: Tue 07.21.2020 08:35

Report Date: 07.28.2020 16:46

Project Manager: Holly Taylor

Analysis Requested	Lab Id:	667700-001	667700-002	667700-003	667700-004		
	Field Id:	MW-2	DUP-1	TMW-1	TMW-2		
	Depth:						
	Matrix:	WATER	WATER	WATER	WATER		
	Sampled:	07.20.2020 11:20	07.20.2020 11:40	07.20.2020 12:40	07.20.2020 12:50		
BTEX by EPA 8021B	Extracted:	07.25.2020 14:45	07.25.2020 14:45	07.25.2020 14:45	07.25.2020 14:45		
	Analyzed:	07.26.2020 05:32	07.26.2020 05:53	07.26.2020 06:13	07.26.2020 06:33		
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400		
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Chloride by EPA 300	Extracted:	07.22.2020 16:50	07.22.2020 16:50	07.22.2020 16:50	07.22.2020 16:50		
	Analyzed:	07.24.2020 09:55	07.24.2020 10:00	07.24.2020 10:05	07.24.2020 10:10		
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL		
Chloride		231 2.50	242 2.50	432 5.00	664 5.00		

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Analytical Report 667700

for

Larson and Associates, Inc.

Project Manager: Mark Larson

NMGSAU #2102

19-0112-51

07.28.2020

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-36), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-25), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-7)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



07.28.2020

Project Manager: **Mark Larson**
Larson and Associates, Inc.
P. O. Box 50685
Midland, TX 79710

Reference: Eurofins Xenco, LLC Report No(s): **667700**
NMGSAU #2102
Project Address:

Mark Larson :

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 Eurofins Xenco, LLC Report Number(s) 667700. 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 Eurofins Xenco, LLC. 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. 667700 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads "Holly Taylor".

Holly Taylor
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 667700

Larson and Associates, Inc., Midland, TX

NMGSAU #2102

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	07.20.2020 11:20		667700-001
DUP-1	W	07.20.2020 11:40		667700-002
TMW-1	W	07.20.2020 12:40		667700-003
TMW-2	W	07.20.2020 12:50		667700-004



CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: NMGSAU #2102

Project ID: 19-0112-51
Work Order Number(s): 667700

Report Date: 07.28.2020
Date Received: 07.21.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 667700

Larson and Associates, Inc., Midland, TX
 NMGSAU #2102

Sample Id: **MW-2** Matrix: Water Date Received: 07.21.2020 08:35
 Lab Sample Id: 667700-001 Date Collected: 07.20.2020 11:20
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.22.2020 16:50
 Seq Number: 3132512

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	231	2.50	mg/L	07.24.2020 09:55		5

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL % Moisture:
 Analyst: KTL Date Prep: 07.25.2020 14:45
 Seq Number: 3132608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	07.26.2020 05:32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	07.26.2020 05:32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	07.26.2020 05:32	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	07.26.2020 05:32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	07.26.2020 05:32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	07.26.2020 05:32	U	1
Total BTEX		<0.00200	0.00200	mg/L	07.26.2020 05:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	07.26.2020 05:32	
4-Bromofluorobenzene	460-00-4	95	%	70-130	07.26.2020 05:32	



Certificate of Analytical Results 667700

Larson and Associates, Inc., Midland, TX

NMGSAU #2102

Sample Id: **DUP-1** Matrix: Water Date Received: 07.21.2020 08:35
 Lab Sample Id: 667700-002 Date Collected: 07.20.2020 11:40
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.22.2020 16:50
 Seq Number: 3132512

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	242	2.50	mg/L	07.24.2020 10:00		5

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL % Moisture:
 Analyst: KTL Date Prep: 07.25.2020 14:45
 Seq Number: 3132608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	07.26.2020 05:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	07.26.2020 05:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	07.26.2020 05:53	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	07.26.2020 05:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	07.26.2020 05:53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	07.26.2020 05:53	U	1
Total BTEX		<0.00200	0.00200	mg/L	07.26.2020 05:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.26.2020 05:53	
4-Bromofluorobenzene	460-00-4	92	%	70-130	07.26.2020 05:53	



Certificate of Analytical Results 667700

Larson and Associates, Inc., Midland, TX
 NMGSAU #2102

Sample Id: **TMW-1** Matrix: Water Date Received: 07.21.2020 08:35
 Lab Sample Id: 667700-003 Date Collected: 07.20.2020 12:40
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.22.2020 16:50
 Seq Number: 3132512

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	432	5.00	mg/L	07.24.2020 10:05		10

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL % Moisture:
 Analyst: KTL Date Prep: 07.25.2020 14:45
 Seq Number: 3132608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	07.26.2020 06:13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	07.26.2020 06:13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	07.26.2020 06:13	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	07.26.2020 06:13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	07.26.2020 06:13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	07.26.2020 06:13	U	1
Total BTEX		<0.00200	0.00200	mg/L	07.26.2020 06:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.26.2020 06:13	
4-Bromofluorobenzene	460-00-4	93	%	70-130	07.26.2020 06:13	



Certificate of Analytical Results 667700

Larson and Associates, Inc., Midland, TX
 NMGSAU #2102

Sample Id: **TMW-2** Matrix: Water Date Received: 07.21.2020 08:35
 Lab Sample Id: 667700-004 Date Collected: 07.20.2020 12:50
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.22.2020 16:50
 Seq Number: 3132512

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	664	5.00	mg/L	07.24.2020 10:10		10

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL % Moisture:
 Analyst: KTL Date Prep: 07.25.2020 14:45
 Seq Number: 3132608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	07.26.2020 06:33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	07.26.2020 06:33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	07.26.2020 06:33	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	07.26.2020 06:33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	07.26.2020 06:33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	07.26.2020 06:33	U	1
Total BTEX		<0.00200	0.00200	mg/L	07.26.2020 06:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.26.2020 06:33	
4-Bromofluorobenzene	460-00-4	99	%	70-130	07.26.2020 06:33	



Larson and Associates, Inc.
NMGSAU #2102

Analytical Method: Chloride by EPA 300

Seq Number: 3132512

MB Sample Id: 7707864-1-BLK

Matrix: Water

LCS Sample Id: 7707864-1-BKS

Prep Method: E300P

Date Prep: 07.22.2020

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Chloride	<0.500	25.0	26.0	104	90-110	mg/L	07.24.2020 08:41	

Analytical Method: Chloride by EPA 300

Seq Number: 3132512

Parent Sample Id: 667828-001

Matrix: Drinking Water

MS Sample Id: 667828-001 S

Prep Method: E300P

Date Prep: 07.22.2020

MSD Sample Id: 667828-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12.8	25.0	40.2	110	41.3	114	90-110	3	20	mg/L	07.24.2020 09:02	X

Analytical Method: BTEX by EPA 8021B

Seq Number: 3132608

MB Sample Id: 7708080-1-BLK

Matrix: Water

LCS Sample Id: 7708080-1-BKS

Prep Method: SW5030B

Date Prep: 07.25.2020

LCSD Sample Id: 7708080-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0935	94	0.0921	92	70-130	2	25	mg/L	07.26.2020 03:11	
Toluene	<0.00200	0.100	0.0903	90	0.0900	90	70-130	0	25	mg/L	07.26.2020 03:11	
Ethylbenzene	<0.00200	0.100	0.0919	92	0.0906	91	70-130	1	25	mg/L	07.26.2020 03:11	
m,p-Xylenes	<0.00400	0.200	0.180	90	0.178	89	70-130	1	25	mg/L	07.26.2020 03:11	
o-Xylene	<0.00200	0.100	0.0924	92	0.0898	90	70-130	3	25	mg/L	07.26.2020 03:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		101		103		70-130	%	07.26.2020 03:11
4-Bromofluorobenzene	84		98		98		70-130	%	07.26.2020 03:11

Analytical Method: BTEX by EPA 8021B

Seq Number: 3132608

Parent Sample Id: 667805-005

Matrix: Water

MS Sample Id: 667805-005 S

Prep Method: SW5030B

Date Prep: 07.25.2020

MSD Sample Id: 667805-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0952	95	0.0921	92	70-130	3	25	mg/L	07.26.2020 03:51	
Toluene	<0.00200	0.100	0.0929	93	0.0929	93	70-130	0	25	mg/L	07.26.2020 03:51	
Ethylbenzene	<0.00200	0.100	0.0931	93	0.0917	92	70-130	2	25	mg/L	07.26.2020 03:51	
m,p-Xylenes	<0.00400	0.200	0.183	92	0.181	91	70-130	1	25	mg/L	07.26.2020 03:51	
o-Xylene	<0.00200	0.100	0.0937	94	0.0914	91	70-130	2	25	mg/L	07.26.2020 03:51	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		101		70-130	%	07.26.2020 03:51
4-Bromofluorobenzene	98		94		70-130	%	07.26.2020 03:51

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



507 N. Marientfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

TRRP report?
 Yes No

TIME ZONE:
Time zone/State:
MST

S=SOIL
W=WATER
A=AIR
P=PAINT
SL=SLUDGE
OT=OTHER

Field Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ NaOH

ICE

UNPRESERVED

ANALYSES

- BTEX
- MTBE
- TRPH 418.1
- TPH 1005
- TPH 1008
- GASOLINE MOD 8015
- DIESEL - MOD 8015
- OIL - MOD 8015
- VOC 8260
- SVOC 8270
- PAH 8270
- HOLDPAH
- 8081 PESTICIDES
- 8082 PCBS
- TBLP - METALS (RCRA)
- TCLP - METALS (RCRA)
- TCLP - PEST
- TOTAL METALS (RCRA)
- LEAD - TOTAL
- RCI
- TOX
- D.W. 200.8
- FLASHPOINT
- % MOISTURE
- TDS
- TSS
- CYANIDE
- OTHER LIST
- SEMI-VOC
- TCLP
- HEXAVALENT CHROMIUM
- PETCHLORATE
- PH
- EXPLOSIVES
- ANIONS
- ALKALINITY
- CHLORIDE

FIELD NOTES

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO ₃	H ₂ SO ₄ / NaOH	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
MW-2		7/20/20	1120	W	4	X			X			
DUP 1			1140		4							
TMW 1			1240		4							
TMW 2			1250		4							
TOTAL												

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL
1 DAY
2 DAY
OTHER

LABORATORY USE ONLY:
RECEIVING TEMP: 20/10
THERM#: 2025
CUSTODY SEALS - BROKEN INTACT NOT USED
 CARRIER BILL #
 HAND DELIVERED

LABORATORY: XENCO

DATE/TIME

RECEIVED BY: (Signature)

DATE: 7/20/20

PO#:

PROJECT LOCATION OR NAME: AMESA V # 2102

LAI PROJECT #: 19-0112-S1

COLLECTOR: TTTB

LAB WORK ORDER#:

PAGE 1 OF 1

1907100

CHAIN-OF-CUSTODY

No 1204

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.

