



2350 W Marland Blvd Hobbs, NM 88240

Closure Report

December 10, 2019

*Re: NEDU Injection Trunk Line
API# 30-025-37028
Case # 1RP-5285*

*To: District 1 NM OCD Reps
Environmental Specialist-New Mexico Oil Conservation Division Energy, Minerals and
Natural Resources Department 1625 N. French Drive Hobbs, New Mexico 88240*

On November 12, 2018 a release occurred due to a buried injection line failure resulting in the loss of the produced water. An initial C-141 was submitted on November 21, 2018 to NMOCD and approved on December 20, 2018. The release (GPS Coordinates 32.49149, -103.14369) is located north of Eunice, NM in unit letter I section 10 township 21S ranger 37E. The release did impact a significant watercourse Monument Draw located east of the source of release. A 2,000-meter radius survey was conducted utilizing the NMOSE and USGS website for wells in the area. The two closest wells average depth to groundwater is 28.5 feet below ground surface.

To date the release area had been contained utilizing shovels to push up dirt berms around the release. Nine verticals were installed utilizing a backhoe with samples being collected in one-foot intervals to various depths. All samples collected were submitted to a commercial laboratory for analysis of Chloride, TPH, and BTEX.

A remediation plan was submitted on February 13, 2019 with approval dates of February 21, 2019 by OCD and March 4, 2019 by NMSLO. After approval Apache Corporation proceeded with the approved plan. Apache Corporation did divide this remediation plan into three (3) excavations with each of these areas being remediated at varying depths. Excavation 1 was remediated at depths of one and two feet. Excavation 2 was remediated at depths of one to eleven feet. Excavation 3 was remediated at depths of one to four feet.

Once excavations were completed final 5-point bottom and wall samples were collected in accordance with the approved NMOCD remediation plan and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. All excavated soil was exported to an NMOCD approved disposal facility. The lease road excavated areas have been backfilled with clean imported caliche and contoured to the surrounding area. The pasture area was backfilled with clean imported top soil and contoured to the surrounding area. In accordance with NMSLO guidelines the pasture was reseeded with NMSLO Shallow Mix. At this time Apache respectfully requests that *Case #1RP-5285 be closed*. If you have any questions, please feel free to contact us with any questions.

Enclosed: C-141, Maps, Data Table, Laboratory Results, Field Notes, Groundwater Data, Maps, and Photo Page

Submitted by;

Jeff Broom

Environmental Technician

Jeffrey.Broom@apachecorp.com

Cell# 432-664-4677

Off# 575-393-7106



2350 W Marland Blvd Hobbs, NM 88240

Remediation Plan

February 13, 2019

Re: NEDU Injection Truck Line
API# 30-025-37028
Case # 1RP-5285

To: Christina Hernandez
Environmental Specialist-New Mexico Oil Conservation Division Energy, Minerals and
Natural Resources Department 1625 N. French Drive Hobbs, New Mexico 88240

Background:

On 11/12/2018 a release occurred due to a buried injection line failed resulting in the loss of produced water. An initial C-141 was submitted to NMOCD and approved on 12/20/2018. The release (GPS Coordinates 32.49149 -103.14369) is located north of Eunice New Mexico in unit letter I section 10 township 21S range 37E. The release did impact a significant watercourse Monument Draw located east of the source of the release. A 2000 meter radius survey was conducted utilizing the NMOSE and USGS web site for wells in the area. The two closest wells average depth to groundwater is 28.5 feet below ground surface.

To date the release area has been contained utilizing shovels to push up dirt berms around the release. Nine verticals were installed utilizing a backhoe with samples being collected in one foot intervals to various depths. All samples collected were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX.

Remediation Plan:

Apache Corporation proposes that during remediation activities to further delineate sample point 2 and sample point 7 to chloride values less than 600 mg/kg. The entire release area will be excavated to various depths until table one standards are met for releases that occur in areas less than 50 feet to groundwater. Once the excavation is complete Apache Corporation proposes that five point composite field samples be collected not to exceed 200 square feet. All the samples collect will be field titrated utilizing method SM 4500CLB and submit every other sample to a commercial laboratory for analysis of Chloride, TPH, and BTEX. The sidewall five point composite samples will be collected and field titrated not to exceed 200 square feet and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. NMOCD will be notified 48 hours prior to final samples being collected. All excavated material (~3,000 yards) will be hauled to an NMOCD approved facility. The site will be backfilled with clean imported top soil and contoured to the surrounding area. The site will be seeded with approval from the NMSLO.

Enclosed: Initial C-141, Groundwater Data, Maps, Sample Data, Laboratory Results, Photos, Revegetation Plan

Submitted by;

Bruce Baker

Environmental Technician

larry.baker@apachecorp.com

Cell# 432-631-6982

Off# 575-393-7106

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
1230 S St Francis Dr Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	NCH1835433141
District RP	1RP-5285
Facility ID	
Application ID	

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 #	NCH1835433141 NEDU INJECTION TRUNK LINE @ 30-025-37028
Contact mailing address	2350 W. Marland BLVD Hobbs, NM 88240		

Location of Release Source

Latitude 32.49149 Longitude -103.14369
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	NEDU Injection Trunk Line	Site Type	Injection Line
Date Release Discovered	11/12/2018	API# (if applicable)	30-025-37028 (nearest well)

Unit Letter	Section	Township	Range	County
I	10	21S	37E	Lea

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbbls)	Volume Recovered (bbbls)
<input checked="" type="checkbox"/> Produced Water	200 barrels	10 recovered
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbbls)	Volume Recovered (bbbls)
<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 A buried injection line failed causing a release of produced water.

Form C-141

State of New Mexico
Oil Conservation Division

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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? The release was over 25 barrels
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Bruce Baker notified Jim Griswold and Olivia Yu via email on 11/14/2018 at 7:25 a.m.	

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 Technician SR.</u> Signature: <u>Bruce Baker</u> Date: <u>11/21/2018</u> email: <u>larry.baker@apachecorp.com</u> Telephone: <u>431-631-6982</u>
OCD Only Received by: RECEIVED By <u>CHernandez at 9:15 am, Dec 20, 2018</u>

Volume Calculation

**16,225 X .2= 3,245 cubic feet X 7.48 gallon per cubic foot= 24,272 gallons/42 gallons to barrel=577
barrels X .33 soil porosity= 190 barrels + 10 barrels recovered = 200 barrels lost.**

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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?	285 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input checked="" type="checkbox"/> Yes <input 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 checked="" 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 checked="" type="checkbox"/> Yes <input 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: Bruce Baker Date: 2-13-19
 email: larry.baker@apachecorp.com Telephone: 432-621-6982

OCD Only

Received by: _____ Date: _____

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Application ID	

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.
 Signature: Bruce Baker Date: 2-13-19
 email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: Vanessa Fields Date: 2/14/2019

- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature: Vanessa Fields Date: 2/21/2019

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Oil Conservation Division

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Application ID	

Closure

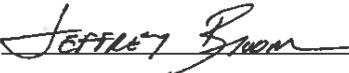
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled 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: Jeffrey Broom Title: Environmental Technician

Signature:  Date: December 10, 2019

Email: Jeffrey.Broom@apachecorp.com Telephone: 432.664.4677

OCD Only

Received by: Cristina Eads Date: 02/19/2020

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: 02/20/2020

Printed Name: Cristina Eads Title: 02/20/2020



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Groundwater levels for New Mexico

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Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 322921103083001

Minimum number of levels = 1

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USGS 322921103083001 21S.37E.11.311114

Available data for this site

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°29'21", Longitude 103°08'30" NAD27

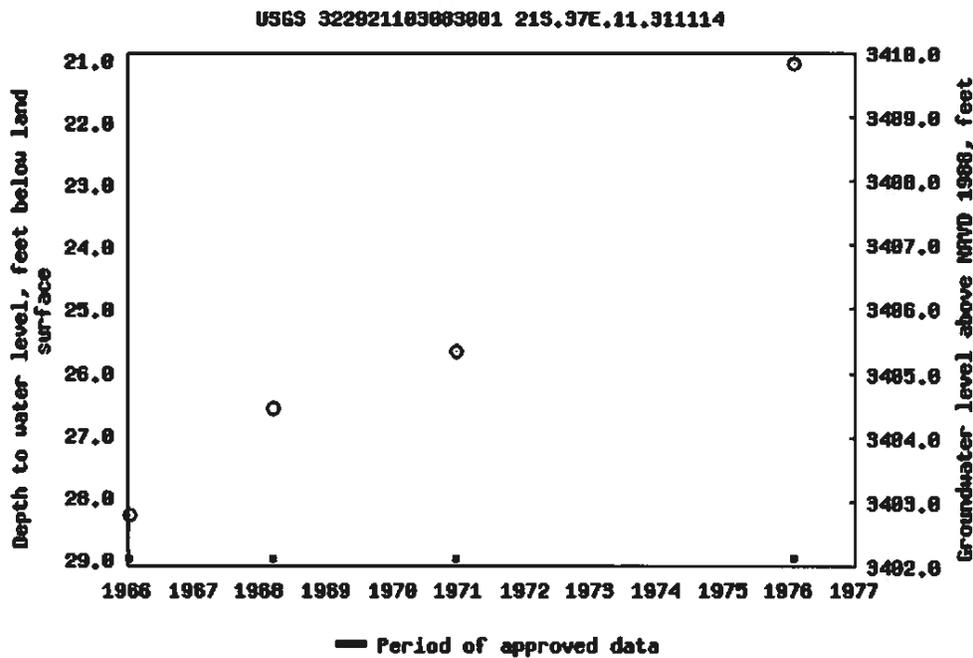
Land-surface elevation 3,431 feet above NAVD88

The depth of the well is 76 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.

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Title: Groundwater for New Mexico: Water Levels

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Page Contact Information: [New Mexico Water Data Maintainer](#)

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0.94 0.89 nadww01



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Agency code = usgs

site_no list =

- 322932103082701

Minimum number of levels = 1

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USGS 322932103082701 21S.37E.11.311111

Available data for this site

Lea County, New Mexico

Hydrologic Unit Code --

Latitude 32°29'32", Longitude 103°08'27" NAD27

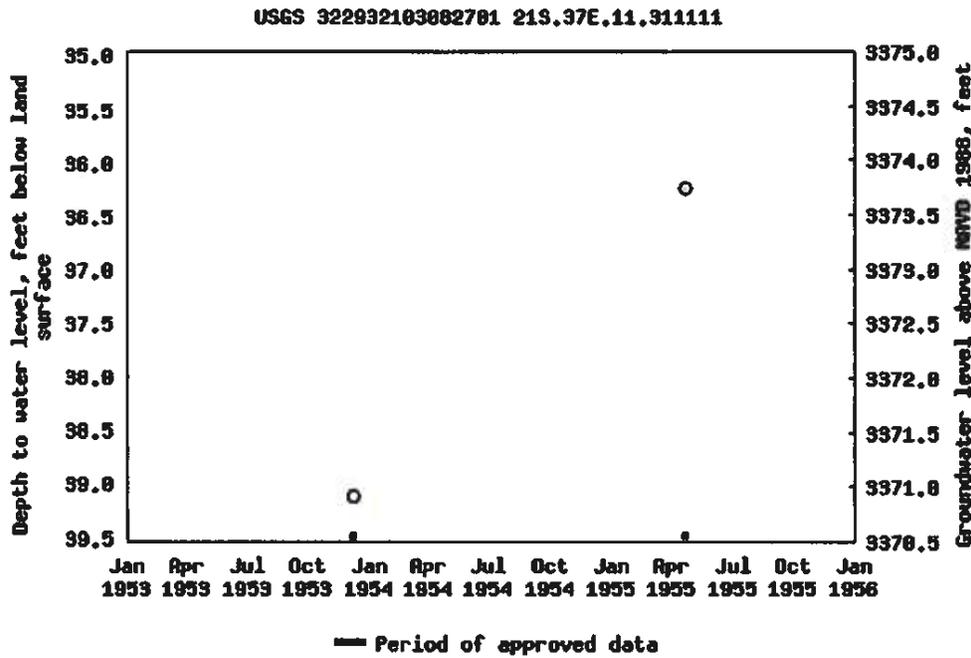
Land-surface elevation 3,410 feet above NAVD88

The depth of the well is 75 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.

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URL: <https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?>



Page Contact Information: [New Mexico Water Data Maintainer](#)

Page Last Modified: 2019-02-13 13:55:27 EST

5.12 0.91 nadww01



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Code	Sub-basin	County	Q 1	Q 2	Q 3	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water Column
CP 00286.POD1	CP	LE		2	1	2	10	21S	37E		674019	3597338	949	70	
CP 01741.POD1	CP	LE		1	3	4	03	21S	37E		673895	3597759	1387	45	
CP 01185.POD1	CP	LE		1	3	14		21S	37E		674598	3594689	1773	70	
CP 01185.POD2	CP	LE		1	3	14		21S	37E		674623	3594674	1791	70	
CP 00554	CP	LE		2	2	16		21S	37E		672744	3595610	1796	80	70 10
CP 01110.POD1	CP	LE		1	3	14		21S	37E		674586	3594648	1811	70	
CP 01110.POD2	CP	LE		1	3	14		21S	37E		674586	3594648	1811	70	
CP 01110.POD3	CP	LE		1	3	14		21S	37E		674586	3594648	1811	70	
CP 01110.POD4	CP	LE		1	3	14		21S	37E		674586	3594648	1811	20	
CP 01110.POD5	CP	LE		1	3	14		21S	37E		674586	3594648	1811	20	
CP 01185.POD3	CP	LE		1	3	14		21S	37E		674592	3594620	1840	70	
CP 01185.POD4	CP	LE		1	3	14		21S	37E		674633	3594610	1856	70	
CP 01574.POD1	CP	LE		2	4	4	15	21S	37E		674559	3594598	1858	68	57 11
CP 01574.POD2	CP	LE		1	3	3	14	21S	37E		674666	3594578	1893	68	57 11

Average Depth to Water: 61 feet
Minimum Depth: 57 feet
Maximum Depth: 70 feet

Record Count: 14

UTM NAD83 Radius Search (in meters):

Easting (X): 674336

Northing (Y): 3596443

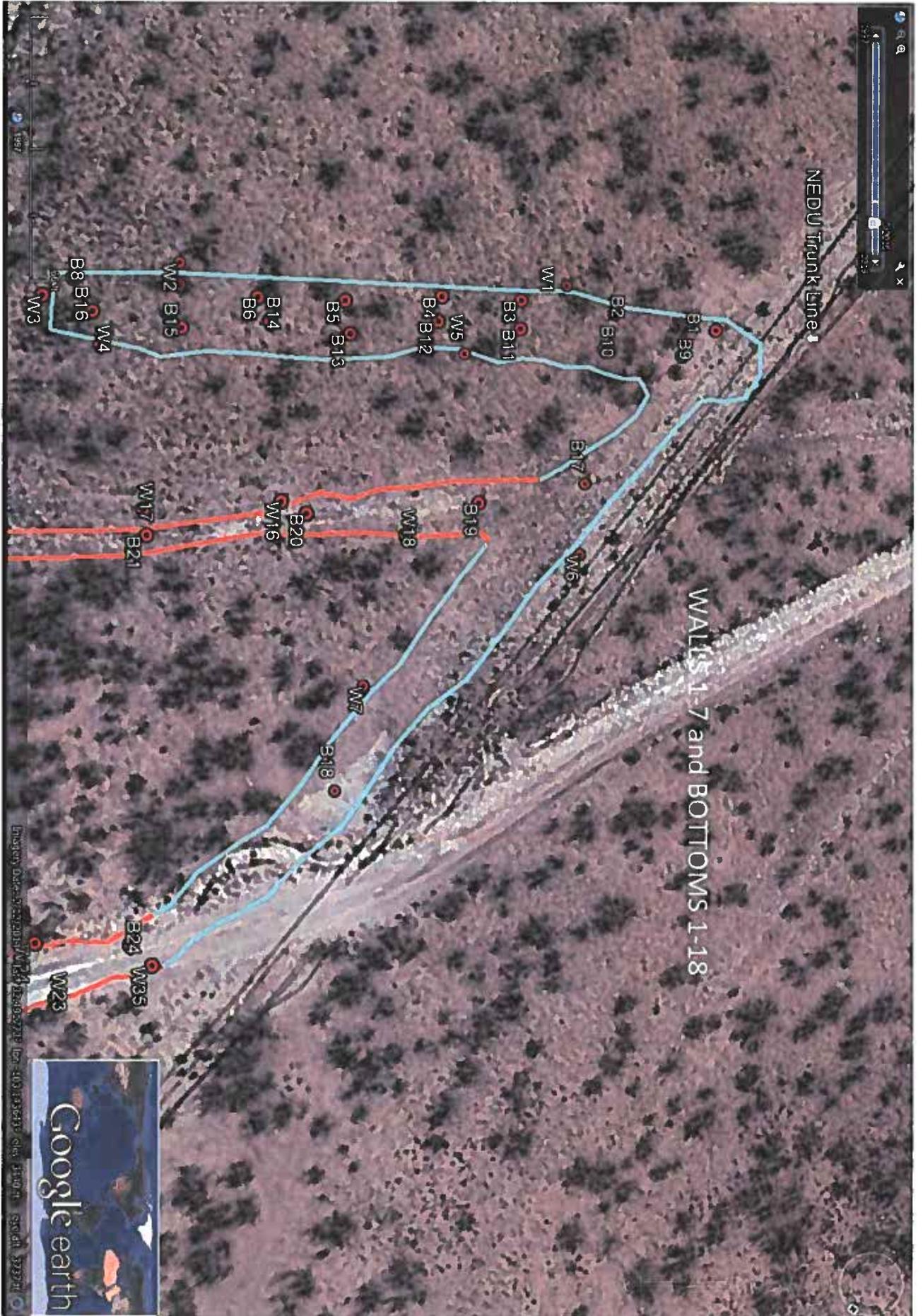
Radius: 2000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

2/13/19 11:29 AM

WATER COLUMN/ AVERAGE
DEPTH TO WATER



NEDU Injection Line
Excavation 1

FIELD SAMPLING SHOWN IN RED WITH CHLORIDE FINDINGS ONLY

LAB RESULTS IN RED

Floor Samples

Map ID	Sample ID	Depth	Chloride	Benzene	Toulene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
B1	EX1 1AF	2'	496	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.49144, -103.14365
B2	EX1 2AF	2'	496	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491487, -103.14357
B3	EX1 3AF	2'	304	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491527, -103.14349
B4	EX1 4AF	2'	145									32.491165, -103.14344
B5	EX1 5AF	2'	112									32.491613, -103.14337
B6	EX1 6AF	2'	543									32.491652, -103.14331
B7	EX1 7AF	2'	273									32.491680, -103.14326
B8	EX1 8AF	2'	273									32.491722, -103.14319
B9	EX1 1BF	2'	598									32.491477, -103.14364
B10	EX1 2BF	2'	272	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491514, -103.14358
B11	EX1 3BF	2'	352									32.491545, -103.14351
B12	EX1 4BF	2'	112	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491581, -103.14345
B13	EX1 5BF	2'	463	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491630, -103.14339
B14	EX1 6BF	2'	176	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491660, -103.14333
B15	EX1 7BF	2'	273									32.491703, -103.14328
B16	EX1 8BF	2'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491733, -103.14322
B17	EX1 B0 @ 1'	1'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491606, -103.14364

