



303 Veterans Airpark Lane Midland, TX 79705

Remediation Plan

July 11, 2023

Re: EAU C-37
Case nAPP2306042664

Background:

On 2/20/2023 a release occurred due internal corrosion on 2-inch steel flow line. The release (GPS: 32.802643, -104.148154) is located east of Artesia, New Mexico in unit letter K section 26 township 17S range 28E. A bore hole was advanced to 115 feet on the lease pad north of the release area. The bore hole was left open for 72 hours. The bore hole was dry at a depth of 115 feet.

On 3/29 and 3/30/2023 vertical delineation was conducted to depth of 3 to 5 feet. 5-point horizontal composite samples were collected not to exceed 200 square feet to determine the horizontal extent of the release. All samples collected were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Laboratory analysis were above table one standards for TPH at SP 1 and SP2. On 4/17/2023 SP 1 was further delineated to a depth of 15 feet and SP 2 was further delineated to a depth of 7 feet. All samples collected were submitted to a commercial laboratory for analysis of TPH and BTEX. Laboratory results were above table one standards for TPH at SP 1. On 4/28/2023 SP1 was further delineated to a depth of 21 feet. All samples collected were submitted to a commercial laboratory for analysis of TPH and BTEX. Laboratory analysis were above table one standards for TPH. On 6/15/2023 split spoon samples were collected to a depth of 40 feet in SP1. All samples collected were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX.

Remediation Plan:

Apache Corporation proposes that the release area around SP1 be excavated to a depth of 22 to 25 feet. The area around SP2 will be excavated to a depth of 4 to 5 feet. The area around SP 3 and SP 4 will be excavated to a depth of 3 feet. Final 5-point bottom and wall composite samples will be collected not to exceed 200 square feet. All samples collected will be submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. The excavated soil (1175 yards) will be hauled to an OCD approved disposal facility. Once analytical data is below table one standards for release greater than 100 feet to groundwater and the top four feet meets the reclamation standards the excavation will be backfilled with clean imported topsoil to ground surface and contoured to the surrounding area. The disturbed area will be reseeded with a blend of native seed mixture. The remediation will be completed within 90 days of OCD approval of the plan.

Enclosed: C-141, Groundwater Data, Maps, Sample Data, and Laboratory Results.

Submitted by.

Larry Baker

Environmental Technician Sr. Staff

larry.baker@apachecorp.com

Office # 432-818-1654

Cell# 432-250-8384

Incident ID	NAPP2306042664
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	115 (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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

Incident ID	NAPP2306042664
District RP	
Facility ID	
Application ID	

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: Larry Baker Title: Environmental Tech Sr. Staff

Signature: *Larry Baker* Date: 7/11/2023

email: larry.baker@apachecorp.com Telephone: 432-818-1654

OCD Only

Received by: Shelly Wells Date: 7/12/2023

Incident ID	NAPP2306042664
District RP	
Facility ID	
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: Larry Baker Title: Environmental Tech Sr. Staff
 Signature: Larry Baker Date: 7/11/2023
 email: larry.baker@apachecorp.com Telephone: 432-818-1654

OCD Only

Received by: Shelly Wells Date: 7/12/2023

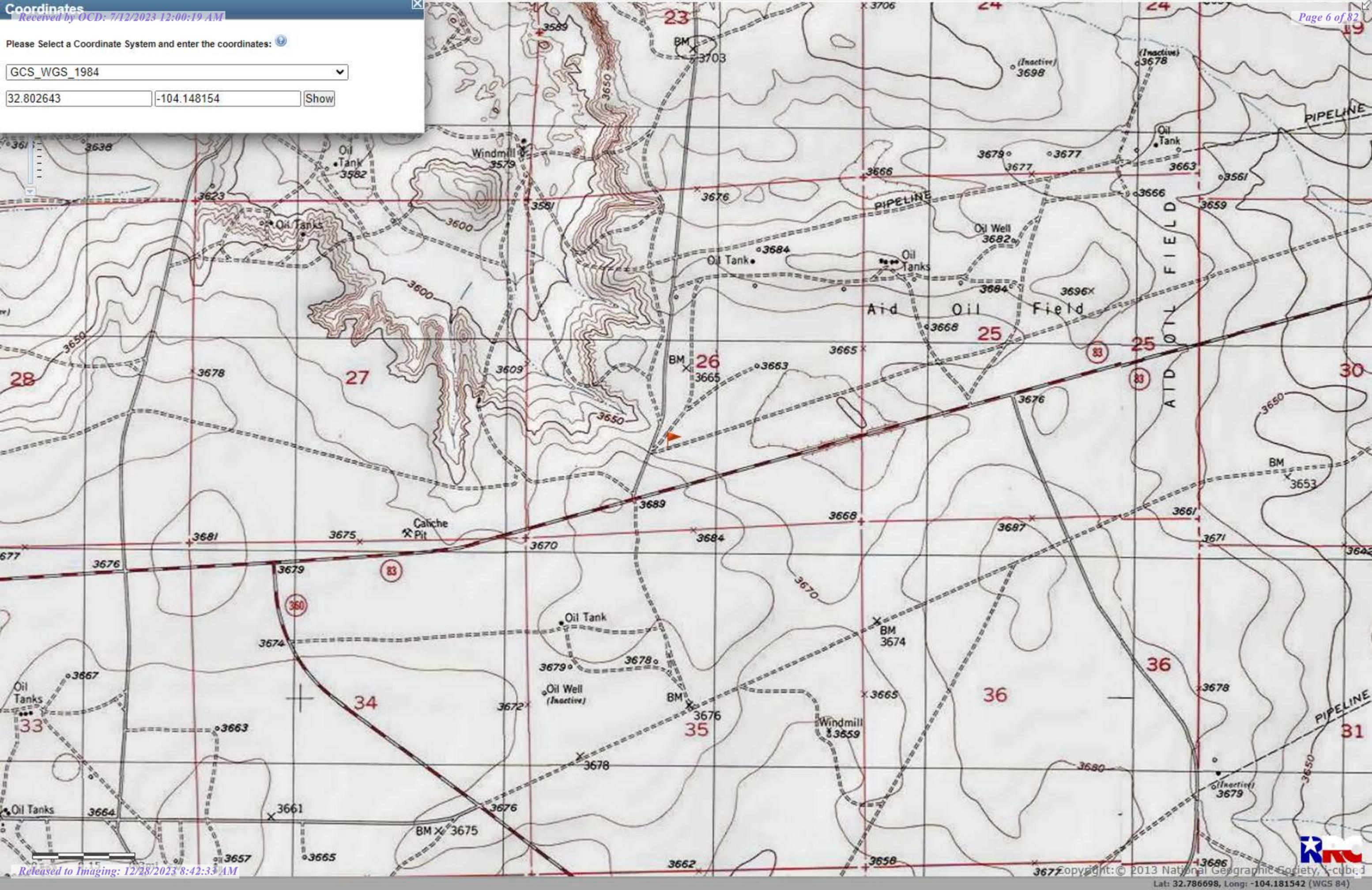
- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature: _____ Date: _____

Please Select a Coordinate System and enter the coordinates:

GCS_WGS_1984

32.802643 -104.148154 Show





Legend
● - Bore Hole Location

1000 0 100
Graphic Scale in Feet

Apache Corporation
EAU #37
Unit K (NE 1/4 of SW 1/4)
Sec. 26, T. 17 S., R. 28 E.,
Eddy County, New Mexico
32°48'09.8573"N
104°08'52.7425"W

Larson & Associates, Inc.
Environmental Consultants

Figure 2 - Aerial Map Showing Bore Hole Location

BORING RECORD

GEOLOGIC UNIT	DEPTH	Start: 10:30 Finish: 12:00 DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	PID READING										SAMPLE			REMARKS			
					PPM X _____										NUMBER	PID READING	RECOVERY	BACKGROUND PID READING			
					2	4	6	8	10	12	14	16	18	DEPTH					SOIL : _____ PPM	SOIL : _____ PPM	
	0	Caliche Pad	Caliche																		
	5	Sand, 7.5YR 7/3, Pink, Fine to Medium Grained Quartz Sand, Poorly Sorted, Angular to Subangular	SW																		
	10																				
	15																				
	20																				
	25	Sand 5YR 5/3, Reddish Brown, Fine to Medium Grained Quartz Sand, Poorly Sorted, Subangular to Subrounded with Caliche Clasts (5-10mm)	SP																		
	30																				
	35	Gravelly Sand 5YR 5/4, Reddish Brown, Coarse Gravel to Fine Grained Quartz Sand, Poorly Sorted, Subangular to Subrounded	SW																		
	40																				
	45	Sand 5YR 4/4, Reddish Brown, Fine to Medium Grained Quartz Sand, Moderately Sorted, Subangular to Subrounded	SW																		
	50																				
	55	Water Injected at 50'	SW																		
	60																				
	65																				
	70																				
	75																				
	80																				
	85																				
	90																				

- ONE CONTINUOUS AUGER SAMPLER
- STANDARD PENETRATION TEST
- UNDISTURBED SAMPLE
- WATER TABLE (24 HRS)
- WATER TABLE (TIME OF BORING)
- LABORATORY TEST LOCATION
- PENETROMETER (TONS/ SQ. FT)
- NO RECOVERY

JOB NUMBER : Apache/ 23-0113-01
 HOLE DIAMETER : 5 "
 LOCATION : EAU 37(32°48'09.86"N, 104°08'52.74"W)
 LAI GEOLOGIST : D. St.Germain
 DRILLING CONTRACTOR : SDI
 DRILLING METHOD : Air Rotary