Date/ Time Received: 07.21.2020 08.35.00 AM

Work Order #: 667700

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.2
#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)?	N/A
#18 Water VOC samples have zero headspace?	Yes

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

Analyst: AJA

PH Device/Lot#: 10BDH1991

Checklist completed by: Brianna Teel Date: 07.21.2020
 Brianna Teel

Checklist reviewed by: Holly Taylor Date: 07.22.2020
 Holly Taylor



Certificate of Analysis Summary 674149

Larson and Associates, Inc., Midland, TX

Project Name: NMG SAU 2102

Project Id: 19-0112-51

Contact: Mark Larson

Project Location:

Date Received in Lab: Fri 10.02.2020 09:20

Report Date: 10.07.2020 16:39

Project Manager: Holly Taylor

Analysis Requested	Lab Id:	674149-001	674149-002	674149-003	674149-004		
	Field Id:	MW-2	DUP-1	TMW-1	TMW-2		
	Depth:						
	Matrix:	WATER	WATER	WATER	WATER		
	Sampled:	10.01.2020 10:20	10.01.2020 13:00	10.01.2020 11:00	10.01.2020 12:00		
BTEX by EPA 8021B	Extracted:	10.04.2020 10:30	10.04.2020 10:30	10.04.2020 10:30	10.04.2020 10:30		
	Analyzed:	10.04.2020 16:04	10.04.2020 17:29	10.04.2020 17:50	10.04.2020 18:10		
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400		
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Chloride by EPA 300	Extracted:	10.06.2020 11:15	10.06.2020 11:15	10.06.2020 11:15	10.06.2020 11:15		
	Analyzed:	10.06.2020 14:30	10.06.2020 14:35	10.06.2020 14:41	10.06.2020 14:46		
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL		
Chloride		241 2.50	245 2.50	452 5.00	591 5.00		

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

Analytical Report 674149

for

Larson and Associates, Inc.

Project Manager: Mark Larson

NMG SAU 2102

19-0112-51

10.07.2020

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



10.07.2020

Project Manager: **Mark Larson**
Larson and Associates, Inc.
P. O. Box 50685
Midland, TX 79710

Reference: Eurofins Xenco, LLC Report No(s): **674149**
NMG SAU 2102
Project Address:

Mark Larson :

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 Eurofins Xenco, LLC Report Number(s) 674149. 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 Eurofins Xenco, LLC. 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. 674149 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 Eurofins Xenco, LLC 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
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 674149

Larson and Associates, Inc., Midland, TX

NMG SAU 2102

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	10.01.2020 10:20		674149-001
DUP-1	W	10.01.2020 13:00		674149-002
TMW-1	W	10.01.2020 11:00		674149-003
TMW-2	W	10.01.2020 12:00		674149-004



CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: NMG SAU 2102

Project ID: 19-0112-51
Work Order Number(s): 674149

Report Date: 10.07.2020
Date Received: 10.02.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 674149

Larson and Associates, Inc., Midland, TX
 NMG SAU 2102

Sample Id: **MW-2** Matrix: Water Date Received: 10.02.2020 09:20
 Lab Sample Id: 674149-001 Date Collected: 10.01.2020 10:20
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 10.06.2020 11:15 % Moisture:
 Seq Number: 3139032

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	241	2.50	mg/L	10.06.2020 14:30		5

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL
 Analyst: KTL Date Prep: 10.04.2020 10:30 % Moisture:
 Seq Number: 3138793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	10.04.2020 16:04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	10.04.2020 16:04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	10.04.2020 16:04	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	10.04.2020 16:04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	10.04.2020 16:04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	10.04.2020 16:04	U	1
Total BTEX		<0.00200	0.00200	mg/L	10.04.2020 16:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.04.2020 16:04	
4-Bromofluorobenzene	460-00-4	106	%	70-130	10.04.2020 16:04	



Certificate of Analytical Results 674149

Larson and Associates, Inc., Midland, TX
NMG SAU 2102

Sample Id: **DUP-1** Matrix: Water Date Received: 10.02.2020 09:20
 Lab Sample Id: 674149-002 Date Collected: 10.01.2020 13:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 10.06.2020 11:15 % Moisture:
 Seq Number: 3139032

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	245	2.50	mg/L	10.06.2020 14:35		5

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL
 Analyst: KTL Date Prep: 10.04.2020 10:30 % Moisture:
 Seq Number: 3138793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	10.04.2020 17:29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	10.04.2020 17:29	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	10.04.2020 17:29	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	10.04.2020 17:29	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	10.04.2020 17:29	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	10.04.2020 17:29	U	1
Total BTEX		<0.00200	0.00200	mg/L	10.04.2020 17:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	10.04.2020 17:29	
4-Bromofluorobenzene	460-00-4	109	%	70-130	10.04.2020 17:29	



Certificate of Analytical Results 674149

Larson and Associates, Inc., Midland, TX
NMG SAU 2102

Sample Id: **TMW-1** Matrix: Water Date Received: 10.02.2020 09:20
 Lab Sample Id: 674149-003 Date Collected: 10.01.2020 11:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 10.06.2020 11:15 % Moisture:
 Seq Number: 3139032

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	452	5.00	mg/L	10.06.2020 14:41		10

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL
 Analyst: KTL Date Prep: 10.04.2020 10:30 % Moisture:
 Seq Number: 3138793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	10.04.2020 17:50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	10.04.2020 17:50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	10.04.2020 17:50	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	10.04.2020 17:50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	10.04.2020 17:50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	10.04.2020 17:50	U	1
Total BTEX		<0.00200	0.00200	mg/L	10.04.2020 17:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.04.2020 17:50	
4-Bromofluorobenzene	460-00-4	104	%	70-130	10.04.2020 17:50	



Certificate of Analytical Results 674149

Larson and Associates, Inc., Midland, TX
 NMG SAU 2102

Sample Id: **TMW-2** Matrix: Water Date Received: 10.02.2020 09:20
 Lab Sample Id: 674149-004 Date Collected: 10.01.2020 12:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 10.06.2020 11:15 % Moisture:
 Seq Number: 3139032

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	591	5.00	mg/L	10.06.2020 14:46		10

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL
 Analyst: KTL Date Prep: 10.04.2020 10:30 % Moisture:
 Seq Number: 3138793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	10.04.2020 18:10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	10.04.2020 18:10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	10.04.2020 18:10	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	10.04.2020 18:10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	10.04.2020 18:10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	10.04.2020 18:10	U	1
Total BTEX		<0.00200	0.00200	mg/L	10.04.2020 18:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	10.04.2020 18:10	
4-Bromofluorobenzene	460-00-4	103	%	70-130	10.04.2020 18:10	



QC Summary 674149

Larson and Associates, Inc. NMG SAU 2102

Analytical Method: Chloride by EPA 300

Seq Number: 3139032
MB Sample Id: 7712703-1-BLK

Matrix: Water
LCS Sample Id: 7712703-1-BKS

Prep Method: E300P
Date Prep: 10.06.2020
LCSD Sample Id: 7712703-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.500	25.0	26.2	105	26.2	105	90-110	0	20	mg/L	10.06.2020 13:53	

Analytical Method: Chloride by EPA 300

Seq Number: 3139032
Parent Sample Id: 674336-001

Matrix: Drinking Water
MS Sample Id: 674336-001 S

Prep Method: E300P
Date Prep: 10.06.2020
MSD Sample Id: 674336-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.54	25.0	35.5	108	35.3	107	90-110	1	20	mg/L	10.06.2020 14:15	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3138793
MB Sample Id: 7712592-1-BLK

Matrix: Water
LCS Sample Id: 7712592-1-BKS

Prep Method: SW5030B
Date Prep: 10.04.2020
LCSD Sample Id: 7712592-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0934	93	0.0908	91	70-130	3	25	mg/L	10.04.2020 10:56	
Toluene	<0.00200	0.100	0.0899	90	0.0871	87	70-130	3	25	mg/L	10.04.2020 10:56	
Ethylbenzene	<0.00200	0.100	0.0983	98	0.0939	94	70-130	5	25	mg/L	10.04.2020 10:56	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.192	96	70-130	5	25	mg/L	10.04.2020 10:56	
o-Xylene	<0.00200	0.100	0.0980	98	0.0946	95	70-130	4	25	mg/L	10.04.2020 10:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		97		98		70-130	%	10.04.2020 10:56
4-Bromofluorobenzene	100		96		97		70-130	%	10.04.2020 10:56

Analytical Method: BTEX by EPA 8021B

Seq Number: 3138793
Parent Sample Id: 674046-014

Matrix: Ground Water
MS Sample Id: 674046-014 S

Prep Method: SW5030B
Date Prep: 10.04.2020
MSD Sample Id: 674046-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0958	96	0.104	104	70-130	8	25	mg/L	10.04.2020 11:37	
Toluene	<0.00200	0.100	0.0921	92	0.0992	99	70-130	7	25	mg/L	10.04.2020 11:37	
Ethylbenzene	<0.00200	0.100	0.100	100	0.110	110	70-130	10	25	mg/L	10.04.2020 11:37	
m,p-Xylenes	<0.00400	0.200	0.206	103	0.224	112	70-130	8	25	mg/L	10.04.2020 11:37	
o-Xylene	<0.00200	0.100	0.100	100	0.110	110	70-130	10	25	mg/L	10.04.2020 11:37	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		96		70-130	%	10.04.2020 11:37
4-Bromofluorobenzene	93		97		70-130	%	10.04.2020 11:37

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



507 N. Martenfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

DATE: 10/21/20
PO#: 674129
PROJECT LOCATION OR NAME: AMG 1A4 2102
LAI PROJECT #: 19-012-51
COLLECTOR: BS/JT
LAB WORK ORDER#: 1359
PAGE 1 OF 1

TRRP report?
 Yes No

S=SOIL
W=WATER
A=AIR
P=PAINT
SL=SLUDGE
OT=OTHER

TIME ZONE:
Time zone/State:

MNT

Field Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl
HNO₃
H₂SO₄ NaOH

ICE
UNPRESERVED

ANALYSES

- BTEX-MTBE
- TRPH 418.1 TPH 1005 TPH 1006
- GASOLINE MOD 8015
- DIESEL - MOD 8015
- OIL - MOD 8015
- VOC 8280
- SVOC 8270 PAH 8270 HOLDPAH
- 8081 PESTICIDES 8151 HERBICIDES
- 8082 PCBS
- TBLP - METALS (RCRA) TCLP VOC
- TCLP - PEST HERB Semi-VOC
- TOTAL METALS (RCRA) OTHER LIST
- LEAD - TOTAL D.W. 200.8 TCLP
- RCl TOX FLASHPOINT
- TDS TSS % MOISTURE CYANIDE
- pH HEXAVALENT CHROMIUM
- EXPLOSIVES PECTHORATE
- CHLORIDE ANIONS ALKALINITY

FIELD NOTES

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO ₃	H ₂ SO ₄ <input type="checkbox"/>	NaOH <input type="checkbox"/>	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
MW-2		10/1/20	1020	W	5	X							
DWP-1		10/1/20	1300	W	5	X							
Tmw-1		10/1/20	1100	W	5	X							
Tmw-2		10/1/20	1200	W	5	X							Bill Direct to Apache
TOTAL	4												

RELINQUISHED BY: (Signature) [Signature] DATE/TIME 10/21/20 0920 RECEIVED BY: (Signature) [Signature]

RELINQUISHED BY: (Signature) _____ DATE/TIME _____ RECEIVED BY: (Signature) _____

RELINQUISHED BY: (Signature) _____ DATE/TIME _____ RECEIVED BY: (Signature) _____

LABORATORY: Y ENCO

TURN AROUND TIME
 NORMAL
 1 DAY
 2 DAY
 OTHER

LABORATORY USE ONLY:
 RECEIVING TEMP: 3.20 THERM#: _____
 CARRIER BILL # _____
 BROKEN INTACT NOT USED
 HAND DELIVERED

674129
10/21/20
1359
CHAIN-OF-CUSTODY

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.

