

303 Veterans Airpark Lane Midland, TX 79705

# **Remediation Plan Resubmittal**

April 7, 2021

*Re: WP Byrd Tank Battery Case nRM2010837524* 

# Background:

On 4/8/2020 a release occurred due a connection on an oil tank failed. The release (GPS: 32.591340, -103.307397) is located south of Monument, New Mexico in unit letters B&G section 12 township 20S range 36E. A groundwater survey was conducted utilizing USGS wells of record. The nearest well of record suggest the groundwater depth below the release to be 33 feet below ground surface. A remediation plan was submitted to OCD. The plan was rejected by OCD due to the release needed further delineation and to elaborate on physical agitation in regards to the deeper contamination of soil.

On 2/4/2021 a hand auger was utilized to delineate at SP 2 and SP 3. Samples were collected in one foot intervals to a depth of 4 feet. Horizontal 5 point composite surface samples were collected not to exceed 200 square feet. All samples collected were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Laboratory results were above table one standards for hydrocarbons at SP 2 and SP 3. On 2/22/2021 SP 2 and SP 3 were further delineated to a depth of 6 feet. All samples collected were submitted to a commercial laboratory for analysis of TPH and BTEX.

Apache Corporation proposes that the in-situ remediation proposed is the best course of action in an attempt to treat the contamination to the best extent possible due to the close proximity to infrastructure. The soil inside the berm will be tilled to loosen the top two feet and the product will be applied see the attached plan for further details of the process. The remediation will be completed within 90 days of OCD approval of the plan.

*Enclosed:* C-141, Updated Sample Map, Updated Laboratory Data, and Original Remediation Plan

Submitted by;

Bruce Baker

*Environmental Technician larry.baker@apachecorp.com Cell# 432-631-6982* 

Received by OCD: 4/7/2021 2:05:37 PM Form C-141 State of New Mexico

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Oil Conservation Division

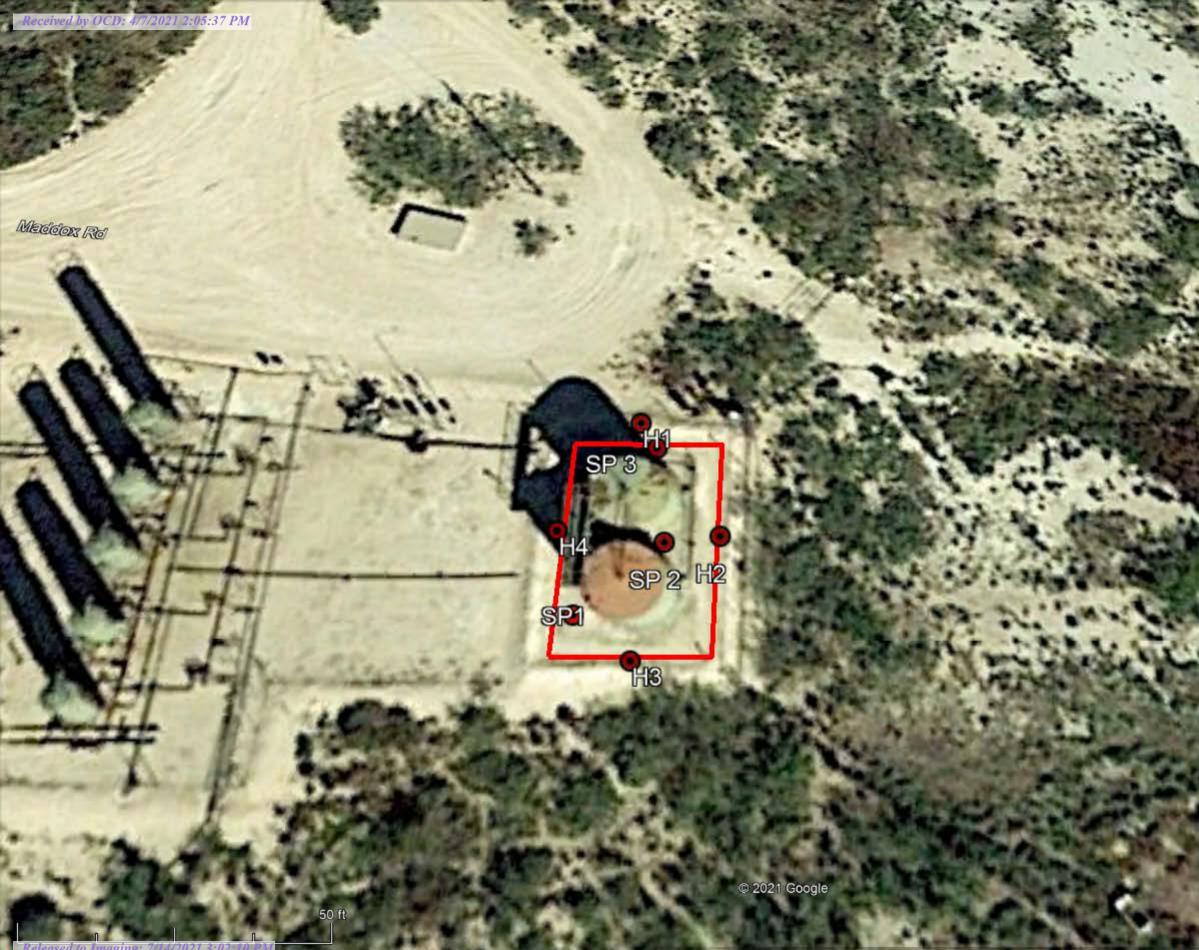
Incident ID		
District RP		
Facility ID		
Application ID		

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# **Remediation Plan**

<u>Remediation Plan Checklist</u>: 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. \_\_\_\_\_\_ <sub>Title:</sub> Environmental Tech SR. Printed Name: Larry Baker \_\_\_\_\_ Signature: \_\_\_\_\_\_ Larry Baker Date: 4/7/2021 email: larry.baker@apachecorp.com Telephone: 432-631-6982 **OCD Only** Received by: Date: Approved Approved with Attached Conditions of Approval Denied Deferral Approved Signature: Date:

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Google Earth

Imagery Date: 11/2/2017 lat 32.591700° lon -103.307846° elev 3561 ft eye alt 3787 ft

Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
Dute							Ayrenes	DIEX				32.591293
7/10/2020	SP1	S	<16.0	<0.200	0.573	<0.200	8.170	8.74	707	24600	5340	-103.307384
7/10/2020	SP1	1'		< 0.050	2.29	< 0.500	14.70	17.00	717	1910	105	
7/10/2020	SP1	2'		<0.200	0.301	< 0.200	2.990	3.29	96.9	616	53.1	
7/16/2020	SP1	3'		< 0.050	< 0.050	< 0.050	0.381	0.381	41.5	791	143	
7/16/2020	SP1	4'		< 0.050	<0.050	<0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	
												32.591330
2/4/2021	SP2	S	32	< 0.050	<0.050	0.218	0.267	0.485	<50.0	12200	4030	-103.307351
2/4/2021	SP2	1'	32	0.179	2.6	<0.050	19.600	22.4	711	4680	1050	
2/4/2021	SP2	2'	<16.0	< 0.050	<0.050	0.08	<0.150	<0.300	<10.0	31.7	39.2	
2/4/2021	SP2	3'	<16.0	< 0.050	<0.050	0.078	<0.150	<0.300	<10.0	83.2	84.6	
2/4/2021	SP2	4'	16	< 0.050	<0.050	0.307	0.342	0.649	60.1	1730	587	
2/22/2021	SP2	5'		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	23.2	13	
2/22/2021	SP2	6'		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	32.4	<10.0	
												32.591370
2/4/2021	SP3	S	<16.0	<0.050	<0.050	<0.050	0.627	0.627	75.6	11300	3020	-103.307340
2/4/2021	SP3	1'	16	<0.050	0.381	2.24	7.980	10.6	697	6890	1580	
2/4/2021	SP3	2'	<16.0	<0.050	0.331	1.81	6.940	9.9	293	2630	641	
2/4/2021	SP3	3'	<16.0	<0.050	<0.050	0.167	0.658	0.825	37.5	781	217	
2/4/2021	SP3	4'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	10.6	451	112	
2/22/2021	SP3	5'		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	281	60.5	
2/22/2021	SP3	6'		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	23.9	<10.0	
												32.591404
2/4/2021	HC1	S	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	12.3	<10.0	-103.307351
												32.591336
2/4/2021	HC2	S	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	-103.307300
												32.591269
2/4/2021	HC3	S	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	-103.307349
												32.591339
2/4/2021	HC4	S	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	-103.307398



February 08, 2021

BRUCE BAKER APACHE CORP - HOBBS 2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: WP BYRD

Enclosed are the results of analyses for samples received by the laboratory on 02/04/21 16:26.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



		APACHE CO	RP - HOBBS		
		BRUCE BAKE	ER		
		2350 W. MA	RLAND BLVD.		
		HOBBS NM,	88240		
		Fax To:	(575) 393-2432		
Received:	02/04/2021			Sampling Date:	02/04/2021
Reported:	02/08/2021			Sampling Type:	Soil
Project Name:	WP BYRD			Sampling Condition:	Cool & Intact
Project Number:	WP BIRD #1			Sample Received By:	Jodi Henson

## Sample ID: SP 2 @ SURFACE (H210292-01)

NONE GIVEN

Project Location:

BTEX 8021B	mg,	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2021	ND	2.13	107	2.00	0.822	
Toluene*	<0.050	0.050	02/05/2021	ND	2.09	104	2.00	1.10	
Ethylbenzene*	0.218	0.050	02/05/2021	ND	2.03	102	2.00	1.55	GC-NC1
Total Xylenes*	0.267	0.150	02/05/2021	ND	5.95	99.2	6.00	1.52	GC-NC1
Total BTEX	0.485	0.300	02/05/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	155	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	02/05/2021	ND	216	108	200	6.41	
DRO >C10-C28*	12200	50.0	02/05/2021	ND	231	116	200	3.31	
EXT DRO >C28-C36	4030	50.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	95.5	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	296	% 42.2-15	6						

#### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BAK	ARLAND BLVD.		
		Fax To:	(575) 393-2432		
Received:	02/04/2021			Sampling Date:	02/04/2021
Reported:	02/08/2021			Sampling Type:	Soil
Project Name:	WP BYRD			Sampling Condition:	Cool & Intact
Project Number: Project Location:	WP BIRD #1			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

## Sample ID: SP 2 @ 1' (H210292-02)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.179	0.050	02/05/2021	ND	2.13	107	2.00	0.822	
Toluene*	2.60	0.050	02/05/2021	ND	2.09	104	2.00	1.10	GC-NC
Ethylbenzene*	<0.050	0.050	02/05/2021	ND	2.03	102	2.00	1.55	
Total Xylenes*	19.6	0.150	02/05/2021	ND	5.95	99.2	6.00	1.52	GC-NC:
Total BTEX	22.4	0.300	02/05/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	549	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	711	10.0	02/05/2021	ND	216	108	200	6.41	
DRO >C10-C28*	4680	10.0	02/05/2021	ND	231	116	200	3.31	
EXT DRO >C28-C36	1050	10.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	136	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	190	% 42.2-15	6						

## **Cardinal Laboratories**

\*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BAK	ARLAND BLVD.		
		Fax To:	(575) 393-2432		
Received:	02/04/2021			Sampling Date:	02/04/2021
Reported:	02/08/2021			Sampling Type:	Soil
Project Name:	WP BYRD			Sampling Condition:	Cool & Intact
Project Number: Project Location:	WP BIRD #1			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

## Sample ID: SP 2 @ 2' (H210292-03)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2021	ND	2.13	107	2.00	0.822	
Toluene*	<0.050	0.050	02/05/2021	ND	2.09	104	2.00	1.10	
Ethylbenzene*	0.080	0.050	02/05/2021	ND	2.03	102	2.00	1.55	GC-NC1
Total Xylenes*	<0.150	0.150	02/05/2021	ND	5.95	99.2	6.00	1.52	
Total BTEX	<0.300	0.300	02/05/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	103	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/05/2021	ND	216	108	200	6.41	
DRO >C10-C28*	31.7	10.0	02/05/2021	ND	231	116	200	3.31	
EXT DRO >C28-C36	39.2	10.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	77.6	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	82.1	% 42.2-15	6						

## **Cardinal Laboratories**

\*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



WP BYRD

WP BIRD #1

NONE GIVEN

Sampling Condition:

Sample Received By:

02/04/2021

Cool & Intact

Jodi Henson

Soil

## Analytical Results For:

	APACHE CO	orp - Hobbs						
	BRUCE BAK	KER						
	2350 W. MARLAND BLVD.							
	HOBBS NM, 88240							
	Fax To:	(575) 393-2432						
02/04/2021			Sampling Date:					
02/08/2021			Sampling Type:					