NEDU Injection Line
Excavation 1

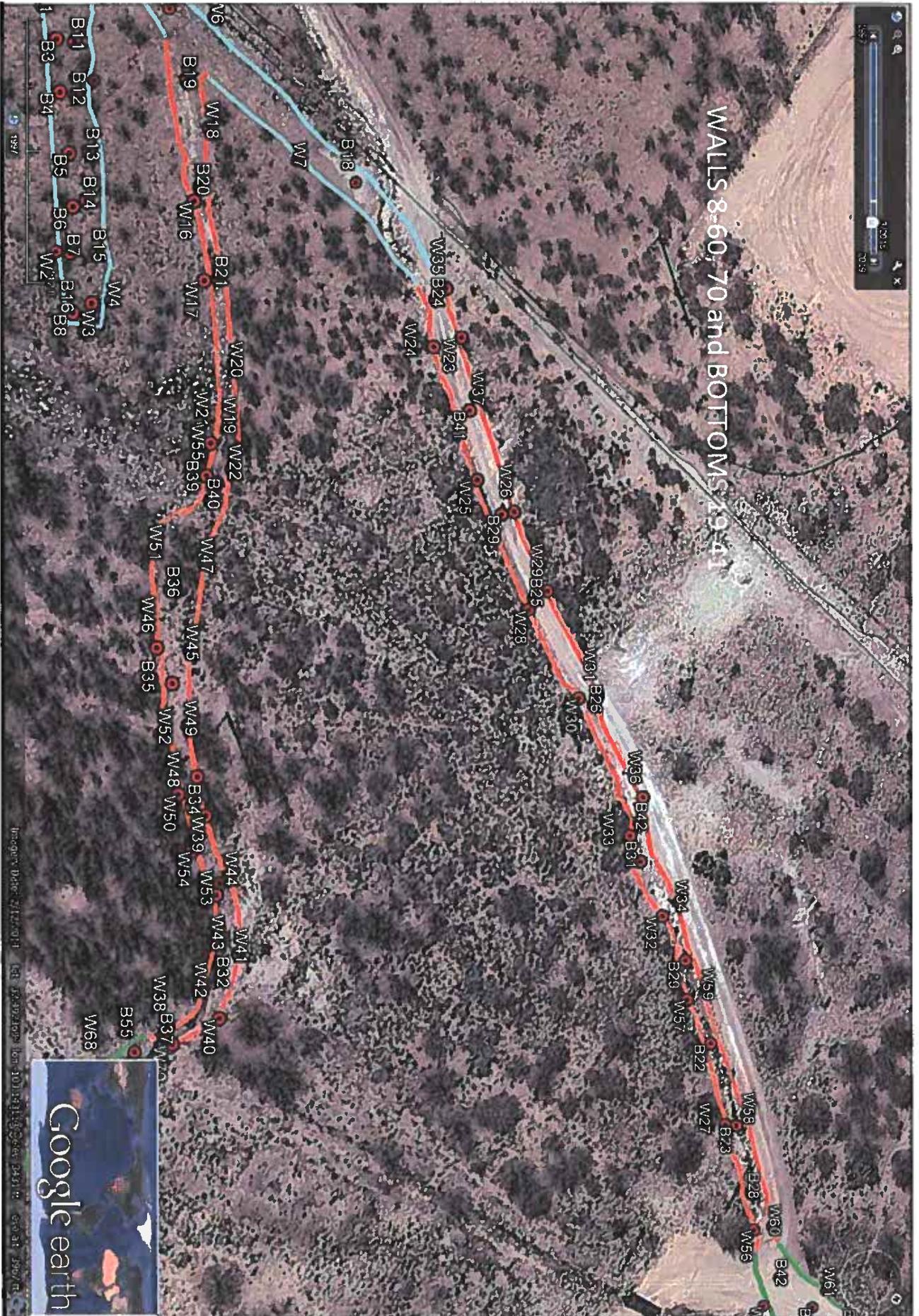
FIELD SAMPLING SHOWN IN RED WITH CHLORIDE FINDINGS ONLY

LAB RESULTS IN RED

B18	EX1 B1 @ 1'	1'	<16.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491902, -103.14361
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Wall Samples

Map ID	Sample ID	Depth	Chloride	Benzene	Toulene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
W1	AW1 @ 2'	2'	272	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.49150, -103.14350
W2	AW2 @ 2'	2'	224	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.49166, -103.14325
W3	AW3 @ 2'	2'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491745, -103.14318
W4	BW1 @ 2'	2'	400	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.49162, -103.14345
W5	BW2 @ 2'	2'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.49175, -103.14325
W6	EWCO @ 1'	1'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491832, -103.14359
W7	WWCO @ 1'	1'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491501, -103.14368



NEDU Injection Line
Excavation 2

FLOOR SAMPLES

Map ID	Sample ID	Depth	Chloride	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	Note
B19	BC1 1'	1'	512	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4916870, 103.1435883
B20	BC2 2'	2'	544	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4917769, 103.1434609
B21	BC1 #2 BFC #2 @ 1'	1' 1'	912 144	<0.050 <0.050	<0.050 <0.050	<0.050 <0.050	<0.150 <0.150	<0.300 <0.300	<10.0 <10.0	<10.0 <10.0	<10.0 <10.0	32.4918346, 103.1433680 n/a
B22	BR 4' 1	4'	352	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	n/a
B23	BR 4' 3	4'	336	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	n/a
B24	TRC 1' -1 TRC 1.5' -3	1' 1.5'	1020 112	<0.050 <0.050	<0.050 <0.050	<0.050 <0.050	<0.150 <0.150	<0.300 <0.300	<10.0 <10.0	15.4 <10.0	<10.0 <10.0	32.4920713, 103.1435608 n/a
B25	TRC 1' -4	1'	368	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4924110, 103.1432627
B26	TRC 1' -5	1'	240	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4925563, 103.1431806
B27	BFC 2' -7	2'	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4928258, 103.1439579
B28	BRC 3' 6-10 BFC 3.5' 6-10	3' 4'	752 240	<0.050 <0.050	<0.050 <0.050	<0.050 <0.050	<0.150 <0.150	<0.300 <0.300	<10.0 <10.0	<10.0 <10.0	<10.0 <10.0	32.493121, 103.14271 n/a
B29	TRC 1.5' -3	1.5'	112	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	n/a
B30	BFC 2.5' -6 BRC 1.5' @	2.5' 3.5'	352 176	<0.050 <0.050	<0.050 <0.050	<0.050 <0.050	<0.150 <0.150	<0.300 <0.300	<10.0 <10.0	<10.0 <10.0	<10.0 <10.0	n/a n/a
B32	BFC 9' -2	9'	256	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	n/a
B33	BFC 9' -3	9'	144	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	n/a
B34	BFC 9' -4 BFC 9' -4	9' 9'	672 544	<0.050 <0.050	<0.050 <0.050	<0.050 <0.050	<0.150 <0.150	<0.300 <0.300	<10.0 <10.0	<10.0 <10.0	<10.0 <10.0	n/a n/a
B35	BFC 9' -6	9'	144	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	n/a

NEDU Injection Line
Excavation 2

B36	BFC9'-8	9'	336	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	n/a
B37	FC @ 9'-1	9'	288	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	
B38	BC 6' 1	6'	240	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	n/a
B39	BC 11' 1	11'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	n/a
B40	BC 11' 2	11'	208	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	n/a
B41	TRC 1'-2	1'	264										32.4921904, 103.1434481

WALL SAMPLES

Map ID	Sample ID	Depth	Chloride	Benzene	Toulene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
W8	NWC 6' #1	6'	144	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4919452, 103.1431212
W9	SWC 6' #1	6'	784	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4919562, 103.1430937
	SWC1 @ 6'	6'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
W10	SWC 6' #2	6'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4918479, 103.1432258
W11	SWC 11' #3	11'	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4918825, 103.1431501
W12	EW C 11'	11'	176	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491912, 103.143232
W13	WWC 11'	11'	176	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4919311, 103.1432480
W14	NWC 1'-2	1'	112	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491844, 103.143365
W15	SWC 1'-1	1'	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491661, 103.143543
W16	SWC 2'	2'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491761, 103.143434
W17	SWC 1'-2	1'	192	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491828, 103.143356
W18	NWC1'-1	1'	624	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491672, 103.143569
	NWC1'-1	1'	306	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
W19	NW 11'-2	11'	992	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4919774, 103.1431812

NEDU Injection Line
Excavation 2

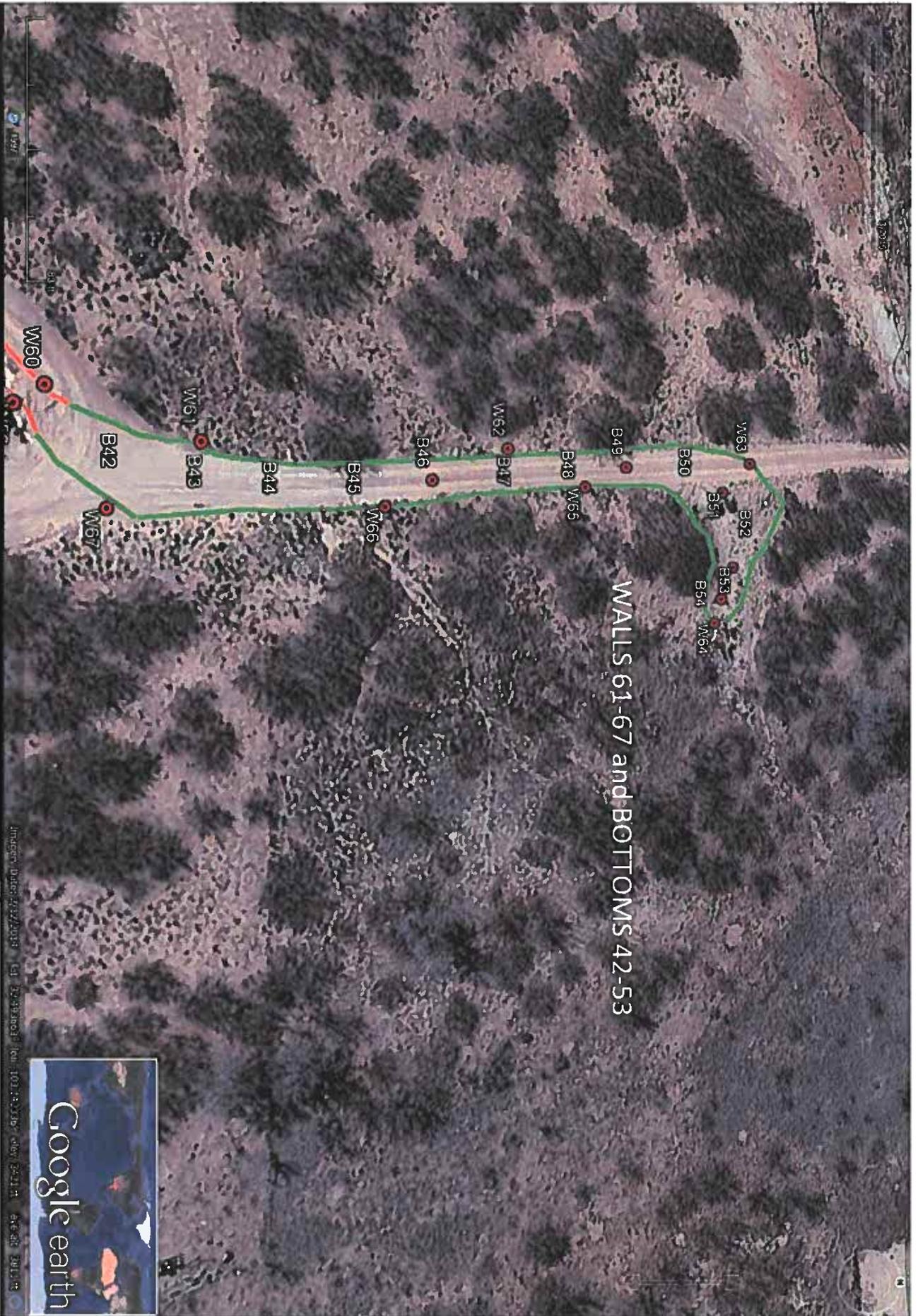
	NWC2 @ 11'	11'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
W20	NW 7'	7'	368	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491911, 103.143274
W21	SW 11'-2	11'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491941, 103.143165
W22	NW 11'-3	11'	304	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.491971, 103.143180
W23	WWC1'-1	1'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4920937, 103.1435618
W24	EW C 1'-2	1'	192	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4921669, 103.1434481
W25	EW C 1'-3	1'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4922786, 103.1433485
W26	WWC 1'-3	1'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4923142, 103.1433636
W27	EW C 4'-2	4'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.493094, -103.142721
W28	EW C 1'-4	1'	320	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4924070, 103.1432476
W29	WWC 1'-4	1'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.492417, 103.1432895
W30	EW C 1'-5	1'	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4925509, 103.1431826
W31	WWC 1'-5	1'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4925572, 103.1431876
W32	EW C 2'-7	2'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4928281, 103.1429650
W33	EW C 2'-6	2'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4927095, 103.1430418
W34	WWC 2'-7	2'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4928312, 103.1429898
W35	WWC 1'-2	1'	208	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.492191, 103.143464
W36	WWC 2.5'-6	2.5'	144	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4927048, 103.1430941
W37	WWC 2'-2	2'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4923221, -103.143599
W38	SWC @ 5'	5'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.492313, 103.142413

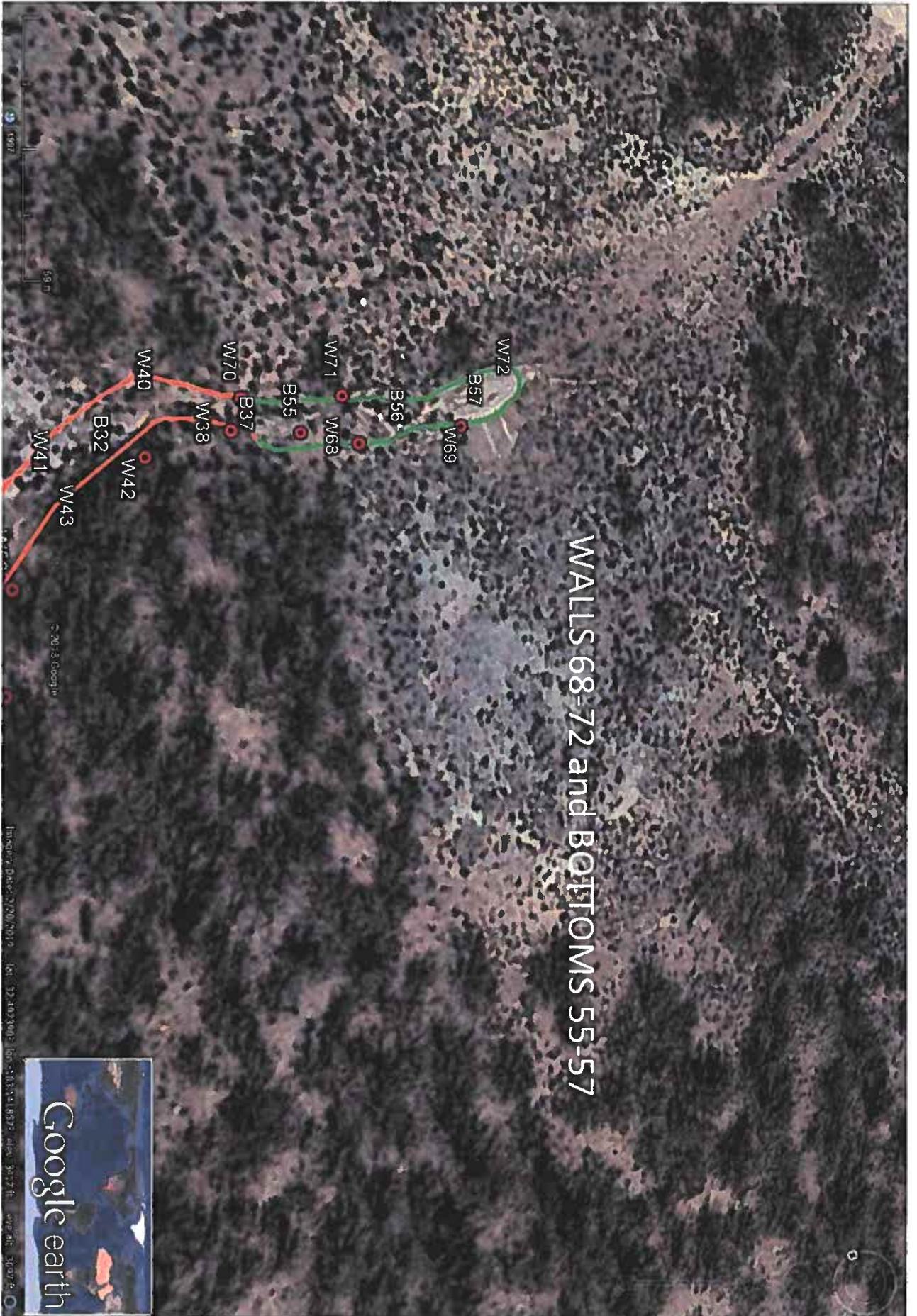
NEDU Injection Line
Excavation 2

W39	NWC3 @ 9'	9'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.4921980, 103.1426964
W40	NWC1 @ 9'	9'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.49236, 103.14245
W41	NWC2 @ 9'	9'	512	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.49234, 103.14254
W42	SWC9' -1	9'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.4923205, 103.142812
W43	SWC9' -2	9'	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.4923018, 103.1425496
W44	NWC4 @ 9'	9'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.492230, 103.142665
W45	NWC9' -7	9'	464	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.492063, 103.142888
W46	SWC9' -7	9'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.492036, 103.142867
W47	NWC9' -8	9'	544	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.492044, 103.142951
W48	NWC9' -5	9'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.492174, 103.142720
W49	NWC9' -6	9'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.492121, 103.142787
W50	SWC9' -5	9'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.492164, 103.142705
W51	SWC9' -8	9'	240	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.491998, 103.142921
W52	SWC9' -6	9'	400	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.492101, 103.142772
W53	SWC3 @ 9'	9'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.492266, 103.142608
W54	SWC4 @ 9'	9'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.492217, 103.142646
W55	SWC1 @ 6'	6'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.491956, 103.143119
W56	SP6 EWC4-1	4'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.493206, 103.142608
W57	SP6 EWC4-3	4'	592	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.492923, 103.142863
W58	BRWW 4' -2	4'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.493115, 103.142753

NEDU Injection Line
Excavation 2

W59	BRWW 4'-3	4'	384	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.492947, 103.142891
W60	BRWW 4'-1	4'	336	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.493229, 103.142631





NEDU Trunk Line
Excavation 3

Map ID	Sample ID	Depth	Chloride	Benzene	Toulene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	Excavation	Note
B42	BR1 @ 1'	1'	496	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	
B43	BR2 @ 1'	1'	533										
B44	BR3 @ 1'	1'	288	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	
B45	BR4 @ 1'	1'	407										
B46	BR5 @ 1'	1'	224	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	
B47	BR6 @ 1'	1'	136										
B48	BR7 @ 1'	1'	144	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	
B49	BR8 @ 1'	1'	484										
B50	BR9 @ 1'	1'	192	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	
B51	BR10 @ 1'	1'	190										
B52	BR11 @ 1'	1'	240	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	
B53	BR12 @ 1'	1'	118										
B54	BR13 @ 1'	1'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	
B55	EX2 1B @ 4'	4'	416	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0		
B56	EX2 2B @ 4'	4'	87										
B57	EX2 3B @ 4'	4'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	

Wall Samples

Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	Excavation	GPS Coordinates
W61	BRW1	1'	432	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	32.493471, -103.142560
W62	BRW2	1'	357	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	32.493743, -103.142596
W63	BRW3	1'	237	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	32.494041, -103.142615
W64	BRW4	1'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	32.493998, -103.142391
W65	BRW5	1'	192	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	32.493809, -103.142561
W66	BRW6	1'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	32.493572, -103.142517
W67	BRW7	1'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	32.493396, -103.142493
W68	EX2 SWC 2 @ 4'	4'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	32.492265, -103.142303
W69	SWC3 @ 4'	4'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	32.492247, -103.142186
W70	NWC1 @ 4'	4'	96	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	32.492328, -103.142383
W71	NWC2 @ 4'	4'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	32.492289, -103.142259
W72	WWC3 @ 4'	4'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	3	32.4922280, -103.142159

**NEDU Trunk Line
Excavation 3**

Map ID	Sample ID	Depth	Chloride	Benzene	Toulene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	Note
B42	BR1 @ 1'	1'	496	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B43	BR2 @ 1'	1'	533	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B44	BR3 @ 1'	1'	288	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B45	BR4 @ 1'	1'	407	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B46	BR5 @ 1'	1'	224	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B47	BR6 @ 1'	1'	136	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B48	BR7 @ 1'	1'	144	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B49	BR8 @ 1'	1'	484	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B50	BR9 @ 1'	1'	192	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B51	BR10 @ 1'	1'	190	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B52	BR11 @ 1'	1'	240	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B53	BR12 @ 1'	1'	118	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B54	BR13 @ 1'	1'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B55	EX2 1B @ 4'	4'	416	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B56	EX2 2B @ 4'	4'	87	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
B57	EX2 3B @ 4'	4'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	

Wall Samples

Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
W61	BRW1	1'	432	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.493471, -103.142560
W62	BRW2	1'	357	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.493743, -103.142596
W63	BRW3	1'	237	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.494041, -103.142615
W64	BRW4	1'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.493998, -103.142391
W65	BRW5	1'	192	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.493809, -103.142561
W66	BRW6	1'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.493572, -103.142517
W67	BRW7	1'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.493396, -103.142493
W68	EX2 SWC 2 @ 4'	4'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.492265, -103.142303
W69	SWC3 @ 4'	4'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.492247, -103.142186
W70	NWC1 @ 4'	4'	96	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.492328, -103.142383
W71	NWC2 @ 4'	4'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.492289, -103.142259
W72	WWC3 @ 4'	4'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.4922280, -103.142159



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

May 03, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 04/29/19 16:20.