Date/ Time Received: 10.02.2020 09.20.00 AM

Work Order #: 674149

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.2
#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)?	N/A
#18 Water VOC samples have zero headspace?	Yes

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

Analyst: AJA

PH Device/Lot#: 10BDH1991

Checklist completed by: Brianna Teel Date: 10.02.2020
 Brianna Teel

Checklist reviewed by: Holly Taylor Date: 10.07.2020
 Holly Taylor



Certificate of Analysis Summary 680333

Larson and Associates, Inc., Midland, TX

Project Name: NMGSAU 2102

Project Id: 19-0112-51

Contact: Mark Larson

Project Location:

Date Received in Lab: Wed 12.09.2020 08:51

Report Date: 12.15.2020 11:42

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	680333-001	680333-002	680333-003	680333-004		
	<i>Field Id:</i>	TMW-02	TMW-1	MW-2	DUP-1		
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER	WATER	WATER		
	<i>Sampled:</i>	12.08.2020 10:09	12.08.2020 10:34	12.08.2020 10:58	12.08.2020 00:00		
BTEX by EPA 8021B	<i>Extracted:</i>	12.10.2020 15:00	12.10.2020 15:00	12.10.2020 15:00	12.10.2020 15:00		
	<i>Analyzed:</i>	12.11.2020 07:43	12.11.2020 08:09	12.11.2020 08:35	12.11.2020 09:00		
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL	mg/L RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400		
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total Xylenes		<0.002000 0.002000	<0.002000 0.002000	<0.002000 0.002000	<0.002000 0.002000		
Total BTEX		<0.002000 0.002000	<0.002000 0.002000	<0.002000 0.002000	<0.002000 0.002000		
Chloride by EPA 300	<i>Extracted:</i>	12.10.2020 15:15	12.10.2020 15:15	12.10.2020 15:15	12.10.2020 15:15		
	<i>Analyzed:</i>	12.10.2020 17:19	12.10.2020 17:27	12.10.2020 17:52	12.10.2020 17:57		
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL	mg/L RL		
Chloride		473 5.00	449 5.00	227 2.50	226 2.50		

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Analytical Report 680333

for

Larson and Associates, Inc.

Project Manager: Mark Larson

NMGSAU 2102

19-0112-51

12.15.2020

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.15.2020

Project Manager: **Mark Larson**
Larson and Associates, Inc.
P. O. Box 50685
Midland, TX 79710

Reference: Eurofins Xenco, LLC Report No(s): **680333**
NMGSAU 2102
Project Address:

Mark Larson:

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 Eurofins Xenco, LLC Report Number(s) 680333. 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 Eurofins Xenco, LLC. 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. 680333 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads "Holly Taylor".

Holly Taylor
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 680333

Larson and Associates, Inc., Midland, TX

NMGSAU 2102

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TMW-02	W	12.08.2020 10:09		680333-001
TMW-1	W	12.08.2020 10:34		680333-002
MW-2	W	12.08.2020 10:58		680333-003
DUP-1	W	12.08.2020 00:00		680333-004



CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: NMGSAU 2102

Project ID: 19-0112-51
Work Order Number(s): 680333

Report Date: 12.15.2020
Date Received: 12.09.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3144538 BTEX by EPA 8021B

Surrogate 1,4-Difluorobenzene recovered above QC limits . Samples affected are: 7716864-1-BKS,7716864-1-BSD,680330-001 S,680330-001 SD,680333-002,680333-001,680333-003,680333-004.

Surrogate 4-Bromofluorobenzene recovered above QC limits . Samples affected are: 7716864-1-BSD,680333-001,680333-002,680333-003,680333-004.

Toluene RPD was outside laboratory control limits.

Samples in the analytical batch are: 680333-001, -002, -003, -004



Certificate of Analytical Results 680333

Larson and Associates, Inc., Midland, TX
 NMGSAU 2102

Sample Id: **TMW-02** Matrix: Water Date Received: 12.09.2020 08:51
 Lab Sample Id: 680333-001 Date Collected: 12.08.2020 10:09
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.10.2020 15:15 % Moisture:
 Seq Number: 3144579

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	473	5.00	mg/L	12.10.2020 17:19		10

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: MNR
 Analyst: MNR Date Prep: 12.10.2020 15:00 % Moisture:
 Seq Number: 3144538

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	12.11.2020 07:43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	12.11.2020 07:43	UF	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	12.11.2020 07:43	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	12.11.2020 07:43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	12.11.2020 07:43	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/L	12.11.2020 07:43	U	1
Total BTEX		<0.002000	0.002000	mg/L	12.11.2020 07:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	195	%	70-130	12.11.2020 07:43	**
4-Bromofluorobenzene	460-00-4	138	%	70-130	12.11.2020 07:43	**



Certificate of Analytical Results 680333

Larson and Associates, Inc., Midland, TX
 NMGSAU 2102

Sample Id: **TMW-1** Matrix: Water Date Received: 12.09.2020 08:51
 Lab Sample Id: 680333-002 Date Collected: 12.08.2020 10:34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.10.2020 15:15 % Moisture:
 Seq Number: 3144579

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	449	5.00	mg/L	12.10.2020 17:27		10

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: MNR
 Analyst: MNR Date Prep: 12.10.2020 15:00 % Moisture:
 Seq Number: 3144538

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	12.11.2020 08:09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	12.11.2020 08:09	UF	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	12.11.2020 08:09	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	12.11.2020 08:09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	12.11.2020 08:09	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/L	12.11.2020 08:09	U	1
Total BTEX		<0.002000	0.002000	mg/L	12.11.2020 08:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	187	%	70-130	12.11.2020 08:09	**
4-Bromofluorobenzene	460-00-4	135	%	70-130	12.11.2020 08:09	**



Certificate of Analytical Results 680333

Larson and Associates, Inc., Midland, TX
 NMGSAU 2102

Sample Id: **MW-2** Matrix: Water Date Received: 12.09.2020 08:51
 Lab Sample Id: 680333-003 Date Collected: 12.08.2020 10:58
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.10.2020 15:15 % Moisture:
 Seq Number: 3144579

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	227	2.50	mg/L	12.10.2020 17:52		5

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: MNR
 Analyst: MNR Date Prep: 12.10.2020 15:00 % Moisture:
 Seq Number: 3144538

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	12.11.2020 08:35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	12.11.2020 08:35	UF	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	12.11.2020 08:35	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	12.11.2020 08:35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	12.11.2020 08:35	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/L	12.11.2020 08:35	U	1
Total BTEX		<0.002000	0.002000	mg/L	12.11.2020 08:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	176	%	70-130	12.11.2020 08:35	**
4-Bromofluorobenzene	460-00-4	136	%	70-130	12.11.2020 08:35	**



Certificate of Analytical Results 680333

Larson and Associates, Inc., Midland, TX
 NMGSAU 2102

Sample Id: **DUP-1** Matrix: Water Date Received: 12.09.2020 08:51
 Lab Sample Id: 680333-004 Date Collected: 12.08.2020 00:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.10.2020 15:15 % Moisture:
 Seq Number: 3144579

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	226	2.50	mg/L	12.10.2020 17:57		5

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: MNR
 Analyst: MNR Date Prep: 12.10.2020 15:00 % Moisture:
 Seq Number: 3144538

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	12.11.2020 09:00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	12.11.2020 09:00	UF	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	12.11.2020 09:00	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	12.11.2020 09:00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	12.11.2020 09:00	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/L	12.11.2020 09:00	U	1
Total BTEX		<0.002000	0.002000	mg/L	12.11.2020 09:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	164	%	70-130	12.11.2020 09:00	**
4-Bromofluorobenzene	460-00-4	135	%	70-130	12.11.2020 09:00	**



Larson and Associates, Inc.
NMGSAU 2102

Analytical Method: Chloride by EPA 300

Seq Number: 3144579
MB Sample Id: 7716819-1-BLK

Matrix: Water
LCS Sample Id: 7716819-1-BKS

Prep Method: E300P
Date Prep: 12.10.2020
LCSD Sample Id: 7716819-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.500	25.0	26.4	106	26.4	106	90-110	0	20	mg/L	12.10.2020 16:22	

Analytical Method: Chloride by EPA 300

Seq Number: 3144579
Parent Sample Id: 680611-001

Matrix: Drinking Water
MS Sample Id: 680611-001 S

Prep Method: E300P
Date Prep: 12.10.2020
MSD Sample Id: 680611-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	15.9	25.0	44.5	114	43.4	110	90-110	3	20	mg/L	12.10.2020 16:47	X

Analytical Method: Chloride by EPA 300

Seq Number: 3144579
Parent Sample Id: 680614-001

Matrix: Drinking Water
MS Sample Id: 680614-001 S

Prep Method: E300P
Date Prep: 12.10.2020
MSD Sample Id: 680614-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12.8	25.0	40.8	112	40.2	110	90-110	1	20	mg/L	12.10.2020 18:26	X

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144538
MB Sample Id: 7716864-1-BLK

Matrix: Water
LCS Sample Id: 7716864-1-BKS

Prep Method: SW5030B
Date Prep: 12.10.2020
LCSD Sample Id: 7716864-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.107	107	0.0935	94	70-130	13	25	mg/L	12.11.2020 02:07	
Toluene	<0.00200	0.100	0.112	112	0.0813	81	70-130	32	25	mg/L	12.11.2020 02:07	F
Ethylbenzene	<0.00200	0.100	0.110	110	0.0900	90	70-130	20	25	mg/L	12.11.2020 02:07	
m,p-Xylenes	<0.00400	0.200	0.223	112	0.185	93	70-130	19	25	mg/L	12.11.2020 02:07	
o-Xylene	<0.00200	0.100	0.111	111	0.0983	98	70-130	12	25	mg/L	12.11.2020 02:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		147	**	163	**	70-130	%	12.11.2020 02:07
4-Bromofluorobenzene	105		118		133	**	70-130	%	12.11.2020 02:07

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



QC Summary 680333

Larson and Associates, Inc. NMGSAU 2102

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144538

Parent Sample Id: 680330-001

Matrix: Water

MS Sample Id: 680330-001 S

Prep Method: SW5030B

Date Prep: 12.10.2020

MSD Sample Id: 680330-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.112	112	0.110	110	70-130	2	25	mg/L	12.11.2020 02:59	
Toluene	<0.00200	0.100	0.0939	94	0.112	112	70-130	18	25	mg/L	12.11.2020 02:59	
Ethylbenzene	<0.00200	0.100	0.108	108	0.111	111	70-130	3	25	mg/L	12.11.2020 02:59	
m,p-Xylenes	<0.00400	0.200	0.221	111	0.228	114	70-130	3	25	mg/L	12.11.2020 02:59	
o-Xylene	<0.00200	0.100	0.112	112	0.115	115	70-130	3	25	mg/L	12.11.2020 02:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	160	**	151	**	70-130	%	12.11.2020 02:59
4-Bromofluorobenzene	120		130		70-130	%	12.11.2020 02:59

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.

Date/ Time Received: 12.09.2020 08.51.00 AM

Work Order #: 680333

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : IR8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	5.9
#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)?	N/A
#18 Water VOC samples have zero headspace?	Yes

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

Analyst: JKR

PH Device/Lot#: 10BDH1991

Checklist completed by: Brianna Teel Date: 12.09.2020
Brianna Teel

Checklist reviewed by: Holly Taylor Date: 12.09.2020
Holly Taylor



Certificate of Analysis Summary 691511

Larson and Associates, Inc., Midland, TX

Project Name: NMGSAU 2102

Project Id: 19-0112-51

Contact: Mark Larson

Project Location:

Date Received in Lab: Thu 03.11.2021 15:46

Report Date: 03.19.2021 17:08

Project Manager: Holly Taylor

Analysis Requested	Lab Id:	691511-001	691511-002	691511-003	691511-004		
	Field Id:	MW-2	TMW-1	TMW-2	DUP-1		
	Depth:						
	Matrix:	WATER	WATER	WATER	WATER		
	Sampled:	03.10.2021 10:17	03.10.2021 10:40	03.10.2021 11:45	03.10.2021 00:00		
BTEX by EPA 8021B	Extracted:	03.16.2021 12:00	03.16.2021 12:00	03.16.2021 12:00	03.16.2021 12:00		
	Analyzed:	03.19.2021 01:00	03.19.2021 01:52	03.19.2021 02:18	03.19.2021 02:44		
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400		
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Chloride by EPA 300	Extracted:	03.11.2021 17:45	03.11.2021 17:45	03.11.2021 17:45	03.11.2021 17:45		
	Analyzed:	03.11.2021 18:27	03.11.2021 18:36	03.11.2021 19:01	03.11.2021 19:10		
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL		
Chloride		235 2.50	418 5.00	428 5.00	237 5.00		

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Analytical Report 691511

for

Larson and Associates, Inc.