## Sample ID: SP 2 @ 3' (H210292-04)

Received:

Reported:

Project Name:

Project Number:

Project Location:

BTEX 8021B	mg/kg		Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2021	ND	2.13	107	2.00	0.822	
Toluene*	<0.050	0.050	02/05/2021	ND	2.09	104	2.00	1.10	
Ethylbenzene*	0.078	0.050	02/05/2021	ND	2.03	102	2.00	1.55	GC-NC1
Total Xylenes*	<0.150	0.150	02/05/2021	ND	5.95	99.2	6.00	1.52	
Total BTEX	<0.300	0.300	02/05/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	102	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/05/2021	ND	216	108	200	6.41	
DRO >C10-C28*	83.2	10.0	02/05/2021	ND	231	116	200	3.31	
EXT DRO >C28-C36	84.6	10.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	81.8	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	87.5	% 42.2-15	6						

#### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



	APACHE CORP - HOBBS	
	BRUCE BAKER	
	2350 W. MARLAND BLVD.	
	HOBBS NM, 88240	
	Fax To: (575) 393-2432	
02/04/2021	Sampling Date:	

Received:	02/04/2021	Sampling Date:	02/04/2021
Reported:	02/08/2021	Sampling Type:	Soil
Project Name:	WP BYRD	Sampling Condition:	Cool & Intact
Project Number:	WP BIRD #1	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

## Sample ID: SP 2 @ 4' (H210292-05)

BTEX 8021B	mg	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2021	ND	2.13	107	2.00	0.822	
Toluene*	<0.050	0.050	02/05/2021	ND	2.09	104	2.00	1.10	
Ethylbenzene*	0.307	0.050	02/05/2021	ND	2.03	102	2.00	1.55	GC-NC1
Total Xylenes*	0.342	0.150	02/05/2021	ND	5.95	99.2	6.00	1.52	GC-NC1
Total BTEX	0.649	0.300	02/05/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	118	73.3-12	9						
Chloride, SM4500Cl-B	mg	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	60.1	10.0	02/05/2021	ND	216	108	200	6.41	
DRO >C10-C28*	1730	10.0	02/05/2021	ND	231	116	200	3.31	
EXT DRO >C28-C36	587	10.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	93.5	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	114	42.2-15	6						

#### Cardinal Laboratories

#### \*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BAI	ARLAND BLVD.		
		Fax To:	(575) 393-2432	2	
Received:	02/04/2021			Sampling Date:	02/04/2021
Reported:	02/08/2021			Sampling Type:	Soil
Project Name:	WP BYRD			Sampling Condition:	Cool & Intact
Project Number:	WP BIRD #1			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

## Sample ID: SP 3 @ SURFACE (H210292-06)

BTEX 8021B	mg	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/08/2021	ND	2.04	102	2.00	7.85	
Toluene*	<0.050	0.050	02/08/2021	ND	2.00	100	2.00	7.95	
Ethylbenzene*	<0.050	0.050	02/08/2021	ND	1.95	97.6	2.00	8.27	
Total Xylenes*	0.627	0.150	02/08/2021	ND	5.71	95.2	6.00	7.99	GC-NC1
Total BTEX	0.627	0.300	02/08/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	136	% 73.3-12	9						
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	75.6	50.0	02/05/2021	ND	216	108	200	6.41	
DRO >C10-C28*	11300	50.0	02/05/2021	ND	231	116	200	3.31	
EXT DRO >C28-C36	3020	50.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	110	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	259	% 42.2-15	6						

#### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



APACHE CO	RP - HOBBS	
BRUCE BAKE	ĒR	
2350 W. MA	RLAND BLVD.	
HOBBS NM,	88240	
Fax To:	(575) 393-2432	

Received:	02/04/2021	Sampling Date:	02/04/2021
Reported:	02/08/2021	Sampling Type:	Soil
Project Name:	WP BYRD	Sampling Condition:	Cool & Intact
Project Number:	WP BIRD #1	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

## Sample ID: SP 3 @ 1' (H210292-07)

BTEX 8021B	mg	/kg	Analyze	d By: ms					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/06/2021	ND	2.01	100	2.00	0.410	QM-07
Toluene*	0.381	0.050	02/06/2021	ND	2.02	101	2.00	0.480	GC-NC1
Ethylbenzene*	2.24	0.050	02/06/2021	ND	2.01	100	2.00	0.117	GC-NC1
Total Xylenes*	7.98	0.150	02/06/2021	ND	6.37	106	6.00	0.546	GC-NC1
Total BTEX	10.6	0.300	02/06/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	144	% 73.3-12	9						
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	697	10.0	02/05/2021	ND	216	108	200	6.41	
DRO >C10-C28*	6890	10.0	02/05/2021	ND	231	116	200	3.31	
EXT DRO >C28-C36	1580	10.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	117	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	203	% 42.2-15	6						

#### Cardinal Laboratories

\*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



APACHE CO	RP - HOBBS
BRUCE BAKE	ĒR
2350 W. MA	RLAND BLVD.
HOBBS NM,	88240
Fax To:	(575) 393-2432

Received:	02/04/2021	Sampling Date:	02/04/2021
Reported:	02/08/2021	Sampling Type:	Soil
Project Name:	WP BYRD	Sampling Condition:	Cool & Intact
Project Number:	WP BIRD #1	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

## Sample ID: SP 3 @ 2' (H210292-08)

BTEX 8021B	mg,	/kg	Analyze	d By: ms					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/06/2021	ND	2.01	100	2.00	0.410	
Toluene*	0.331	0.050	02/06/2021	ND	2.02	101	2.00	0.480	GC-NC1
Ethylbenzene*	1.81	0.050	02/06/2021	ND	2.01	100	2.00	0.117	GC-NC1
Total Xylenes*	6.94	0.150	02/06/2021	ND	6.37	106	6.00	0.546	GC-NC1
Total BTEX	9.09	0.300	02/06/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	145	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	293	10.0	02/05/2021	ND	216	108	200	6.41	
DRO >C10-C28*	2630	10.0	02/05/2021	ND	231	116	200	3.31	
EXT DRO >C28-C36	641	10.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	88.0	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	108	% 42.2-15	6						