DRILL DATE : 6/15/2023
 BORING NUMBER : BH-1

BORING RECORD

GEOLOGIC UNIT	DEPTH	Start: 10:30 Finish: 12:00 DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	PID READING								SAMPLE			REMARKS	
					PPM X _____								NUMBER	PID READING	RECOVERY	DEPTH	BACKGROUND PID READING SOIL : _____ PPM SOIL : _____ PPM
					2	4	6	8	10	12	14	16					
	70																
	75		SW														
	80																
	85																
	90																
	95																
	100		SW														
	105																
	110																
	115																
	120																
	125																
	130																

TD: 115'
Dry after 72 hours

- ONE CONTINUOUS AUGER SAMPLER
- STANDARD PENETRATION TEST
- UNDISTURBED SAMPLE
- WATER TABLE (24 HRS)
- WATER TABLE (TIME OF BORING)
- LABORATORY TEST LOCATION
- PENETROMETER (TONS/ SQ. FT)
- NO RECOVERY

JOB NUMBER : Apache/ 23-0113-01
 HOLE DIAMETER : 5"
 LOCATION : EAU 37(32°48'09.86"N, 104°08'52.74"W)
 LAI GEOLOGIST : D. St.Germain
 DRILLING CONTRACTOR : SDI
 DRILLING METHOD : Air Rotary



DRILL DATE : 6/15/2023

BORING NUMBER : BH-1

3/2016



80 ft

Delineation Samples

Sample Date	Sample ID	Depth	Chloride Lab	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
3/29/2023	SP1	Surface	5840	3.06	49.5	80.50	150	283	4,700	27300	4550
		1'	3000	13	127	96.1	232	468	4,470	12500	2260
		2'	2520	2.67	38.5	42	107	190	1,600	5450	844
		3'	1700	3.34	34.5	29.1	94	161	1,700	11400	1670
		4'	560	<1.00	3.95	5.47	61.1	70.5	1,460	6090	801
		5'	224	<1.00	2.88	5.91	44	52.8	1,380	5890	871
4/17/2023		7'		<1.00	4.73	7.75	48.6	61.1	1,250	7410	1080
		9'		<1.00	13	23.4	109	145	1,960	7100	1010
		11'		<1.00	19.2	36.2	159	215	2,180	6430	1100
		13'		0.114	3.75	6.7	24.9	35.4	437	1480	218
		15'		<2.00	64.3	104	337	506	1,050	2390	414
4/28/2023		17'		<0.500	11.6	27	91	130	1,430	4370	697
		19'		<0.050	1.06	4.48	22	27.5	455	2190	354
		21'		<0.200	15.6	31	98.5	145	1,260	3600	541
6/15/2023		25'	3190	<0.00202	<0.00202	<0.00202	<0.00404	<0.00404	<50.0	<50.0	<50.0
		30'	3740	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	<49.9	<49.9	<49.9
		35'	2770	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	<49.9	<49.9	<49.9
		40'	194	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	<50.0	<50.0	<50.0
3/29/2023	SP2	Surface	19200	3.42	50.9	81.4	151	287	5,580	34200	5110
		1'	2600	1.13	26.4	46.3	123	197	3,200	15500	2150
		2'	1230	<1.00	20.4	34.8	102	157	2,270	11000	1330
		3'	48	<1.00	17.2	25	71.8	114	1,800	7030	844
4/17/2023		5'		<0.050	<0.050	0.083	0.323	0.406	<10.0	66.9	17.4
		7'		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	11.8	<10.0
3/30/2023	SP3	Surface	12000	1.12	13.6	27.3	54.1	96.2	3,330	42300	8500
		1'	496	1	22.9	35.6	94.8	154	2,700	11200	1760
		2'	64	13.1	88.2	75.7	177	354	3,850	8750	1270
		3'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
		4'	96.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	10.6	<10.0
3/30/2023	SP4	Surface	160	<1.00	3.19	20.7	72.5	96.4	3,450	58200	9850
		1'	48	<0.050	<0.050	0.201	0.901	1.12	17.1	171	12.6
		2'	32	<0.050	<0.050	<0.050	0.248	<0.300	11	277	42.1
		3'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
3/30/2023	H1	0-6"	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	H2	0-6"	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	H3	0-6"	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	H4	0-6"	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0



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

April 04, 2023

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: EAU C - 37

Enclosed are the results of analyses for samples received by the laboratory on 03/29/23 16:50.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	03/29/2023	Sampling Date:	03/29/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 SURFACE (H231453-01)

BTEX 8021B		mg/kg		Analyzed By: JH/				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	3.06	1.00	03/31/2023	ND	2.14	107	2.00	6.99	
Toluene*	49.5	1.00	03/31/2023	ND	2.19	109	2.00	7.52	
Ethylbenzene*	80.5	1.00	03/31/2023	ND	2.14	107	2.00	5.61	
Total Xylenes*	150	3.00	03/31/2023	ND	6.63	110	6.00	3.86	
Total BTEX	283	6.00	03/31/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 161 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5840	16.0	04/03/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	4700	100	03/31/2023	ND	169	84.7	200	0.381	
DRO >C10-C28*	27300	100	03/31/2023	ND	184	92.0	200	8.26	
EXT DRO >C28-C36	4550	100	03/31/2023	ND					

Surrogate: 1-Chlorooctane 732 % 48.2-134

Surrogate: 1-Chlorooctadecane 528 % 49.1-148

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:	03/29/2023	Sampling Date:	03/29/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 1' (H231453-02)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	13.0	1.00	03/31/2023	ND	2.14	107	2.00	6.99	
Toluene*	127	1.00	03/31/2023	ND	2.19	109	2.00	7.52	
Ethylbenzene*	96.1	1.00	03/31/2023	ND	2.14	107	2.00	5.61	
Total Xylenes*	232	3.00	03/31/2023	ND	6.63	110	6.00	3.86	
Total BTEX	468	6.00	03/31/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 131 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3000	16.0	04/03/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	4470	50.0	03/31/2023	ND	169	84.7	200	0.381		
DRO >C10-C28*	12500	50.0	03/31/2023	ND	184	92.0	200	8.26		
EXT DRO >C28-C36	2260	50.0	03/31/2023	ND						

Surrogate: 1-Chlorooctane 347 % 48.2-134

Surrogate: 1-Chlorooctadecane 285 % 49.1-148

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:	03/29/2023	Sampling Date:	03/29/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 2' (H231453-03)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	2.67	1.00	03/31/2023	ND	2.14	107	2.00	6.99	
Toluene*	38.5	1.00	03/31/2023	ND	2.19	109	2.00	7.52	
Ethylbenzene*	42.0	1.00	03/31/2023	ND	2.14	107	2.00	5.61	
Total Xylenes*	107	3.00	03/31/2023	ND	6.63	110	6.00	3.86	
Total BTEX	190	6.00	03/31/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 124 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2520	16.0	04/03/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	1600	50.0	03/31/2023	ND	169	84.7	200	0.381		
DRO >C10-C28*	5450	50.0	03/31/2023	ND	184	92.0	200	8.26		
EXT DRO >C28-C36	844	50.0	03/31/2023	ND						

Surrogate: 1-Chlorooctane 227 % 48.2-134

Surrogate: 1-Chlorooctadecane 177 % 49.1-148

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:	03/29/2023	Sampling Date:	03/29/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 3' (H231453-04)

BTEX 8021B		mg/kg		Analyzed By: JH/				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	3.34	1.00	03/31/2023	ND	2.14	107	2.00	6.99	
Toluene*	34.5	1.00	03/31/2023	ND	2.19	109	2.00	7.52	
Ethylbenzene*	29.1	1.00	03/31/2023	ND	2.14	107	2.00	5.61	
Total Xylenes*	94.0	3.00	03/31/2023	ND	6.63	110	6.00	3.86	
Total BTEX	161	6.00	03/31/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 149 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1700	16.0	04/03/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	2580	50.0	03/31/2023	ND	169	84.7	200	0.381	
DRO >C10-C28*	11400	50.0	03/31/2023	ND	184	92.0	200	8.26	
EXT DRO >C28-C36	1670	50.0	03/31/2023	ND					

Surrogate: 1-Chlorooctane 421 % 48.2-134

Surrogate: 1-Chlorooctadecane 251 % 49.1-148

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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:	03/29/2023	Sampling Date:	03/29/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 4' (H231453-05)

BTEX 8021B		mg/kg		Analyzed By: JH/				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	03/31/2023	ND	2.14	107	2.00	6.99	
Toluene*	3.95	1.00	03/31/2023	ND	2.19	109	2.00	7.52	
Ethylbenzene*	5.47	1.00	03/31/2023	ND	2.14	107	2.00	5.61	
Total Xylenes*	61.1	3.00	03/31/2023	ND	6.63	110	6.00	3.86	
Total BTEX	70.5	6.00	03/31/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 140 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	04/03/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1460	50.0	03/31/2023	ND	169	84.7	200	0.381	
DRO >C10-C28*	6090	50.0	03/31/2023	ND	184	92.0	200	8.26	
EXT DRO >C28-C36	801	50.0	03/31/2023	ND					

Surrogate: 1-Chlorooctane 286 % 48.2-134

Surrogate: 1-Chlorooctadecane 169 % 49.1-148

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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:	03/29/2023	Sampling Date:	03/29/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 SURFACE (H231453-06)