Project Manager: Mark Larson

NMGSAU 2102

19-0112-51

03.19.2021

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



03.19.2021

Project Manager: **Mark Larson**
Larson and Associates, Inc.
P. O. Box 50685
Midland, TX 79710

Reference: Eurofins Xenco, LLC Report No(s): **691511**
NMGSAU 2102
Project Address:

Mark Larson:

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 Eurofins Xenco, LLC Report Number(s) 691511. 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 Eurofins Xenco, LLC. 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. 691511 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads "Holly Taylor".

Holly Taylor
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 691511

Larson and Associates, Inc., Midland, TX

NMGSAU 2102

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	03.10.2021 10:17		691511-001
TMW-1	W	03.10.2021 10:40		691511-002
TMW-2	W	03.10.2021 11:45		691511-003
DUP-1	W	03.10.2021 00:00		691511-004



CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: NMGSAU 2102

Project ID: 19-0112-51
Work Order Number(s): 691511

Report Date: 03.19.2021
Date Received: 03.11.2021

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 691511

Larson and Associates, Inc., Midland, TX
 NMGSAU 2102

Sample Id: **MW-2** Matrix: Water Date Received: 03.11.2021 15:46
 Lab Sample Id: 691511-001 Date Collected: 03.10.2021 10:17
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 03.11.2021 17:45 % Moisture:
 Seq Number: 3153434

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	235	2.50	mg/L	03.11.2021 18:27		5

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL
 Analyst: KTL Date Prep: 03.16.2021 12:00 % Moisture:
 Seq Number: 3154191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	03.19.2021 01:00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	03.19.2021 01:00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	03.19.2021 01:00	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	03.19.2021 01:00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	03.19.2021 01:00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	03.19.2021 01:00	U	1
Total BTEX		<0.00200	0.00200	mg/L	03.19.2021 01:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	03.19.2021 01:00	
4-Bromofluorobenzene	460-00-4	98	%	70-130	03.19.2021 01:00	



Certificate of Analytical Results 691511

Larson and Associates, Inc., Midland, TX
 NMGSAU 2102

Sample Id: **TMW-1** Matrix: Water Date Received: 03.11.2021 15:46
 Lab Sample Id: 691511-002 Date Collected: 03.10.2021 10:40

Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 03.11.2021 17:45 % Moisture:
 Seq Number: 3153434

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	418	5.00	mg/L	03.11.2021 18:36		10

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL
 Analyst: KTL Date Prep: 03.16.2021 12:00 % Moisture:
 Seq Number: 3154191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	03.19.2021 01:52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	03.19.2021 01:52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	03.19.2021 01:52	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	03.19.2021 01:52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	03.19.2021 01:52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	03.19.2021 01:52	U	1
Total BTEX		<0.00200	0.00200	mg/L	03.19.2021 01:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	117	%	70-130	03.19.2021 01:52	
4-Bromofluorobenzene	460-00-4	103	%	70-130	03.19.2021 01:52	



Certificate of Analytical Results 691511

Larson and Associates, Inc., Midland, TX
 NMGSAU 2102

Sample Id: **TMW-2** Matrix: Water Date Received: 03.11.2021 15:46
 Lab Sample Id: 691511-003 Date Collected: 03.10.2021 11:45
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 03.11.2021 17:45 % Moisture:
 Seq Number: 3153434

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	428	5.00	mg/L	03.11.2021 19:01		10

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL
 Analyst: KTL Date Prep: 03.16.2021 12:00 % Moisture:
 Seq Number: 3154191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	03.19.2021 02:18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	03.19.2021 02:18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	03.19.2021 02:18	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	03.19.2021 02:18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	03.19.2021 02:18	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	03.19.2021 02:18	U	1
Total BTEX		<0.00200	0.00200	mg/L	03.19.2021 02:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	03.19.2021 02:18	
4-Bromofluorobenzene	460-00-4	78	%	70-130	03.19.2021 02:18	



Certificate of Analytical Results 691511

Larson and Associates, Inc., Midland, TX
 NMGSAU 2102

Sample Id: **DUP-1** Matrix: Water Date Received: 03.11.2021 15:46
 Lab Sample Id: 691511-004 Date Collected: 03.10.2021 00:00

Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 03.11.2021 17:45 % Moisture:
 Seq Number: 3153434

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	237	5.00	mg/L	03.11.2021 19:10		10

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL
 Analyst: KTL Date Prep: 03.16.2021 12:00 % Moisture:
 Seq Number: 3154191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	03.19.2021 02:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	03.19.2021 02:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	03.19.2021 02:44	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	03.19.2021 02:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	03.19.2021 02:44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	03.19.2021 02:44	U	1
Total BTEX		<0.00200	0.00200	mg/L	03.19.2021 02:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	117	%	70-130	03.19.2021 02:44	
4-Bromofluorobenzene	460-00-4	105	%	70-130	03.19.2021 02:44	



QC Summary 691511

Larson and Associates, Inc. NMGSAU 2102

Analytical Method: Chloride by EPA 300

Seq Number: 3153434
MB Sample Id: 7723127-1-BLK

Matrix: Water
LCS Sample Id: 7723127-1-BKS

Prep Method: E300P
Date Prep: 03.11.2021
LCSD Sample Id: 7723127-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.500	25.0	24.4	98	24.4	98	90-110	0	20	mg/L	03.11.2021 17:27	

Analytical Method: Chloride by EPA 300

Seq Number: 3153434
Parent Sample Id: 691256-001

Matrix: Drinking Water
MS Sample Id: 691256-001 S

Prep Method: E300P
Date Prep: 03.11.2021
MSD Sample Id: 691256-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	22.8	25.0	47.2	98	47.1	97	90-110	0	20	mg/L	03.11.2021 17:53	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3154191
MB Sample Id: 7723688-1-BLK

Matrix: Water
LCS Sample Id: 7723688-1-BKS

Prep Method: SW5030B
Date Prep: 03.16.2021
LCSD Sample Id: 7723688-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.108	108	0.102	102	70-130	6	25	mg/L	03.18.2021 23:17	
Toluene	<0.00200	0.100	0.103	103	0.0981	98	70-130	5	25	mg/L	03.18.2021 23:17	
Ethylbenzene	<0.00200	0.100	0.103	103	0.0993	99	70-130	4	25	mg/L	03.18.2021 23:17	
m,p-Xylenes	<0.00400	0.200	0.213	107	0.203	102	70-130	5	25	mg/L	03.18.2021 23:17	
o-Xylene	<0.00200	0.100	0.103	103	0.101	101	70-130	2	25	mg/L	03.18.2021 23:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		115		117		70-130	%	03.18.2021 23:17
4-Bromofluorobenzene	75		88		95		70-130	%	03.18.2021 23:17

Analytical Method: BTEX by EPA 8021B

Seq Number: 3154191
Parent Sample Id: 691511-001

Matrix: Water
MS Sample Id: 691511-001 S

Prep Method: SW5030B
Date Prep: 03.16.2021
MSD Sample Id: 691511-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0781	78	0.0865	87	70-130	10	25	mg/L	03.19.2021 07:41	
Toluene	<0.00200	0.100	0.0828	83	0.0871	87	70-130	5	25	mg/L	03.19.2021 07:41	
Ethylbenzene	<0.00200	0.100	0.0863	86	0.0903	90	70-130	5	25	mg/L	03.19.2021 07:41	
m,p-Xylenes	<0.00400	0.200	0.174	87	0.185	93	70-130	6	25	mg/L	03.19.2021 07:41	
o-Xylene	<0.00200	0.100	0.0874	87	0.0935	94	70-130	7	25	mg/L	03.19.2021 07:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		116		70-130	%	03.19.2021 07:41
4-Bromofluorobenzene	113		94		70-130	%	03.19.2021 07:41

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



507 N. Marientfield, Ste. 200
Midland, TX 79701
432-687-0901

DATE: 3/10/21
PO#: _____
PROJECT LOCATION OR NAME: NMGSAU 2102 3.11.21
LAI PROJECT #: 19-0112-51
COLLECTOR: TJ + MB

CHAIN-OF-CUSTODY

No 1537

Data Reported to:

TRRP report?
 Yes No

TIME ZONE:
Time zone/State:
MST

S=SOIL
W=WATER
A=AIR
P=PAINT
SL=SLUDGE
OT=OTHER

Field Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ NaOH

ICE

UNPRESERVED

PRESERVATION

3 V 0 0

ANALYSES

BTEX+MTBE

TRPH 418,1 TPH 1005 TPH 1006

GASOLINE MOD 8015

DIESEL - MOD 8015

OIL - MOD 8015

VOC 8260

SVOC 8270

8081 PESTICIDES

8082 PESTICIDES

TBLP - METALS

TCLP - METALS (RCRA)

TOTAL METALS (RCRA)

LEAD METALS (RCRA)

RCL TOTAL D.W. 200.8 TCLP

TDS TOX FLASHPOINT

PH TSS % MOISTURE

EXPLOSIVES HEXAVALENT CHROMIUM

CHLORIDES ANIONS ALKALINITY

FIELD NOTES

Bill to Apple

REINQUISHED BY: (Signature)
REINQUISHED BY: (Signature)
REINQUISHED BY: (Signature)

DATE/TIME
DATE/TIME
DATE/TIME

RECEIVED BY: (Signature)
RECEIVED BY: (Signature)
RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL
1 DAY
2 DAY
OTHER

LABORATORY USE ONLY:
RECEIVING TEMP: 6.0
THERM #: JK-8

CUSTODY SEALS - BROKEN INTACT NOT USED

CARRIER BILL # _____
 HAND DELIVERED

LABORATORY: XenCo

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.