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 with a large, prominent initial 'C'.

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:	04/29/2019	Sampling Date:	04/29/2019
Reported:	05/03/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: ROAD 2ND 25' @ 1' (H901533-01)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/01/2019	ND	1.89	94.4	2.00	4.16		
Toluene*	<0.050	0.050	05/01/2019	ND	1.92	96.0	2.00	2.53		
Ethylbenzene*	<0.050	0.050	05/01/2019	ND	1.94	97.2	2.00	0.662		
Total Xylenes*	<0.150	0.150	05/01/2019	ND	5.50	91.7	6.00	0.846		
Total BTEX	<0.300	0.300	05/01/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 83.4 % 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	304	16.0	05/03/2019	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	05/01/2019	ND	207	104	200	3.32		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	206	103	200	3.68		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 73.2 % 41-142

Surrogate: 1-Chlorooctadecane 73.3 % 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. 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



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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:	04/29/2019	Sampling Date:	04/29/2019
Reported:	05/03/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: 4TH 25' @ 1' (H901533-02)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/01/2019	ND	1.89	94.4	2.00	4.16		
Toluene*	<0.050	0.050	05/01/2019	ND	1.92	96.0	2.00	2.53		
Ethylbenzene*	<0.050	0.050	05/01/2019	ND	1.94	97.2	2.00	0.662		
Total Xylenes*	<0.150	0.150	05/01/2019	ND	5.50	91.7	6.00	0.846		
Total BTEX	<0.300	0.300	05/01/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 85.1 % 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	848	16.0	05/03/2019	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	05/01/2019	ND	207	104	200	3.32		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	206	103	200	3.68		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 93.0 % 41-142

Surrogate: 1-Chlorooctadecane 95.7 % 37.6-147

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*=Accredited Analyte

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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:	04/29/2019	Sampling Date:	04/29/2019
Reported:	05/03/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: ROAD 6TH 25' @ 1' (H901533-03)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/01/2019	ND	1.89	94.4	2.00	4.16		
Toluene*	<0.050	0.050	05/01/2019	ND	1.92	96.0	2.00	2.53		
Ethylbenzene*	<0.050	0.050	05/01/2019	ND	1.94	97.2	2.00	0.662		
Total Xylenes*	<0.150	0.150	05/01/2019	ND	5.50	91.7	6.00	0.846		
Total BTEX	<0.300	0.300	05/01/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	160	16.0	05/03/2019	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	05/01/2019	ND	207	104	200	3.32		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	206	103	200	3.68		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 91.2 % 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:	04/29/2019	Sampling Date:	04/29/2019
Reported:	05/03/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: WALL #1 40' @ 1' (H901533-04)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/01/2019	ND	1.89	94.4	2.00	4.16		
Toluene*	<0.050	0.050	05/01/2019	ND	1.92	96.0	2.00	2.53		
Ethylbenzene*	<0.050	0.050	05/01/2019	ND	1.94	97.2	2.00	0.662		
Total Xylenes*	<0.150	0.150	05/01/2019	ND	5.50	91.7	6.00	0.846		
Total BTEX	<0.300	0.300	05/01/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 85.1 % 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	320	16.0	05/03/2019	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	05/01/2019	ND	207	104	200	3.32		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	206	103	200	3.68		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 87.4 % 41-142

Surrogate: 1-Chlorooctadecane 88.0 % 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

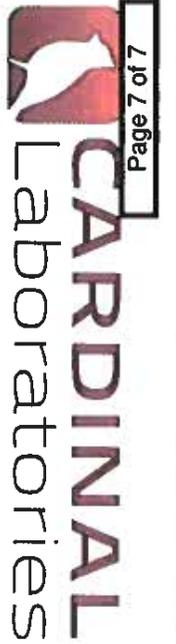
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient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

Cardinal Laboratories

*=Accredited Analyte

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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: <u>3 Packs</u>		P.O. #:			
Project Manager: <u>Bruce Baker / Jeffrey 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>VEDA Injection truckline</u>		Phone #:			
Sampler Name: <u>Sue Quiscadia</u>		Fax #:			
FOR LAB USE ONLY		MATRIX			
Lab I.D.:	Sample I.D.:	<input type="checkbox"/> LAB OR (C)OMP.	DATE	TIME	REMARKS
		# CONTAINERS			
HP0533 1 Road and 25' @ 1' 2 Road 25' @ 1' 3 Road 1st 25' @ 1' 4 Well #1 40' @ 1'	1 1 1 1 1 1 1 1 1 1	GROUNDWATER	4/29/10 5:00am	1	Ext TPH
		WASTEWATER	4/29/10 5:00am	1	BTEX
		SOIL	4/29/10 5:00am	1	
		OIL	4/29/10 5:00am	1	
		SLUDGE	4/29/10 5:00am	1	
		OTHER:	4/29/10 5:00am	1	
		ACID/BASE:	4/29/10 5:00am	1	
		<input checked="" type="checkbox"/> COOL	4/29/10 5:00am	1	
		OTHER:	4/29/10 5:00am	1	

PLEASE NOTE: Liability and Damages, Cardinal's liability and client's recalcitrant remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the services. 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: [Signature] Received By: [Signature]
 Date: 4/29/10 Time: 10:00
 Date: 4/29/10 Time: 10:00

Delivered By: (Circle One) UPS - Bus - Other: 4021 #97
 Sample Condition: Intact Broken
 Checked By: [Signature]

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



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

May 06, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 04/30/19 16:40.

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:	04/30/2019	Sampling Date:	04/30/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BC 1' 1 (H901547-01)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/03/2019	ND	2.21	111	2.00	3.42		
Toluene*	<0.050	0.050	05/03/2019	ND	2.26	113	2.00	3.81		
Ethylbenzene*	<0.050	0.050	05/03/2019	ND	2.10	105	2.00	1.91		
Total Xylenes*	<0.150	0.150	05/03/2019	ND	6.38	106	6.00	1.98		
Total BTEX	<0.300	0.300	05/03/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 94.3 % 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	512	16.0	05/06/2019	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	05/01/2019	ND	198	98.9	200	2.63		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	210	105	200	5.65		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 79.5 % 41-142

Surrogate: 1-Chlorooctadecane 84.1 % 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:	04/30/2019	Sampling Date:	04/30/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BC 2' (H901547-02)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/03/2019	ND	2.21	111	2.00	3.42		
Toluene*	<0.050	0.050	05/03/2019	ND	2.26	113	2.00	3.81		
Ethylbenzene*	<0.050	0.050	05/03/2019	ND	2.10	105	2.00	1.91		
Total Xylenes*	<0.150	0.150	05/03/2019	ND	6.38	106	6.00	1.98		
Total BTEX	<0.300	0.300	05/03/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 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	544	16.0	05/06/2019	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	05/01/2019	ND	198	98.9	200	2.63		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	210	105	200	5.65		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 78.7 % 41-142

Surrogate: 1-Chlorooctadecane 82.9 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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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:	04/30/2019	Sampling Date:	04/30/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BC 1' #2 (H901547-03)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/06/2019	ND	2.04	102	2.00	4.31		
Toluene*	<0.050	0.050	05/06/2019	ND	2.07	103	2.00	0.487		
Ethylbenzene*	<0.050	0.050	05/06/2019	ND	2.13	107	2.00	2.65		
Total Xylenes*	<0.150	0.150	05/06/2019	ND	6.08	101	6.00	2.33		
Total BTEX	<0.300	0.300	05/06/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	912	16.0	05/06/2019	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	05/01/2019	ND	198	98.9	200	2.63		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	210	105	200	5.65		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 80.0 % 41-142

Surrogate: 1-Chlorooctadecane 85.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

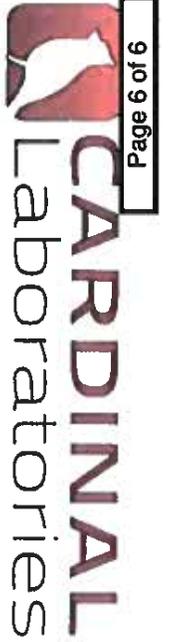
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on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

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Celey D. Keene, Lab Director/Quality Manager



9 to 9 66a-d

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>D. Decker</u> Project Manager: <u>Bruce Palmer / Jeffrey Brown</u>		P.O. #: Company:							
Address: City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>		Attn: Address:							
Phone #: _____ Fax #: _____		City: _____ State: _____ Zip: _____							
Project #: _____ Project Owner: _____		Phone #: _____ Fax #: _____							
Project Location: <u>WEDY Injection Trucking</u>									
Sampler Name: <u>See Quizzes</u>									
FOR LAB USE ONLY									
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV	SAMPLING	DATE	TIME	REMARKS
<u>H901547</u>	<u>BC1'1</u>		<u>1</u>	<u>GROUNDWATER</u>			<u>4/30</u>	<u>4:07</u>	<u>CL</u>
	<u>2 BC2'</u>		<u>1</u>	<u>WASTEWATER</u>			<u>4/30</u>	<u>4:10</u>	<u>EXT TRM</u>
	<u>3 BC1' #2</u>		<u>1</u>	<u>SOIL</u>			<u>4/30</u>	<u>4:12</u>	<u>BTEY</u>

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Relinquished By: [Signature] Date: 4-26-19 Received By: [Signature] Date: 4-26-19
 Relinquished By: [Signature] Date: 4-26-19 Received By: [Signature] Date: 4-26-19

Delivered By: (Circle One) UPS 340 #97
 Sampler - UPS - Bus - Other: _____
 Sample Condition: Cool Intact
 CHECKED BY: [Signature] (Initials)

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

May 06, 2019

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

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 04/30/19 16:40.

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:	04/30/2019	Sampling Date:	04/30/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: NWC 6' #1 (H901548-01)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	3.96		
Toluene*	<0.050	0.050	05/03/2019	ND	2.10	105	2.00	2.19		
Ethylbenzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	8.31		
Total Xylenes*	<0.150	0.150	05/03/2019	ND	5.87	97.8	6.00	5.78		
Total BTEX	<0.300	0.300	05/03/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 75.6% 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	144	16.0	05/06/2019	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*	10.3	10.0	05/01/2019	ND	198	98.9	200	2.63		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	210	105	200	5.65		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 91.1% 41-142

Surrogate: 1-Chlorooctadecane 98.9% 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:	04/30/2019	Sampling Date:	04/30/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: SWC 6' #1 (H901548-02)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	3.96		
Toluene*	<0.050	0.050	05/03/2019	ND	2.10	105	2.00	2.19		
Ethylbenzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	8.31		
Total Xylenes*	<0.150	0.150	05/03/2019	ND	5.87	97.8	6.00	5.78		
Total BTEX	<0.300	0.300	05/03/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	784	16.0	05/06/2019	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	05/01/2019	ND	198	98.9	200	2.63		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	210	105	200	5.65		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 85.0 % 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:	04/30/2019	Sampling Date:	04/30/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: SWC 6' #2 (H901548-03)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	3.96		
Toluene*	<0.050	0.050	05/03/2019	ND	2.10	105	2.00	2.19		
Ethylbenzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	8.31		
Total Xylenes*	<0.150	0.150	05/03/2019	ND	5.87	97.8	6.00	5.78		
Total BTEX	<0.300	0.300	05/03/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 74.4 % 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	05/06/2019	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	05/01/2019	ND	198	98.9	200	2.63		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	210	105	200	5.65		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 85.8 % 41-142

Surrogate: 1-Chlorooctadecane 92.5 % 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:	04/30/2019	Sampling Date:	04/30/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: SWC 11' #3 (H901548-04)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	3.96		
Toluene*	<0.050	0.050	05/03/2019	ND	2.10	105	2.00	2.19		
Ethylbenzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	8.31		
Total Xylenes*	<0.150	0.150	05/03/2019	ND	5.87	97.8	6.00	5.78		
Total BTEX	<0.300	0.300	05/03/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 74.6 % 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	05/06/2019	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	05/01/2019	ND	198	98.9	200	2.63		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	210	105	200	5.65		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 85.0 % 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:	04/30/2019	Sampling Date:	04/30/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BC 6' 1 (H901548-05)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/06/2019	ND	2.12	106	2.00	3.96		
Toluene*	<0.050	0.050	05/06/2019	ND	2.10	105	2.00	2.19		
Ethylbenzene*	<0.050	0.050	05/06/2019	ND	2.12	106	2.00	8.31		
Total Xylenes*	<0.150	0.150	05/06/2019	ND	5.87	97.8	6.00	5.78		
Total BTEX	<0.300	0.300	05/06/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 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	240	16.0	05/06/2019	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	05/01/2019	ND	198	98.9	200	2.63		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	210	105	200	5.65		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 77.9 % 41-142

Surrogate: 1-Chlorooctadecane 82.8 % 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:	04/30/2019	Sampling Date:	04/30/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EWC 11' (H901548-06)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	3.96		
Toluene*	<0.050	0.050	05/03/2019	ND	2.10	105	2.00	2.19		
Ethylbenzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	8.31		
Total Xylenes*	<0.150	0.150	05/03/2019	ND	5.87	97.8	6.00	5.78		
Total BTEX	<0.300	0.300	05/03/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 81.3 % 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	176	16.0	05/06/2019	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	05/01/2019	ND	198	98.9	200	2.63		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	210	105	200	5.65		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 83.3 % 41-142

Surrogate: 1-Chlorooctadecane 88.3 % 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:	04/30/2019	Sampling Date:	04/30/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BC 11' 1 (H901548-07)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	3.96		
Toluene*	<0.050	0.050	05/03/2019	ND	2.10	105	2.00	2.19		
Ethylbenzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	8.31		
Total Xylenes*	<0.150	0.150	05/03/2019	ND	5.87	97.8	6.00	5.78		
Total BTEX	<0.300	0.300	05/03/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 77.9 % 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	64.0	16.0	05/06/2019	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	05/01/2019	ND	198	98.9	200	2.63		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	210	105	200	5.65		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 87.9 % 41-142

Surrogate: 1-Chlorooctadecane 93.2 % 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:	04/30/2019	Sampling Date:	04/30/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BC 11' 2 (H901548-08)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	3.96		
Toluene*	<0.050	0.050	05/03/2019	ND	2.10	105	2.00	2.19		
Ethylbenzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	8.31		
Total Xylenes*	<0.150	0.150	05/03/2019	ND	5.87	97.8	6.00	5.78		
Total BTEX	<0.300	0.300	05/03/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 73.7% 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	208	16.0	05/06/2019	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	05/01/2019	ND	198	98.9	200	2.63		
DRO >C10-C28*	<10.0	10.0	05/01/2019	ND	210	105	200	5.65		
EXT DRO >C28-C36	<10.0	10.0	05/01/2019	ND						

Surrogate: 1-Chlorooctane 77.4% 41-142

Surrogate: 1-Chlorooctadecane 81.8% 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:	04/30/2019	Sampling Date:	04/30/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: WWC 11' (H901548-09)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	3.96		
Toluene*	<0.050	0.050	05/03/2019	ND	2.10	105	2.00	2.19		
Ethylbenzene*	<0.050	0.050	05/03/2019	ND	2.12	106	2.00	8.31		
Total Xylenes*	<0.150	0.150	05/03/2019	ND	5.87	97.8	6.00	5.78		
Total BTEX	<0.300	0.300	05/03/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 85.8 % 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	176	16.0	05/06/2019	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	05/02/2019	ND	198	98.9	200	2.63		
DRO >C10-C28*	<10.0	10.0	05/02/2019	ND	210	105	200	5.65		
EXT DRO >C28-C36	<10.0	10.0	05/02/2019	ND						

Surrogate: 1-Chlorooctane 81.8 % 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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Notes and Definitions

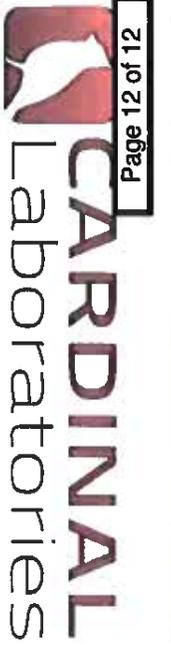
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** 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

21 of 21 pages

BILL TO

ANALYSIS REQUEST

Company Name: Acche P.O. #:
 Project Manager: Bruce Baker / Jeffrey Brown Company:
 Address: Attn:
 City: Hobbs State: NM Zip: 88240 Address:
 Phone #: Fax #: City:
 Project #: Project Owner: State: Zip:
 Project Name: Phone #:
 Project Location: NEDEX Trunk Line Fax #:
 Sampler Name: See Records

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			
4991548	1 WUC 6' #1	C	1								4/30	1:30	1	C
	2 SUC 6' #1	C	1								4/30	1:33	1	EXT TPH
	3 SUC 6' #2	C	1								4/30	1:40	1	BTEX
	4 SUC 11' #3	C	1								4/30	1:43	1	
	5 BC 6' 1'	C	1								4/30	1:45	1	
	6 CUD 11'	C	1								4/30	1:52	1	
	7 BC 11' 1'	C	1								4/30	1:54	1	
	8 BC 11' 2'	C	1								4/30	1:54	1	
	9 WUC 11'	C	1								4/30	2:00	1	

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Relinquished By: [Signature] Date: 4-26-19 Time: 16:40
 Received By: [Signature] Date: _____ Time: _____
 Delivered By: (Circle One) UPS 3:42 # 497 Sample Condition: Cool Intact
 Sampler - UPS - Bus - Other: _____ Yes No Checked By: [Signature] (Initials) RTS
 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

May 06, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 05/01/19 16:10.

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.htm.