#### Cardinal Laboratories

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



APACHE CO	RP - HOBBS
BRUCE BAK	ER
2350 W. MA	RLAND BLVD.
HOBBS NM,	88240
Fax To:	(575) 393-2432

Received:	02/04/2021	Sampling Date:	02/04/2021
Reported:	02/08/2021	Sampling Type:	Soil
Project Name:	WP BYRD	Sampling Condition:	Cool & Intact
Project Number:	WP BIRD #1	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

## Sample ID: SP 3 @ 3' (H210292-09)

BTEX 8021B	mg	′kg	Analyze	d By: ms					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/06/2021	ND	2.01	100	2.00	0.410	
Toluene*	<0.050	0.050	02/06/2021	ND	2.02	101	2.00	0.480	
Ethylbenzene*	0.167	0.050	02/06/2021	ND	2.01	100	2.00	0.117	GC-NC1
Total Xylenes*	0.658	0.150	02/06/2021	ND	6.37	106	6.00	0.546	GC-NC1
Total BTEX	0.825	0.300	02/06/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	151	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	37.5	10.0	02/05/2021	ND	216	108	200	6.41	
DRO >C10-C28*	781	10.0	02/05/2021	ND	231	116	200	3.31	
EXT DRO >C28-C36	217	10.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	96.8	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	101	% 42.2-15	6						

#### Cardinal Laboratories

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



APACHE CO	RP - HOBBS
BRUCE BAKE	ĒR
2350 W. MA	RLAND BLVD.
HOBBS NM,	88240
Fax To:	(575) 393-2432

Received:	02/04/2021	Sampling Date:	02/04/2021
Reported:	02/08/2021	Sampling Type:	Soil
Project Name:	WP BYRD	Sampling Condition:	Cool & Intact
Project Number:	WP BIRD #1	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

## Sample ID: SP 3 @ 4' (H210292-10)

BTEX 8021B	mg	/kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2021	ND	2.01	100	2.00	0.410	
Toluene*	<0.050	0.050	02/05/2021	ND	2.02	101	2.00	0.480	
Ethylbenzene*	<0.050	0.050	02/05/2021	ND	2.01	100	2.00	0.117	
Total Xylenes*	<0.150	0.150	02/05/2021	ND	6.37	106	6.00	0.546	
Total BTEX	<0.300	0.300	02/05/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	113	% 73.3-12	9						
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	10.6	10.0	02/05/2021	ND	216	108	200	6.41	
DRO >C10-C28*	451	10.0	02/05/2021	ND	231	116	200	3.31	
EXT DRO >C28-C36	112	10.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	89.5	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	96.9	% 42.2-15	6						

## Cardinal Laboratories

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BAK	ARLAND BLVD. 88240		
		Fax 10:	(575) 393-2432		
Received:	02/04/2021			Sampling Date:	02/04/2021
Reported:	02/08/2021			Sampling Type:	Soil
Project Name:	WP BYRD			Sampling Condition:	Cool & Intact
Project Number:	WP BIRD #1			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

## Sample ID: H 1 (H210292-11)

BTEX 8021B	mg/	′kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2021	ND	2.01	100	2.00	0.410	
Toluene*	<0.050	0.050	02/05/2021	ND	2.02	101	2.00	0.480	
Ethylbenzene*	<0.050	0.050	02/05/2021	ND	2.01	100	2.00	0.117	
Total Xylenes*	<0.150	0.150	02/05/2021	ND	6.37	106	6.00	0.546	
Total BTEX	<0.300	0.300	02/05/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 9	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/05/2021	ND	215	108	200	8.28	
DRO >C10-C28*	12.3	10.0	02/05/2021	ND	221	110	200	4.90	
EXT DRO >C28-C36	<10.0	10.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	85.4	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	82.0	% 42.2-15	6						

#### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



NONE GIVEN

## Analytical Results For:

		APACHE CO	orp - Hobbs		
		BRUCE BA	KER		
		2350 W. M	IARLAND BLVD.		
		Fax To:	(575) 393-2432		
Received:	02/04/2021			Sampling Date:	02/04/2021
Reported:	02/08/2021			Sampling Type:	Soil
Project Name:	WP BYRD			Sampling Condition:	Cool & Intact
Project Number:	WP BIRD #1			Sample Received By:	Jodi Henson

## Sample ID: H 2 (H210292-12)

Project Location:

BTEX 8021B	mg/	′kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2021	ND	2.01	100	2.00	0.410	
Toluene*	<0.050	0.050	02/05/2021	ND	2.02	101	2.00	0.480	
Ethylbenzene*	<0.050	0.050	02/05/2021	ND	2.01	100	2.00	0.117	
Total Xylenes*	<0.150	0.150	02/05/2021	ND	6.37	106	6.00	0.546	
Total BTEX	<0.300	0.300	02/05/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 9	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/05/2021	ND	215	108	200	8.28	
DRO >C10-C28*	<10.0	10.0	02/05/2021	ND	221	110	200	4.90	
EXT DRO >C28-C36	<10.0	10.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	93.8	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	91.9	% 42.2-15	6						

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



NONE GIVEN

## Analytical Results For:

		APACHE COF	P - HOBBS	
		BRUCE BAKE	R	
		2350 W. MA	RLAND BLVD.	
		HOBBS NM,	38240	
		Fax To:	(575) 393-2432	
Received:	02/04/2021		Sampling Date:	02/04/2021
Reported:	02/08/2021		Sampling Type:	Soil
Project Name:	WP BYRD		Sampling Condition:	Cool & Intact
Project Number:	WP BIRD #1		Sample Received By:	Jodi Henson

## Sample ID: H 3 (H210292-13)

Project Location:

BTEX 8021B	mg,	/kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2021	ND	2.01	100	2.00	0.410	
Toluene*	<0.050	0.050	02/05/2021	ND	2.02	101	2.00	0.480	
Ethylbenzene*	<0.050	0.050	02/05/2021	ND	2.01	100	2.00	0.117	
Total Xylenes*	<0.150	0.150	02/05/2021	ND	6.37	106	6.00	0.546	
Total BTEX	<0.300	0.300	02/05/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	105	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/05/2021	ND	215	108	200	8.28	
DRO >C10-C28*	<10.0	10.0	02/05/2021	ND	221	110	200	4.90	
EXT DRO >C28-C36	<10.0	10.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	72.1	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	69.2	% 42.2-15	6						