Date/ Time Received: 03.11.2021 03.46.00 PM

Work Order #: 691511

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	6
#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)?	N/A
#18 Water VOC samples have zero headspace?	Yes

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

Analyst: JKR

PH Device/Lot#: 10BDH1991

Checklist completed by: Brianna Teel Date: 03.11.2021
 Brianna Teel

Checklist reviewed by: Holly Taylor Date: 03.15.2021
 Holly Taylor



Environment Testing
America

ANALYTICAL REPORT

Eurofins Xenco, Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-3000-1
Laboratory Sample Delivery Group: 19-0112-51
Client Project/Site: Apache - NMGSAU 2102

For:
Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

Holly Taylor

Authorized for release by:
6/16/2021 4:43:49 PM

Holly Taylor, Project Manager
(806)794-1296
holly.taylor@eurofinset.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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- 14

Client: Larson & Associates, Inc.
Project/Site: Apache - NMGSAU 2102

Laboratory Job ID: 880-3000-1
SDG: 19-0112-51

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Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: Apache - NMGS AU 2102

Job ID: 880-3000-1
SDG: 19-0112-51

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: Apache - NMGSAU 2102

Job ID: 880-3000-1
SDG: 19-0112-51

Job ID: 880-3000-1

Laboratory: Eurofins Xenco, Midland

Narrative

Job Narrative
880-3000-1

Receipt

The samples were received on 6/14/2021 8:37 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 6.0°C

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Client Sample Results

Client: Larson & Associates, Inc.
 Project/Site: Apache - NMGS AU 2102

Job ID: 880-3000-1
 SDG: 19-0112-51

Client Sample ID: MW-2

Lab Sample ID: 880-3000-1

Date Collected: 06/11/21 09:10

Matrix: Water

Date Received: 06/14/21 08:37

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/L			06/14/21 13:50	1
Toluene	<0.00200	U	0.00200	mg/L			06/14/21 13:50	1
Ethylbenzene	<0.00200	U	0.00200	mg/L			06/14/21 13:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/L			06/14/21 13:50	1
o-Xylene	<0.00200	U	0.00200	mg/L			06/14/21 13:50	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			06/14/21 13:50	1
Total BTEX	<0.00400	U	0.00400	mg/L			06/14/21 13:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130		06/14/21 13:50	1
1,4-Difluorobenzene (Surr)	99		70 - 130		06/14/21 13:50	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	212		2.50	mg/L			06/15/21 16:38	5

Client Sample ID: Dup1

Lab Sample ID: 880-3000-2

Date Collected: 06/11/21 00:00

Matrix: Water

Date Received: 06/14/21 08:37

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/L			06/14/21 14:15	1
Toluene	<0.00200	U	0.00200	mg/L			06/14/21 14:15	1
Ethylbenzene	<0.00200	U	0.00200	mg/L			06/14/21 14:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/L			06/14/21 14:15	1
o-Xylene	<0.00200	U	0.00200	mg/L			06/14/21 14:15	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			06/14/21 14:15	1
Total BTEX	<0.00400	U	0.00400	mg/L			06/14/21 14:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130		06/14/21 14:15	1
1,4-Difluorobenzene (Surr)	100		70 - 130		06/14/21 14:15	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	213		2.50	mg/L			06/15/21 16:45	5

Client Sample ID: TMW-1

Lab Sample ID: 880-3000-3

Date Collected: 06/11/21 09:30

Matrix: Water

Date Received: 06/14/21 08:37

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/L			06/14/21 14:40	1
Toluene	<0.00200	U	0.00200	mg/L			06/14/21 14:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/L			06/14/21 14:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/L			06/14/21 14:40	1
o-Xylene	<0.00200	U	0.00200	mg/L			06/14/21 14:40	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			06/14/21 14:40	1
Total BTEX	<0.00400	U	0.00400	mg/L			06/14/21 14:40	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
 Project/Site: Apache - NMGSAU 2102

Job ID: 880-3000-1
 SDG: 19-0112-51

Client Sample ID: TMW-1

Lab Sample ID: 880-3000-3

Date Collected: 06/11/21 09:30

Matrix: Water

Date Received: 06/14/21 08:37

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130		06/14/21 14:40	1
1,4-Difluorobenzene (Surr)	106		70 - 130		06/14/21 14:40	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	361		5.00	mg/L			06/15/21 17:15	10

Client Sample ID: TMW-2

Lab Sample ID: 880-3000-4

Date Collected: 06/11/21 10:00

Matrix: Water

Date Received: 06/14/21 08:37

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/L			06/14/21 15:06	1
Toluene	<0.00200	U	0.00200	mg/L			06/14/21 15:06	1
Ethylbenzene	<0.00200	U	0.00200	mg/L			06/14/21 15:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/L			06/14/21 15:06	1
o-Xylene	<0.00200	U	0.00200	mg/L			06/14/21 15:06	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			06/14/21 15:06	1
Total BTEX	<0.00400	U	0.00400	mg/L			06/14/21 15:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130		06/14/21 15:06	1
1,4-Difluorobenzene (Surr)	101		70 - 130		06/14/21 15:06	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	402		5.00	mg/L			06/15/21 17:22	10

Surrogate Summary

Client: Larson & Associates, Inc.
 Project/Site: Apache - NMGSAU 2102

Job ID: 880-3000-1
 SDG: 19-0112-51

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-2930-A-1 MS	Matrix Spike	99	104
880-2930-A-1 MSD	Matrix Spike Duplicate	100	101
880-3000-1	MW-2	103	99
880-3000-2	Dup1	102	100
880-3000-3	TMW-1	109	106
880-3000-4	TMW-2	105	101
LCS 880-4074/3	Lab Control Sample	104	104
LCSD 880-4074/4	Lab Control Sample Dup	99	107
MB 880-4074/8	Method Blank	71	84

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
 DFBZ = 1,4-Difluorobenzene (Surr)

- 1
- 2
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- 12
- 13
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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Apache - NMGS AU 2102

Job ID: 880-3000-1
SDG: 19-0112-51

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-4074/8
Matrix: Water
Analysis Batch: 4074

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Benzene	<0.00200	U	0.00200	mg/L			06/14/21 12:59	1
Toluene	<0.00200	U	0.00200	mg/L			06/14/21 12:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/L			06/14/21 12:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/L			06/14/21 12:59	1
o-Xylene	<0.00200	U	0.00200	mg/L			06/14/21 12:59	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			06/14/21 12:59	1
Total BTEX	<0.00400	U	0.00400	mg/L			06/14/21 12:59	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	71		70 - 130		06/14/21 12:59	1
1,4-Difluorobenzene (Surr)	84		70 - 130		06/14/21 12:59	1

Lab Sample ID: LCS 880-4074/3
Matrix: Water
Analysis Batch: 4074

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	0.100	0.09419		mg/L		94	70 - 130
Toluene	0.100	0.1038		mg/L		104	70 - 130
Ethylbenzene	0.100	0.1078		mg/L		108	70 - 130
m-Xylene & p-Xylene	0.200	0.1914		mg/L		96	70 - 130
o-Xylene	0.100	0.09672		mg/L		97	70 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-4074/4
Matrix: Water
Analysis Batch: 4074

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	Limit
		Result	Qualifier						
Benzene	0.100	0.09313		mg/L		93	70 - 130	1	20
Toluene	0.100	0.1006		mg/L		101	70 - 130	3	20
Ethylbenzene	0.100	0.1055		mg/L		106	70 - 130	2	20
m-Xylene & p-Xylene	0.200	0.1875		mg/L		94	70 - 130	2	20
o-Xylene	0.100	0.09438		mg/L		94	70 - 130	2	20

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: 880-2930-A-1 MS
Matrix: Water
Analysis Batch: 4074

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Benzene	0.00880		0.100	0.1055		mg/L		97	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Apache - NMGS AU 2102

Job ID: 880-3000-1
SDG: 19-0112-51

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-2930-A-1 MS
Matrix: Water
Analysis Batch: 4074

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Toluene	0.0123		0.100	0.1165		mg/L		104	70 - 130	
Ethylbenzene	<0.00200	U	0.100	0.1064		mg/L		106	70 - 130	
m-Xylene & p-Xylene	0.00594		0.200	0.1952		mg/L		95	70 - 130	
o-Xylene	<0.00200	U	0.100	0.09681		mg/L		96	70 - 130	
		MS	MS							
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene (Surr)	99		70 - 130							
1,4-Difluorobenzene (Surr)	104		70 - 130							

Lab Sample ID: 880-2930-A-1 MSD
Matrix: Water
Analysis Batch: 4074

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Benzene	0.00880		0.100	0.09846		mg/L		90	70 - 130	7	25	
Toluene	0.0123		0.100	0.1114		mg/L		99	70 - 130	4	25	
Ethylbenzene	<0.00200	U	0.100	0.1028		mg/L		103	70 - 130	3	25	
m-Xylene & p-Xylene	0.00594		0.200	0.1878		mg/L		91	70 - 130	4	25	
o-Xylene	<0.00200	U	0.100	0.09330		mg/L		92	70 - 130	4	25	
		MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene (Surr)	100		70 - 130									
1,4-Difluorobenzene (Surr)	101		70 - 130									

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-4120/3
Matrix: Water
Analysis Batch: 4120

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Chloride	<0.500	U	0.500	mg/L			06/15/21 14:49	1

Lab Sample ID: LCS 880-4120/4
Matrix: Water
Analysis Batch: 4120

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits

Lab Sample ID: LCSD 880-4120/5
Matrix: Water
Analysis Batch: 4120

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.	Limits	RPD	Limit

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
 Project/Site: Apache - NMGSAU 2102

Job ID: 880-3000-1
 SDG: 19-0112-51

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-3040-A-1 MS
Matrix: Water
Analysis Batch: 4120

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	17.9		25.0	42.53		mg/L		98	90 - 110

Lab Sample ID: 880-3040-A-1 MSD
Matrix: Water
Analysis Batch: 4120

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	17.9		25.0	42.28		mg/L		97	90 - 110	1	20

Lab Sample ID: 880-3041-A-1 MS
Matrix: Water
Analysis Batch: 4120

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	16.4		25.0	40.52		mg/L		96	90 - 110

Lab Sample ID: 880-3041-A-1 MSD
Matrix: Water
Analysis Batch: 4120

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	16.4		25.0	41.69		mg/L		101	90 - 110	3	20

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Apache - NMGSAU 2102

Job ID: 880-3000-1
SDG: 19-0112-51

GC VOA

Analysis Batch: 4074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-3000-1	MW-2	Total/NA	Water	8021B	
880-3000-2	Dup1	Total/NA	Water	8021B	
880-3000-3	TMW-1	Total/NA	Water	8021B	
880-3000-4	TMW-2	Total/NA	Water	8021B	
MB 880-4074/8	Method Blank	Total/NA	Water	8021B	
LCS 880-4074/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-4074/4	Lab Control Sample Dup	Total/NA	Water	8021B	
880-2930-A-1 MS	Matrix Spike	Total/NA	Water	8021B	
880-2930-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8021B	

HPLC/IC

Analysis Batch: 4120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-3000-1	MW-2	Total/NA	Water	300.0	
880-3000-2	Dup1	Total/NA	Water	300.0	
880-3000-3	TMW-1	Total/NA	Water	300.0	
880-3000-4	TMW-2	Total/NA	Water	300.0	
MB 880-4120/3	Method Blank	Total/NA	Water	300.0	
LCS 880-4120/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 880-4120/5	Lab Control Sample Dup	Total/NA	Water	300.0	
880-3040-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
880-3040-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
880-3041-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
880-3041-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Lab Chronicle

Client: Larson & Associates, Inc.
 Project/Site: Apache - NMGS AU 2102

Job ID: 880-3000-1
 SDG: 19-0112-51

Client Sample ID: MW-2

Lab Sample ID: 880-3000-1

Date Collected: 06/11/21 09:10

Matrix: Water

Date Received: 06/14/21 08:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	4074	06/14/21 13:50	MR	XEN MID
Total/NA	Analysis	300.0		5			4120	06/15/21 16:38	CH	XEN MID

Client Sample ID: Dup1

Lab Sample ID: 880-3000-2

Date Collected: 06/11/21 00:00

Matrix: Water

Date Received: 06/14/21 08:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	4074	06/14/21 14:15	MR	XEN MID
Total/NA	Analysis	300.0		5			4120	06/15/21 16:45	CH	XEN MID

Client Sample ID: TMW-1

Lab Sample ID: 880-3000-3

Date Collected: 06/11/21 09:30

Matrix: Water

Date Received: 06/14/21 08:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	4074	06/14/21 14:40	MR	XEN MID
Total/NA	Analysis	300.0		10			4120	06/15/21 17:15	CH	XEN MID

Client Sample ID: TMW-2

Lab Sample ID: 880-3000-4

Date Collected: 06/11/21 10:00

Matrix: Water

Date Received: 06/14/21 08:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	4074	06/14/21 15:06	MR	XEN MID
Total/NA	Analysis	300.0		10			4120	06/15/21 17:22	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: Apache - NMGSAU 2102

Job ID: 880-3000-1
SDG: 19-0112-51

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8021B		Water	Total BTEX

- 1
- 2
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- 9
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- 12
- 13
- 14

Method Summary

Client: Larson & Associates, Inc.
Project/Site: Apache - NMGS AU 2102

Job ID: 880-3000-1
SDG: 19-0112-51

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5030B	Purge and Trap	SW846	XEN MID

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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Sample Summary

Client: Larson & Associates, Inc.
Project/Site: Apache - NMGSAU 2102

Job ID: 880-3000-1
SDG: 19-0112-51

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
880-3000-1	MW-2	Water	06/11/21 09:10	06/14/21 08:37	
880-3000-2	Dup1	Water	06/11/21 00:00	06/14/21 08:37	
880-3000-3	TMW-1	Water	06/11/21 09:30	06/14/21 08:37	
880-3000-4	TMW-2	Water	06/11/21 10:00	06/14/21 08:37	

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Varson & Associates, Inc.