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:	05/01/2019	Sampling Date:	05/01/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: NWC 1' - 2 (H901576-01)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/04/2019	ND	2.02	101	2.00	1.53		
Toluene*	<0.050	0.050	05/04/2019	ND	2.06	103	2.00	1.33		
Ethylbenzene*	<0.050	0.050	05/04/2019	ND	1.95	97.7	2.00	0.724		
Total Xylenes*	<0.150	0.150	05/04/2019	ND	5.87	97.8	6.00	1.44		
Total BTEX	<0.300	0.300	05/04/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 93.7% 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	112	16.0	05/06/2019	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	05/03/2019	ND	189	94.7	200	11.5		
DRO >C10-C28*	<10.0	10.0	05/03/2019	ND	190	94.9	200	8.44		
EXT DRO >C28-C36	<10.0	10.0	05/03/2019	ND						

Surrogate: 1-Chlorooctane 80.1% 41-142

Surrogate: 1-Chlorooctadecane 74.7% 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:	05/01/2019	Sampling Date:	05/01/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: SWC 1' - 1 (H901576-02)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/04/2019	ND	2.02	101	2.00	1.53		
Toluene*	<0.050	0.050	05/04/2019	ND	2.06	103	2.00	1.33		
Ethylbenzene*	<0.050	0.050	05/04/2019	ND	1.95	97.7	2.00	0.724		
Total Xylenes*	<0.150	0.150	05/04/2019	ND	5.87	97.8	6.00	1.44		
Total BTEX	<0.300	0.300	05/04/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	160	16.0	05/06/2019	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	05/03/2019	ND	189	94.7	200	11.5		
DRO >C10-C28*	<10.0	10.0	05/03/2019	ND	190	94.9	200	8.44		
EXT DRO >C28-C36	<10.0	10.0	05/03/2019	ND						

Surrogate: 1-Chlorooctane 95.7 % 41-142

Surrogate: 1-Chlorooctadecane 90.7 % 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:	05/01/2019	Sampling Date:	05/01/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: SWC 2' (H901576-03)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/04/2019	ND	2.02	101	2.00	1.53		
Toluene*	<0.050	0.050	05/04/2019	ND	2.06	103	2.00	1.33		
Ethylbenzene*	<0.050	0.050	05/04/2019	ND	1.95	97.7	2.00	0.724		
Total Xylenes*	<0.150	0.150	05/04/2019	ND	5.87	97.8	6.00	1.44		
Total BTEX	<0.300	0.300	05/04/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	80.0	16.0	05/06/2019	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	05/03/2019	ND	189	94.7	200	11.5		
DRO >C10-C28*	<10.0	10.0	05/03/2019	ND	190	94.9	200	8.44		
EXT DRO >C28-C36	<10.0	10.0	05/03/2019	ND						

Surrogate: 1-Chlorooctane 79.2 % 41-142

Surrogate: 1-Chlorooctadecane 74.6 % 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:	05/01/2019	Sampling Date:	05/01/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: SWC 1' - 2 (H901576-04)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/04/2019	ND	2.02	101	2.00	1.53		
Toluene*	<0.050	0.050	05/04/2019	ND	2.06	103	2.00	1.33		
Ethylbenzene*	<0.050	0.050	05/04/2019	ND	1.95	97.7	2.00	0.724		
Total Xylenes*	<0.150	0.150	05/04/2019	ND	5.87	97.8	6.00	1.44		
Total BTEX	<0.300	0.300	05/04/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.9 % 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	192	16.0	05/06/2019	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	05/03/2019	ND	189	94.7	200	11.5		
DRO >C10-C28*	<10.0	10.0	05/03/2019	ND	190	94.9	200	8.44		
EXT DRO >C28-C36	<10.0	10.0	05/03/2019	ND						

Surrogate: 1-Chlorooctane 84.4 % 41-142

Surrogate: 1-Chlorooctadecane 80.9 % 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:	05/01/2019	Sampling Date:	05/01/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: NWC 1' - 1 (H901576-05)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/04/2019	ND	2.02	101	2.00	1.53		
Toluene*	<0.050	0.050	05/04/2019	ND	2.06	103	2.00	1.33		
Ethylbenzene*	<0.050	0.050	05/04/2019	ND	1.95	97.7	2.00	0.724		
Total Xylenes*	<0.150	0.150	05/04/2019	ND	5.87	97.8	6.00	1.44		
Total BTEX	<0.300	0.300	05/04/2019	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	624	16.0	05/06/2019	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	05/03/2019	ND	189	94.7	200	11.5		
DRO >C10-C28*	<10.0	10.0	05/03/2019	ND	190	94.9	200	8.44		
EXT DRO >C28-C36	<10.0	10.0	05/03/2019	ND						

Surrogate: 1-Chlorooctane 81.1 % 41-142

Surrogate: 1-Chlorooctadecane 76.4 % 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:	05/01/2019	Sampling Date:	05/01/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: NW 11' - 2 (H901576-06)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/06/2019	ND	2.00	99.8	2.00	2.33		
Toluene*	<0.050	0.050	05/06/2019	ND	1.99	99.3	2.00	3.04		
Ethylbenzene*	<0.050	0.050	05/06/2019	ND	2.00	99.9	2.00	2.87		
Total Xylenes*	<0.150	0.150	05/06/2019	ND	5.56	92.7	6.00	3.19		
Total BTEX	<0.300	0.300	05/06/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 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	992	16.0	05/06/2019	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	05/03/2019	ND	189	94.7	200	11.5		
DRO >C10-C28*	<10.0	10.0	05/03/2019	ND	190	94.9	200	8.44		
EXT DRO >C28-C36	<10.0	10.0	05/03/2019	ND						

Surrogate: 1-Chlorooctane 86.3 % 41-142

Surrogate: 1-Chlorooctadecane 82.4 % 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:	05/01/2019	Sampling Date:	05/01/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: BRW 1 (H901576-07)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/04/2019	ND	2.00	99.8	2.00	2.33		
Toluene*	<0.050	0.050	05/04/2019	ND	1.99	99.3	2.00	3.04		
Ethylbenzene*	<0.050	0.050	05/04/2019	ND	2.00	99.9	2.00	2.87		
Total Xylenes*	<0.150	0.150	05/04/2019	ND	5.56	92.7	6.00	3.19		
Total BTEX	<0.300	0.300	05/04/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 86.1 % 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	432	16.0	05/06/2019	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	05/03/2019	ND	189	94.7	200	11.5		
DRO >C10-C28*	<10.0	10.0	05/03/2019	ND	190	94.9	200	8.44		
EXT DRO >C28-C36	<10.0	10.0	05/03/2019	ND						

Surrogate: 1-Chlorooctane 99.5 % 41-142

Surrogate: 1-Chlorooctadecane 94.0 % 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:	05/01/2019	Sampling Date:	05/01/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: NW 7' (H901576-08)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/04/2019	ND	2.00	99.8	2.00	2.33		
Toluene*	<0.050	0.050	05/04/2019	ND	1.99	99.3	2.00	3.04		
Ethylbenzene*	<0.050	0.050	05/04/2019	ND	2.00	99.9	2.00	2.87		
Total Xylenes*	<0.150	0.150	05/04/2019	ND	5.56	92.7	6.00	3.19		
Total BTEX	<0.300	0.300	05/04/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 87.7 % 73.3-129

Chloride, 5M4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	05/06/2019	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	05/03/2019	ND	216	108	200	6.27		
DRO >C10-C28*	<10.0	10.0	05/03/2019	ND	203	101	200	5.49		
EXT DRO >C28-C36	<10.0	10.0	05/03/2019	ND						

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 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:	05/01/2019	Sampling Date:	05/01/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: SW 11' - 2 (H901576-09)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/04/2019	ND	2.00	99.8	2.00	2.33		
Toluene*	<0.050	0.050	05/04/2019	ND	1.99	99.3	2.00	3.04		
Ethylbenzene*	<0.050	0.050	05/04/2019	ND	2.00	99.9	2.00	2.87		
Total Xylenes*	<0.150	0.150	05/04/2019	ND	5.56	92.7	6.00	3.19		
Total BTEX	<0.300	0.300	05/04/2019	ND						

Surrogate: 4-Bromofluorobenzene (PII) 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	80.0	16.0	05/06/2019	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	05/03/2019	ND	216	108	200	6.27		
DRO >C10-C28*	<10.0	10.0	05/03/2019	ND	203	101	200	5.49		
EXT DRO >C28-C36	<10.0	10.0	05/03/2019	ND						

Surrogate: 1-Chlorooctane 98.0% 41-142

Surrogate: 1-Chlorooctadecane 93.6% 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:	05/01/2019	Sampling Date:	05/01/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: BR 4' - 1 (H901576-10)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/04/2019	ND	2.00	99.8	2.00	2.33		
Toluene*	<0.050	0.050	05/04/2019	ND	1.99	99.3	2.00	3.04		
Ethylbenzene*	<0.050	0.050	05/04/2019	ND	2.00	99.9	2.00	2.87		
Total Xylenes*	<0.150	0.150	05/04/2019	ND	5.56	92.7	6.00	3.19		
Total BTX	<0.300	0.300	05/04/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 77.5 % 73.3-129

Chloride, SM4500C1-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	05/06/2019	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	05/03/2019	ND	216	108	200	6.27		
DRO >C10-C28*	<10.0	10.0	05/03/2019	ND	203	101	200	5.49		
EXT DRO >C28-C36	<10.0	10.0	05/03/2019	ND						

Surrogate: 1-Chlorooctane 92.9 % 41-142

Surrogate: 1-Chlorooctadecane 87.6 % 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:	05/01/2019	Sampling Date:	05/01/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: BR 4' - 3 (H901576-11)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/04/2019	ND	2.00	99.8	2.00	2.33		
Toluene*	<0.050	0.050	05/04/2019	ND	1.99	99.3	2.00	3.04		
Ethylbenzene*	<0.050	0.050	05/04/2019	ND	2.00	99.9	2.00	2.87		
Total Xylenes*	<0.150	0.150	05/04/2019	ND	5.56	92.7	6.00	3.19		
Total BTEX	<0.300	0.300	05/04/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 82.2 % 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	336	16.0	05/06/2019	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	05/03/2019	ND	216	108	200	6.27		
DRO >C10-C28*	<10.0	10.0	05/03/2019	ND	203	101	200	5.49		
EXT DRO >C28-C36	<10.0	10.0	05/03/2019	ND						

Surrogate: 1-Chlorooctane 99.5 % 41-142

Surrogate: 1-Chlorooctadecane 94.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

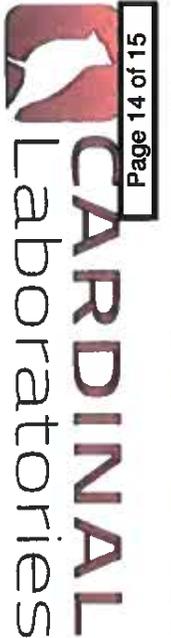
Cardinal Laboratories

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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

51 of 41 pages

BILL TO

ANALYSIS REQUEST

Company Name: Hobbs P.O. #: _____
 Project Manager: Bruce Baker Company: _____
 Address: _____ Attn: _____
 City: Hobbs State: NM Zip: 88240 Address: _____
 Phone #: _____ Fax #: _____ City: _____
 Project #: _____ Project Owner: _____ State: _____ Zip: _____
 Project Location: NE Du Iris Tank Lot Phone #: _____
 Sampler Name: _____ Fax #: _____
 FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX							DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE			
1	ADUC 1'-2	C	1								5/1	10:30	CI EXT TPH BTEX
2	SWC 1'-1	C	1								10/16/17	11:11	
3	SWC 2'	C	1								10/30/17	11:11	
4	SWC 1'-2	C	1								12/4/17	11:11	
5	ADUC 1'-1	C	1								1:27	11:11	
6	ADUC 1'-2	C	1								10/27	11:21	
7	BRU 1	C	1								1:24	1:21	
8	ADUC 1'-1	C	1								1:21	1:21	
9	SWC 1'-2	C	1								1:44	1:44	

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Relinquished By: [Signature] Date: 10/10/19 Time: 10:10
 Received By: [Signature] Date: _____ Time: _____
 Delivered By: (Circle One) UPS - UPS - Bus - Other: 3.99¢ #97
 Sample Condition: Intact Cool Yes No Yes No
 CHECKED BY: [Signature]

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



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

May 09, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 05/02/19 16:20.

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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: NWC 11 - 3 (H901599-01)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	2.07	103	2.00	0.266		
Toluene*	<0.050	0.050	05/07/2019	ND	2.17	108	2.00	1.44		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.07	104	2.00	0.912		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	6.33	106	6.00	0.408		
Total BTEX	<0.300	0.300	05/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	05/07/2019	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	05/06/2019	ND	195	97.7	200	1.90		
DRO >C10-C28*	<10.0	10.0	05/06/2019	ND	201	101	200	10.0		
EXT DRO >C28-C36	<10.0	10.0	05/06/2019	ND						

Surrogate: 1-Chlorooctane 90.5 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: SP 6 EWC 4' - 1 (H901599-02)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	2.07	103	2.00	0.266		
Toluene*	<0.050	0.050	05/07/2019	ND	2.17	108	2.00	1.44		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.07	104	2.00	0.912		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	6.33	106	6.00	0.408		
Total BTEX	<0.300	0.300	05/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/07/2019	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	05/06/2019	ND	195	97.7	200	1.90		
DRO >C10-C28*	<10.0	10.0	05/06/2019	ND	201	101	200	10.0		
EXT DRO >C28-C36	<10.0	10.0	05/06/2019	ND						

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 117 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: SP 6 EWC 4' - 3 (H901599-03)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	2.07	103	2.00	0.266		
Toluene*	<0.050	0.050	05/07/2019	ND	2.17	108	2.00	1.44		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.07	104	2.00	0.912		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	6.33	106	6.00	0.408		
Total BTEX	<0.300	0.300	05/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 107% 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	592	16.0	05/07/2019	ND	416	104	400	0.00	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*	<10.0	10.0	05/06/2019	ND	195	97.7	200	1.90		
DRO >C10-C28*	<10.0	10.0	05/06/2019	ND	201	101	200	10.0		
EXT DRO >C28-C36	<10.0	10.0	05/06/2019	ND						

Surrogate: 1-Chlorooctane 95.0% 41-142

Surrogate: 1-Chlorooctadecane 107% 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BRWW 4' - 2 (H901599-04)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	2.07	103	2.00	0.266		
Toluene*	<0.050	0.050	05/07/2019	ND	2.17	108	2.00	1.44		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.07	104	2.00	0.912		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	6.33	106	6.00	0.408		
Total BTEX	<0.300	0.300	05/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIB) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 91.0 % 41-142

Surrogate: 1-Chlorooctadecane 87.5 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BRWWW 4' - 3 (H901599-05)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	2.07	103	2.00	0.266		
Toluene*	<0.050	0.050	05/07/2019	ND	2.17	108	2.00	1.44		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.07	104	2.00	0.912		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	6.33	106	6.00	0.408		
Total BTEX	<0.300	0.300	05/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 87.1 % 41-142

Surrogate: 1-Chlorooctadecane 83.9 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BRWW 4' - 1 (H901599-06)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	2.07	103	2.00	0.266		
Toluene*	<0.050	0.050	05/07/2019	ND	2.17	108	2.00	1.44		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.07	104	2.00	0.912		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	6.33	106	6.00	0.408		
Total BTEX	<0.300	0.300	05/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 97.7 % 41-142

Surrogate: 1-Chlorooctadecane 93.8 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EWC 1' - 1 (H901599-07)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	2.07	103	2.00	0.266		
Toluene*	<0.050	0.050	05/07/2019	ND	2.17	108	2.00	1.44		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.07	104	2.00	0.912		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	6.33	106	6.00	0.408		
Total BTEX	<0.300	0.300	05/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 95.4 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: TRC 1' - 1 (H901599-08)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	2.07	103	2.00	0.266		
Toluene*	<0.050	0.050	05/07/2019	ND	2.17	108	2.00	1.44		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.07	104	2.00	0.912		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	6.33	106	6.00	0.408		
Total BTEX	<0.300	0.300	05/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1020	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	15.4	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 67.7 % 41-142

Surrogate: 1-Chlorooctadecane 64.9 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: WWC 1' - 1 (H901599-09)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	1.93	96.4	2.00	0.556		
Toluene*	<0.050	0.050	05/07/2019	ND	1.96	98.1	2.00	0.865		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.01	100	2.00	1.26		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	5.66	94.3	6.00	1.34		
Total BTEX	<0.300	0.300	05/07/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 93.3 % 41-142

Surrogate: 1-Chlorooctadecane 90.9 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EWC 1' - 2 (H901599-10)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	1.93	96.4	2.00	0.556		
Toluene*	<0.050	0.050	05/07/2019	ND	1.96	98.1	2.00	0.865		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.01	100	2.00	1.26		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	5.66	94.3	6.00	1.34		
Total BTEX	<0.300	0.300	05/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 85.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 95.4 % 41-142

Surrogate: 1-Chlorooctadecane 92.9 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EWC 1' - 3 (H901599-11)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	1.93	96.4	2.00	0.556		
Toluene*	<0.050	0.050	05/07/2019	ND	1.96	98.1	2.00	0.865		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.01	100	2.00	1.26		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	5.66	94.3	6.00	1.34		
Total BTEX	<0.300	0.300	05/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 88.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 100 % 41-142

Surrogate: 1-Chlorooctadecane 97.6 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: WWC 1' - 3 (H901599-12)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	1.93	96.4	2.00	0.556		
Toluene*	<0.050	0.050	05/07/2019	ND	1.96	98.1	2.00	0.865		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.01	100	2.00	1.26		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	5.66	94.3	6.00	1.34		
Total BTEX	<0.300	0.300	05/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 79.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 97.7 % 41-142

Surrogate: 1-Chlorooctadecane 95.8 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EWC 4' - 2 (H901599-13)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	1.93	96.4	2.00	0.556		
Toluene*	<0.050	0.050	05/07/2019	ND	1.96	98.1	2.00	0.865		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.01	100	2.00	1.26		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	5.66	94.3	6.00	1.34		
Total BTEX	<0.300	0.300	05/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 86.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 95.8 % 41-142

Surrogate: 1-Chlorooctadecane 93.7 % 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: 05/02/2019
 Reported: 05/09/2019
 Project Name: NEDU INJECTION TRUNKLINE
 Project Number: NONE GIVEN
 Project Location: EUNICE NM

Sampling Date: 05/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: TRC 1' - 4 (H901599-14)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2019	ND	1.93	96.4	2.00	0.556		
Toluene*	<0.050	0.050	05/07/2019	ND	1.96	98.1	2.00	0.865		
Ethylbenzene*	<0.050	0.050	05/07/2019	ND	2.01	100	2.00	1.26		
Total Xylenes*	<0.150	0.150	05/07/2019	ND	5.66	94.3	6.00	1.34		
Total BTEX	<0.300	0.300	05/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 74.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 94.7 % 41-142

Surrogate: 1-Chlorooctadecane 91.4 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EWC 1' - 4 (H901599-15)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2019	ND	2.09	104	2.00	3.25		
Toluene*	<0.050	0.050	05/08/2019	ND	2.18	109	2.00	1.96		
Ethylbenzene*	<0.050	0.050	05/08/2019	ND	2.09	105	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/08/2019	ND	6.37	106	6.00	1.20		
Total BTEX	<0.300	0.300	05/08/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 92.9 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: WWC 1' - 4 (H901599-16)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2019	ND	2.09	104	2.00	3.25		
Toluene*	<0.050	0.050	05/08/2019	ND	2.18	109	2.00	1.96		
Ethylbenzene*	<0.050	0.050	05/08/2019	ND	2.09	105	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/08/2019	ND	6.37	106	6.00	1.20		
Total BTEX	<0.300	0.300	05/08/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIB) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 94.9 % 41-142

Surrogate: 1-Chlorooctadecane 92.4 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EWC 1' - 5 (H901599-17)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2019	ND	2.09	104	2.00	3.25		
Toluene*	<0.050	0.050	05/08/2019	ND	2.18	109	2.00	1.96		
Ethylbenzene*	<0.050	0.050	05/08/2019	ND	2.09	105	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/08/2019	ND	6.37	106	6.00	1.20		
Total BTEX	<0.300	0.300	05/08/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 90.4 % 41-142

Surrogate: 1-Chlorooctadecane 86.5 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: TRC 1' - 5 (H901599-18)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2019	ND	2.09	104	2.00	3.25		
Toluene*	<0.050	0.050	05/08/2019	ND	2.18	109	2.00	1.96		
Ethylbenzene*	<0.050	0.050	05/08/2019	ND	2.09	105	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/08/2019	ND	6.37	106	6.00	1.20		
Total BTEX	<0.300	0.300	05/08/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 107% 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 95.6% 41-142

Surrogate: 1-Chlorooctadecane 91.0% 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EX1 6BF (H901599-19)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2019	ND	2.09	104	2.00	3.25		
Toluene*	<0.050	0.050	05/08/2019	ND	2.18	109	2.00	1.96		
Ethylbenzene*	<0.050	0.050	05/08/2019	ND	2.09	105	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/08/2019	ND	6.37	106	6.00	1.20		
Total BTEX	<0.300	0.300	05/08/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	672	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 76.8 % 41-142

Surrogate: 1-Chlorooctadecane 73.2 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EX1 SAF (H901599-20)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2019	ND	2.09	104	2.00	3.25		
Toluene*	<0.050	0.050	05/08/2019	ND	2.18	109	2.00	1.96		
Ethylbenzene*	<0.050	0.050	05/08/2019	ND	2.09	105	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/08/2019	ND	6.37	106	6.00	1.20		
Total BTEX	<0.300	0.300	05/08/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	656	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 76.2 % 41-142

Surrogate: 1-Chlorooctadecane 71.9 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EX1 1AF @ 2' (H901599-21)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2019	ND	2.09	104	2.00	3.25		
Toluene*	<0.050	0.050	05/08/2019	ND	2.18	109	2.00	1.96		
Ethylbenzene*	<0.050	0.050	05/08/2019	ND	2.09	105	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/08/2019	ND	6.37	106	6.00	1.20		
Total BTEX	<0.300	0.300	05/08/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	496	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 61.7 % 41-142