BTEX 8021B		mg/kg		Analyzed By: JH/				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	3.42	1.00	03/31/2023	ND	2.14	107	2.00	6.99	
Toluene*	50.9	1.00	03/31/2023	ND	2.19	109	2.00	7.52	
Ethylbenzene*	81.4	1.00	03/31/2023	ND	2.14	107	2.00	5.61	
Total Xylenes*	151	3.00	03/31/2023	ND	6.63	110	6.00	3.86	
Total BTEX	287	6.00	03/31/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 137 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	19200	16.0	04/03/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	5580	50.0	03/31/2023	ND	169	84.7	200	0.381	
DRO >C10-C28*	34200	50.0	03/31/2023	ND	184	92.0	200	8.26	
EXT DRO >C28-C36	5110	50.0	03/31/2023	ND					

Surrogate: 1-Chlorooctane 509 % 48.2-134

Surrogate: 1-Chlorooctadecane 634 % 49.1-148

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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:	03/29/2023	Sampling Date:	03/29/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 1' (H231453-07)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	1.13	1.00	03/31/2023	ND	2.14	107	2.00	6.99	
Toluene*	26.4	1.00	03/31/2023	ND	2.19	109	2.00	7.52	
Ethylbenzene*	46.3	1.00	03/31/2023	ND	2.14	107	2.00	5.61	
Total Xylenes*	123	3.00	03/31/2023	ND	6.63	110	6.00	3.86	
Total BTEX	197	6.00	03/31/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 131 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2600	16.0	04/03/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	3200	50.0	03/31/2023	ND	169	84.7	200	0.381		
DRO >C10-C28*	15500	50.0	03/31/2023	ND	184	92.0	200	8.26		
EXT DRO >C28-C36	2150	50.0	03/31/2023	ND						

Surrogate: 1-Chlorooctane 529 % 48.2-134

Surrogate: 1-Chlorooctadecane 281 % 49.1-148

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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:	03/29/2023	Sampling Date:	03/29/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 2' (H231453-08)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	03/31/2023	ND	2.14	107	2.00	6.99	
Toluene*	20.4	1.00	03/31/2023	ND	2.19	109	2.00	7.52	
Ethylbenzene*	34.8	1.00	03/31/2023	ND	2.14	107	2.00	5.61	
Total Xylenes*	102	3.00	03/31/2023	ND	6.63	110	6.00	3.86	
Total BTEX	157	6.00	03/31/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 125 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1230	16.0	04/03/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	2270	50.0	03/31/2023	ND	169	84.7	200	0.381		
DRO >C10-C28*	11000	50.0	03/31/2023	ND	184	92.0	200	8.26		
EXT DRO >C28-C36	1330	50.0	03/31/2023	ND						

Surrogate: 1-Chlorooctane 402 % 48.2-134

Surrogate: 1-Chlorooctadecane 233 % 49.1-148

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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:	03/29/2023	Sampling Date:	03/29/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 3' (H231453-09)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	03/31/2023	ND	2.14	107	2.00	6.99	
Toluene*	17.2	1.00	03/31/2023	ND	2.19	109	2.00	7.52	
Ethylbenzene*	25.0	1.00	03/31/2023	ND	2.14	107	2.00	5.61	
Total Xylenes*	71.8	3.00	03/31/2023	ND	6.63	110	6.00	3.86	
Total BTEX	114	6.00	03/31/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/03/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	1800	50.0	03/31/2023	ND	169	84.7	200	0.381		
DRO >C10-C28*	7030	50.0	03/31/2023	ND	184	92.0	200	8.26		
EXT DRO >C28-C36	844	50.0	03/31/2023	ND						

Surrogate: 1-Chlorooctane 313 % 48.2-134

Surrogate: 1-Chlorooctadecane 197 % 49.1-148

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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:	03/29/2023	Sampling Date:	03/29/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 5' (H231453-10)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	03/31/2023	ND	2.14	107	2.00	6.99	
Toluene*	2.88	1.00	03/31/2023	ND	2.19	109	2.00	7.52	
Ethylbenzene*	5.91	1.00	03/31/2023	ND	2.14	107	2.00	5.61	
Total Xylenes*	44.0	3.00	03/31/2023	ND	6.63	110	6.00	3.86	
Total BTEX	52.8	6.00	03/31/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 126 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	04/03/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	1380	10.0	03/30/2023	ND	213	107	200	4.54	QM-07, QR-03	
DRO >C10-C28*	5890	10.0	03/30/2023	ND	214	107	200	9.57	QM-07	
EXT DRO >C28-C36	871	10.0	03/30/2023	ND						

Surrogate: 1-Chlorooctane 209 % 48.2-134

Surrogate: 1-Chlorooctadecane 161 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Apaches P.O. #:
 Project Manager: B. Baker Company:
 Address: City: Hobbs State: NM Zip: 88240 Attn:
 Phone #: Fax #: Address:
 Project #: Project Owner: City: State: Zip:
 Project Name: State: Zip:
 Project Location: SHALE C-37 Phone #: Fax #:
 Sampler Name: Sose David FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							PRESERV.	SAMPLING	DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
<u>H231453</u>	<u>SPI surface</u>		<u>1</u>									<u>3/29</u>	<u>2:54</u>	<u>CI</u>	
	<u>SPI 1'</u>		<u>1</u>									<u>3/29</u>	<u>2:59</u>	<u>BTEX</u>	
	<u>SPI 2'</u>		<u>1</u>									<u>3/29</u>	<u>3:00</u>	<u>EXT TPH</u>	
	<u>SPI 3'</u>		<u>1</u>									<u>3/29</u>	<u>3:02</u>		
	<u>SPI 4'</u>		<u>1</u>									<u>3/29</u>	<u>3:04</u>		
	<u>SPI surface</u>		<u>1</u>									<u>3/29</u>	<u>3:06</u>		
	<u>SPI 1'</u>		<u>1</u>									<u>3/29</u>	<u>3:10</u>		
	<u>SPI 2'</u>		<u>1</u>									<u>3/29</u>	<u>3:12</u>		
	<u>SPI 3'</u>		<u>1</u>									<u>3/29</u>	<u>3:24</u>		

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Relinquished By: Sose David Date: 7/25/23 Received By: Munira Chatterjee Time: 4:56 pm
 Relinquished By: _____ Date: _____ Received By: _____ Time: _____

Delivered By: (Circle One) Observed Temp. °C 33 Sample Condition Cool Intact Yes No
 Corrected Temp. °C 27 Checked BY: JD
 Turnaround Time: _____ Standard Bacteria (only) Sample Condition Cool Intact Yes No
 Thermometer ID #113 Correction Factor None Yes No Corrected Temp. °C

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



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

April 04, 2023

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: EAU C - 37

Enclosed are the results of analyses for samples received by the laboratory on 03/30/23 16:30.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	03/30/2023	Sampling Date:	03/30/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: H 1 (H231487-01)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2023	ND	1.98	99.0	2.00	3.89	
Toluene*	<0.050	0.050	04/01/2023	ND	2.04	102	2.00	3.58	
Ethylbenzene*	<0.050	0.050	04/01/2023	ND	2.07	103	2.00	4.83	
Total Xylenes*	<0.150	0.150	04/01/2023	ND	6.21	104	6.00	4.89	
Total BTEX	<0.300	0.300	04/01/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/03/2023	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	04/01/2023	ND	178	89.0	200	7.79	
DRO >C10-C28*	<10.0	10.0	04/01/2023	ND	207	104	200	7.02	
EXT DRO >C28-C36	<10.0	10.0	04/01/2023	ND					

Surrogate: 1-Chlorooctane 99.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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:	03/30/2023	Sampling Date:	03/30/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: H 2 (H231487-02)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2023	ND	1.98	99.0	2.00	3.89	
Toluene*	<0.050	0.050	04/01/2023	ND	2.04	102	2.00	3.58	
Ethylbenzene*	<0.050	0.050	04/01/2023	ND	2.07	103	2.00	4.83	
Total Xylenes*	<0.150	0.150	04/01/2023	ND	6.21	104	6.00	4.89	
Total BTEX	<0.300	0.300	04/01/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	04/03/2023	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	04/01/2023	ND	178	89.0	200	7.79	
DRO >C10-C28*	<10.0	10.0	04/01/2023	ND	207	104	200	7.02	
EXT DRO >C28-C36	<10.0	10.0	04/01/2023	ND					

Surrogate: 1-Chlorooctane 96.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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:	03/30/2023	Sampling Date:	03/30/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: H 3 (H231487-03)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2023	ND	1.98	99.0	2.00	3.89	
Toluene*	<0.050	0.050	04/01/2023	ND	2.04	102	2.00	3.58	
Ethylbenzene*	<0.050	0.050	04/01/2023	ND	2.07	103	2.00	4.83	
Total Xylenes*	<0.150	0.150	04/01/2023	ND	6.21	104	6.00	4.89	
Total BTEX	<0.300	0.300	04/01/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	04/03/2023	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	04/01/2023	ND	178	89.0	200	7.79	
DRO >C10-C28*	<10.0	10.0	04/01/2023	ND	207	104	200	7.02	
EXT DRO >C28-C36	<10.0	10.0	04/01/2023	ND					