Environmental Consultants

Midland, TX 79701
432-687-0901



880-3000 Chain of Custody

DATE: 6-11-21

PAGE 1 OF 1

PO#: 19-0112-51

LAB WORK ORDER#:

PROJECT LOCATION OR NAME: NM GSAU 2102

LAI PROJECT #: 19-0112-51 COLLECTOR: MB, TJ, TP

880-3000 No 1577

CHAIN-OF-CUSTODY

TRRP report?
 Yes No

S=SOIL W=WATER P=PAINT
A=AIR SL=SLUDGE OT=OTHER

TIME ZONE
MST

Field Sample ID

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ NaOH

ICE

UNPRESERVED

ANALYSES

MW-2

6/11/21

0910

W

4

3

1

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

Dupl

6/11/21

0930

I

4

4

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

TMW-2

6/11/21

1000

I

4

4

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

TOTAL 4

RELINQUISHED BY (Signature)

DATE/TIME 6/14

RECEIVED BY (Signature)

DATE/TIME 0837

RELINQUISHED BY (Signature)

DATE/TIME

RECEIVED BY (Signature)

DATE/TIME

RELINQUISHED BY (Signature)

DATE/TIME

RECEIVED BY (Signature)

DATE/TIME

LABORATORY X ENCD

DATE/TIME

RECEIVED BY (Signature)

DATE/TIME

TURN AROUND TIME
NORMAL
1 DAY
2 DAY
OTHER

LABORATORY USE ONLY:
RECEIVING TEMP 5.5160 THERM# 128
CUSTODY SEALS - BROKEN INTACT NOT USED
 CARRIER BILL # HAND DELIVERED

Prep Bill to Apache

FIELD NOTES

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-3000-1

SDG Number: 19-0112-51

Login Number: 3000

List Source: Eurofins Xenco, Midland

List Number: 1

Creator: Phillips, Kerianna

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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Environment Testing
America

ANALYTICAL REPORT

Eurofins Xenco, Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-7155-1
Laboratory Sample Delivery Group: 19-0112-51
Client Project/Site: NMGSAU 2102

For:
Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

Holly Taylor

Authorized for release by:
10/21/2021 5:32:04 PM

Holly Taylor, Project Manager
(806)794-1296
holly.taylor@eurofinset.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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- 13
- 14

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Laboratory Job ID: 880-7155-1
SDG: 19-0112-51

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Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-7155-1
SDG: 19-0112-51

Qualifiers

GC VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-7155-1
SDG: 19-0112-51

Job ID: 880-7155-1

Laboratory: Eurofins Xenco, Midland

Narrative

**Job Narrative
880-7155-1**

Receipt

The samples were received on 10/13/2021 9:08 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.2°C

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-9936/8). Evidence of matrix interferences is not obvious.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 880-9936 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NMGS AU 2102

Job ID: 880-7155-1
SDG: 19-0112-51

Client Sample ID: MW-2

Lab Sample ID: 880-7155-1

Date Collected: 10/12/21 10:00

Matrix: Water

Date Received: 10/13/21 09:08

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U F2	0.00200	mg/L			10/20/21 14:27	1
Toluene	<0.00200	U F2	0.00200	mg/L			10/20/21 14:27	1
Ethylbenzene	<0.00200	U F2	0.00200	mg/L			10/20/21 14:27	1
m,p-Xylenes	<0.00400	U F2	0.00400	mg/L			10/20/21 14:27	1
o-Xylene	<0.00200	U F2	0.00200	mg/L			10/20/21 14:27	1
Xylenes, Total	<0.00400	U F2	0.00400	mg/L			10/20/21 14:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130		10/20/21 14:27	1
1,4-Difluorobenzene (Surr)	93		70 - 130		10/20/21 14:27	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/L			10/19/21 14:04	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	207		2.50	mg/L			10/15/21 18:57	5

Client Sample ID: TMW-1

Lab Sample ID: 880-7155-2

Date Collected: 10/12/21 10:20

Matrix: Water

Date Received: 10/13/21 09:08

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/L			10/20/21 14:54	1
Toluene	<0.00200	U	0.00200	mg/L			10/20/21 14:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/L			10/20/21 14:54	1
m,p-Xylenes	<0.00400	U	0.00400	mg/L			10/20/21 14:54	1
o-Xylene	<0.00200	U	0.00200	mg/L			10/20/21 14:54	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			10/20/21 14:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		10/20/21 14:54	1
1,4-Difluorobenzene (Surr)	108		70 - 130		10/20/21 14:54	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/L			10/19/21 14:04	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	291		5.00	mg/L			10/15/21 19:10	10

Client Sample ID: TMW-2

Lab Sample ID: 880-7155-3

Date Collected: 10/12/21 10:37

Matrix: Water

Date Received: 10/13/21 09:08

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/L			10/20/21 15:20	1
Toluene	<0.00200	U	0.00200	mg/L			10/20/21 15:20	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
 Project/Site: NMGS AU 2102

Job ID: 880-7155-1
 SDG: 19-0112-51

Client Sample ID: TMW-2

Lab Sample ID: 880-7155-3

Date Collected: 10/12/21 10:37

Matrix: Water

Date Received: 10/13/21 09:08

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.00200	U	0.00200	mg/L			10/20/21 15:20	1
m,p-Xylenes	<0.00400	U	0.00400	mg/L			10/20/21 15:20	1
o-Xylene	<0.00200	U	0.00200	mg/L			10/20/21 15:20	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			10/20/21 15:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130				10/20/21 15:20	1
1,4-Difluorobenzene (Surr)	106		70 - 130				10/20/21 15:20	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/L			10/19/21 14:04	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	325		5.00	mg/L			10/15/21 19:51	10

Client Sample ID: DUP-1

Lab Sample ID: 880-7155-4

Date Collected: 10/12/21 00:00

Matrix: Water

Date Received: 10/13/21 09:08

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/L			10/20/21 15:46	1
Toluene	<0.00200	U	0.00200	mg/L			10/20/21 15:46	1
Ethylbenzene	<0.00200	U	0.00200	mg/L			10/20/21 15:46	1
m,p-Xylenes	<0.00400	U	0.00400	mg/L			10/20/21 15:46	1
o-Xylene	<0.00200	U	0.00200	mg/L			10/20/21 15:46	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			10/20/21 15:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130				10/20/21 15:46	1
1,4-Difluorobenzene (Surr)	105		70 - 130				10/20/21 15:46	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/L			10/19/21 14:04	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	305		5.00	mg/L			10/15/21 20:23	10

Surrogate Summary

Client: Larson & Associates, Inc.
 Project/Site: NMGSAU 2102

Job ID: 880-7155-1
 SDG: 19-0112-51

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
880-7155-1	MW-2	112	93
880-7155-1 MS	MW-2	76	107
880-7155-1 MSD	MW-2	98	112
880-7155-2	TMW-1	98	108
880-7155-3	TMW-2	101	106
880-7155-4	DUP-1	96	105
LCS 880-9936/3	Lab Control Sample	89	109
LCSD 880-9936/4	Lab Control Sample Dup	93	105
MB 880-9936/8	Method Blank	60 S1-	92

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
 DFBZ = 1,4-Difluorobenzene (Surr)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NMGS AU 2102

Job ID: 880-7155-1
SDG: 19-0112-51

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-9936/8
Matrix: Water
Analysis Batch: 9936

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/L			10/20/21 14:01	1
Toluene	<0.00200	U	0.00200	mg/L			10/20/21 14:01	1
Ethylbenzene	<0.00200	U	0.00200	mg/L			10/20/21 14:01	1
m,p-Xylenes	<0.00400	U	0.00400	mg/L			10/20/21 14:01	1
o-Xylene	<0.00200	U	0.00200	mg/L			10/20/21 14:01	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			10/20/21 14:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	60	S1-	70 - 130		10/20/21 14:01	1
1,4-Difluorobenzene (Surr)	92		70 - 130		10/20/21 14:01	1

Lab Sample ID: LCS 880-9936/3
Matrix: Water
Analysis Batch: 9936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09418		mg/L		94	70 - 130
Toluene	0.100	0.1004		mg/L		100	70 - 130
Ethylbenzene	0.100	0.09588		mg/L		96	70 - 130
m,p-Xylenes	0.200	0.1885		mg/L		94	70 - 130
o-Xylene	0.100	0.09721		mg/L		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	89		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: LCSD 880-9936/4
Matrix: Water
Analysis Batch: 9936

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08533		mg/L		85	70 - 130	10	20
Toluene	0.100	0.09115		mg/L		91	70 - 130	10	20
Ethylbenzene	0.100	0.08712		mg/L		87	70 - 130	10	20
m,p-Xylenes	0.200	0.1706		mg/L		85	70 - 130	10	20
o-Xylene	0.100	0.08803		mg/L		88	70 - 130	10	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 880-7155-1 MS
Matrix: Water
Analysis Batch: 9936

Client Sample ID: MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U F2	0.100	0.07712		mg/L		77	70 - 130
Toluene	<0.00200	U F2	0.100	0.07940		mg/L		79	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NMGS AU 2102

Job ID: 880-7155-1
SDG: 19-0112-51

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-7155-1 MS
Matrix: Water
Analysis Batch: 9936

Client Sample ID: MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00200	U F2	0.100	0.07699		mg/L		77	70 - 130
m,p-Xylenes	<0.00400	U F2	0.200	0.1519		mg/L		76	70 - 130
o-Xylene	<0.00200	U F2	0.100	0.07664		mg/L		77	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	76		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: 880-7155-1 MSD
Matrix: Water
Analysis Batch: 9936

Client Sample ID: MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U F2	0.100	0.1005	F2	mg/L		100	70 - 130	26	25
Toluene	<0.00200	U F2	0.100	0.1069	F2	mg/L		107	70 - 130	30	25
Ethylbenzene	<0.00200	U F2	0.100	0.1055	F2	mg/L		105	70 - 130	31	25
m,p-Xylenes	<0.00400	U F2	0.200	0.2078	F2	mg/L		104	70 - 130	31	25
o-Xylene	<0.00200	U F2	0.100	0.1050	F2	mg/L		105	70 - 130	31	25

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-9543/3
Matrix: Water
Analysis Batch: 9543

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.500	U	0.500	mg/L			10/15/21 16:28	1

Lab Sample ID: LCS 880-9543/4
Matrix: Water
Analysis Batch: 9543

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	24.59		mg/L		98	90 - 110

Lab Sample ID: LCSD 880-9543/5
Matrix: Water
Analysis Batch: 9543

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	25.0	24.85		mg/L		99	90 - 110	1	20

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
 Project/Site: NMGSAU 2102

Job ID: 880-7155-1
 SDG: 19-0112-51

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-7234-A-1 MS
Matrix: Water
Analysis Batch: 9543

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	41.8	F1	25.0	65.73		mg/L		96	90 - 110