Surrogate: 1-Chlorooctadecane 58.5 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EX1 3AF @ 2' (H901599-22)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2019	ND	2.09	104	2.00	3.25		
Toluene*	<0.050	0.050	05/08/2019	ND	2.18	109	2.00	1.96		
Ethylbenzene*	<0.050	0.050	05/08/2019	ND	2.09	105	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/08/2019	ND	6.37	106	6.00	1.20		
Total BTEX	<0.300	0.300	05/08/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 78.7 % 41-142

Surrogate: 1-Chlorooctadecane 75.6 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EX1 4BF @ 2' (H901599-23)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2019	ND	2.09	104	2.00	3.25		
Toluene*	<0.050	0.050	05/08/2019	ND	2.18	109	2.00	1.96		
Ethylbenzene*	<0.050	0.050	05/08/2019	ND	2.09	105	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/08/2019	ND	6.37	106	6.00	1.20		
Total BTEX	<0.300	0.300	05/08/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 106 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	912	16.0	05/07/2019	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	05/04/2019	ND	207	103	200	0.983		
DRO >C10-C28*	<10.0	10.0	05/04/2019	ND	194	97.1	200	10.6		
EXT DRO >C28-C36	<10.0	10.0	05/04/2019	ND						

Surrogate: 1-Chlorooctane 75.2 % 41-142

Surrogate: 1-Chlorooctadecane 73.1 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EX1 8BF @ 2' (H901599-24)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2019	ND	2.09	104	2.00	3.25		
Toluene*	<0.050	0.050	05/08/2019	ND	2.18	109	2.00	1.96		
Ethylbenzene*	<0.050	0.050	05/08/2019	ND	2.09	105	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/08/2019	ND	6.37	106	6.00	1.20		
Total BTEX	<0.300	0.300	05/08/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	672	16.0	05/07/2019	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	05/06/2019	ND	205	103	200	4.85		
DRO >C10-C28*	<10.0	10.0	05/06/2019	ND	197	98.4	200	6.99		
EXT DRO >C28-C36	<10.0	10.0	05/06/2019	ND						

Surrogate: 1-Chlorooctane 78.1 % 41-142

Surrogate: 1-Chlorooctadecane 75.1 % 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:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/09/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: WWC 1' @ 5 (H901599-25)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2019	ND	2.09	104	2.00	3.25		
Toluene*	<0.050	0.050	05/08/2019	ND	2.18	109	2.00	1.96		
Ethylbenzene*	<0.050	0.050	05/08/2019	ND	2.09	105	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/08/2019	ND	6.37	106	6.00	1.20		
Total BTEX	<0.300	0.300	05/08/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	05/07/2019	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	05/06/2019	ND	205	103	200	4.85		
DRO >C10-C28*	<10.0	10.0	05/06/2019	ND	197	98.4	200	6.99		
EXT DRO >C28-C36	<10.0	10.0	05/06/2019	ND						

Surrogate: 1-Chlorooctane 96.0 % 41-142

Surrogate: 1-Chlorooctadecane 89.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

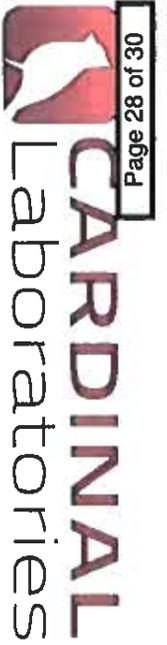
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient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

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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: <i>Apache</i> Project Manager: <i>Bruce Baker</i>		P.O. #: Company:	
Address: City: <i>Hobbs</i> State: <i>NM</i> Zip: <i>88240</i>		Attn: Address:	
Phone #: Fax #:		City:	
Project #: Project Owner:		State: Zip:	
Project Name:		Phone #:	
Project Location: <i>NEIDA Trunk line</i>		Fax #:	
Sampler Name: <i>Sose Ernesto</i>		MATRIX:	
FOR LAB USE ONLY		PRESERV:	
Lab I.D. Sample I.D.		SAMPLING:	
1 <i>ADUC 11-3</i>	(G)GRAB OR (C)COMP.	DATE	TIME
2 <i>SP9 EWC 4'-1</i>	# CONTAINERS	5/2	8:57AM
3 <i>SP9 EWC 4'-3</i>	GROUNDWATER	5/2	10:15AM
4 <i>BRW 4'-2</i>	WASTEWATER	5/2	10:17AM
5 <i>BRW 4'-3</i>	SOIL	5/2	10:11AM
6 <i>BRW 4'-1</i>	OIL	5/2	10:20AM
7 <i>FML 1'-1</i>	SLUDGE	5/2	10:00AM
8 <i>FML 1'-1</i>	OTHER:	5/2	8:05AM
9 <i>WDR 1'-1</i>	ACID/BASE:	5/2	8:07AM
10 <i>WDR 1'-2</i>	ICE / COOL	5/2	8:05AM
RECEIVED BY: <i>[Signature]</i>		REMARKS:	
Date: <i>5-2-19</i> Time: <i>16:20</i>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Date: _____ Time: _____		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Received By: <i>[Signature]</i>		Add'l Phone #:	
Date: _____ Time: _____		Add'l Fax #:	
Delivered By: (Circle One) <i>Bus</i>		Sample Condition:	
Sampler - JPS - Bus - Other: <i>292 #97</i>		Cool <input type="checkbox"/> Intact <input type="checkbox"/>	
Checked By: <i>[Signature]</i>		Yes <input type="checkbox"/> No <input type="checkbox"/>	
Initials: <i>[Signature]</i>		Yes <input type="checkbox"/> No <input type="checkbox"/>	



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

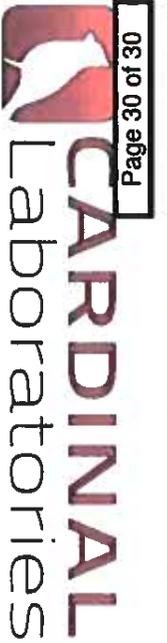
Company Name: Apache P.O. #: _____
 Project Manager: Bruce Baker Company: _____
 Address: _____ Attn: _____
 City: Hobbs State: NM zip: 88240 Address: _____
 Phone #: _____ Fax #: _____ City: _____
 Project #: _____ Project Owner: _____ State: _____ Zip: _____
 Project Name: _____ Phone #: _____ Fax #: _____
 Project Location: VEDDY Inv Tank Line
 Sampler Name: Jose Alvarez

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	EXT	TPH	BTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE					
<u>H901599</u>	<u>CWC1'-3</u>		1								5/2	2:19			
	<u>CWC1'-3</u>		1								5/2	2:20			
	<u>EMC4'-2</u>		1								5/2	3:06			
	<u>EMC1'-4</u>		1								5/2	3:49			
	<u>EMC1'-4</u>		1								3/5	3:47			
	<u>EMC1'-4</u>		1								3/5	3:51			
	<u>EMC1'-5</u>		1								3/5	3:53			
	<u>EMC1'-5</u>		1								3/5	3:55			
	<u>EMC1'-5</u>		1								4/20	4:00			
	<u>EMC1'-5</u>		1								3/20	3:40			

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Relinquished By: [Signature] Date: 5-2-19 Received By: [Signature] Date: 11-20
 Relinquished By: _____ Date: _____ Received By: _____ Date: _____
 Delivered By: (Circle One) UPS - Bus - Other: _____
 Sample Condition: Cool Intact
 Checked By: TD

REMARKS: EMAIL



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>Positive Behavior</u> Project Manager: <u>Positive Behavior</u> Address: City: <u>Hobbs</u> State: <u>NM</u> zip: <u>88240</u> Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: _____ Project Location: <u>DEAF Inspection + maintenance</u> Sampler Name: <u>Joe Guisard</u> FOR LAB USE ONLY		P.O. #: Company: Attn: Address: City: State: _____ Zip: _____ Phone #: Fax #:		
Lab I.D. <u>H961599</u> Sample I.D.	(G)RAB OR (COM) # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER ACID/BASE (C) COOL OTHER	MATRIX PRESERV SAMPLING	DATE TIME	REMARKS <u>EX TH</u> <u>Box</u>
<u>21</u>	<u>EX 1 145</u>	<u>1</u>	<u>5-2-19 3:30</u>	<u>✓</u>
<u>22</u>	<u>EX 1 305</u>	<u>1</u>	<u>5-2-19 3:35</u>	<u>✓</u>
<u>23</u>	<u>EX 1 485</u>	<u>1</u>	<u>5-2-19 3:45</u>	<u>✓</u>
<u>24</u>	<u>EX 1 885</u>	<u>1</u>	<u>5-2-19 4:10</u>	<u>✓</u>
<u>25</u>	<u>WASTICIES</u>	<u>1</u>	<u>5-2-19 15:57</u>	<u>✓</u>

Relinquished By: Joe Guisard Date: 5-2-19 Time: 16:20
 Received By: Juanita Black Date: _____ Time: _____

Delivered By: (Circle One) UPS - Bus - Other: 8.9g #97
 Sample Condition: Cool Intact
 Checked By: _____ (Initials) JS

REMARKS: EM, 1

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May 13, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 05/03/19 15:33.

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:	05/03/2019	Sampling Date:	05/03/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EWC 2' - 7 (H901612-01)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2019	ND	2.04	102	2.00	0.687		
Toluene*	<0.050	0.050	05/09/2019	ND	2.12	106	2.00	0.499		
Ethylbenzene*	<0.050	0.050	05/09/2019	ND	2.06	103	2.00	0.667		
Total Xylenes*	<0.150	0.150	05/09/2019	ND	6.25	104	6.00	1.14		
Total BTEX	<0.300	0.300	05/09/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/07/2019	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/07/2019	ND	222	111	200	2.49		
DRO >C10-C28*	<10.0	10.0	05/07/2019	ND	213	107	200	1.46		
EXT DRO >C28-C36	<10.0	10.0	05/07/2019	ND						

Surrogate: 1-Chlorooctane 87.4 % 41-142

Surrogate: 1-Chlorooctadecane 83.5 % 37.6-147

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/03/2019	Sampling Date:	05/03/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EWC 2' - 6 (H901612-02)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2019	ND	2.04	102	2.00	0.687		
Toluene*	<0.050	0.050	05/09/2019	ND	2.12	106	2.00	0.499		
Ethylbenzene*	<0.050	0.050	05/09/2019	ND	2.06	103	2.00	0.667		
Total Xylenes*	<0.150	0.150	05/09/2019	ND	6.25	104	6.00	1.14		
Total BTEX	<0.300	0.300	05/09/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 107 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	05/07/2019	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/07/2019	ND	222	111	200	2.49		
DRO >C10-C28*	<10.0	10.0	05/07/2019	ND	213	107	200	1.46		
EXT DRO >C28-C36	<10.0	10.0	05/07/2019	ND						

Surrogate: 1-Chlorooctane 105 % 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:	05/03/2019	Sampling Date:	05/03/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: WWC 2' - 7 (H901612-03)

BTEX 80218		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2019	ND	2.04	102	2.00	0.687	
Toluene*	<0.050	0.050	05/09/2019	ND	2.12	106	2.00	0.499	
Ethylbenzene*	<0.050	0.050	05/09/2019	ND	2.06	103	2.00	0.667	
Total Xylenes*	<0.150	0.150	05/09/2019	ND	6.25	104	6.00	1.14	
Total BTEX	<0.300	0.300	05/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	05/07/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/07/2019	ND	222	111	200	2.49	
DRO >C10-C28*	<10.0	10.0	05/07/2019	ND	213	107	200	1.46	
EXT DRO >C28-C36	<10.0	10.0	05/07/2019	ND					

Surrogate: 1-Chlorooctane 96.0 % 41-142

Surrogate: 1-Chlorooctadecane 91.2 % 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:	05/03/2019	Sampling Date:	05/03/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BFC 2' - 7 (H901612-04)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2019	ND	2.04	102	2.00	0.687		
Toluene*	<0.050	0.050	05/09/2019	ND	2.12	106	2.00	0.499		
Ethylbenzene*	<0.050	0.050	05/09/2019	ND	2.06	103	2.00	0.667		
Total Xylenes*	<0.150	0.150	05/09/2019	ND	6.25	104	6.00	1.14		
Total BTEX	<0.300	0.300	05/09/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	05/07/2019	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/07/2019	ND	222	111	200	2.49		
DRO >C10-C28*	<10.0	10.0	05/07/2019	ND	213	107	200	1.46		
EXT DRO >C28-C36	<10.0	10.0	05/07/2019	ND						

Surrogate: 1-Chlorooctane 110 % 41-142

Surrogate: 1-Chlorooctadecane 108 % 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:	05/03/2019	Sampling Date:	05/03/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BRFC 3' - 6-10 (H901612-05)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2019	ND	2.04	102	2.00	0.687	
Toluene*	<0.050	0.050	05/09/2019	ND	2.12	106	2.00	0.499	
Ethylbenzene*	<0.050	0.050	05/09/2019	ND	2.06	103	2.00	0.667	
Total Xylenes*	<0.150	0.150	05/09/2019	ND	6.25	104	6.00	1.14	
Total BTEX	<0.300	0.300	05/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	05/07/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/07/2019	ND	222	111	200	2.49	
DRO >C10-C28*	<10.0	10.0	05/07/2019	ND	213	107	200	1.46	
EXT DRO >C28-C36	<10.0	10.0	05/07/2019	ND					

Surrogate: 1-Chlorooctane 96.7 % 41-142

Surrogate: 1-Chlorooctadecane 94.1 % 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

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: <u>Apache</u> Project Manager: <u>Bruce Baker / Jeffery Brown</u>		BILL TO		ANALYSIS REQUEST	
Address: City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>		P.O. #: Company:			
Phone #: _____ Fax #: _____		Attn: _____			
Project #: _____ Project Owner: _____		Address: _____			
Project Name: _____		City: _____			
Project Location: <u>WED Targeting trackland</u>		State: _____ Zip: _____			
Sampler Name: <u>de Quade</u>		Phone #: _____			
FOR LAB USE ONLY		Fax #: _____			

Lab I.D.	Sample I.D.	(G)RAB OR (C)DMP	# CONTAINERS	MATRIX						DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER			
H901612	1 EWC 2'-3	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>						5/3	1:16	OK
	2 EWC 2'-6	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>						1:19	1:21	Ext TPH
	3 EWC 2'-3	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>						1:21	1:24	BKET
	4 SEC 2'-3	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>								
	5 BFC 3'-6-10	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>								

PLEASE NOTE: Liability and Damages. Cardinal's liability and damages 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.

Relinquished By: [Signature] Date: 5/28/19 Received By: [Signature] Date: 5/28/19
 Time: _____ Time: _____

Delivered By: (Circle One) UPS Sample Condition: Cool Intact Yes No
 5:32 #97 CHECKED BY: [Signature] (Initials) 70.

REMARKS: Envi Results



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

May 13, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 05/03/19 15:33.

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:	05/03/2019	Sampling Date:	05/03/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: 2 BF 1S EXC. (H901613-01)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2019	ND	2.04	102	2.00	0.687	
Toluene*	<0.050	0.050	05/09/2019	ND	2.12	106	2.00	0.499	
Ethylbenzene*	<0.050	0.050	05/09/2019	ND	2.06	103	2.00	0.667	
Total Xylenes*	<0.150	0.150	05/09/2019	ND	6.25	104	6.00	1.14	
Total BTEX	<0.300	0.300	05/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	05/08/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/07/2019	ND	222	111	200	2.49	
DRO >C10-C28*	<10.0	10.0	05/07/2019	ND	213	107	200	1.46	
EXT DRO >C28-C36	<10.0	10.0	05/07/2019	ND					

Surrogate: 1-Chlorooctane 95.9 % 41-142

Surrogate: 1-Chlorooctadecane 93.8 % 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:	05/03/2019	Sampling Date:	05/03/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: AW1 @ 2' EXC1 (H901613-02)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2019	ND	2.04	102	2.00	0.687		
Toluene*	<0.050	0.050	05/09/2019	ND	2.12	106	2.00	0.499		
Ethylbenzene*	<0.050	0.050	05/09/2019	ND	2.06	103	2.00	0.667		
Total Xylenes*	<0.150	0.150	05/09/2019	ND	6.25	104	6.00	1.14		
Total BTEX	<0.300	0.300	05/09/2019	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	224	16.0	05/08/2019	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/07/2019	ND	222	111	200	2.49		
DRO >C10-C28*	<10.0	10.0	05/07/2019	ND	213	107	200	1.46		
EXT DRO >C28-C36	<10.0	10.0	05/07/2019	ND						

Surrogate: 1-Chlorooctane 98.5 % 41-142

Surrogate: 1-Chlorooctadecane 95.4 % 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:	05/03/2019	Sampling Date:	05/03/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: AW2 @ 2' EXC1 (H901613-03)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2019	ND	2.04	102	2.00	0.687	
Toluene*	<0.050	0.050	05/09/2019	ND	2.12	106	2.00	0.499	
Ethylbenzene*	<0.050	0.050	05/09/2019	ND	2.06	103	2.00	0.667	
Total Xylenes*	<0.150	0.150	05/09/2019	ND	6.25	104	6.00	1.14	
Total BTEX	<0.300	0.300	05/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 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	05/08/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/07/2019	ND	222	111	200	2.49	
DRO >C10-C28*	<10.0	10.0	05/07/2019	ND	213	107	200	1.46	
EXT DRO >C28-C36	<10.0	10.0	05/07/2019	ND					

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 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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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

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> Project Manager: <u>Ernie Baker / 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>DEDU Injection Truck Line</u> Sampler Name: <u>Jeffrey Brown</u> FOR LAB USE ONLY		P.O. #: Company: Attn: Address: City: State: Zip:	
Lab I.D. <u>A901613</u> Sample I.D. <u>1 28F 2s Exc.</u> <u>2 2 Awa 2' Exc 1</u> <u>3 Awa 2' Exc 1</u>		(G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER ACID/BASE ICP/COOL OTHER	DATE TIME DATE TIME
Relinquished By: <u>JEFF Brown</u> Date: <u>5-3-19</u> Time: <u>3:00</u> Relinquished By: <u>[Signature]</u> Date: <u>5-2-19</u> Time: <u>15:30</u>		Received By: <u>[Signature]</u> Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: <u>S-32 #497</u>		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Checked By: <u>[Signature]</u> Initials: <u>[Signature]</u>	
Relinquished By: _____ Date: _____ Time: _____ Relinquished 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 #: _____	
REMARKS: <u>Email Results.</u>		ANALYSIS REQUEST	

9 of 9 pages



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

May 13, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 05/06/19 16:40.

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 with a large, prominent "C" at the beginning.