Surrogate: 1-Chlorooctane 99.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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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:	03/30/2023	Sampling Date:	03/30/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: H 4 (H231487-04)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2023	ND	1.98	99.0	2.00	3.89	
Toluene*	<0.050	0.050	04/01/2023	ND	2.04	102	2.00	3.58	
Ethylbenzene*	<0.050	0.050	04/01/2023	ND	2.07	103	2.00	4.83	
Total Xylenes*	<0.150	0.150	04/01/2023	ND	6.21	104	6.00	4.89	
Total BTEX	<0.300	0.300	04/01/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/03/2023	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	04/01/2023	ND	210	105	200	7.61	
DRO >C10-C28*	<10.0	10.0	04/01/2023	ND	214	107	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	04/01/2023	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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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:	03/30/2023	Sampling Date:	03/30/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 SURFACE (H231487-05)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	1.12	1.00	04/01/2023	ND	1.98	99.0	2.00	3.89	
Toluene*	13.6	1.00	04/01/2023	ND	2.04	102	2.00	3.58	
Ethylbenzene*	27.3	1.00	04/01/2023	ND	2.07	103	2.00	4.83	
Total Xylenes*	54.1	3.00	04/01/2023	ND	6.21	104	6.00	4.89	
Total BTEX	96.2	6.00	04/01/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12000	16.0	04/03/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	3330	50.0	04/01/2023	ND	210	105	200	7.61		
DRO >C10-C28*	42300	50.0	04/01/2023	ND	214	107	200	7.41		
EXT DRO >C28-C36	8500	50.0	04/01/2023	ND						

Surrogate: 1-Chlorooctane 467 % 48.2-134

Surrogate: 1-Chlorooctadecane 914 % 49.1-148

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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:	03/30/2023	Sampling Date:	03/30/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 1' (H231487-06)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	1.00	1.00	04/01/2023	ND	1.98	99.0	2.00	3.89	
Toluene*	22.9	1.00	04/01/2023	ND	2.04	102	2.00	3.58	
Ethylbenzene*	35.6	1.00	04/01/2023	ND	2.07	103	2.00	4.83	
Total Xylenes*	94.8	3.00	04/01/2023	ND	6.21	104	6.00	4.89	
Total BTEX	154	6.00	04/01/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	04/03/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	2700	50.0	04/01/2023	ND	210	105	200	7.61		
DRO >C10-C28*	11200	50.0	04/01/2023	ND	214	107	200	7.41		
EXT DRO >C28-C36	1760	50.0	04/01/2023	ND						

Surrogate: 1-Chlorooctane 291 % 48.2-134

Surrogate: 1-Chlorooctadecane 238 % 49.1-148

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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:	03/30/2023	Sampling Date:	03/30/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 2' (H231487-07)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	13.1	1.00	04/01/2023	ND	1.98	99.0	2.00	3.89	
Toluene*	88.2	1.00	04/01/2023	ND	2.04	102	2.00	3.58	
Ethylbenzene*	75.7	1.00	04/01/2023	ND	2.07	103	2.00	4.83	
Total Xylenes*	177	3.00	04/01/2023	ND	6.21	104	6.00	4.89	
Total BTEX	354	6.00	04/01/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/03/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	3850	50.0	04/01/2023	ND	210	105	200	7.61		
DRO >C10-C28*	8750	50.0	04/01/2023	ND	214	107	200	7.41		
EXT DRO >C28-C36	1270	50.0	04/01/2023	ND						

Surrogate: 1-Chlorooctane 277 % 48.2-134

Surrogate: 1-Chlorooctadecane 208 % 49.1-148

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:	03/30/2023	Sampling Date:	03/30/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 3' (H231487-08)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2023	ND	1.98	99.0	2.00	3.89	
Toluene*	<0.050	0.050	04/03/2023	ND	2.04	102	2.00	3.58	
Ethylbenzene*	<0.050	0.050	04/03/2023	ND	2.07	103	2.00	4.83	
Total Xylenes*	<0.150	0.150	04/03/2023	ND	6.21	104	6.00	4.89	
Total BTEX	<0.300	0.300	04/03/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/03/2023	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	04/01/2023	ND	210	105	200	7.61	
DRO >C10-C28*	<10.0	10.0	04/01/2023	ND	214	107	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	04/01/2023	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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:	03/30/2023	Sampling Date:	03/30/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 4' (H231487-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2023	ND	1.98	99.0	2.00	3.89	
Toluene*	<0.050	0.050	04/03/2023	ND	2.04	102	2.00	3.58	
Ethylbenzene*	<0.050	0.050	04/03/2023	ND	2.07	103	2.00	4.83	
Total Xylenes*	<0.150	0.150	04/03/2023	ND	6.21	104	6.00	4.89	
Total BTEX	<0.300	0.300	04/03/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	04/03/2023	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	04/01/2023	ND	210	105	200	7.61	
DRO >C10-C28*	10.6	10.0	04/01/2023	ND	214	107	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	04/01/2023	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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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:	03/30/2023	Sampling Date:	03/30/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 SURFACE (H231487-10)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	04/01/2023	ND	1.98	99.0	2.00	3.89	
Toluene*	3.19	1.00	04/01/2023	ND	2.04	102	2.00	3.58	
Ethylbenzene*	20.7	1.00	04/01/2023	ND	2.07	103	2.00	4.83	
Total Xylenes*	72.5	3.00	04/01/2023	ND	6.21	104	6.00	4.89	
Total BTEX	96.4	6.00	04/01/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	04/03/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	3450	100	04/03/2023	ND	210	105	200	7.61		
DRO >C10-C28*	58200	100	04/03/2023	ND	214	107	200	7.41		
EXT DRO >C28-C36	9850	100	04/03/2023	ND						

Surrogate: 1-Chlorooctane 1630 % 48.2-134

Surrogate: 1-Chlorooctadecane 1550 % 49.1-148

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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:	03/30/2023	Sampling Date:	03/30/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ 1' (H231487-11)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2023	ND	1.98	99.0	2.00	3.89	
Toluene*	<0.050	0.050	04/03/2023	ND	2.04	102	2.00	3.58	
Ethylbenzene*	0.201	0.050	04/03/2023	ND	2.07	103	2.00	4.83	
Total Xylenes*	0.901	0.150	04/03/2023	ND	6.21	104	6.00	4.89	
Total BTEX	1.12	0.300	04/03/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/03/2023	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*	17.1	10.0	04/01/2023	ND	210	105	200	7.61	
DRO >C10-C28*	171	10.0	04/01/2023	ND	214	107	200	7.41	
EXT DRO >C28-C36	12.6	10.0	04/01/2023	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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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:	03/30/2023	Sampling Date:	03/30/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ 2' (H231487-12)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2023	ND	1.98	99.0	2.00	3.89	
Toluene*	<0.050	0.050	04/03/2023	ND	2.04	102	2.00	3.58	
Ethylbenzene*	<0.050	0.050	04/03/2023	ND	2.07	103	2.00	4.83	
Total Xylenes*	0.248	0.150	04/03/2023	ND	6.21	104	6.00	4.89	
Total BTEX	<0.300	0.300	04/03/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/03/2023	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*	10.8	10.0	04/01/2023	ND	210	105	200	7.61	
DRO >C10-C28*	277	10.0	04/01/2023	ND	214	107	200	7.41	
EXT DRO >C28-C36	42.1	10.0	04/01/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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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:	03/30/2023	Sampling Date:	03/30/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ 3' (H231487-13)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2023	ND	1.98	99.0	2.00	3.89	
Toluene*	<0.050	0.050	04/03/2023	ND	2.04	102	2.00	3.58	
Ethylbenzene*	<0.050	0.050	04/03/2023	ND	2.07	103	2.00	4.83	
Total Xylenes*	<0.150	0.150	04/03/2023	ND	6.21	104	6.00	4.89	
Total BTEX	<0.300	0.300	04/03/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	04/03/2023	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	04/01/2023	ND	210	105	200	7.61	
DRO >C10-C28*	<10.0	10.0	04/01/2023	ND	214	107	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	04/01/2023	ND					

Surrogate: 1-Chlorooctane 99.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Apache</u> Project Manager: <u>B. Baker</u>		P.O. #: Company:	
Address: City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>		Attn: Address:	
Phone #: Project #: Project Owner:		City: State: Zip:	
Project Location: <u>EAU c-37</u>		Phone #: Fax #:	
Sampler Name: <u>Jose Ouesada</u>		Matrix:	
FOR LAB USE ONLY		PRESERV:	
Lab I.D. Sample I.D.		SAMPLING	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDEWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	ANALYSIS REQUEST
<u>H231487</u>	<u>H1</u>	<u>C</u>	<u>1</u>										<u>3/30</u>	<u>10:20</u>	<u>C1</u>
	<u>H2</u>	<u>C</u>	<u>1</u>											<u>10:22</u>	<u>BTFY</u>
	<u>H3</u>	<u>C</u>	<u>1</u>											<u>10:24</u>	<u>EXT TPH</u>
	<u>H4</u>	<u>C</u>	<u>1</u>											<u>10:26</u>	
	<u>SP3 surface</u>	<u>C</u>	<u>1</u>											<u>10:58</u>	
	<u>SP301'</u>	<u>C</u>	<u>1</u>											<u>11:00</u>	
	<u>SP302'</u>	<u>C</u>	<u>1</u>											<u>11:02</u>	
	<u>SP303'</u>	<u>C</u>	<u>1</u>											<u>11:04</u>	
	<u>SP304'</u>	<u>C</u>	<u>1</u>											<u>11:08</u>	
	<u>SP3 surface</u>	<u>C</u>	<u>1</u>												

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Relinquished By: Jose Ouesada Date: 3/30/23 Time: 2:50 Received By: Ivan Orosco Date: 3/30/23 Time: 3:50

Delivered By: (Circle One) UPS Observed Temp. °C: 34 Corrected Temp. °C: 28 Sample Condition: Intact Cool Yes No

Turnaround Time: Standard Rush Bacteria (only) Cool Intact Yes No

Thermometer ID #113 Correction Factor -0.5°C

REMARKS: E-M a.1 Rtsa 115

Verbal Result: Yes No Add'l Phone #: _____
 All Results are emailed. Please provide Email address: _____