#### **Cardinal Laboratories**

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BAK	ARLAND BLVD. 88240		
		Fax 10:	(575) 393-2432		
Received:	02/04/2021			Sampling Date:	02/04/2021
Reported:	02/08/2021			Sampling Type:	Soil
Project Name:	WP BYRD			Sampling Condition:	Cool & Intact
Project Number:	WP BIRD #1			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

## Sample ID: H 4 (H210292-14)

BTEX 8021B	mg,	′kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2021	ND	2.01	100	2.00	0.410	
Toluene*	<0.050	0.050	02/05/2021	ND	2.02	101	2.00	0.480	
Ethylbenzene*	<0.050	0.050	02/05/2021	ND	2.01	100	2.00	0.117	
Total Xylenes*	<0.150	0.150	02/05/2021	ND	6.37	106	6.00	0.546	
Total BTEX	<0.300	0.300	02/05/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	107 9	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/08/2021	ND	416	104	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/05/2021	ND	215	108	200	8.28	
DRO >C10-C28*	<10.0	10.0	02/05/2021	ND	221	110	200	4.90	
EXT DRO >C28-C36	<10.0	10.0	02/05/2021	ND					
Surrogate: 1-Chlorooctane	78.4	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	75.6	% 42.2-15	6						

#### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



## **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.
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

#### **Cardinal Laboratories**

## \*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager

# Received by OCD: 4/7/2021 2:05:37 PM

Company Name: anche Corporation	<b>3</b> 	BILL TO		ANALYSIS REQUEST
Project Manager: Bull Baken		P.O. #:		
Address:	0	Company:		
City: State:	Zip: Ai	Attn:		
Phone #: Fax #:		Address:		
Project #: Project Owner:		City:		
ame: UNP BYRD #		State: Zip:		
Project Location: WP ByRD #1	P	Phone #:		
Sampler Name: VETT Brunn	Fa	Fax #:		
	MATRIX	PRESERV. SAMPLING	G	
Lab I.D. Sample I.D.		BASE: COOL	L TEX (T. TPH	
121024Z	# CON		CB	
1 SP2 @ Surface	6	12/4/8	NO VVV	
17 6	6		1422 V V V	
2	2		1422 V V V	
502 0	1		V V V ATH	
5 302041	6		1418 V V V	
0 5P3 @ Surtach	4		VVV 8141	
1 0 805 4	1		1422 1 1 1	
1 2 @ Eds 8	1		1429 1 1 1	
9 593031	1		1426 V V V	
0 5930 41	6	2/4/21	1428 / / / /	
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applic	any claim arising whether based in contract or to a deemed waived unless made in writing and rec	ort, shall be limited to the amount paid t served by Cardinal within 30 days after c	by the client for the completion of the applicable	
service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.	including without limitation, business interruptions, loss of use, or loss of profits incurred by nder by Cardinal, regardless of whether such claim is based upon any of the above stated re	of use, or loss of profits incurred by clie used upon any of the above stated reas		
Relinquished By:	Received By:		Phone Result:         Yes         No           Fax Result:         Yes         No	Add'l Phone #: Add'l Fax #:
Relinquished By:	Received By:	magn	Standard	
Time:				
	Sample	CHECKED BY:		
Sampler - UPS - Bus - Other: 2,70/#	#113 Pres Pres	Annualst		

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 17 of 18

Released to Imaging: 7/14/2021 3:02:10 PM

# Received by OCD: 4/7/2021 2:05:37 PM

in month	MANN	BILL IO		ANALYSIS REQUEST
Project Manager: Gull Call		P.O. #:		
Address:		Company:		
City: State:	Zip:	Attn:		
Phone #: Fax #:		Address:		
Project #: Project Owner:	wner:	City:		
ame: CUP BIRD #		State: Zip:		
Project Location: UP ByRD # 1		#		
Sampler Name: Jarge Shuan		Fax #:		
DIAD INCOMIN		CEDV		
FOR LAB USE ONLY	MP.	PRESERV. SAMPLING		
Lab I.D. Sample I.D.	(G)RAB OR (C)OM # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER : ACID/BASE: ICE / COOL OTHER :	CL BIEX EXT, TAH	
11 /12	/		1430 1 1 2841	
12 H2	, (		1432 1 1 1	
5N 6.1	0		147 1 1 2011	
<i>hH</i> hi	C	10/4/2	1436 11	
PLEASE MOTE: Liability and Damages. Cardinal's liability and client's exclusive enroley for any client ansing whether based in contract or fort, shall be limited to the amount, paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be developed watved unless made in writing and received by Cardinal within 30 days after completion of the application of the application of the single of the application of t	se exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount, is eventual scover shall be deemed waived unless made in writing and received by Cardinal within 30 anys. I enail damages, including without limitation, busies interruptones, loss of use, or loss of profils incurred b services hereinder be Cardinal receives of whether science channels.	ct or fort, shall be limited to the amount paid nd received by Cardinal within 30 days after s, loss of use, or loss of profils incurred by cl n is heard upon any of the above stated rea	1 by the client for the completion of the applicable lilent, its subsidiaries, seens or otherwise	
	Received By:		Phone Result: Ves No	Add'l Phone #:
Relinquished-By:	Received By:	denson	Stanlard	
Delivered By: (Circle One)	Sample Condition	tion CHECKED BY:	3	
Sampler - UPS - Bus - Other: 2,72/ 7 113 Pres Pres	511#			

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

# Page 22 of 61



February 23, 2021

BRUCE BAKER APACHE CORP - HOBBS 2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: WP BYRD #1

Enclosed are the results of analyses for samples received by the laboratory on 02/22/21 11:53.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



		BRUCE BAK	ARLAND BLVD.		
		Fax To:	(575) 393-2432		
Received:	02/22/2021			Sampling Date:	02/22/2021
Reported:	02/23/2021			Sampling Type:	Soil
Project Name:	WP BYRD #1			Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN			Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN				

## Sample ID: SP 2 @ 5' (H210413-01)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/22/2021	ND	1.91	95.6	2.00	1.35	
Toluene*	<0.050	0.050	02/22/2021	ND	1.96	97.9	2.00	1.18	
Ethylbenzene*	<0.050	0.050	02/22/2021	ND	1.95	97.5	2.00	0.909	
Total Xylenes*	<0.150	0.150	02/22/2021	ND	6.03	100	6.00	0.442	
Total BTEX	<0.300	0.300	02/22/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 %	6 73.3-12	9						
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2021	ND	206	103	200	4.95	
DRO >C10-C28*	23.2	10.0	02/22/2021	ND	214	107	200	4.23	
EXT DRO >C28-C36	13.0	10.0	02/22/2021	ND					
Surrogate: 1-Chlorooctane	107 %	6 44.3-14	4						