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:	05/06/2019	Sampling Date:	05/06/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: WWC 1' - 2 (H901635-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2019	ND	1.81	90.6	2.00	0.728	
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	1.95	
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.36	118	2.00	7.32	
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.75	113	6.00	8.28	
Total BTEX	<0.300	0.300	05/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 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	208	16.0	05/10/2019	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	05/08/2019	ND	219	109	200	5.54	
DRO >C10-C28*	<10.0	10.0	05/08/2019	ND	206	103	200	3.68	
EXT DRO >C28-C36	<10.0	10.0	05/08/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 98.9 % 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:	05/06/2019	Sampling Date:	05/06/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: TRC 1.5' - 3 (H901635-02)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/10/2019	ND	1.81	90.6	2.00	0.728		
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	1.95		
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.36	118	2.00	7.32		
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.75	113	6.00	8.28		
Total BTEX	<0.300	0.300	05/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 96.9% 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	05/10/2019	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	05/08/2019	ND	219	109	200	5.54		
DRO >C10-C28*	<10.0	10.0	05/08/2019	ND	206	103	200	3.68		
EXT DRO >C28-C36	<10.0	10.0	05/08/2019	ND						

Surrogate: 1-Chlorooctane 98.2% 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:	05/06/2019	Sampling Date:	05/06/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: WWC 2.5' - 6 (H901635-03)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/10/2019	ND	1.81	90.6	2.00	0.728		
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	1.95		
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.36	118	2.00	7.32		
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.75	113	6.00	8.28		
Total BTEX	<0.300	0.300	05/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 99.3 % 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	144	16.0	05/10/2019	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	05/08/2019	ND	219	109	200	5.54		
DRO >C10-C28*	<10.0	10.0	05/08/2019	ND	206	103	200	3.68		
EXT DRO >C28-C36	<10.0	10.0	05/08/2019	ND						

Surrogate: 1-Chlorooctane 96.1 % 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:	05/06/2019	Sampling Date:	05/06/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BFC 2.5' - 6 (H901635-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2019	ND	1.81	90.6	2.00	0.728	
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	1.95	
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.36	118	2.00	7.32	
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.75	113	6.00	8.28	
Total BTEX	<0.300	0.300	05/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	352	16.0	05/10/2019	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	05/08/2019	ND	219	109	200	5.54	
DRO >C10-C28*	<10.0	10.0	05/08/2019	ND	206	103	200	3.68	
EXT DRO >C28-C36	<10.0	10.0	05/08/2019	ND					

Surrogate: 1-Chlorooctane 90.0 % 41-142

Surrogate: 1-Chlorooctadecane 89.8 % 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:	05/06/2019	Sampling Date:	05/06/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BRFC 1-5 @ 3.5' (H901635-05)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/10/2019	ND	1.81	90.6	2.00	0.728		
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	1.95		
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.36	118	2.00	7.32		
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.75	113	6.00	8.28		
Total BTEX	<0.300	0.300	05/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 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	176	16.0	05/10/2019	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	05/08/2019	ND	219	109	200	5.54		
DRO >C10-C28*	<10.0	10.0	05/08/2019	ND	206	103	200	3.68		
EXT DRO >C28-C36	<10.0	10.0	05/08/2019	ND						

Surrogate: 1-Chlorooctane 93.5 % 41-142

Surrogate: 1-Chlorooctadecane 96.4 % 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:	05/06/2019	Sampling Date:	05/06/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: WWC 2' - 2 (H901635-06)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2019	ND	1.81	90.6	2.00	0.728	
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	1.95	
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.36	118	2.00	7.32	
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.75	113	6.00	8.28	
Total BTEX	<0.300	0.300	05/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	48.0	16.0	05/10/2019	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	05/08/2019	ND	219	109	200	5.54	
DRO >C10-C28*	<10.0	10.0	05/08/2019	ND	206	103	200	3.68	
EXT DRO >C28-C36	<10.0	10.0	05/08/2019	ND					

Surrogate: 1-Chlorooctane 66.2 % 41-142

Surrogate: 1-Chlorooctadecane 65.6 % 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.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

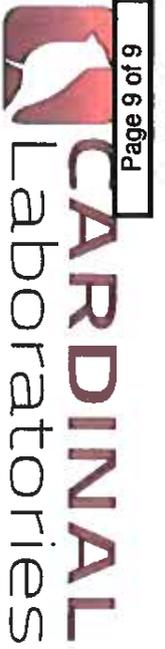
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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

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

6 of 6 page

Company Name: <i>Acadpe</i> Project Manager: <i>Bruce Baker / J. McPherson</i>		BILL TO		P.O. #: Company:	
Address: City: <i>Hobbs</i> State: <i>NM</i> zip: <i>88240</i>		Attn: Address:		City:	
Phone #:		Fax #:		State:	
Project #:		Project Owner:		City:	
Project Name:		State:		Zip:	
Project Location: <i>DEDUK Trunk Line</i>		Phone #:		Fax #:	
Sampler Name: <i>Jose Hernandez</i>		MATRIX		SAMPLING	
FOR LAB USE ONLY		(G)RAB OR (C)OMP.		DATE	
Lab I.D.		# CONTAINERS		TIME	
Sample I.D.		GROUNDWATER		EXT TPH	
WASTEWATER		SOIL		BTEX	
OIL		SLUDGE		OTHER:	
OTHER:		ACID/BASE:		ICE / COOL	
OTHER:		OTHER:		OTHER:	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE	TIME	EXT TPH	BTEX
<i>ACQDU35</i>	<i>WDC 1'-2</i>	<i>C</i>	<i>1</i>				<i>5/6</i>	<i>9:20AM</i>	<i>1</i>	<i>1</i>
	<i>TRC 1.5'-3</i>	<i>C</i>	<i>1</i>					<i>9:30AM</i>	<i>1</i>	<i>1</i>
	<i>WDC 2.5'-6</i>	<i>C</i>	<i>1</i>					<i>9:35AM</i>	<i>1</i>	<i>1</i>
	<i>BIT 2.5'-6</i>	<i>C</i>	<i>1</i>					<i>9:37AM</i>	<i>1</i>	<i>1</i>
	<i>SEC 1.5 @ 3.5'</i>	<i>C</i>	<i>1</i>					<i>11:03A</i>	<i>1</i>	<i>1</i>
	<i>TRC 2'-2</i>	<i>C</i>	<i>1</i>					<i>11:58AM</i>	<i>1</i>	<i>1</i>

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Relinquished By: *[Signature]* Date: *5-6-19* Time: *16:40* Received By: *[Signature]*

Requisitioned By: *[Signature]* Date: *5-6-19* Time: *16:40* Received By: *[Signature]*

Delivered By: (Circle One) UPS - *3:30 #197* Bus - *3:30* Other: *YS*

Sample Condition: Cool Intact Yes No Yes No

CHECKED BY: (Initials) *YS*

REMARKS: *Exam 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

May 13, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 05/07/19 16:20.

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:	05/07/2019	Sampling Date:	05/07/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: FC @ 9' - 1 (H901651-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2019	ND	1.81	90.6	2.00	0.728	
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	1.95	
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.36	118	2.00	7.32	
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.75	113	6.00	8.28	
Total BTEX	<0.300	0.300	05/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 98.0 % 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	288	16.0	05/10/2019	ND	384	96.0	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	05/09/2019	ND	203	101	200	0.161	
DRO >C10-C28*	<10.0	10.0	05/09/2019	ND	194	97.1	200	1.69	
EXT DRO >C28-C36	<10.0	10.0	05/09/2019	ND					

Surrogate: 1-Chlorooctane 85.4 % 41-142

Surrogate: 1-Chlorooctadecane 90.2 % 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:	05/07/2019	Sampling Date:	05/07/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EX2 SWC 2 @ 4' (H901651-02)

BTEX 80218		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/10/2019	ND	1.81	90.6	2.00	0.728		
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	1.95		
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.36	118	2.00	7.32		
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.75	113	6.00	8.28		
Total BTEX	<0.300	0.300	05/10/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 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	<16.0	16.0	05/10/2019	ND	384	96.0	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	05/09/2019	ND	203	101	200	0.161		
DRO >C10-C28*	<10.0	10.0	05/09/2019	ND	194	97.1	200	1.69		
EXT DRO >C28-C36	<10.0	10.0	05/09/2019	ND						

Surrogate: 1-Chlorooctane 84.0 % 41-142

Surrogate: 1-Chlorooctadecane 87.8 % 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:	05/07/2019	Sampling Date:	05/07/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: SWC 3 @ 4' (H901651-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2019	ND	1.81	90.6	2.00	0.728	
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	1.95	
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.36	118	2.00	7.32	
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.75	113	6.00	8.28	
Total BTEX	<0.300	0.300	05/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	128	16.0	05/10/2019	ND	384	96.0	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	05/09/2019	ND	203	101	200	0.161	
DRO >C10-C28*	<10.0	10.0	05/09/2019	ND	194	97.1	200	1.69	
EXT DRO >C28-C36	<10.0	10.0	05/09/2019	ND					

Surrogate: 1-Chlorooctane 87.3 % 41-142

Surrogate: 1-Chlorooctadecane 91.5 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/07/2019	Sampling Date:	05/07/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: NWC 1 @ 4' (H901651-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2019	ND	1.81	90.6	2.00	0.728	
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	1.95	
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.36	118	2.00	7.32	
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.75	113	6.00	8.28	
Total BTEX	<0.300	0.300	05/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 91.9 % 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	05/10/2019	ND	384	96.0	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	05/09/2019	ND	203	101	200	0.161	
DRO >C10-C28*	<10.0	10.0	05/09/2019	ND	194	97.1	200	1.69	
EXT DRO >C28-C36	<10.0	10.0	05/09/2019	ND					

Surrogate: 1-Chlorooctane 89.9 % 41-142

Surrogate: 1-Chlorooctadecane 89.5 % 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:	05/07/2019	Sampling Date:	05/07/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: NWC 2 @ 4' (H901651-05)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/10/2019	ND	1.81	90.6	2.00	0.728		
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	1.95		
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.36	118	2.00	7.32		
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.75	113	6.00	8.28		
Total BTEX	<0.300	0.300	05/10/2019	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	128	16.0	05/10/2019	ND	384	96.0	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	05/09/2019	ND	203	101	200	0.161		
DRO >C10-C28*	<10.0	10.0	05/09/2019	ND	194	97.1	200	1.69		
EXT DRO >C28-C36	<10.0	10.0	05/09/2019	ND						

Surrogate: 1-Chlorooctane 82.4 % 41-142

Surrogate: 1-Chlorooctadecane 81.3 % 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:	05/07/2019	Sampling Date:	05/07/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: WWC 3 @ 4' (H901651-06)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2019	ND	2.01	101	2.00	2.29	
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	5.49	
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.07	103	2.00	2.66	
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.29	105	6.00	2.36	
Total BTEX	<0.300	0.300	05/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 100 % 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	05/10/2019	ND	384	96.0	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	05/09/2019	ND	203	101	200	0.161	
DRO >C10-C28*	<10.0	10.0	05/09/2019	ND	194	97.1	200	1.69	
EXT DRO >C28-C36	<10.0	10.0	05/09/2019	ND					

Surrogate: 1-Chlorooctane 88.6 % 41-142

Surrogate: 1-Chlorooctadecane 86.5 % 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:	05/07/2019	Sampling Date:	05/07/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EX2 1B @ 4' (H901651-07)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2019	ND	2.01	101	2.00	2.29	
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	5.49	
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.07	103	2.00	2.66	
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.29	105	6.00	2.36	
Total BTEX	<0.300	0.300	05/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 103 % 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	05/10/2019	ND	384	96.0	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	05/09/2019	ND	203	101	200	0.161	
DRO >C10-C28*	<10.0	10.0	05/09/2019	ND	194	97.1	200	1.69	
EXT DRO >C28-C36	<10.0	10.0	05/09/2019	ND					

Surrogate: 1-Chlorooctane 94.4 % 41-142

Surrogate: 1-Chlorooctadecane 93.5 % 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:	05/07/2019	Sampling Date:	05/07/2019
Reported:	05/13/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EX2 3B @ 4' (H901651-08)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2019	ND	2.01	101	2.00	2.29	
Toluene*	<0.050	0.050	05/10/2019	ND	2.18	109	2.00	5.49	
Ethylbenzene*	<0.050	0.050	05/10/2019	ND	2.07	103	2.00	2.66	
Total Xylenes*	<0.150	0.150	05/10/2019	ND	6.29	105	6.00	2.36	
Total BTEX	<0.300	0.300	05/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	48.0	16.0	05/10/2019	ND	384	96.0	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	05/09/2019	ND	203	101	200	0.161	
DRO >C10-C28*	<10.0	10.0	05/09/2019	ND	194	97.1	200	1.69	
EXT DRO >C28-C36	<10.0	10.0	05/09/2019	ND					

Surrogate: 1-Chlorooctane 87.5 % 41-142

Surrogate: 1-Chlorooctadecane 86.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

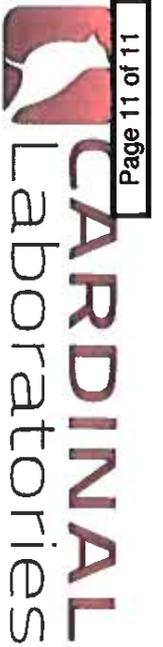
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** 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: <i>Hache</i>		P.O. #:		BILL TO		ANALYSIS REQUEST							
Project Manager: <i>Bruce Baker</i>		Company:											
Address:		Attn:											
City: <i>Hobbs</i>		Address:											
State: <i>NM</i> Zip: <i>88240</i>		City:											
Phone #:		State:											
Fax #:		Zip:											
Project #:		Project Owner:											
Project Name:		Phone #:											
Project Location: <i>MEDU Fwy Truck here</i>		Fax #:											
Sampler Name: <i>Sara Chubbuck</i>		FOR LAB USE ONLY											
Lab I.D.		Sample I.D.											
H901651		1 EPOG-1		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX		PRESERV.		SAMPLING	
		2 EX 3WC 204'		1		1		1		1		12:32	
		3 SWC 304'		1		1		1		1		12:45	
		4 NWL 104'		1		1		1		1		13:50	
		5 NWL 204'		1		1		1		1		13:55	
		6 NWL 304'		1		1		1		1		13:20	
		7 EX 215 04'		1		1		1		1		13:25	
		8 EX 233 04'		1		1		1		1		13:10	

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Relinquished By: *[Signature]* Date: *5-7-19* Time: *16:20*
 Received By: *[Signature]* Date: *11-12-19* Time: *16:20*

Delivered By: (Circle One) *UPS* *3:10 #497* Sample Condition: Intact Damaged
 Checked By: *[Signature]* (Initials) *YD*

Phone Result: Yes No Add'l Phone #: *575-393-2326*
 Fax Result: Yes No Add'l Fax #: *575-393-2476*
 REMARKS: *Err: 11 Results*



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

May 14, 2019

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

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 05/08/19 16:40.

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, 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:	05/08/2019	Sampling Date:	05/08/2019
Reported:	05/14/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: SWC @ 5' (H901682-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/11/2019	ND	1.87	93.5	2.00	1.99	
Toluene*	<0.050	0.050	05/11/2019	ND	2.23	112	2.00	1.21	
Ethylbenzene*	<0.050	0.050	05/11/2019	ND	2.39	120	2.00	0.565	
Total Xylenes*	<0.150	0.150	05/11/2019	ND	6.93	116	6.00	1.63	
Total BTEX	<0.300	0.300	05/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	32.0	16.0	05/13/2019	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	05/11/2019	ND	206	103	200	8.80	
DRO >C10-C28*	<10.0	10.0	05/11/2019	ND	193	96.3	200	10.6	
EXT DRO >C28-C36	<10.0	10.0	05/11/2019	ND					

Surrogate: 1-Chlorooctane 98.0 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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*=Accredited Analyte

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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:	05/08/2019	Sampling Date:	05/08/2019
Reported:	05/14/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: BFC 9' - 2 (H901682-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/11/2019	ND	1.87	93.5	2.00	1.99	
Toluene*	<0.050	0.050	05/11/2019	ND	2.23	112	2.00	1.21	
Ethylbenzene*	<0.050	0.050	05/11/2019	ND	2.39	120	2.00	0.565	
Total Xylenes*	<0.150	0.150	05/11/2019	ND	6.93	116	6.00	1.63	
Total BTEX	<0.300	0.300	05/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 90.3 % 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	256	16.0	05/13/2019	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	05/11/2019	ND	206	103	200	8.80	
DRO >C10-C28*	<10.0	10.0	05/11/2019	ND	193	96.3	200	10.6	
EXT DRO >C28-C36	<10.0	10.0	05/11/2019	ND					

Surrogate: 1-Chlorooctane 100 % 41-142

Surrogate: 1-Chlorooctadecane 99.9 % 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:	05/08/2019	Sampling Date:	05/08/2019
Reported:	05/14/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: NWC 3 @ 9' (H901682-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/11/2019	ND	1.87	93.5	2.00	1.99	
Toluene*	<0.050	0.050	05/11/2019	ND	2.23	112	2.00	1.21	
Ethylbenzene*	<0.050	0.050	05/11/2019	ND	2.39	120	2.00	0.565	
Total Xylenes*	<0.150	0.150	05/11/2019	ND	6.93	116	6.00	1.63	
Total BTEX	<0.300	0.300	05/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 85.3 % 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	736	16.0	05/13/2019	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	05/11/2019	ND	206	103	200	8.80	
DRO >C10-C28*	<10.0	10.0	05/11/2019	ND	193	96.3	200	10.6	
EXT DRO >C28-C36	<10.0	10.0	05/11/2019	ND					

Surrogate: 1-Chlorooctane 114 % 41-142

Surrogate: 1-Chlorooctadecane 114 % 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:	05/08/2019	Sampling Date:	05/08/2019
Reported:	05/14/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: NWC 1 @ 9' (H901682-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/11/2019	ND	1.87	93.5	2.00	1.99	
Toluene*	<0.050	0.050	05/11/2019	ND	2.23	112	2.00	1.21	
Ethylbenzene*	<0.050	0.050	05/11/2019	ND	2.39	120	2.00	0.565	
Total Xylenes*	<0.150	0.150	05/11/2019	ND	6.93	116	6.00	1.63	
Total BTEX	<0.300	0.300	05/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.2 % 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	05/13/2019	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	05/11/2019	ND	206	103	200	8.80	
DRO >C10-C28*	<10.0	10.0	05/11/2019	ND	193	96.3	200	10.6	
EXT DRO >C28-C36	<10.0	10.0	05/11/2019	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 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:	05/08/2019	Sampling Date:	05/08/2019
Reported:	05/14/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: NWC 2 @ 9' (H901682-05)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/11/2019	ND	1.87	93.5	2.00	1.99		
Toluene*	<0.050	0.050	05/11/2019	ND	2.23	112	2.00	1.21		
Ethylbenzene*	<0.050	0.050	05/11/2019	ND	2.39	120	2.00	0.565		
Total Xylenes*	<0.150	0.150	05/11/2019	ND	6.93	116	6.00	1.63		
Total BTEX	<0.300	0.300	05/11/2019	ND						

Surrogate: 4-Bromofluorobenzene (PII) 101 % 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	512	16.0	05/13/2019	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	05/10/2019	ND	200	99.8	200	2.58		
DRO >C10-C28*	<10.0	10.0	05/10/2019	ND	192	96.0	200	2.50		
EXT DRO >C28-C36	<10.0	10.0	05/10/2019	ND						

Surrogate: 1-Chlorooctane 91.1 % 41-142

Surrogate: 1-Chlorooctadecane 87.9 % 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

- 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.
- 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, Lab Director/Quality Manager



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

May 17, 2019

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

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 05/09/19 16:35.

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".

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:	05/09/2019	Sampling Date:	05/09/2019
Reported:	05/17/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: BFC 9' - 3 (H901712-01)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/16/2019	ND	1.86	93.0	2.00	0.927	
Toluene*	<0.050	0.050	05/16/2019	ND	2.00	100	2.00	0.186	
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	1.92	96.2	2.00	1.09	
Total Xylenes*	<0.150	0.150	05/16/2019	ND	5.84	97.4	6.00	0.479	
Total BTEX	<0.300	0.300	05/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	144	16.0	05/17/2019	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	05/15/2019	ND	234	117	200	4.96	
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	248	124	200	4.95	
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND					

Surrogate: 1-Chlorooctane 85.2 % 41-142

Surrogate: 1-Chlorooctadecane 84.7 % 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:	05/09/2019	Sampling Date:	05/09/2019
Reported:	05/17/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: NWC 9' - 3 (H901712-02)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2019	ND	1.86	93.0	2.00	0.927		
Toluene*	<0.050	0.050	05/16/2019	ND	2.00	100	2.00	0.186		
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	1.92	96.2	2.00	1.09		
Total Xylenes*	<0.150	0.150	05/16/2019	ND	5.84	97.4	6.00	0.479		
Total BTEX	<0.300	0.300	05/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 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	05/17/2019	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	05/15/2019	ND	234	117	200	4.96		
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	248	124	200	4.95		
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND						

Surrogate: 1-Chlorooctane 90.5 % 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:	05/09/2019	Sampling Date:	05/09/2019
Reported:	05/17/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: SWC 9' - 1 (H901712-03)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/16/2019	ND	1.86	93.0	2.00	0.927	
Toluene*	<0.050	0.050	05/16/2019	ND	2.00	100	2.00	0.186	
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	1.92	96.2	2.00	1.09	
Total Xylenes*	<0.150	0.150	05/16/2019	ND	5.84	97.4	6.00	0.479	
Total BTEX	<0.300	0.300	05/16/2019	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	32.0	16.0	05/17/2019	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	05/15/2019	ND	234	117	200	4.96	
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	248	124	200	4.95	
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND					

Surrogate: 1-Chlorooctane 90.5 % 41-142

Surrogate: 1-Chlorooctadecane 92.4 % 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:	05/09/2019	Sampling Date:	05/09/2019
Reported:	05/17/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE NM		

Sample ID: SWC 9' - 2 (H901712-04)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2019	ND	1.86	93.0	2.00	0.927		
Toluene*	<0.050	0.050	05/16/2019	ND	2.00	100	2.00	0.186		
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	1.92	96.2	2.00	1.09		
Total Xylenes*	<0.150	0.150	05/16/2019	ND	5.84	97.4	6.00	0.479		
Total BTEX	<0.300	0.300	05/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.7% 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	05/17/2019	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	05/15/2019	ND	234	117	200	4.96		
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	248	124	200	4.95		
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND						

Surrogate: 1-Chlorooctane 89.0% 41-142

Surrogate: 1-Chlorooctadecane 88.8% 37.6-147

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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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May 20, 2019

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

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 05/13/19 14:50.