Checked By: [Signature] (Initials) VO



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Asche</u> Project Manager: <u>B. Becker</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:							
Project Location: <u>EAC C-37</u>		State: Zip:							
Project Name:		Phone #:							
Sampler Name: <u>José Ruelas</u>		Fax #:							
FOR LAB USE ONLY									
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE	TIME	ANALYSIS REQUEST
<u>H231487</u>	<u>SP4 0-1'</u>	<u>G</u>	<u>1</u>	GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:	<input checked="" type="checkbox"/>		<u>3/30</u>	<u>11:00</u>	<u>CL</u>
	<u>SP4 0-2'</u>	<u>G</u>	<u>1</u>				<u>11:12</u>	<u>11:12</u>	<u>BTEY</u>
	<u>SP4 0-3'</u>	<u>G</u>	<u>1</u>				<u>11:14</u>	<u>11:14</u>	<u>EXT TPH</u>

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Relinquished By: José Ruelas Date: 7/30/23 Time: 3:50
 Received By: IVAN OROSCO Date: 7/30/23 Time: 3:50

Delivered By: (Circle One) IVAN OROSCO Observed Temp. °C: 34 Corrected Temp. °C: 34
 Sample Condition: Intact Cool Yes No

Sampler - UPS - Bus - Other: 8.8 Checked By: [Signature] (Initials) AO

Turnaround Time: Standard Rush
 Thermometer ID #113 Correction Factor: -0.8°C Bacteria (only) Sample Condition: Intact Cool Yes No Observed Temp. °C Corrected Temp. °C

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



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

April 21, 2023

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: EAU C - 37

Enclosed are the results of analyses for samples received by the laboratory on 04/17/23 16:10.

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

Cardinal Laboratories is 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:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 7' (H231840-01)

BTEX 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	04/20/2023	ND	1.98	98.9	2.00	11.3	
Toluene*	4.73	1.00	04/20/2023	ND	2.03	102	2.00	12.6	
Ethylbenzene*	7.75	1.00	04/20/2023	ND	2.22	111	2.00	14.5	
Total Xylenes*	48.6	3.00	04/20/2023	ND	6.77	113	6.00	14.9	
Total BTEX	61.1	6.00	04/20/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 150 % 71.5-134

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1250	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	7410	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	1080	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 233 % 48.2-134

Surrogate: 1-Chlorooctadecane 174 % 49.1-148

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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:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 9' (H231840-02)

BTEX 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	04/20/2023	ND	1.98	98.9	2.00	11.3	
Toluene*	13.0	1.00	04/20/2023	ND	2.03	102	2.00	12.6	
Ethylbenzene*	23.4	1.00	04/20/2023	ND	2.22	111	2.00	14.5	
Total Xylenes*	109	3.00	04/20/2023	ND	6.77	113	6.00	14.9	
Total BTEX	145	6.00	04/20/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 150 % 71.5-134

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1960	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	7100	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	1010	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 315 % 48.2-134

Surrogate: 1-Chlorooctadecane 183 % 49.1-148

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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:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 11' (H231840-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<1.00	1.00	04/20/2023	ND	1.98	98.9	2.00	11.3		
Toluene*	19.2	1.00	04/20/2023	ND	2.03	102	2.00	12.6		
Ethylbenzene*	36.2	1.00	04/20/2023	ND	2.22	111	2.00	14.5		
Total Xylenes*	159	3.00	04/20/2023	ND	6.77	113	6.00	14.9		
Total BTEX	215	6.00	04/20/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

TPH 8015M		mg/kg		Analyzed By: MS							S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10*	2180	10.0	04/20/2023	ND	166	82.9	200	1.10	QM-07		
DRO >C10-C28*	6430	10.0	04/20/2023	ND	171	85.5	200	0.911	QM-07		
EXT DRO >C28-C36	1100	10.0	04/20/2023	ND							

Surrogate: 1-Chlorooctane 344 % 48.2-134

Surrogate: 1-Chlorooctadecane 176 % 49.1-148

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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:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 13' (H231840-04)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.114	0.050	04/20/2023	ND	1.98	98.9	2.00	11.3	GC-NC1
Toluene*	3.75	0.050	04/20/2023	ND	2.03	102	2.00	12.6	
Ethylbenzene*	6.70	0.050	04/20/2023	ND	2.22	111	2.00	14.5	
Total Xylenes*	24.9	0.150	04/20/2023	ND	6.77	113	6.00	14.9	
Total BTEX	35.4	0.300	04/20/2023	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID) 120 % 71.5-134

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	437	10.0	04/20/2023	ND	166	82.9	200	1.10		
DRO >C10-C28*	1480	10.0	04/20/2023	ND	171	85.5	200	0.911		
EXT DRO >C28-C36	218	10.0	04/20/2023	ND						

Surrogate: 1-Chlorooctane 135 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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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:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 15' (H231840-05)

BTEX 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<2.00	2.00	04/20/2023	ND	1.98	98.9	2.00	11.3	
Toluene*	64.3	2.00	04/20/2023	ND	2.03	102	2.00	12.6	
Ethylbenzene*	104	2.00	04/20/2023	ND	2.22	111	2.00	14.5	
Total Xylenes*	337	6.00	04/20/2023	ND	6.77	113	6.00	14.9	
Total BTEX	506	12.0	04/20/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 138 % 71.5-134

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1050	10.0	04/20/2023	ND	166	82.9	200	1.10	
DRO >C10-C28*	2390	10.0	04/20/2023	ND	171	85.5	200	0.911	
EXT DRO >C28-C36	414	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 81.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 42.8 % 49.1-148

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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:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 5' (H231840-06)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/20/2023	ND	1.98	98.9	2.00	11.3	
Toluene*	<0.050	0.050	04/20/2023	ND	2.03	102	2.00	12.6	
Ethylbenzene*	0.083	0.050	04/20/2023	ND	2.22	111	2.00	14.5	
Total Xylenes*	0.323	0.150	04/20/2023	ND	6.77	113	6.00	14.9	
Total BTEX	0.406	0.300	04/20/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	166	82.9	200	1.10	
DRO >C10-C28*	66.9	10.0	04/20/2023	ND	171	85.5	200	0.911	
EXT DRO >C28-C36	17.4	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 94.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.1 % 49.1-148

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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:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 7' (H231840-07)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/20/2023	ND	1.98	98.9	2.00	11.3	
Toluene*	<0.050	0.050	04/20/2023	ND	2.03	102	2.00	12.6	
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.22	111	2.00	14.5	
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.77	113	6.00	14.9	
Total BTEX	<0.300	0.300	04/20/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	166	82.9	200	1.10	
DRO >C10-C28*	11.8	10.0	04/20/2023	ND	171	85.5	200	0.911	
EXT DRO >C28-C36	<10.0	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
GC-NC1 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <i>Apache</i>		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager: <i>B. Baker</i>		Company:					
Address:		Attn:					
City: <i>Hobbs</i>		State: <i>NM</i>		Address:			
Phone #:		Fax #:		City:			
Project #:		Project Owner:		State:		Zip:	
Project Name:		Project Location: <i>SHA C-37</i>		Phone #:			
Sampler Name: <i>Jose Rivera</i>		FOR LAB USE ONLY		Fax #:			

Lab I.D.	Sample I.D.	GRAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :				
<i>H231840</i>	<i>1 SP107'</i>	<input checked="" type="checkbox"/>	<i>1</i>								<i>4/7</i>	<i>2:02</i>	<i>BTEX</i>
	<i>2 SP109'</i>	<input checked="" type="checkbox"/>	<i>1</i>									<i>2:04</i>	<i>EXT TPH</i>
	<i>3 SP1011'</i>	<input checked="" type="checkbox"/>	<i>1</i>									<i>2:06</i>	
	<i>4 SP1013'</i>	<input checked="" type="checkbox"/>	<i>1</i>									<i>2:08</i>	
	<i>5 SP1015'</i>	<input checked="" type="checkbox"/>	<i>1</i>									<i>2:10</i>	
	<i>6 SP205'</i>	<input checked="" type="checkbox"/>	<i>1</i>									<i>2:12</i>	
	<i>7 SP207'</i>	<input checked="" type="checkbox"/>	<i>1</i>									<i>2:14</i>	

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Relinquished By: *Rose* Date: *4/17/23* Time: *2:30* Received By: *ivan or ssc* Date: *4/17/23* Time: *4:30 pm*

Relinquished By: *Rose* Date: *4/17/23* Time: *2:30* Received By: *ivan or ssc* Date: *4/17/23* Time: *4:30 pm*

Delivered By: (Circle One) *UPS* Observed Temp. °C: *1.2* Corrected Temp. °C: *0.6* Sample Condition: Intact Cool Yes No

Turnaround Time: *Standard* Bacteria (only) Sample Condition: Intact Cool Yes No

Thermometer ID #113 Correction Factor -0.6°C



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

May 03, 2023

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: EAU C - 37

Enclosed are the results of analyses for samples received by the laboratory on 04/28/23 15:30.