#### **Cardinal Laboratories**

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BAK	ARLAND BLVD.		
		Fax To:	(575) 393-2432		
Received:	02/22/2021			Sampling Date:	02/22/2021
Reported:	02/23/2021			Sampling Type:	Soil
Project Name:	WP BYRD #1			Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN			Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN				

## Sample ID: SP 2 @ 6' (H210413-02)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/22/2021	ND	1.91	95.6	2.00	1.35	
Toluene*	<0.050	0.050	02/22/2021	ND	1.96	97.9	2.00	1.18	
Ethylbenzene*	<0.050	0.050	02/22/2021	ND	1.95	97.5	2.00	0.909	
Total Xylenes*	<0.150	0.150	02/22/2021	ND	6.03	100	6.00	0.442	
Total BTEX	<0.300	0.300	02/22/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 %	6 73.3-12	9						
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2021	ND	206	103	200	4.95	
DRO >C10-C28*	32.4	10.0	02/22/2021	ND	214	107	200	4.23	
EXT DRO >C28-C36	<10.0	10.0	02/22/2021	ND					
Surrogate: 1-Chlorooctane	105 %	6 44.3-14	4						

## **Cardinal Laboratories**

\*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BAK	ARLAND BLVD.		
		Fax To:	(575) 393-2432		
Received:	02/22/2021			Sampling Date:	02/22/2021
Reported:	02/23/2021			Sampling Type:	Soil
Project Name:	WP BYRD #1			Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN			Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN				

## Sample ID: SP 3 @ 5' (H210413-03)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/22/2021	ND	1.91	95.6	2.00	1.35	
Toluene*	<0.050	0.050	02/22/2021	ND	1.96	97.9	2.00	1.18	
Ethylbenzene*	<0.050	0.050	02/22/2021	ND	1.95	97.5	2.00	0.909	
Total Xylenes*	<0.150	0.150	02/22/2021	ND	6.03	100	6.00	0.442	
Total BTEX	<0.300	0.300	02/22/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	108 %	6 73.3-12	9						
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2021	ND	206	103	200	4.95	
DRO >C10-C28*	281	10.0	02/22/2021	ND	214	107	200	4.23	
EXT DRO >C28-C36	60.5	10.0	02/22/2021	ND					
Surrogate: 1-Chlorooctane	109 %	6 44.3-14	4						

#### **Cardinal Laboratories**

\*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BAK	ARLAND BLVD.		
		Fax To:	(575) 393-2432		
Received:	02/22/2021			Sampling Date:	02/22/2021
Reported:	02/23/2021			Sampling Type:	Soil
Project Name:	WP BYRD #1			Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN			Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN				

## Sample ID: SP 3 @ 6' (H210413-04)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/22/2021	ND	1.91	95.6	2.00	1.35	
Toluene*	<0.050	0.050	02/22/2021	ND	1.96	97.9	2.00	1.18	
Ethylbenzene*	<0.050	0.050	02/22/2021	ND	1.95	97.5	2.00	0.909	
Total Xylenes*	<0.150	0.150	02/22/2021	ND	6.03	100	6.00	0.442	
Total BTEX	<0.300	0.300	02/22/2021	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 %	6 73.3-12	9						
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2021	ND	206	103	200	4.95	
DRO >C10-C28*	23.9	10.0	02/22/2021	ND	214	107	200	4.23	
EXT DRO >C28-C36	<10.0	10.0	02/22/2021	ND					
Surrogate: 1-Chlorooctane	104 %	6 44.3-14	4						

#### **Cardinal Laboratories**

\*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



## **Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

#### Cardinal Laboratories

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

101 East Marland, Hobbs, NM 88240

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Project Manager: City: Company Name: Project Name: Project #: Phone #: Address: Project Location: Sampler Name: **Relinquished By** Ha10413 **Relinquished By** service. In no event shall Cardinal be analyses. All claims including those PLEASE NOTE: Liability and Dan FOR LAB USE ONLY Sampler - UPS - Bus - Other: Delivered By: (Circle One) Lab I.D. HET. t S N Insing out of of 513 SPa 58306' (575) 393-2326 FAX (575) 393-2476 un 101 105 grude liable 06' 0 51 Jache negligence and Cardinal's I Sample I.D. đ to the any On Ker orporation A ħ Observed Temp. °C Corrected Temp. °C 64 Project Owner: Fax #: (2 State: Date: Time: Date: Time: 1/7 53 ages, including without limitation, business thet a remedy for any clair ever shall be deemed under by Ca Zip 1000 (G)RAB OR (C)OMP in **Received By** Received By # CONTAINERS waived GROUNDWATER hether based in contract or tort, shall be limited to the amount paid by the client for the misss made in writing and received by Cardinal within 30 days after completion of the applicable Cool Intact ROMP WASTEWATER Sample Condition MATRIX SOIL inte OIL SLUDGE City: State: Attn: P.O. #: Address: Company: Phone #: loss of use, or loss of profits incurred by client, its subsidiaries OTHER Fax #: PRESERV. ACID/BASE pon any of the above sta CHECKED BY: (Initials) ICE / COOL BILL Ø OTHER Zip: 2/23/2 12/20/1 122/21 DATE 10 SAMPLING 0530 0532 0946 8260 All Results are emailed. Please provide Email address: **Turnaround Time:** Thermometer ID #113 Correction Factor None REMARKS: TIME erbal Result: 2 BTEX Ves EXT. TPH Standard Rush O No ANALYSIS Add'l Phone #: Bacteria (only) Sample Condition Cool Intact Observed Temp. °( ☐Yes ☐Yes ☐ No ☐ No Corrected Temp. °( REQUEST Observed Temp. °C Corrected Temp. °C

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# Received by OCD: 4/7/2021 2:05:37 PM

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

Page 7 of 7

# Page 29 of 61



August 3, 2020

NMOCD District 1 1625 N. French Dr.

Hobbs, NM 88240

Re: Remediation Plan Apache Corporation WP Byrd Battery

RXSoil, Inc. is pleased to submit the remediation plan for the on-site remediation of impacted soil for the above release in Lea County, New Mexico.