Lab Sample ID: 880-7234-A-1 MSD
Matrix: Water
Analysis Batch: 9543

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	41.8	F1	25.0	62.53	F1	mg/L		83	90 - 110	5	20

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QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-7155-1
SDG: 19-0112-51

GC VOA

Analysis Batch: 9900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-7155-1	MW-2	Total/NA	Water	Total BTEX	
880-7155-2	TMW-1	Total/NA	Water	Total BTEX	
880-7155-3	TMW-2	Total/NA	Water	Total BTEX	
880-7155-4	DUP-1	Total/NA	Water	Total BTEX	

Analysis Batch: 9936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-7155-1	MW-2	Total/NA	Water	8021B	
880-7155-2	TMW-1	Total/NA	Water	8021B	
880-7155-3	TMW-2	Total/NA	Water	8021B	
880-7155-4	DUP-1	Total/NA	Water	8021B	
MB 880-9936/8	Method Blank	Total/NA	Water	8021B	
LCS 880-9936/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-9936/4	Lab Control Sample Dup	Total/NA	Water	8021B	
880-7155-1 MS	MW-2	Total/NA	Water	8021B	
880-7155-1 MSD	MW-2	Total/NA	Water	8021B	

HPLC/IC

Analysis Batch: 9543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-7155-1	MW-2	Total/NA	Water	300.0	
880-7155-2	TMW-1	Total/NA	Water	300.0	
880-7155-3	TMW-2	Total/NA	Water	300.0	
880-7155-4	DUP-1	Total/NA	Water	300.0	
MB 880-9543/3	Method Blank	Total/NA	Water	300.0	
LCS 880-9543/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 880-9543/5	Lab Control Sample Dup	Total/NA	Water	300.0	
880-7234-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
880-7234-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-7155-1
SDG: 19-0112-51

Client Sample ID: MW-2

Lab Sample ID: 880-7155-1

Date Collected: 10/12/21 10:00

Matrix: Water

Date Received: 10/13/21 09:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	9936	10/20/21 14:27	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			9900	10/19/21 14:04	AJ	XEN MID
Total/NA	Analysis	300.0		5			9543	10/15/21 18:57	CH	XEN MID

Client Sample ID: TMW-1

Lab Sample ID: 880-7155-2

Date Collected: 10/12/21 10:20

Matrix: Water

Date Received: 10/13/21 09:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	9936	10/20/21 14:54	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			9900	10/19/21 14:04	AJ	XEN MID
Total/NA	Analysis	300.0		10			9543	10/15/21 19:10	CH	XEN MID

Client Sample ID: TMW-2

Lab Sample ID: 880-7155-3

Date Collected: 10/12/21 10:37

Matrix: Water

Date Received: 10/13/21 09:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	9936	10/20/21 15:20	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			9900	10/19/21 14:04	AJ	XEN MID
Total/NA	Analysis	300.0		10			9543	10/15/21 19:51	CH	XEN MID

Client Sample ID: DUP-1

Lab Sample ID: 880-7155-4

Date Collected: 10/12/21 00:00

Matrix: Water

Date Received: 10/13/21 09:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	9936	10/20/21 15:46	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			9900	10/19/21 14:04	AJ	XEN MID
Total/NA	Analysis	300.0		10			9543	10/15/21 20:23	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-7155-1
SDG: 19-0112-51

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Water	Total BTEX

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Method Summary

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-7155-1
SDG: 19-0112-51

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5030B	Purge and Trap	SW846	XEN MID

Protocol References:

- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

- XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



Sample Summary

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-7155-1
SDG: 19-0112-51

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-7155-1	MW-2	Water	10/12/21 10:00	10/13/21 09:08
880-7155-2	TMW-1	Water	10/12/21 10:20	10/13/21 09:08
880-7155-3	TMW-2	Water	10/12/21 10:37	10/13/21 09:08
880-7155-4	DUP-1	Water	10/12/21 00:00	10/13/21 09:08

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Varson & Associates, Inc.

Environmental Consultants

Midland TX 79701
432-687 0901

880-7155 Chain of Custody



10-13-21

7155 CHAIN-OF-CUSTODY

No. 2218

Data Reported to

PROJECT LOCATION OR NAME
LAB PROJECT # 19-0112-51

LAB WORK ORDER# NME5AV 2102
COLLECTOR MRY-TP

PAGE 1 OF 1

TRRP report?
 Yes No

S=SOIL W=WATER A=AIR
P=PAINT SL=SLUDGE OT=OTHER

TIME ZONE
Time zone/State
MST

Field Sample ID

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ NaOH

ICE

UNPRESERVED

PRESERVATION

ANALYSES

BTEX MTBE

TPH 418 1 TPH 1005 TPH 1008

GASOLINE MOD 8015

DIESEL - MOD 8015

OIL - MOD 8015

VOC 8260

SVOC 8270

8081 PESTICIDES

8082 PESTICIDES

TCLP - METALS

TCLP - METALS (RCRA)

TCLP - METALS (RCRA)

LEAD - TOTAL

RCI

TDS

pH

EXPLOSIVES

CHLORIDE ANIONS

ALKALINITY

OTHER LIST

Flashpoint

% Moisture

Cyanide

Chromium

Pechlorate

Field Notes

Field Sample ID	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO ₃	H ₂ SO ₄ / NaOH	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
MW-2		10/12/21	1000	W	4	X	X	X	X	X	BTEX, MTBE, TPH 418 1, TPH 1005, TPH 1008, GASOLINE MOD 8015, DIESEL - MOD 8015, OIL - MOD 8015, VOC 8260, SVOC 8270, 8081 PESTICIDES, 8082 PESTICIDES, TCLP - METALS, TCLP - METALS (RCRA), TCLP - METALS (RCRA), LEAD - TOTAL, RCI, TDS, pH, EXPLOSIVES, CHLORIDE ANIONS, ALKALINITY, OTHER LIST, Flashpoint, % Moisture, Cyanide, Chromium, Pechlorate	Bill Direct to Apache
TMW-1			1020									
TMW-2			1037									
DUP-1												

TOTAL 4

RELINQUISHED BY (Signature) *[Signature]* DATE/TIME 10/13/21 RECEIVED BY (Signature) *[Signature]* DATE/TIME 10-13-21

RELINQUISHED BY (Signature) *[Signature]* DATE/TIME *[Blank]* RECEIVED BY (Signature) *[Signature]* DATE/TIME *[Blank]*

LABORATORY *[Signature]*

TURN AROUND TIME
NORMAL
1 DAY
2 DAY
OTHER

LABORATORY USE ONLY:
RECEIVING TEMP 31.32 THERM# 128
CUSTODY SEALS - BROKEN INTACT NOT USED
 CARRIER BILL # HAND DELIVERED

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-7155-1

SDG Number: 19-0112-51

Login Number: 7155

List Number: 1

Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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Environment Testing
America

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ANALYTICAL REPORT

Eurofins Xenco, Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-9656-1
Laboratory Sample Delivery Group: 19-0112-51
Client Project/Site: NMGSAU 2102
Revision: 1

For:
Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

Holly Taylor

Authorized for release by:
1/6/2022 8:47:33 AM

Holly Taylor, Project Manager
(806)794-1296
holly.taylor@eurofinset.com



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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Laboratory Job ID: 880-9656-1
SDG: 19-0112-51

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Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-9656-1
SDG: 19-0112-51

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-9656-1
SDG: 19-0112-51

Job ID: 880-9656-1

Laboratory: Eurofins Xenco, Midland

Narrative

**Job Narrative
880-9656-1**

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 1/3/2022. The report (revision 1) is being revised to change the project name per Robert Nelson (email)..

Receipt

The samples were received on 12/22/2021 3:48 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 7.7° C.

GC VOA

Method 8021B: The surrogate recovery for the blank associated with analytical batch 880-15480 was outside the upper control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102Job ID: 880-9656-1
SDG: 19-0112-51

Client Sample ID: MW-2

Lab Sample ID: 880-9656-1

Date Collected: 12/21/21 10:38

Matrix: Water

Date Received: 12/22/21 15:48

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/L			12/27/21 19:33	1
Toluene	<0.00200	U	0.00200	mg/L			12/27/21 19:33	1
Ethylbenzene	<0.00200	U	0.00200	mg/L			12/27/21 19:33	1
m,p-Xylenes	<0.00400	U	0.00400	mg/L			12/27/21 19:33	1
o-Xylene	<0.00200	U	0.00200	mg/L			12/27/21 19:33	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			12/27/21 19:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130		12/27/21 19:33	1
1,4-Difluorobenzene (Surr)	85		70 - 130		12/27/21 19:33	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/L			12/28/21 10:58	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	222		5.00	mg/L			12/30/21 13:35	10

Client Sample ID: TMW-1

Lab Sample ID: 880-9656-2

Date Collected: 12/21/21 11:08

Matrix: Water

Date Received: 12/22/21 15:48

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/L			12/27/21 19:59	1
Toluene	<0.00200	U	0.00200	mg/L			12/27/21 19:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/L			12/27/21 19:59	1
m,p-Xylenes	<0.00400	U	0.00400	mg/L			12/27/21 19:59	1
o-Xylene	<0.00200	U	0.00200	mg/L			12/27/21 19:59	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			12/27/21 19:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130		12/27/21 19:59	1
1,4-Difluorobenzene (Surr)	82		70 - 130		12/27/21 19:59	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/L			12/28/21 10:58	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	406		5.00	mg/L			12/30/21 13:58	10

Client Sample ID: TMW-2

Lab Sample ID: 880-9656-3

Date Collected: 12/21/21 11:38

Matrix: Water

Date Received: 12/22/21 15:48

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/L			12/27/21 20:27	1
Toluene	<0.00200	U	0.00200	mg/L			12/27/21 20:27	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102Job ID: 880-9656-1
SDG: 19-0112-51

Client Sample ID: TMW-2

Lab Sample ID: 880-9656-3

Date Collected: 12/21/21 11:38

Matrix: Water

Date Received: 12/22/21 15:48

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.00200	U	0.00200	mg/L			12/27/21 20:27	1
m,p-Xylenes	<0.00400	U	0.00400	mg/L			12/27/21 20:27	1
o-Xylene	<0.00200	U	0.00200	mg/L			12/27/21 20:27	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			12/27/21 20:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130		12/27/21 20:27	1
1,4-Difluorobenzene (Surr)	86		70 - 130		12/27/21 20:27	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/L			12/28/21 10:58	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	388		5.00	mg/L			12/30/21 14:06	10

Client Sample ID: DUP-1

Lab Sample ID: 880-9656-4

Date Collected: 12/21/21 00:00

Matrix: Water

Date Received: 12/22/21 15:48

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/L			12/27/21 20:54	1
Toluene	<0.00200	U	0.00200	mg/L			12/27/21 20:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/L			12/27/21 20:54	1
m,p-Xylenes	<0.00400	U	0.00400	mg/L			12/27/21 20:54	1
o-Xylene	<0.00200	U	0.00200	mg/L			12/27/21 20:54	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			12/27/21 20:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		12/27/21 20:54	1
1,4-Difluorobenzene (Surr)	79		70 - 130		12/27/21 20:54	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/L			12/28/21 10:58	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	226		5.00	mg/L			12/30/21 14:14	10

Eurofins Xenco, Midland

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-9656-1
SDG: 19-0112-51

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
880-9656-1	MW-2	101	85
880-9656-2	TMW-1	100	82
880-9656-3	TMW-2	102	86
880-9656-4	DUP-1	98	79
880-9665-A-1 MS	Matrix Spike	87	102
880-9665-A-1 MSD	Matrix Spike Duplicate	93	101
LCS 880-15480/3	Lab Control Sample	83	89
LCSD 880-15480/4	Lab Control Sample Dup	98	111
MB 880-15480/8	Method Blank	61 S1-	84