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

Cardinal Laboratories is 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, flowing "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:	04/28/2023	Sampling Date:	04/28/2023
Reported:	05/03/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 17' (H232110-01)

BTEX 8021B		mg/kg		Analyzed By: JH/				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	05/01/2023	ND	2.08	104	2.00	1.60	
Toluene*	11.6	0.500	05/01/2023	ND	2.12	106	2.00	0.626	
Ethylbenzene*	27.0	0.500	05/01/2023	ND	2.12	106	2.00	1.41	
Total Xylenes*	91.0	1.50	05/01/2023	ND	6.60	110	6.00	2.06	
Total BTEX	130	3.00	05/01/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 152 % 71.5-134

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1430	10.0	05/02/2023	ND	168	83.8	200	1.74	
DRO >C10-C28*	4370	10.0	05/02/2023	ND	177	88.5	200	1.16	
EXT DRO >C28-C36	697	10.0	05/02/2023	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 70.1 % 49.1-148

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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:	04/28/2023	Sampling Date:	04/28/2023
Reported:	05/03/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 19' (H232110-02)

BTEX 8021B		mg/kg		Analyzed By: JH/				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/01/2023	ND	2.08	104	2.00	1.60		
Toluene*	1.06	0.050	05/01/2023	ND	2.12	106	2.00	0.626		
Ethylbenzene*	4.48	0.050	05/01/2023	ND	2.12	106	2.00	1.41		
Total Xylenes*	22.0	0.150	05/01/2023	ND	6.60	110	6.00	2.06		
Total BTEX	27.5	0.300	05/01/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 278 % 71.5-134

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	455	10.0	05/01/2023	ND	189	94.6	200	0.812		
DRO >C10-C28*	2190	10.0	05/01/2023	ND	187	93.5	200	0.845	QM-07	
EXT DRO >C28-C36	354	10.0	05/01/2023	ND						

Surrogate: 1-Chlorooctane 67.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.7 % 49.1-148

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

Analytical Results For:

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

Received:	04/28/2023	Sampling Date:	04/28/2023
Reported:	05/03/2023	Sampling Type:	Soil
Project Name:	EAU C - 37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 21' (H232110-03)

BTEX 8021B		mg/kg		Analyzed By: JH/				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	05/01/2023	ND	2.08	104	2.00	1.60	
Toluene*	15.6	0.200	05/01/2023	ND	2.12	106	2.00	0.626	
Ethylbenzene*	31.0	0.200	05/01/2023	ND	2.12	106	2.00	1.41	
Total Xylenes*	98.5	0.600	05/01/2023	ND	6.60	110	6.00	2.06	
Total BTEX	145	1.20	05/01/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 203 % 71.5-134

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1260	10.0	05/02/2023	ND	189	94.6	200	0.812	
DRO >C10-C28*	3600	10.0	05/02/2023	ND	187	93.5	200	0.845	
EXT DRO >C28-C36	541	10.0	05/02/2023	ND					

Surrogate: 1-Chlorooctane 149 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Apache</u> Project Manager: <u>B. Baker</u> Address: _____ City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u> Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: _____ Project Location: <u>EAU C-37</u> Sampler Name: <u>Jose Ruvalcaba</u> FOR LAB USE ONLY		P.O. #: _____ Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____			
BILL TO		ANALYSIS REQUEST			
Lab I.D. <u>H3B2110</u> Sample I.D. <u>1</u> <u>2</u> <u>3</u>	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : _____ ACID/BASE: ICE / COOL OTHER : _____	DATE TIME	REMARKS: <u>BTEX EXT TPH</u>
	1 2 3	1 1 1	1 1 1	4/28 1:00pm 1:02pm 1:04pm	
	1 2 3	1 1 1	1 1 1	1:00pm 1:02pm 1:04pm	
	1 2 3	1 1 1	1 1 1	1:00pm 1:02pm 1:04pm	
Relinquished By: <u>Jose Ruvalcaba</u> Date: <u>4/28/27</u> Time: <u>3:38</u>		Received By: <u>Spodrigney</u> Date: _____ Time: _____		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: _____ All Results are emailed. Please provide Email address: _____	
Delivered By: (Circle One) UPS - Bus - Other: _____ Observed Temp. °C: <u>3.1c</u> Corrected Temp. °C: <u>2.5c</u>		Sample Condition Cool Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Yes <input type="checkbox"/> No <input type="checkbox"/> No		CHECKED BY: <u>(Initials)</u> Turnaround Time: <u>Standard</u> <input checked="" type="checkbox"/> <u>Rush</u> <input type="checkbox"/> Thermometer ID #113 <input checked="" type="checkbox"/> <u>0.5°C</u> <input type="checkbox"/> Bacteria (only) Sample Condition Cool Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C	

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



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark J Larson
 Larson & Associates, Inc.
 507 N Marienfeld
 Suite 202
 Midland, Texas 79701

Generated 6/21/2023 10:03:38 AM

JOB DESCRIPTION

EAU 37
 SDG NUMBER 23-0113-01

JOB NUMBER

880-29664-1

Eurofins Midland
 1211 W. Florida Ave
 Midland TX 79701



Eurofins Midland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
6/21/2023 10:03:38 AM

Authorized for release by
Holly Taylor, Project Manager
Holly.Taylor@et.eurofinsus.com
(806)794-1296

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Client: Larson & Associates, Inc.
Project/Site: EAU 37

Laboratory Job ID: 880-29664-1
SDG: 23-0113-01

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Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Job ID: 880-29664-1

Laboratory: Eurofins Midland**Narrative****Job Narrative
880-29664-1****Receipt**

The samples were received on 6/16/2023 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 7.8°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: SP-1 25' (880-29664-1), SP-1 30' (880-29664-2), SP-1 35' (880-29664-3) and SP-1 40' (880-29664-4).

GC VOA

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-55932 and analytical batch 880-55895 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-55932/5-A). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-55662 and analytical batch 880-55746 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-55662/2-A) and (LCSD 880-55662/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SP-1 25' (880-29664-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Client Sample ID: SP-1 25'

Lab Sample ID: 880-29664-1

Date Collected: 06/15/23 12:30

Matrix: Solid

Date Received: 06/16/23 15:50

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		06/19/23 10:31	06/20/23 09:29	1
Toluene	<0.00202	U	0.00202	mg/Kg		06/19/23 10:31	06/20/23 09:29	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		06/19/23 10:31	06/20/23 09:29	1
m,p-Xylenes	<0.00404	U	0.00404	mg/Kg		06/19/23 10:31	06/20/23 09:29	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		06/19/23 10:31	06/20/23 09:29	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		06/19/23 10:31	06/20/23 09:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130	06/19/23 10:31	06/20/23 09:29	1
1,4-Difluorobenzene (Surr)	102		70 - 130	06/19/23 10:31	06/20/23 09:29	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			06/20/23 10:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			06/19/23 12:48	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/16/23 17:50	06/17/23 19:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/16/23 17:50	06/17/23 19:32	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/16/23 17:50	06/17/23 19:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	133	S1+	70 - 130	06/16/23 17:50	06/17/23 19:32	1
o-Terphenyl (Surr)	121		70 - 130	06/16/23 17:50	06/17/23 19:32	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3910		25.0	mg/Kg			06/20/23 09:40	5

Client Sample ID: SP-1 30'

Lab Sample ID: 880-29664-2

Date Collected: 06/15/23 12:36

Matrix: Solid

Date Received: 06/16/23 15:50

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		06/19/23 10:31	06/20/23 09:49	1
Toluene	<0.00201	U	0.00201	mg/Kg		06/19/23 10:31	06/20/23 09:49	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		06/19/23 10:31	06/20/23 09:49	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		06/19/23 10:31	06/20/23 09:49	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		06/19/23 10:31	06/20/23 09:49	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		06/19/23 10:31	06/20/23 09:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	06/19/23 10:31	06/20/23 09:49	1
1,4-Difluorobenzene (Surr)	111		70 - 130	06/19/23 10:31	06/20/23 09:49	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Client Sample ID: SP-1 30'

Lab Sample ID: 880-29664-2

Date Collected: 06/15/23 12:36

Matrix: Solid

Date Received: 06/16/23 15:50

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			06/20/23 10:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/19/23 12:48	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/16/23 17:50	06/17/23 19:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/16/23 17:50	06/17/23 19:56	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/16/23 17:50	06/17/23 19:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	120		70 - 130			06/16/23 17:50	06/17/23 19:56	1
o-Terphenyl (Surr)	111		70 - 130			06/16/23 17:50	06/17/23 19:56	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3740		25.1	mg/Kg			06/20/23 09:58	5

Client Sample ID: SP-1 35'

Lab Sample ID: 880-29664-3

Date Collected: 06/15/23 12:43

Matrix: Solid

Date Received: 06/16/23 15:50

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		06/19/23 10:31	06/20/23 10:10	1
Toluene	<0.00202	U	0.00202	mg/Kg		06/19/23 10:31	06/20/23 10:10	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		06/19/23 10:31	06/20/23 10:10	1
m,p-Xylenes	<0.00403	U	0.00403	mg/Kg		06/19/23 10:31	06/20/23 10:10	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		06/19/23 10:31	06/20/23 10:10	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		06/19/23 10:31	06/20/23 10:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130			06/19/23 10:31	06/20/23 10:10	1
1,4-Difluorobenzene (Surr)	109		70 - 130			06/19/23 10:31	06/20/23 10:10	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			06/20/23 10:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/19/23 12:48	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/16/23 17:50	06/17/23 20:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/16/23 17:50	06/17/23 20:20	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Client Sample ID: SP-1 35'

Lab Sample ID: 880-29664-3

Date Collected: 06/15/23 12:43

Matrix: Solid

Date Received: 06/16/23 15:50

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/16/23 17:50	06/17/23 20:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	118		70 - 130			06/16/23 17:50	06/17/23 20:20	1
o-Terphenyl (Surr)	109		70 - 130			06/16/23 17:50	06/17/23 20:20	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2770		25.3	mg/Kg			06/20/23 10:04	5