Sincerely,

Jace Caraway Chief Operating Officer RXSoil, Inc. (940) 210-2051

Kll: hach

Zach Robbins Technical and Engineering Analyst RXSoil, Inc. (210) 400-7645

## **Table of Contents**

Ι.	Introduction	. 3
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## Appendix

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## I. Introduction

On behalf of Apache Corporation ("Apache"), RXSoil, Inc. ("RXSoil") has prepared this work plan that describes remediation of the release of crude oil at the WP Byrd battery.

The release was discovered on 4/8/2020 in Unit Letter B&G, Section 12, Township 20S, Range 36E (see *Figure 1* for Vicinity Map) at approximate coordinates 32.59134, -103.30740. It was reported that 20 barrels of crude oil were released, and 10 barrels of crude oil were recovered during the initial response.

## II. Site Assessment/Characterization

- 1. Site Map See Figure 2
- 2. **Depth to ground water** Remediation standards for <50 feet will be used on this remediation project.
- 3. Wellhead protection area Known active water sources are shown in *Figure 3*.
- 4. **Distance to nearest significant watercourse** There is no significant watercourse within a half-mile of any horizontal boundary of the release (see *Figure 4*).
- 5. **Soil/waste characteristics** Samples were collected inside of the battery at the surface and depths of 1', 2', 3' and 4'. This sample location (32.591293°, 103.307384°) is shown in *Figure 2* with results summarized in *Appendix A*. This delineation shows contamination to 3' BGS and clean soil at 4' BGS.

## III. Remediation Plan

RXSoil's will utilize an in-situ application of RXBiotics, RXSoil's naturally occurring, non-genetically modified bioremediation agent. This product, along with physical agitation will lead to the degradation of hydrocarbons. Treatment will continue throughout the battery until all soils test below the remediation standards set forth in Table 1 of 19.15.29 NMAC (total TPH <100 mg/kg).

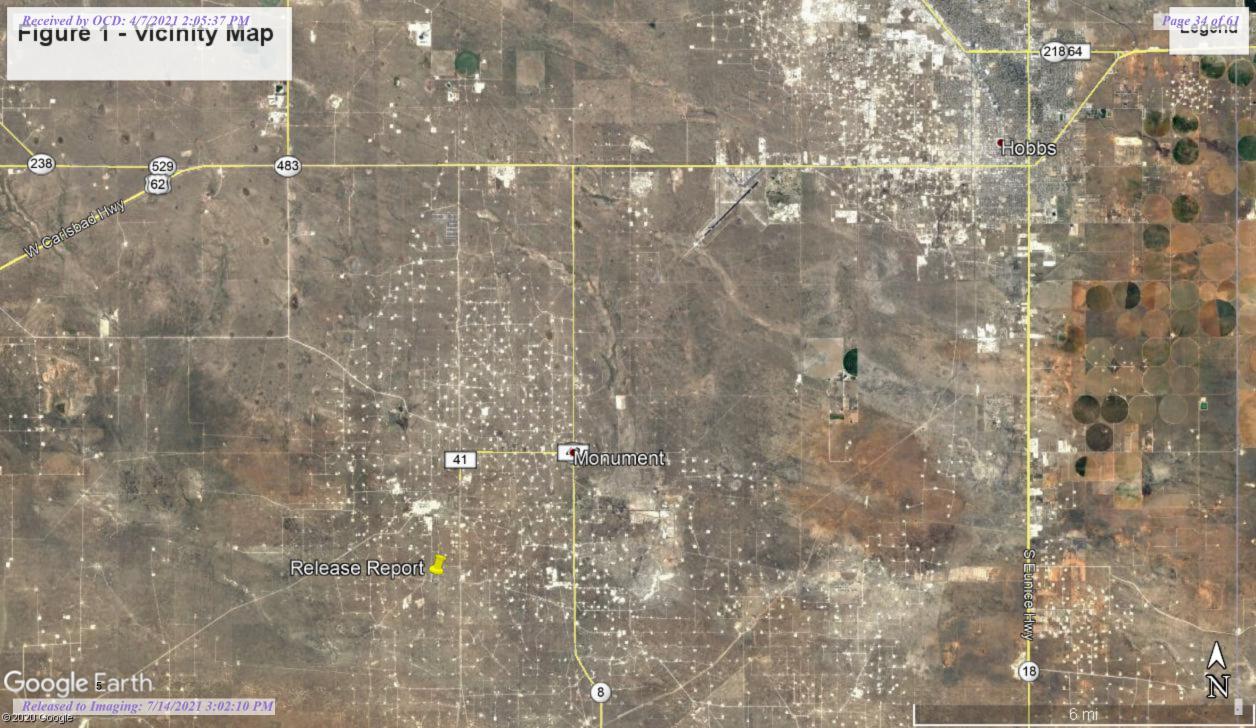
Samples will be taken using a stainless-steel hand shovel while remediation samples will be taken using a stainless-steel bucket auger. All tools are to be decontaminated before each sample, as specified in *Field Equipment Cleaning and Decontamination* (EPA, 2015). This includes wiping the equipment clean, water-rinsing the equipment, washing the equipment in detergent and water, and rinsing the equipment in water.

Samples will temporarily be transferred to a new plastic bag in the field. Once in a location safer for handling glass, the samples will be transferred to glass jars, supplied by an approved laboratory. The threads on all jars will be wiped clean to allow an air-tight seal. Samples will be transferred on ice to a third-party laboratory to ensure tests are completed within an appropriate timeline

Remediation efforts will commence following the approval of this remediation plan and are estimated to take approximately 90 days. It is estimated that 100 cubic yards will need remediated.

## IV. Restoration, Reclamation and Re-Vegetation

Following remediation, RXSoil will ensure the battery has been restored to its initial state.