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:	05/13/2019	Sampling Date:	05/13/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: 4BFR @ 2' (H901727-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	05/20/2019	ND	448	112	400	3.64		

Sample ID: 5BFR @ 2' (H901727-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	05/20/2019	ND	448	112	400	3.64		

Sample ID: 6BFR @ 2' (H901727-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	05/20/2019	ND	448	112	400	3.64		

Sample ID: 8BFR @ 2' (H901727-04)

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	05/20/2019	ND	448	112	400	3.64		

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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:	05/13/2019	Sampling Date:	05/13/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BFC 9'-4 (H901727-05)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/15/2019	ND	1.80	90.2	2.00	0.253		
Toluene*	<0.050	0.050	05/15/2019	ND	1.98	99.2	2.00	1.15		
Ethylbenzene*	<0.050	0.050	05/15/2019	ND	2.00	100	2.00	2.59		
Total Xylenes*	<0.150	0.150	05/15/2019	ND	6.45	107	6.00	2.57		
Total BTEX	<0.300	0.300	05/15/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.7 % 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	672	16.0	05/20/2019	ND	448	112	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	05/15/2019	ND	210	105	200	1.14		
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	213	106	200	2.47		
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND						

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 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:	05/13/2019	Sampling Date:	05/13/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: NWC 9¹-7 (H901727-06)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/15/2019	ND	1.80	90.2	2.00	0.253		
Toluene*	<0.050	0.050	05/15/2019	ND	1.98	99.2	2.00	1.15		
Ethylbenzene*	<0.050	0.050	05/15/2019	ND	2.00	100	2.00	2.59		
Total Xylenes*	<0.150	0.150	05/15/2019	ND	6.45	107	6.00	2.57		
Total BTEX	<0.300	0.300	05/15/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 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	464	16.0	05/20/2019	ND	448	112	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	05/15/2019	ND	210	105	200	1.14		
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	213	106	200	2.47		
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND						

Surrogate: 1-Chlorooctane 90.5 % 41-142

Surrogate: 1-Chlorooctadecane 90.3 % 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:	05/13/2019	Sampling Date:	05/13/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: SWC 9'-7 (H901727-07)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/16/2019	ND	1.81	90.3	2.00	7.76	
Toluene*	<0.050	0.050	05/16/2019	ND	2.03	101	2.00	5.59	
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	2.12	106	2.00	11.8	
Total Xylenes*	<0.150	0.150	05/16/2019	ND	6.80	113	6.00	11.8	
Total BTEX	<0.300	0.300	05/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 103 % 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	05/20/2019	ND	448	112	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	05/15/2019	ND	210	105	200	1.14	
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	213	106	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND					

Surrogate: 1-Chlorooctane 98.5 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 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:	05/13/2019	Sampling Date:	05/13/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BFC 9'-6 (H901727-08)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2019	ND	1.81	90.3	2.00	7.76		
Toluene*	<0.050	0.050	05/16/2019	ND	2.03	101	2.00	5.59		
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	2.12	106	2.00	11.8		
Total Xylenes*	<0.150	0.150	05/16/2019	ND	6.80	113	6.00	11.8		
Total BTEX	<0.300	0.300	05/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	144	16.0	05/20/2019	ND	448	112	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	05/16/2019	ND	210	105	200	1.14		
DRO >C10-C28*	<10.0	10.0	05/16/2019	ND	213	106	200	2.47		
EXT DRO >C28-C36	<10.0	10.0	05/16/2019	ND						

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 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:	05/13/2019	Sampling Date:	05/13/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: NWC 9'-8 (H901727-09)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2019	ND	1.81	90.3	2.00	7.76		
Toluene*	<0.050	0.050	05/16/2019	ND	2.03	101	2.00	5.59		
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	2.12	106	2.00	11.8		
Total Xylenes*	<0.150	0.150	05/16/2019	ND	6.80	113	6.00	11.8		
Total BTEX	<0.300	0.300	05/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	544	16.0	05/20/2019	ND	448	112	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	05/16/2019	ND	210	105	200	1.14		
DRO >C10-C28*	<10.0	10.0	05/16/2019	ND	213	106	200	2.47		
EXT DRO >C28-C36	<10.0	10.0	05/16/2019	ND						

Surrogate: 1-Chlorooctane 92.6 % 41-142

Surrogate: 1-Chlorooctadecane 92.4 % 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:	05/13/2019	Sampling Date:	05/13/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: NWC 9'-5 (H901727-10)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2019	ND	1.81	90.3	2.00	7.76		
Toluene*	<0.050	0.050	05/16/2019	ND	2.03	101	2.00	5.59		
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	2.12	106	2.00	11.8		
Total Xylenes*	<0.150	0.150	05/16/2019	ND	6.80	113	6.00	11.8		
Total BTEX	<0.300	0.300	05/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 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	05/20/2019	ND	448	112	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	05/16/2019	ND	211	106	200	4.53		
DRO >C10-C28*	<10.0	10.0	05/16/2019	ND	215	107	200	7.41		
EXT DRO >C28-C36	<10.0	10.0	05/16/2019	ND						

Surrogate: 1-Chlorooctane 90.0 % 41-142

Surrogate: 1-Chlorooctadecane 87.2 % 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:	05/13/2019	Sampling Date:	05/13/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: NWC 9'-6 (H901727-11)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2019	ND	1.81	90.3	2.00	7.76		
Toluene*	<0.050	0.050	05/16/2019	ND	2.03	101	2.00	5.59		
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	2.12	106	2.00	11.8		
Total Xylenes*	<0.150	0.150	05/16/2019	ND	6.80	113	6.00	11.8		
Total BTEX	<0.300	0.300	05/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	64.0	16.0	05/20/2019	ND	448	112	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	05/16/2019	ND	211	106	200	4.53		
DRO >C10-C28*	<10.0	10.0	05/16/2019	ND	215	107	200	7.41		
EXT DRO >C28-C36	<10.0	10.0	05/16/2019	ND						

Surrogate: 1-Chlorooctane 99.7 % 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:	05/13/2019	Sampling Date:	05/13/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: SWC 9'-5 (H901727-12)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2019	ND	1.81	90.3	2.00	7.76		
Toluene*	<0.050	0.050	05/16/2019	ND	2.03	101	2.00	5.59		
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	2.12	106	2.00	11.8		
Total Xylenes*	<0.150	0.150	05/16/2019	ND	6.80	113	6.00	11.8		
Total BTEX	<0.300	0.300	05/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	16.0	16.0	05/20/2019	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	05/16/2019	ND	211	106	200	4.53		
DRO >C10-C28*	<10.0	10.0	05/16/2019	ND	215	107	200	7.41		
EXT DRO >C28-C36	<10.0	10.0	05/16/2019	ND						

Surrogate: 1-Chlorooctane 94.9 % 41-142

Surrogate: 1-Chlorooctadecane 94.2 % 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:	05/13/2019	Sampling Date:	05/13/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BFC 9'-8 (H901727-13)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2019	ND	1.81	90.3	2.00	7.76		
Toluene*	<0.050	0.050	05/16/2019	ND	2.03	101	2.00	5.59		
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	2.12	106	2.00	11.8		
Total Xylenes*	<0.150	0.150	05/16/2019	ND	6.80	113	6.00	11.8		
Total BTEX	<0.300	0.300	05/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	05/20/2019	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	05/16/2019	ND	211	106	200	4.53		
DRO >C10-C28*	<10.0	10.0	05/16/2019	ND	215	107	200	7.41		
EXT DRO >C28-C36	<10.0	10.0	05/16/2019	ND						

Surrogate: 1-Chlorooctane 72.1 % 41-142

Surrogate: 1-Chlorooctadecane 69.5 % 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:	05/13/2019	Sampling Date:	05/13/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: SWC 9'-8 (H901727-14)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2019	ND	1.81	90.3	2.00	7.76		
Toluene*	<0.050	0.050	05/16/2019	ND	2.03	101	2.00	5.59		
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	2.12	106	2.00	11.8		
Total Xylenes*	<0.150	0.150	05/16/2019	ND	6.80	113	6.00	11.8		
Total BTEX	<0.300	0.300	05/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 110 % 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	240	16.0	05/20/2019	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	05/16/2019	ND	211	106	200	4.53		
DRO >C10-C28*	<10.0	10.0	05/16/2019	ND	215	107	200	7.41		
EXT DRO >C28-C36	<10.0	10.0	05/16/2019	ND						

Surrogate: 1-Chlorooctane 84.9 % 41-142

Surrogate: 1-Chlorooctadecane 84.5 % 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:	05/13/2019	Sampling Date:	05/13/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: SWC 9'-6 (H901727-15)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2019	ND	1.81	90.3	2.00	7.76		
Toluene*	<0.050	0.050	05/16/2019	ND	2.03	101	2.00	5.59		
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	2.12	106	2.00	11.8		
Total Xylenes*	<0.150	0.150	05/16/2019	ND	6.80	113	6.00	11.8		
Total BTEX	<0.300	0.300	05/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 116 % 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	400	16.0	05/20/2019	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	05/16/2019	ND	211	106	200	4.53		
DRO >C10-C28*	<10.0	10.0	05/16/2019	ND	215	107	200	7.41		
EXT DRO >C28-C36	<10.0	10.0	05/16/2019	ND						

Surrogate: 1-Chlorooctane 87.9 % 41-142

Surrogate: 1-Chlorooctadecane 88.7 % 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

- 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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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

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

1 of 2

Company Name: <i>Apex</i>	P.O. #:	BILL TO	ANALYSIS REQUEST
Project Manager:	Company:		
Address: <i>Hobbs</i>	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>NEDA Inc Tank line</i>	Phone #:		
Sampler Name: <i>Sgt. [unclear]</i>	Fax #:		

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER			
<i>H901727</i>	<i>1 4BFR @ 2'</i>									<i>5-13-19</i>	<i>6:30</i>	<i>CI</i>
	<i>2 5BFR @ 2'</i>										<i>6:55</i>	<i>EXT TPH</i>
	<i>3 6BFR @ 2'</i>										<i>11:00</i>	<i>BTEX</i>
	<i>4 8BFR @ 2'</i>										<i>11:05</i>	
	<i>5 BFC 9'-4</i>										<i>12:57</i>	
	<i>6 NWC 9'-7</i>										<i>12:55</i>	
	<i>7 SWC 9'-7</i>										<i>1:01</i>	
	<i>8 BFC 5'-6</i>										<i>1:07</i>	
	<i>9 NWC 9'-8</i>										<i>1:05</i>	
	<i>10 NWC 9'-5</i>										<i>5-13-19</i>	<i>1:07</i>

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Relinquished By: <i>[Signature]</i>	Date: <i>5-13-19</i>	Time: <i>19:50</i>	Received By: <i>[Signature]</i>	Date: _____	Time: _____	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: <i>0.20 #99</i>	Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CHECKED BY: <i>[Signature]</i>	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 #: _____

REMARKS:



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

May 20, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 05/14/19 16:24.

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:	05/14/2019	Sampling Date:	05/14/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: SWC 3 @ 9' (H901753-01)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/17/2019	ND	1.91	95.3	2.00	1.62		
Toluene*	<0.050	0.050	05/17/2019	ND	2.03	102	2.00	1.19		
Ethylbenzene*	<0.050	0.050	05/17/2019	ND	1.97	98.7	2.00	0.0969		
Total Xylenes*	<0.150	0.150	05/17/2019	ND	5.93	98.8	6.00	0.504		
Total BTEX	<0.300	0.300	05/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	64.0	16.0	05/20/2019	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	05/17/2019	ND	193	96.6	200	4.25		
DRO >C10-C28*	<10.0	10.0	05/17/2019	ND	189	94.7	200	2.64		
EXT DRO >C28-C36	<10.0	10.0	05/17/2019	ND						

Surrogate: 1-Chlorooctane 95.8 % 41-142

Surrogate: 1-Chlorooctadecane 96.9 % 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:	05/14/2019	Sampling Date:	05/14/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: NWC 4 @ 9' (H901753-02)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2019	ND	1.97	98.3	2.00	4.04		
Toluene*	<0.050	0.050	05/16/2019	ND	2.09	104	2.00	2.16		
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	1.99	99.5	2.00	2.17		
Total Xylenes*	<0.150	0.150	05/16/2019	ND	6.00	99.9	6.00	2.13		
Total BTEX	<0.300	0.300	05/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.9 % 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	05/20/2019	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	05/17/2019	ND	193	96.6	200	4.25		
DRO >C10-C28*	<10.0	10.0	05/17/2019	ND	189	94.7	200	2.64		
EXT DRO >C28-C36	<10.0	10.0	05/17/2019	ND						

Surrogate: 1-Chlorooctane 94.7 % 41-142

Surrogate: 1-Chlorooctadecane 95.4 % 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. 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
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	05/14/2019	Sampling Date:	05/14/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: SWC 4 @ 9' (H901753-03)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2019	ND	1.97	98.3	2.00	4.04		
Toluene*	<0.050	0.050	05/16/2019	ND	2.09	104	2.00	2.16		
Ethylbenzene*	<0.050	0.050	05/16/2019	ND	1.99	99.5	2.00	2.17		
Total Xylenes*	<0.150	0.150	05/16/2019	ND	6.00	99.9	6.00	2.13		
Total BTEX	<0.300	0.300	05/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.8 % 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	80.0	16.0	05/20/2019	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	05/17/2019	ND	193	96.6	200	4.25		
DRO >C10-C28*	<10.0	10.0	05/17/2019	ND	189	94.7	200	2.64		
EXT DRO >C28-C36	<10.0	10.0	05/17/2019	ND						

Surrogate: 1-Chlorooctane 95.5 % 41-142

Surrogate: 1-Chlorooctadecane 96.6 % 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. 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
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	05/14/2019	Sampling Date:	05/14/2019
Reported:	05/20/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: NWC 2 @ 11' (H901753-04)

Chloride, SM4500CI-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	05/20/2019	ND	416	104	400	3.92		

Sample ID: BFC #2 @ 1' (H901753-05)

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	05/20/2019	ND	416	104	400	3.92		

Sample ID: BFC 6-10 (H901753-06)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	05/20/2019	ND	416	104	400	3.92		

Sample ID: BW 1 (H901753-07)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	400	16.0	05/20/2019	ND	416	104	400	3.92		

Sample ID: BW 2 (H901753-08)

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	05/20/2019	ND	416	104	400	3.92		

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

- 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



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>Yuma Apache</u>		P.O. #:	
Project Manager: <u>Bruce Baker</u>		Company:	
Address:		Attn:	
City: <u>Hobbs</u>		Address:	
Phone #: <u>1</u>		City:	
Fax #: <u>1</u>		State:	
Project #: <u>1</u>		Zip:	
Project Name:		Phone #:	
Project Location: <u>NEDU Tractor Line</u>		Fax #:	
Sampler Name: <u>Yuma Apache</u>		PRESERV:	
FOR LAB USE ONLY		SAMPLING	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	EXT	TPH	BTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER					
<u>H901753</u>	<u>5003091</u>									<u>5/14</u>	<u>1:44</u>	<u>1</u>	<u>1</u>	<u>1</u>
	<u>2004091</u>									<u>5/14</u>	<u>1:48</u>	<u>1</u>	<u>1</u>	<u>1</u>
	<u>3004091</u>									<u>5/14</u>	<u>1:50</u>	<u>1</u>	<u>1</u>	<u>1</u>
	<u>4004091</u>									<u>5/14</u>	<u>1:52</u>	<u>1</u>	<u>1</u>	<u>1</u>
	<u>5004091</u>									<u>5/14</u>	<u>1:55</u>	<u>1</u>	<u>1</u>	<u>1</u>
	<u>6004091</u>									<u>5/14</u>	<u>1:27</u>	<u>1</u>	<u>1</u>	<u>1</u>
	<u>7004091</u>									<u>5/14</u>	<u>2:00</u>	<u>1</u>	<u>1</u>	<u>1</u>
	<u>8004091</u>									<u>5/14</u>	<u>2:02</u>	<u>1</u>	<u>1</u>	<u>1</u>

PLEASE NOTE: Liability and claims exclusive remedy for any claim arising out of or from the use of the services, 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 from the use of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated causes of actions.

Relinquished By: <u>[Signature]</u>	Date: <u>5/14/19</u>	Received By: <u>[Signature]</u>	Date: <u>5/14/19</u>
Time: <u>1:30</u>	Time: <u>1:30</u>	Time: <u>1:30</u>	Time: <u>1:30</u>

Delivered By: (Circle One) UPS Bus Other

Sample Condition: Cool Intact Yes No

CHECKED BY: YO

REMARKS:



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

May 21, 2019

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

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 05/16/19 15:05.

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:	05/16/2019	Sampling Date:	05/16/2019
Reported:	05/21/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: SWC 1 @ 6' (H901794-01)

Chloride, SM4500CI-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	05/21/2019	ND	416	104	400	3.92		

Sample ID: NWC 3 @ 9' (H901794-02)

Chloride, SM4500CI-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	05/21/2019	ND	416	104	400	3.92		

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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A handwritten signature in black ink, appearing to read "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

4 of 4 page

Company Name: <u>Bratt & Apocik</u>		BILL TO		ANALYSIS REQUEST															
Project Manager: <u>Bruce Baker</u>		P.O. #:																	
Address:		Company:																	
City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>		Attn:																	
Phone #: _____ Fax #: _____		Address:																	
Project #: _____ Project Owner:		City:																	
Project Name:		State:		Zip:															
Project Location: <u>McDuff Tank & Line</u>		Phone #:																	
Sampler Name: <u>SOS Laboratory</u>		Fax #:																	
<small>FOR LAB USE ONLY</small>																			
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV	SAMPLING	DATE	TIME											
<u>H901904</u>	<u>SDC 1 @ 4'</u>		<u>1</u>	GROUNDWATER			<u>5-14</u>	<u>11:07 AM</u>											
	<u>2 NW 3 @ 9'</u>		<u>1</u>	WASTEWATER			<u>5-14</u>	<u>11:09 AM</u>											

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Relinquished By: [Signature] Date: 5-14-19 Time: 15:05
 Received By: [Signature]
 Relinquished By: _____ Date: _____ Time: _____
 Received By: _____

Delivered By: (Circle One) UPS Bus Other: 266 #97

Sample Condition: Cool Intact Yes No No No No

CHECKED BY: [Signature] (Initials)

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

May 24, 2019

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

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 05/20/19 16:25.

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".

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:	05/20/2019	Sampling Date:	05/20/2019
Reported:	05/24/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: BC 4 @ 9' (H901815-01)

Chloride, SM4500Cl-B	mg/kg	Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	05/24/2019	ND	384	96.0	400	4.08	

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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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

July 25, 2019

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU INJECTION TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 07/19/19 13:45.