Client Sample ID: SP-1 40'

Lab Sample ID: 880-29664-4

Date Collected: 06/15/23 12:47

Matrix: Solid

Date Received: 06/16/23 15:50

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *	0.00201	mg/Kg		06/20/23 14:04	06/21/23 04:33	1
Toluene	<0.00201	U	0.00201	mg/Kg		06/20/23 14:04	06/21/23 04:33	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		06/20/23 14:04	06/21/23 04:33	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		06/20/23 14:04	06/21/23 04:33	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		06/20/23 14:04	06/21/23 04:33	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		06/20/23 14:04	06/21/23 04:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130			06/20/23 14:04	06/21/23 04:33	1
1,4-Difluorobenzene (Surr)	77		70 - 130			06/20/23 14:04	06/21/23 04:33	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			06/21/23 09:57	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			06/19/23 12:48	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/16/23 17:50	06/17/23 20:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/16/23 17:50	06/17/23 20:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/16/23 17:50	06/17/23 20:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	111		70 - 130			06/16/23 17:50	06/17/23 20:43	1
o-Terphenyl (Surr)	100		70 - 130			06/16/23 17:50	06/17/23 20:43	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	194		5.05	mg/Kg			06/20/23 10:21	1

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Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: EAU 37Job ID: 880-29664-1
SDG: 23-0113-01

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
880-29664-1	SP-1 25'	83	102
880-29664-2	SP-1 30'	100	111
880-29664-3	SP-1 35'	104	109
880-29664-4	SP-1 40'	87	77
LCS 880-55811/1-A	Lab Control Sample	98	98
LCS 880-55932/1-A	Lab Control Sample	123	114
LCSD 880-55811/2-A	Lab Control Sample Dup	95	114
LCSD 880-55932/2-A	Lab Control Sample Dup	103	108
MB 880-55744/5-A	Method Blank	93	118
MB 880-55809/5-A	Method Blank	70	98
MB 880-55811/5-A	Method Blank	93	118
MB 880-55932/5-A	Method Blank	67 S1-	97

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
880-29664-1	SP-1 25'	133 S1+	121
880-29664-2	SP-1 30'	120	111
880-29664-3	SP-1 35'	118	109
880-29664-4	SP-1 40'	111	100
LCS 880-55662/2-A	Lab Control Sample	145 S1+	132 S1+
LCSD 880-55662/3-A	Lab Control Sample Dup	146 S1+	131 S1+
MB 880-55662/1-A	Method Blank	149 S1+	139 S1+

Surrogate Legend

1CO = 1-Chlorooctane (Surr)

OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: EAU 37Job ID: 880-29664-1
SDG: 23-0113-01

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-55744/5-A
Matrix: Solid
Analysis Batch: 55779Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55744

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Benzene	<0.00200	U	0.00200	mg/Kg		06/16/23 17:40	06/19/23 14:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/16/23 17:40	06/19/23 14:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/16/23 17:40	06/19/23 14:00	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		06/16/23 17:40	06/19/23 14:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/16/23 17:40	06/19/23 14:00	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/16/23 17:40	06/19/23 14:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130			06/16/23 17:40	06/19/23 14:00	1
1,4-Difluorobenzene (Surr)	118		70 - 130			06/16/23 17:40	06/19/23 14:00	1

Lab Sample ID: MB 880-55809/5-A
Matrix: Solid
Analysis Batch: 55895Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55809

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Benzene	<0.00200	U	0.00200	mg/Kg		06/19/23 10:08	06/20/23 11:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/19/23 10:08	06/20/23 11:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/19/23 10:08	06/20/23 11:59	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		06/19/23 10:08	06/20/23 11:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/19/23 10:08	06/20/23 11:59	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/19/23 10:08	06/20/23 11:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	70		70 - 130			06/19/23 10:08	06/20/23 11:59	1
1,4-Difluorobenzene (Surr)	98		70 - 130			06/19/23 10:08	06/20/23 11:59	1

Lab Sample ID: MB 880-55811/5-A
Matrix: Solid
Analysis Batch: 55779Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55811

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Benzene	<0.00200	U	0.00200	mg/Kg		06/19/23 10:31	06/20/23 01:43	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/19/23 10:31	06/20/23 01:43	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/19/23 10:31	06/20/23 01:43	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		06/19/23 10:31	06/20/23 01:43	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/19/23 10:31	06/20/23 01:43	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/19/23 10:31	06/20/23 01:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130			06/19/23 10:31	06/20/23 01:43	1
1,4-Difluorobenzene (Surr)	118		70 - 130			06/19/23 10:31	06/20/23 01:43	1

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-55811/1-A
Matrix: Solid
Analysis Batch: 55779

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 55811

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1149		mg/Kg		115	70 - 130
Toluene	0.100	0.1177		mg/Kg		118	70 - 130
Ethylbenzene	0.100	0.09555		mg/Kg		96	70 - 130
m,p-Xylenes	0.200	0.1923		mg/Kg		96	70 - 130
o-Xylene	0.100	0.09525		mg/Kg		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: LCSD 880-55811/2-A
Matrix: Solid
Analysis Batch: 55779

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 55811

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1271		mg/Kg		127	70 - 130	10	35
Toluene	0.100	0.1220		mg/Kg		122	70 - 130	4	35
Ethylbenzene	0.100	0.09685		mg/Kg		97	70 - 130	1	35
m,p-Xylenes	0.200	0.2009		mg/Kg		100	70 - 130	4	35
o-Xylene	0.100	0.1020		mg/Kg		102	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: MB 880-55932/5-A
Matrix: Solid
Analysis Batch: 55895

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55932

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/20/23 14:04	06/20/23 22:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/20/23 14:04	06/20/23 22:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/20/23 14:04	06/20/23 22:42	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		06/20/23 14:04	06/20/23 22:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/20/23 14:04	06/20/23 22:42	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/20/23 14:04	06/20/23 22:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	67	S1-	70 - 130	06/20/23 14:04	06/20/23 22:42	1
1,4-Difluorobenzene (Surr)	97		70 - 130	06/20/23 14:04	06/20/23 22:42	1

Lab Sample ID: LCS 880-55932/1-A
Matrix: Solid
Analysis Batch: 55895

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 55932

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1370	*+	mg/Kg		137	70 - 130
Toluene	0.100	0.1164		mg/Kg		116	70 - 130

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-55932/1-A
Matrix: Solid
Analysis Batch: 55895

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 55932

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.100	0.1150		mg/Kg		115	70 - 130
m,p-Xylenes	0.200	0.2396		mg/Kg		120	70 - 130
o-Xylene	0.100	0.1210		mg/Kg		121	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	123		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: LCSD 880-55932/2-A
Matrix: Solid
Analysis Batch: 55895

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 55932

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.1239		mg/Kg		124	70 - 130	10	35
Toluene	0.100	0.1039		mg/Kg		104	70 - 130	11	35
Ethylbenzene	0.100	0.1013		mg/Kg		101	70 - 130	13	35
m,p-Xylenes	0.200	0.2070		mg/Kg		104	70 - 130	15	35
o-Xylene	0.100	0.1010		mg/Kg		101	70 - 130	18	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-55662/1-A
Matrix: Solid
Analysis Batch: 55746

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55662

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/16/23 09:44	06/17/23 09:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/16/23 09:44	06/17/23 09:14	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/16/23 09:44	06/17/23 09:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	149	S1+	70 - 130	06/16/23 09:44	06/17/23 09:14	1
o-Terphenyl (Surr)	139	S1+	70 - 130	06/16/23 09:44	06/17/23 09:14	1

Lab Sample ID: LCS 880-55662/2-A
Matrix: Solid
Analysis Batch: 55746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 55662

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	976.9		mg/Kg		98	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1168		mg/Kg		117	70 - 130

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-55662/2-A
Matrix: Solid
Analysis Batch: 55746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 55662

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane (Surr)	145	S1+	70 - 130
o-Terphenyl (Surr)	132	S1+	70 - 130

Lab Sample ID: LCSD 880-55662/3-A
Matrix: Solid
Analysis Batch: 55746

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 55662

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits	RPD	Limit	
Gasoline Range Organics (GRO)-C6-C10	1000	1014		mg/Kg		101	70 - 130	4	20	
Diesel Range Organics (Over C10-C28)	1000	1189		mg/Kg		119	70 - 130	2	20	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane (Surr)	146	S1+	70 - 130
o-Terphenyl (Surr)	131	S1+	70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-55742/1-A
Matrix: Solid
Analysis Batch: 55896

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Chloride	<5.00	U	5.00	mg/Kg			06/20/23 08:01	1

Lab Sample ID: LCS 880-55742/2-A
Matrix: Solid
Analysis Batch: 55896

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Chloride	250	239.4		mg/Kg		96	90 - 110	

Lab Sample ID: LCSD 880-55742/3-A
Matrix: Solid
Analysis Batch: 55896

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits	RPD	Limit	
Chloride	250	239.5		mg/Kg		96	90 - 110	0	20	

Lab Sample ID: 880-29664-1 MS
Matrix: Solid
Analysis Batch: 55896

Client Sample ID: SP-1 25'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Chloride	3910		1250	5208		mg/Kg		104	90 - 110	

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-29664-1 MSD
Matrix: Solid
Analysis Batch: 55896

Client Sample ID: SP-1 25'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3910		1250	5211		mg/Kg		104	90 - 110	0	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