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-9656-1
SDG: 19-0112-51

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-15480/8
Matrix: Water
Analysis Batch: 15480

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/L			12/27/21 12:26	1
Toluene	<0.00200	U	0.00200	mg/L			12/27/21 12:26	1
Ethylbenzene	<0.00200	U	0.00200	mg/L			12/27/21 12:26	1
m,p-Xylenes	<0.00400	U	0.00400	mg/L			12/27/21 12:26	1
o-Xylene	<0.00200	U	0.00200	mg/L			12/27/21 12:26	1
Xylenes, Total	<0.00400	U	0.00400	mg/L			12/27/21 12:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	61	S1-	70 - 130		12/27/21 12:26	1
1,4-Difluorobenzene (Surr)	84		70 - 130		12/27/21 12:26	1

Lab Sample ID: LCS 880-15480/3
Matrix: Water
Analysis Batch: 15480

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.07091		mg/L		71	70 - 130
Toluene	0.100	0.07094		mg/L		71	70 - 130
Ethylbenzene	0.100	0.07376		mg/L		74	70 - 130
m,p-Xylenes	0.200	0.1484		mg/L		74	70 - 130
o-Xylene	0.100	0.07449		mg/L		74	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	83		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Lab Sample ID: LCSD 880-15480/4
Matrix: Water
Analysis Batch: 15480

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09074		mg/L		91	70 - 130	NaN	20
Toluene	0.100	0.09033		mg/L		90	70 - 130	NaN	20
Ethylbenzene	0.100	0.09409		mg/L		94	70 - 130	NaN	20
m,p-Xylenes	0.200	0.1898		mg/L		95	70 - 130	NaN	20
o-Xylene	0.100	0.09717		mg/L		97	70 - 130	NaN	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Lab Sample ID: 880-9665-A-1 MS
Matrix: Water
Analysis Batch: 15480

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.100	0.08065		mg/L		81	70 - 130
Toluene	<0.00200	U	0.100	0.07143		mg/L		71	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-9656-1
SDG: 19-0112-51

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-9665-A-1 MS
Matrix: Water
Analysis Batch: 15480

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
Ethylbenzene	<0.00200	U	0.100	0.08394		mg/L		84	70 - 130	
m,p-Xylenes	<0.00400	U	0.200	0.1699		mg/L		85	70 - 130	
o-Xylene	<0.00200	U	0.100	0.08593		mg/L		86	70 - 130	
Surrogate	MS %Recovery	MS Qualifier	MS Limits							
4-Bromofluorobenzene (Surr)	87		70 - 130							
1,4-Difluorobenzene (Surr)	102		70 - 130							

Lab Sample ID: 880-9665-A-1 MSD
Matrix: Water
Analysis Batch: 15480

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.08531		mg/L		85	70 - 130	6	25
Toluene	<0.00200	U	0.100	0.08270		mg/L		83	70 - 130	15	25
Ethylbenzene	<0.00200	U	0.100	0.08893		mg/L		89	70 - 130	6	25
m,p-Xylenes	<0.00400	U	0.200	0.1802		mg/L		90	70 - 130	6	25
o-Xylene	<0.00200	U	0.100	0.09161		mg/L		92	70 - 130	6	25
Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	93		70 - 130								
1,4-Difluorobenzene (Surr)	101		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-15806/3
Matrix: Water
Analysis Batch: 15806

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.500	U	0.500	mg/L			12/30/21 12:24	1

Lab Sample ID: LCS 880-15806/4
Matrix: Water
Analysis Batch: 15806

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	24.54		mg/L		98	90 - 110

Lab Sample ID: LCSD 880-15806/5
Matrix: Water
Analysis Batch: 15806

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	25.0	24.59		mg/L		98	90 - 110	0	20

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QC Sample Results

Client: Larson & Associates, Inc.
 Project/Site: NMGSAU 2102

Job ID: 880-9656-1
 SDG: 19-0112-51

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-9657-B-3 MS
Matrix: Water
Analysis Batch: 15806

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	284		250	535.7		mg/L		101	90 - 110

Lab Sample ID: 880-9657-B-3 MSD
Matrix: Water
Analysis Batch: 15806

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	284		250	532.8		mg/L		100	90 - 110	1	20

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-9656-1
SDG: 19-0112-51

GC VOA

Analysis Batch: 15480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9656-1	MW-2	Total/NA	Water	8021B	
880-9656-2	TMW-1	Total/NA	Water	8021B	
880-9656-3	TMW-2	Total/NA	Water	8021B	
880-9656-4	DUP-1	Total/NA	Water	8021B	
MB 880-15480/8	Method Blank	Total/NA	Water	8021B	
LCS 880-15480/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-15480/4	Lab Control Sample Dup	Total/NA	Water	8021B	
880-9665-A-1 MS	Matrix Spike	Total/NA	Water	8021B	
880-9665-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8021B	

Analysis Batch: 15634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9656-1	MW-2	Total/NA	Water	Total BTEX	
880-9656-2	TMW-1	Total/NA	Water	Total BTEX	
880-9656-3	TMW-2	Total/NA	Water	Total BTEX	
880-9656-4	DUP-1	Total/NA	Water	Total BTEX	

HPLC/IC

Analysis Batch: 15806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9656-1	MW-2	Total/NA	Water	300.0	
880-9656-2	TMW-1	Total/NA	Water	300.0	
880-9656-3	TMW-2	Total/NA	Water	300.0	
880-9656-4	DUP-1	Total/NA	Water	300.0	
MB 880-15806/3	Method Blank	Total/NA	Water	300.0	
LCS 880-15806/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 880-15806/5	Lab Control Sample Dup	Total/NA	Water	300.0	
880-9657-B-3 MS	Matrix Spike	Total/NA	Water	300.0	
880-9657-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Eurofins Xenco, Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-9656-1
SDG: 19-0112-51

Client Sample ID: MW-2

Lab Sample ID: 880-9656-1

Date Collected: 12/21/21 10:38

Matrix: Water

Date Received: 12/22/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	15480	12/27/21 19:33	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			15634	12/28/21 10:58	AJ	XEN MID
Total/NA	Analysis	300.0		10			15806	12/30/21 13:35	CH	XEN MID

Client Sample ID: TMW-1

Lab Sample ID: 880-9656-2

Date Collected: 12/21/21 11:08

Matrix: Water

Date Received: 12/22/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	15480	12/27/21 19:59	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			15634	12/28/21 10:58	AJ	XEN MID
Total/NA	Analysis	300.0		10			15806	12/30/21 13:58	CH	XEN MID

Client Sample ID: TMW-2

Lab Sample ID: 880-9656-3

Date Collected: 12/21/21 11:38

Matrix: Water

Date Received: 12/22/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	15480	12/27/21 20:27	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			15634	12/28/21 10:58	AJ	XEN MID
Total/NA	Analysis	300.0		10			15806	12/30/21 14:06	CH	XEN MID

Client Sample ID: DUP-1

Lab Sample ID: 880-9656-4

Date Collected: 12/21/21 00:00

Matrix: Water

Date Received: 12/22/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	15480	12/27/21 20:54	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			15634	12/28/21 10:58	AJ	XEN MID
Total/NA	Analysis	300.0		10			15806	12/30/21 14:14	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-9656-1
SDG: 19-0112-51

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Water	Total BTEX

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-9656-1
SDG: 19-0112-51

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5030B	Purge and Trap	SW846	XEN MID

Protocol References:

- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

- XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



Sample Summary

Client: Larson & Associates, Inc.
Project/Site: NMGSAU 2102

Job ID: 880-9656-1
SDG: 19-0112-51

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-9656-1	MW-2	Water	12/21/21 10:38	12/22/21 15:48
880-9656-2	TMW-1	Water	12/21/21 11:08	12/22/21 15:48
880-9656-3	TMW-2	Water	12/21/21 11:38	12/22/21 15:48
880-9656-4	DUP-1	Water	12/21/21 00:00	12/22/21 15:48

- 1
- 2
- 3
- 4
- 5
- 6
- 7
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- 9
- 10
- 11
- 12
- 13
- 14

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-9656-1

SDG Number: 19-0112-51

Login Number: 9656

List Number: 1

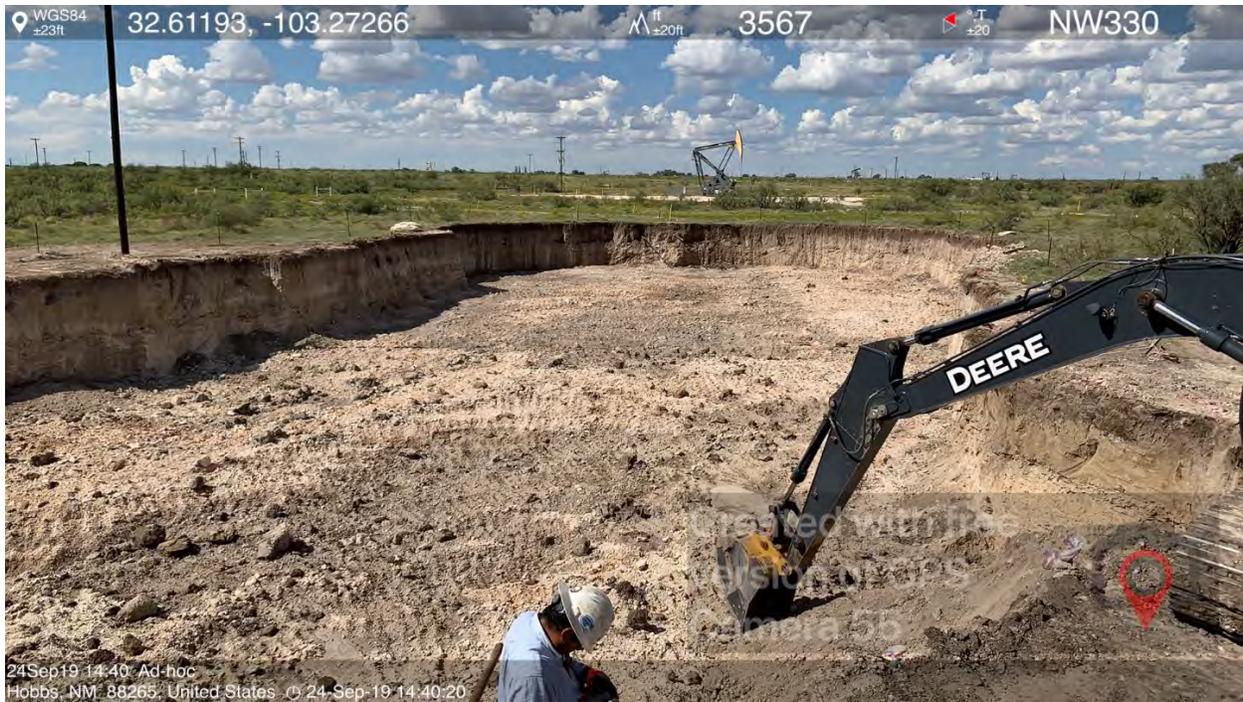
Creator: Teel, Brianna

List Source: Eurofins Xenco, Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

- 1
- 2
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- 8
- 9
- 10
- 11
- 12
- 13
- 14

Appendix H
Photographic Documentation











Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

CONDITIONS

Action 373661

CONDITIONS

Operator: APACHE CORPORATION 303 Veterans Airpark Ln Midland, TX 79705	OGRID: 873
	Action Number: 373661
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
bhall	Accepted for record only. Historic report dated June 3, 2022. Please be advised that this acceptance does not approve any conclusions or closure requests. Additional groundwater monitoring and analytical results showing impacts to groundwater have been submitted in subsequent reports.	5/9/2025