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

Cardinal Laboratories is 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:	07/19/2019	Sampling Date:	07/19/2019
Reported:	07/25/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: EWC 0 @ 1' (H902490-01)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2019	ND	1.74	87.0	2.00	2.24	
Toluene*	<0.050	0.050	07/24/2019	ND	1.77	88.6	2.00	2.18	
Ethylbenzene*	<0.050	0.050	07/24/2019	ND	1.69	84.3	2.00	2.24	
Total Xylenes*	<0.150	0.150	07/24/2019	ND	5.08	84.7	6.00	2.60	
Total BTEX	<0.300	0.300	07/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 102 % 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	07/22/2019	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	07/22/2019	ND	194	96.8	200	1.17	
DRO >C10-C28*	<10.0	10.0	07/22/2019	ND	184	92.2	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	07/22/2019	ND					

Surrogate: 1-Chlorooctane 83.0 % 41-142

Surrogate: 1-Chlorooctadecane 87.6 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	07/19/2019	Sampling Date:	07/19/2019
Reported:	07/25/2019	Sampling Type:	Soil
Project Name:	NEDU INJECTION TRUNKLINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE NM		

Sample ID: WWC 0 @ 1' (H902490-02)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2019	ND	1.74	87.0	2.00	2.24	
Toluene*	<0.050	0.050	07/24/2019	ND	1.77	88.6	2.00	2.18	
Ethylbenzene*	<0.050	0.050	07/24/2019	ND	1.69	84.3	2.00	2.24	
Total Xylenes*	<0.150	0.150	07/24/2019	ND	5.08	84.7	6.00	2.60	
Total BTEX	<0.300	0.300	07/24/2019	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	<16.0	16.0	07/22/2019	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	07/22/2019	ND	194	96.8	200	1.17	
DRO >C10-C28*	<10.0	10.0	07/22/2019	ND	184	92.2	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	07/22/2019	ND					

Surrogate: 1-Chlorooctane 81.4 % 41-142

Surrogate: 1-Chlorooctadecane 84.7 % 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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A handwritten signature in black ink, appearing to read "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: Apache Brown
 Project Manager: SPT
 Address: _____
 City: Hoobs State: NM Zip: 88240
 Phone #: _____ Fax #: _____
 Project #: _____ Project Owner: _____
 Project Name: _____
 Project Location: NE DU Tank h kin
 Sampler Name: Jesse P. Carasco
 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	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:			
<u>A902490</u>	<u>3 WLC001'</u>	<u>1</u>	<u>1</u>						<u>7/4</u>	<u>13:15</u>	<u>CL</u>	
	<u>2 WLC001'</u>	<u>1</u>	<u>1</u>						<u>5</u>	<u>13:17</u>	<u>EXT PH</u>	
											<u>BTEX</u>	

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Relinquished By: Jesse P. Carasco Date: 7-9 Time: 13:45
 Received By: Jessica White
 Delivered By: (Circle One) 1.3i # 97 Sample Condition: Cool Intact
 Sampler - UPS - Bus - Other: Permitted 1.7c Yes No Yes No
 CHECKED BY: JS

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



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

August 02, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 08/01/19 13:43.

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: 08/01/2019
 Reported: 08/02/2019
 Project Name: NEDU TRUNKLINE
 Project Number: NONE GIVEN
 Project Location: EUNICE NM

Sampling Date: 08/01/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: AW 3 @ 2' (H902634-01)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/01/2019	ND	1.95	97.5	2.00	2.95	
Toluene*	<0.050	0.050	08/01/2019	ND	2.07	103	2.00	2.48	
Ethylbenzene*	<0.050	0.050	08/01/2019	ND	2.01	100	2.00	2.59	
Total Xylenes*	<0.150	0.150	08/01/2019	ND	6.03	100	6.00	2.35	
Total BTEX	<0.300	0.300	08/01/2019	ND					

Surrogate: 4-Bromofluorobenzene (PII) 101 % 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	08/02/2019	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	08/01/2019	ND	201	101	200	7.96	
DRO >C10-C28*	<10.0	10.0	08/01/2019	ND	198	98.8	200	13.3	
EXT DRO >C28-C36	<10.0	10.0	08/01/2019	ND					

Surrogate: 1-Chlorooctane 114 % 41-142

Surrogate: 1-Chlorooctadecane 125 % 37.6-147

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* = Accredited Analyte

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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: 08/01/2019
 Reported: 08/02/2019
 Project Name: NEDU TRUNKLINE
 Project Number: NONE GIVEN
 Project Location: EUNICE NM

Sampling Date: 08/01/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: B 0 @ 1' (H902634-02)

BTEX 80218		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/01/2019	ND	1.95	97.5	2.00	2.95		
Toluene*	<0.050	0.050	08/01/2019	ND	2.07	103	2.00	2.48		
Ethylbenzene*	<0.050	0.050	08/01/2019	ND	2.01	100	2.00	2.59		
Total Xylenes*	<0.150	0.150	08/01/2019	ND	6.03	100	6.00	2.35		
Total BTEX	<0.300	0.300	08/01/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 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	08/02/2019	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	08/01/2019	ND	201	101	200	7.96		
DRO >C10-C28*	<10.0	10.0	08/01/2019	ND	198	98.8	200	13.3		
EXT DRO >C28-C36	<10.0	10.0	08/01/2019	ND						

Surrogate: 1-Chlorooctane 110 % 41-142

Surrogate: 1-Chlorooctadecane 122 % 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: 08/01/2019
 Reported: 08/02/2019
 Project Name: NEDU TRUNKLINE
 Project Number: NONE GIVEN
 Project Location: EUNICE NM

Sampling Date: 08/01/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: B 1 @ 1' (H902634-03)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/01/2019	ND	1.95	97.5	2.00	2.95		
Toluene*	<0.050	0.050	08/01/2019	ND	2.07	103	2.00	2.48		
Ethylbenzene*	<0.050	0.050	08/01/2019	ND	2.01	100	2.00	2.59		
Total Xylenes*	<0.150	0.150	08/01/2019	ND	6.03	100	6.00	2.35		
Total BTEX	<0.300	0.300	08/01/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	08/02/2019	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	08/01/2019	ND	201	101	200	7.96		
DRO >C10-C28*	<10.0	10.0	08/01/2019	ND	198	98.8	200	13.3		
EXT DRO >C28-C36	<10.0	10.0	08/01/2019	ND						

Surrogate: 1-Chlorooctane 109 % 41-142

Surrogate: 1-Chlorooctadecane 119 % 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

Cardinal Laboratories

*=Accredited Analyte

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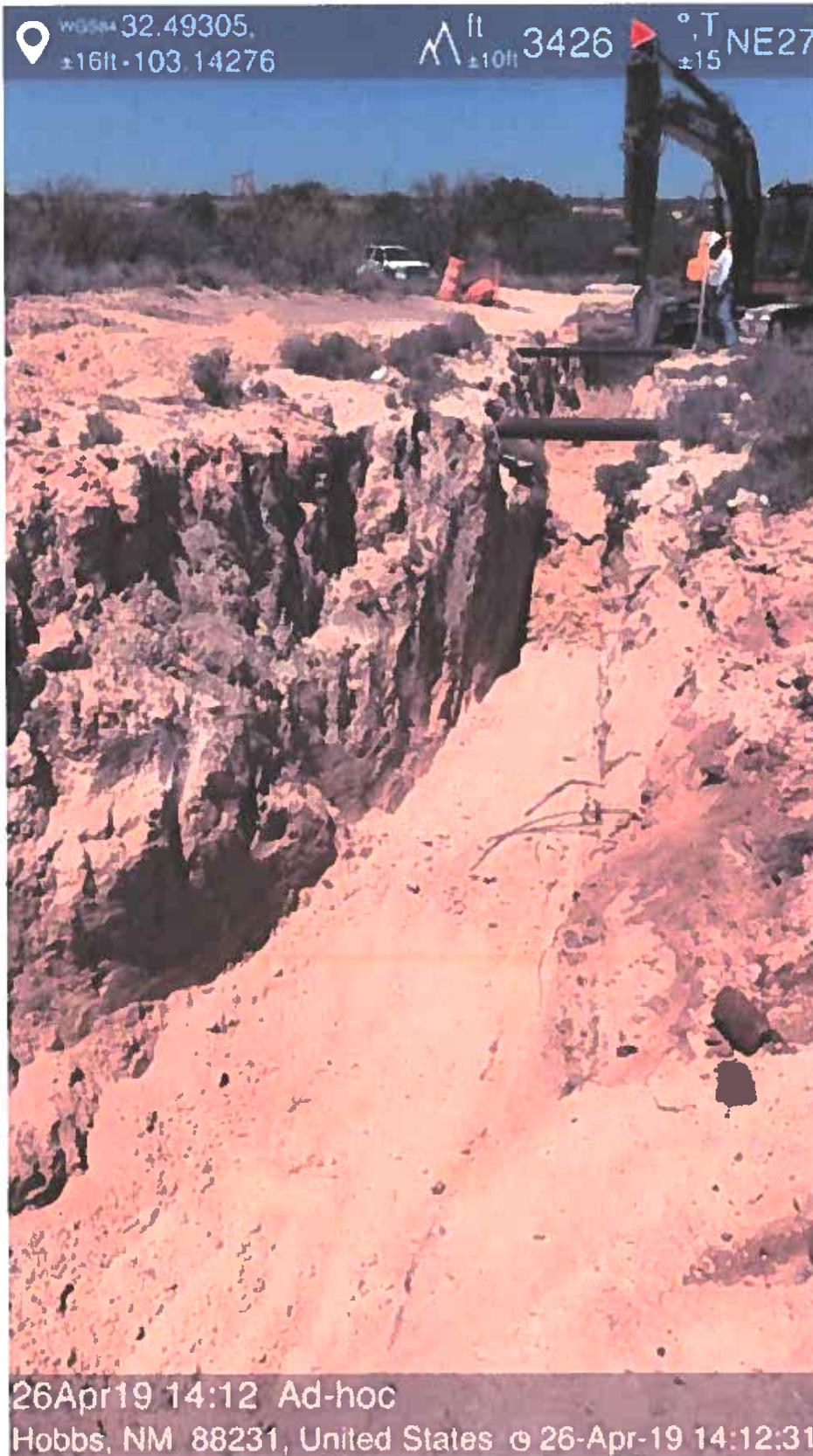
A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

NEDU Trunk Line #1RP-5285



NEDU Trunk Line #1RP-5285



NEDU Trunk Line #1RP-5285



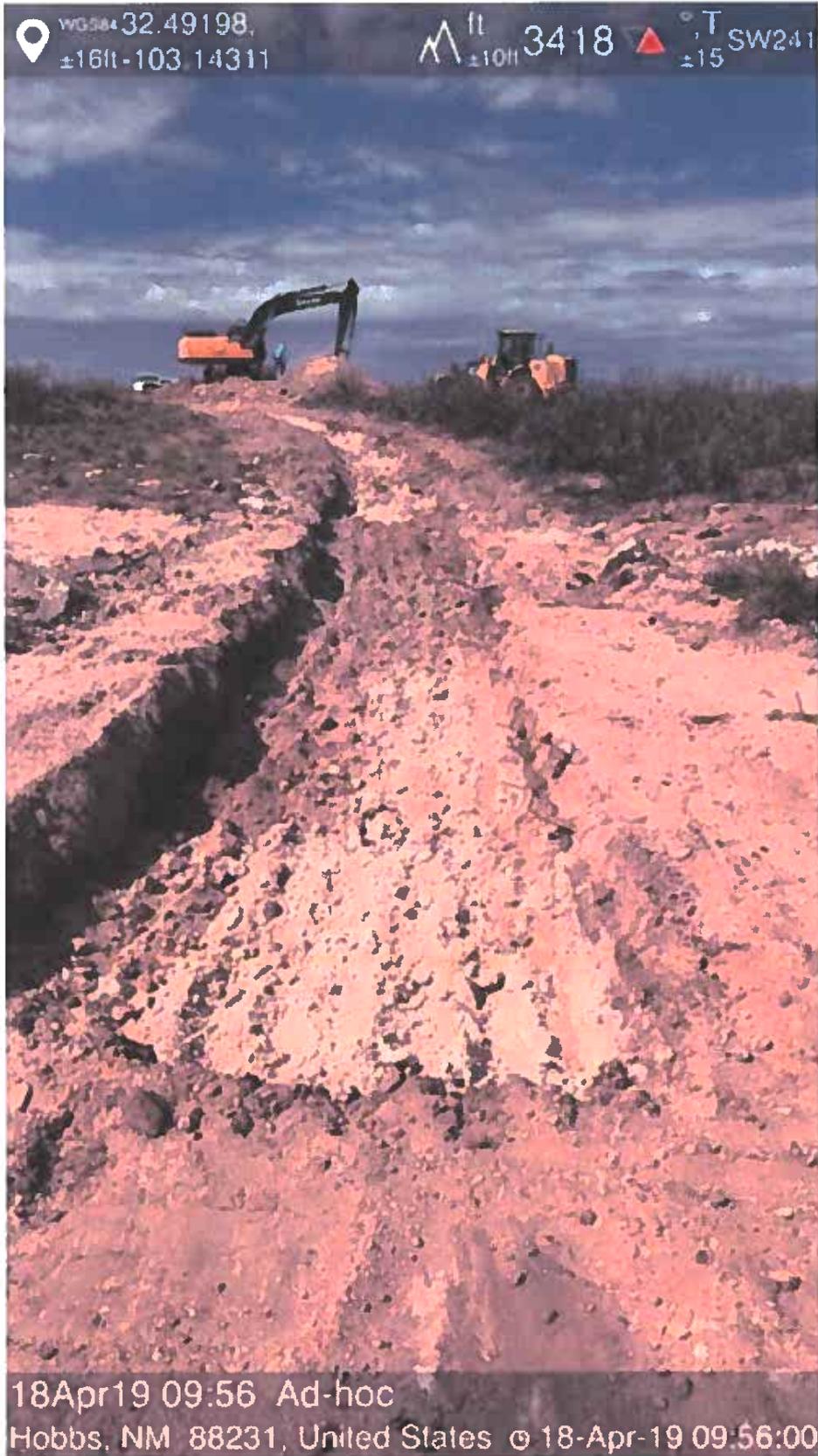
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NEDU Trunk Line #1RP-5285



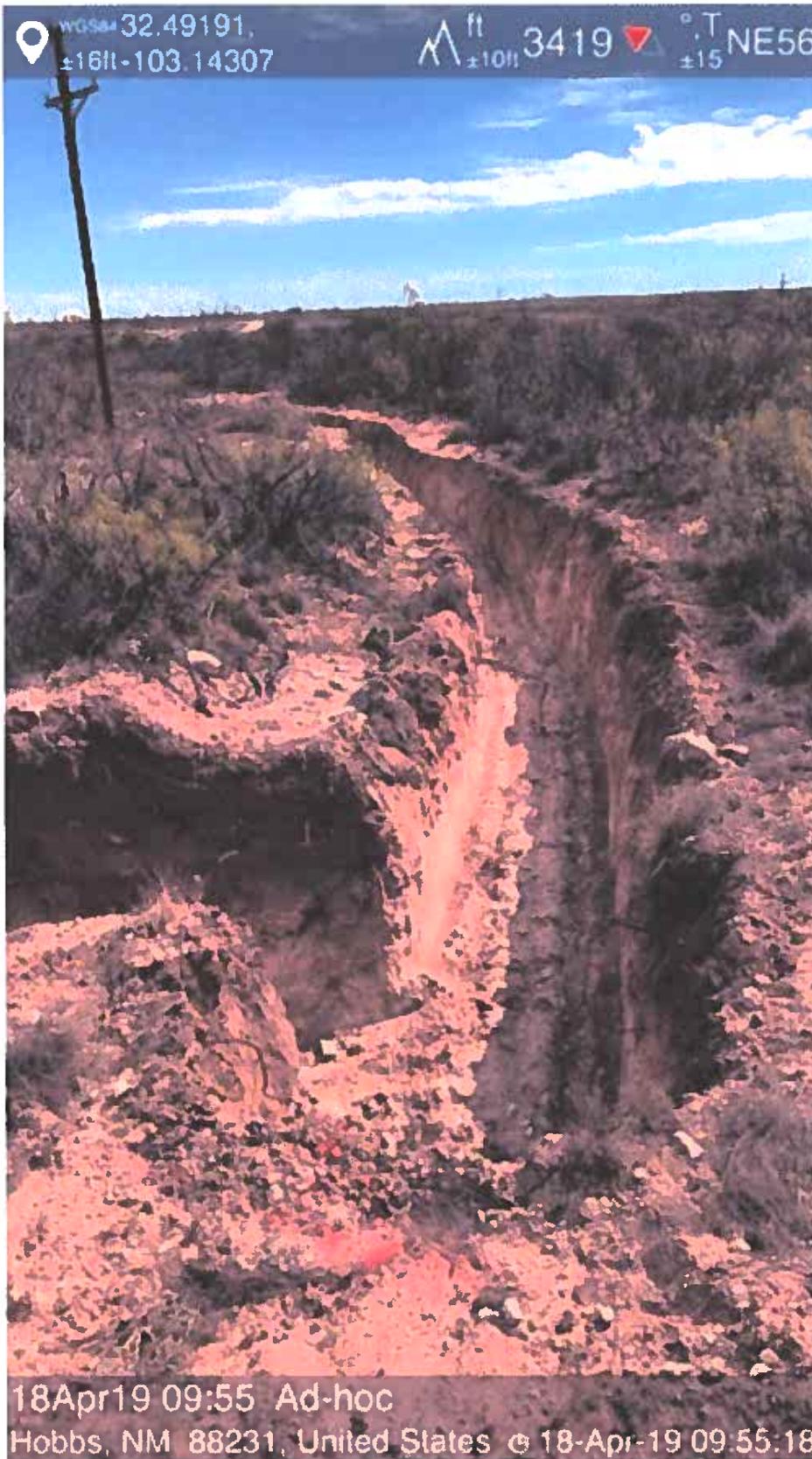
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NEDU Trunk Line #1RP-5285



NEDU Trunk Line #1RP-5285



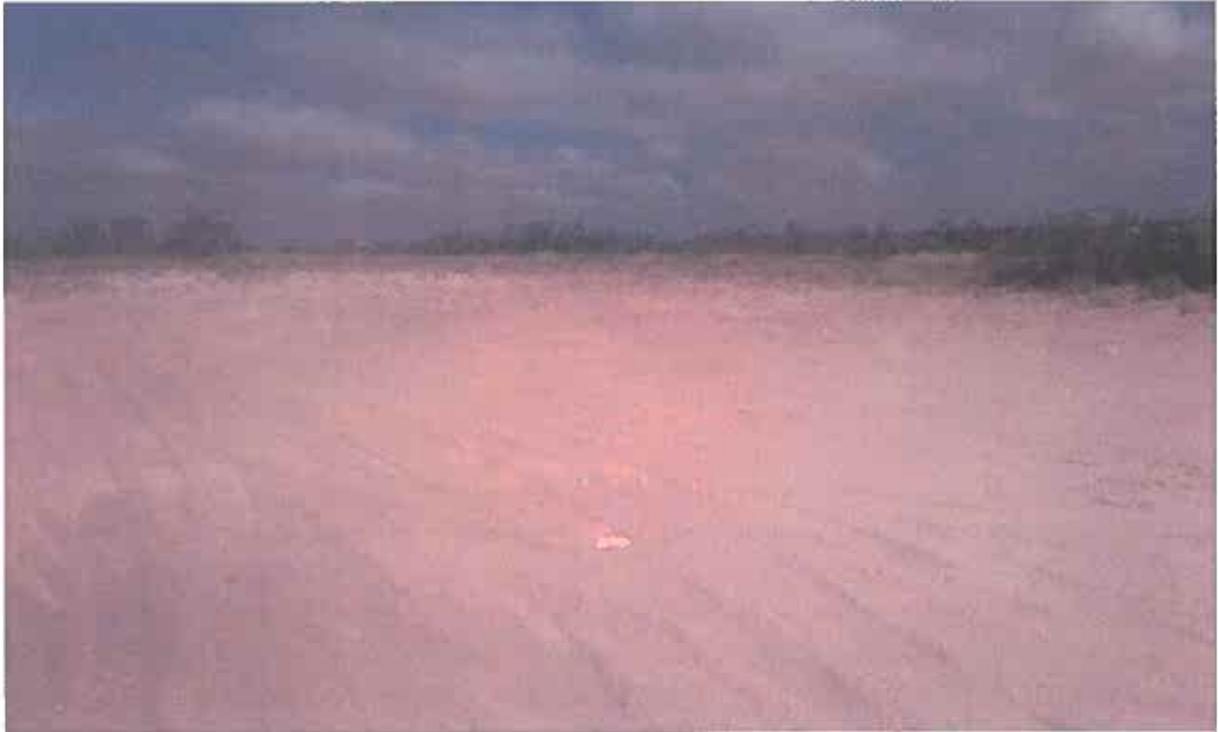
NEDU Trunk Line #1RP-5285



NEDU Trunk Line #1RP-5285



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