GC VOA

Prep Batch: 55744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-55744/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 55779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29664-1	SP-1 25'	Total/NA	Solid	8021B	55811
880-29664-2	SP-1 30'	Total/NA	Solid	8021B	55811
880-29664-3	SP-1 35'	Total/NA	Solid	8021B	55811
MB 880-55744/5-A	Method Blank	Total/NA	Solid	8021B	55744
MB 880-55811/5-A	Method Blank	Total/NA	Solid	8021B	55811
LCS 880-55811/1-A	Lab Control Sample	Total/NA	Solid	8021B	55811
LCSD 880-55811/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	55811

Prep Batch: 55809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-55809/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 55811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29664-1	SP-1 25'	Total/NA	Solid	5035	
880-29664-2	SP-1 30'	Total/NA	Solid	5035	
880-29664-3	SP-1 35'	Total/NA	Solid	5035	
MB 880-55811/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-55811/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-55811/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 55895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29664-4	SP-1 40'	Total/NA	Solid	8021B	55932
MB 880-55809/5-A	Method Blank	Total/NA	Solid	8021B	55809
MB 880-55932/5-A	Method Blank	Total/NA	Solid	8021B	55932
LCS 880-55932/1-A	Lab Control Sample	Total/NA	Solid	8021B	55932
LCSD 880-55932/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	55932

Analysis Batch: 55918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29664-1	SP-1 25'	Total/NA	Solid	Total BTEX	
880-29664-2	SP-1 30'	Total/NA	Solid	Total BTEX	
880-29664-3	SP-1 35'	Total/NA	Solid	Total BTEX	
880-29664-4	SP-1 40'	Total/NA	Solid	Total BTEX	

Prep Batch: 55932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29664-4	SP-1 40'	Total/NA	Solid	5035	
MB 880-55932/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-55932/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-55932/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

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QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: EAU 37Job ID: 880-29664-1
SDG: 23-0113-01

GC Semi VOA

Prep Batch: 55662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29664-1	SP-1 25'	Total/NA	Solid	8015NM Prep	
880-29664-2	SP-1 30'	Total/NA	Solid	8015NM Prep	
880-29664-3	SP-1 35'	Total/NA	Solid	8015NM Prep	
880-29664-4	SP-1 40'	Total/NA	Solid	8015NM Prep	
MB 880-55662/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-55662/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-55662/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 55746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29664-1	SP-1 25'	Total/NA	Solid	8015B NM	55662
880-29664-2	SP-1 30'	Total/NA	Solid	8015B NM	55662
880-29664-3	SP-1 35'	Total/NA	Solid	8015B NM	55662
880-29664-4	SP-1 40'	Total/NA	Solid	8015B NM	55662
MB 880-55662/1-A	Method Blank	Total/NA	Solid	8015B NM	55662
LCS 880-55662/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	55662
LCSD 880-55662/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	55662

Analysis Batch: 55832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29664-1	SP-1 25'	Total/NA	Solid	8015 NM	
880-29664-2	SP-1 30'	Total/NA	Solid	8015 NM	
880-29664-3	SP-1 35'	Total/NA	Solid	8015 NM	
880-29664-4	SP-1 40'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 55742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29664-1	SP-1 25'	Soluble	Solid	DI Leach	
880-29664-2	SP-1 30'	Soluble	Solid	DI Leach	
880-29664-3	SP-1 35'	Soluble	Solid	DI Leach	
880-29664-4	SP-1 40'	Soluble	Solid	DI Leach	
MB 880-55742/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-55742/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-55742/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-29664-1 MS	SP-1 25'	Soluble	Solid	DI Leach	
880-29664-1 MSD	SP-1 25'	Soluble	Solid	DI Leach	

Analysis Batch: 55896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29664-1	SP-1 25'	Soluble	Solid	300.0	55742
880-29664-2	SP-1 30'	Soluble	Solid	300.0	55742
880-29664-3	SP-1 35'	Soluble	Solid	300.0	55742
880-29664-4	SP-1 40'	Soluble	Solid	300.0	55742
MB 880-55742/1-A	Method Blank	Soluble	Solid	300.0	55742
LCS 880-55742/2-A	Lab Control Sample	Soluble	Solid	300.0	55742
LCSD 880-55742/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	55742
880-29664-1 MS	SP-1 25'	Soluble	Solid	300.0	55742
880-29664-1 MSD	SP-1 25'	Soluble	Solid	300.0	55742

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Client Sample ID: SP-1 25'

Lab Sample ID: 880-29664-1

Date Collected: 06/15/23 12:30

Matrix: Solid

Date Received: 06/16/23 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	55811	06/19/23 10:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55779	06/20/23 09:29	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55918	06/20/23 10:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			55832	06/19/23 12:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	55662	06/16/23 17:50	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55746	06/17/23 19:32	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	55742	06/16/23 17:30	SMC	EET MID
Soluble	Analysis	300.0		5	10 mL	10 mL	55896	06/20/23 09:40	CH	EET MID

Client Sample ID: SP-1 30'

Lab Sample ID: 880-29664-2

Date Collected: 06/15/23 12:36

Matrix: Solid

Date Received: 06/16/23 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	55811	06/19/23 10:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55779	06/20/23 09:49	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55918	06/20/23 10:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			55832	06/19/23 12:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	55662	06/16/23 17:50	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55746	06/17/23 19:56	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	55742	06/16/23 17:30	SMC	EET MID
Soluble	Analysis	300.0		5	10 mL	10 mL	55896	06/20/23 09:58	CH	EET MID

Client Sample ID: SP-1 35'

Lab Sample ID: 880-29664-3

Date Collected: 06/15/23 12:43

Matrix: Solid

Date Received: 06/16/23 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	55811	06/19/23 10:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55779	06/20/23 10:10	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55918	06/20/23 10:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			55832	06/19/23 12:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	55662	06/16/23 17:50	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55746	06/17/23 20:20	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	55742	06/16/23 17:30	SMC	EET MID
Soluble	Analysis	300.0		5	10 mL	10 mL	55896	06/20/23 10:04	CH	EET MID

Client Sample ID: SP-1 40'

Lab Sample ID: 880-29664-4

Date Collected: 06/15/23 12:47

Matrix: Solid

Date Received: 06/16/23 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	55932	06/20/23 14:04	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55895	06/21/23 04:33	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55918	06/21/23 09:57	AJ	EET MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Client Sample ID: SP-1 40'
Date Collected: 06/15/23 12:47
Date Received: 06/16/23 15:50

Lab Sample ID: 880-29664-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			55832	06/19/23 12:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	55662	06/16/23 17:50	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55746	06/17/23 20:43	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	55742	06/16/23 17:30	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55896	06/20/23 10:21	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

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Method Summary

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



Sample Summary

Client: Larson & Associates, Inc.
Project/Site: EAU 37

Job ID: 880-29664-1
SDG: 23-0113-01

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-29664-1	SP-1 25'	Solid	06/15/23 12:30	06/16/23 15:50
880-29664-2	SP-1 30'	Solid	06/15/23 12:36	06/16/23 15:50
880-29664-3	SP-1 35'	Solid	06/15/23 12:43	06/16/23 15:50
880-29664-4	SP-1 40'	Solid	06/15/23 12:47	06/16/23 15:50

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290604

No. 2502

CHAIN-OF-CUSTODY

Aarson & Associates, Inc.
Environmental Consultants

507 N Marienfeld, Ste 202
Midland, TX 79701
432-687-0901

DATE: 6/16/2023 PAGE 1 OF 1

PO#: _____ LAB WORK ORDER# _____

PROJECT LOCATION OR NAME EAL 37

LAI PROJECT # 23-0113-01 COLLECTOR: DSG / HW

TIME ZONE Time zone/State	TRRP report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	S=SOIL W=WATER A=AIR	P=PAINT SL=SLUDGE OT=OTHER	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION				ANALYSES	FIELD NOTES
									HCl	HNO ₃	H ₂ SO ₄ NaOH	UNPRESERVED		
MNT / N.M.														
SP-1 25'					6/15/23	1230	S	1	X	X	X	X		7a
SP-1 30'						1236	S	1	X	X	X	X		
SP-1 35'						1243	S	1	X	X	X	X		
SP-1 40'						1247	S	1	X	X	X	X		
TOTAL	4													



RELINQUISHED BY (Signature) _____ DATE/TIME 6/16/2023 1500

RECEIVED BY (Signature) _____

RELINQUISHED BY (Signature) _____ DATE/TIME _____

RECEIVED BY (Signature) _____

RELINQUISHED BY (Signature) _____ DATE/TIME _____

RECEIVED BY (Signature) _____

LABORATORY 2100

TURN AROUND TIME
 NORMAL
 1 DAY
 2 DAY
 OTHER

LABORATORY USE ONLY:
 RECEIVING TEMP 8178 THERM# SPB-3
 CUSTODY SEALS - BROKEN INTACT NOT USED
 CARRIER BILL # _____
 HAND DELIVERED _____

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-29664-1

SDG Number: 23-0113-01

Login Number: 29664

List Number: 1

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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

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

CONDITIONS

Action 238581

CONDITIONS

Operator: APACHE CORPORATION 303 Veterans Airpark Ln Midland, TX 79705	OGRID: 873
	Action Number: 238581
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	The Remediation Plan is Conditionally Approved. Floor confirmation samples should be delineated/excavated to meet closure criteria standards from Table 1 of the OCD Spill Rule for site assessment/characterization/proven depth to water determination. All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Sidewall/Edge samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. All sidewall samples should be taken from the sidewall of the excavation. Please make sure that the edge of the release extent is accurately defined. All off-pad areas must meet reclamation standards set forth in the OCD Spill Rule. The work will need to occur in 90 days after the report has been reviewed.	12/28/2023