Legend<sup>Page 35 of 61</sup>

Battery Outline
Point

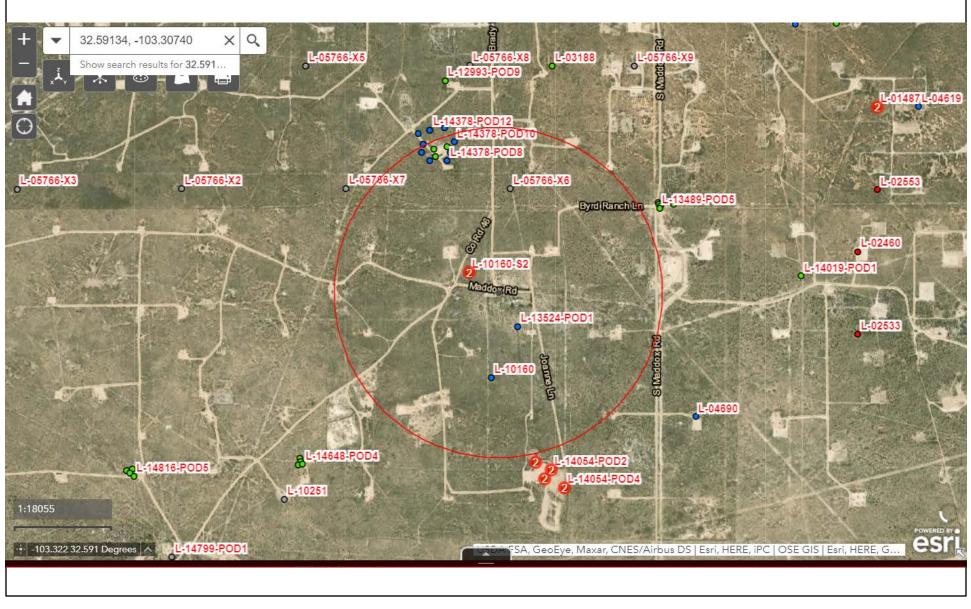
70 ft

Release Report

Sample Point

Google 6 arth Released to Imaging: 7/14/2021 3:02:10 PM © 2121 Google

# Figure 3. Water Source Map



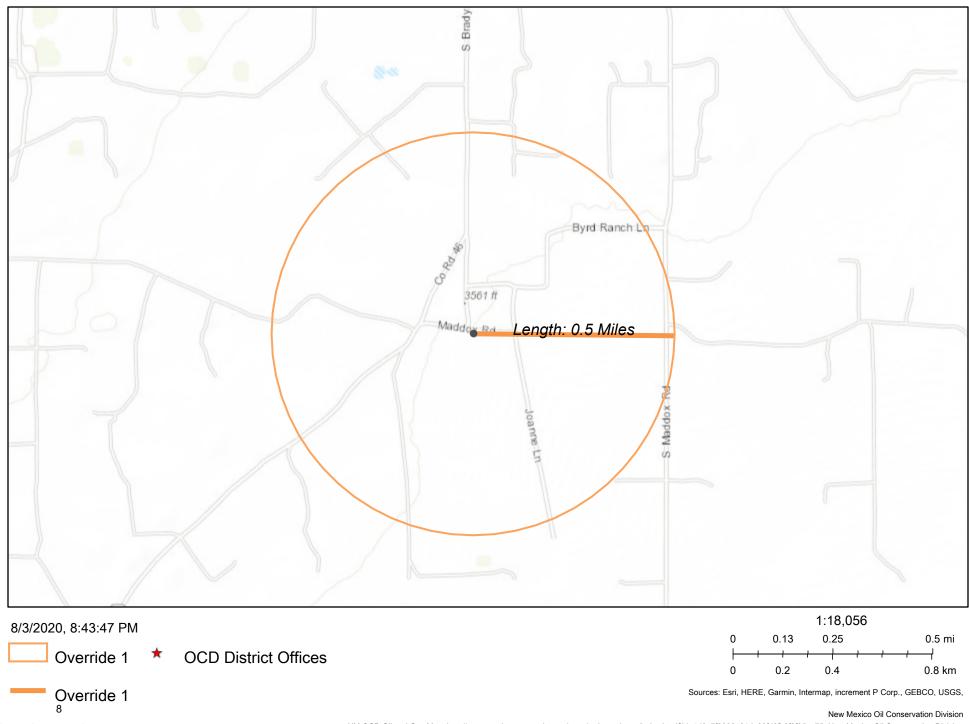
8/3/2020, 8:43:47 PM



0.5 mile radius

\*\*Water Rights Lookup print function would not export data for review.

# Figure 4 - Hydrology Map



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NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division

## **APPENDIX A**

## **DELINEATION SUMMARY TABLE**

9

	Appendix A. Delineation Data											
Sample Chlo			Chloride			BTEX (8021B			TPH (8015M)			
Point	Depth (ft)	Sample Date	Lab Test	Benzene	Toluene	Ethylbenzene	<b>Total Xylenes</b>	Total BTEX	GRO	DRO	EXT DRO	C6-C35
SP1	S	7/10/2020	<16.0	<0.200	0.573	<0.200	8.17	8.74	707	24,600	5,340	30,647.0
SP1	1'	7/10/2020	-	<0.050	2.29	<0.500	14.7	17	717	1,910	105	2,732.0
SP1	2'	7/10/2020	-	<0.200	0.301	<0.200	2.99	3.29	97	616	53	766.0
SP1	3'	7/16/2020	-	<0.050	<0.050	<0.050	0.381	0.4	42	791	143	975.5
SP1	4'	7/16/2020	-	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<30
NMOCD 1	Thresholds			10				50				100

BOLD results indicate results above threshold

- indicates tests were not ran

All units in mg/kg unless otherwise noted

### **APPENDIX B**

C141

11

Received by OCD: 4/7/2021 2:05:37 PM State of New Mexico

**Oil Conservation Division** 

	Page 41 of 61
Incident ID	
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?	<50 (ft bgs)
Did this release impact groundwater or surface water?	🗌 Yes 🔀 No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	🗌 Yes 🛛 No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	🗌 Yes 🔀 No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	🔀 Yes 🗌 No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	🗌 Yes 🔀 No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	🗌 Yes 🔀 No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	🗌 Yes 🔀 No
Are the lateral extents of the release within 300 feet of a wetland?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying a subsurface mine?	🗌 Yes 🔀 No
Are the lateral extents of the release overlying an unstable area such as karst geology?	🗌 Yes 🔀 No
Are the lateral extents of the release within a 100-year floodplain?	🗌 Yes 🔀 No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	🗌 Yes 🔀 No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within <sup>1</sup>/<sub>2</sub>-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- $\checkmark$ 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.

Received by OCD: 4/7/202	21 2:05:37 PM State of New M	lexico	Page 42 of		
	Oil Conservation		Incident ID		
Page 4	On Conservation	Division	District RP		
			Facility ID		
			Application ID		
regulations all operators are public health or the enviror failed to adequately investi addition, OCD acceptance and/or regulations. Printed Name: Larry E Signature: Law email: larry.baker@a	ormation given above is true and cor e required to report and/or file certain ment. The acceptance of a C-141 re gate and remediate contamination th of a C-141 report does not relieve the Baker by Baker pachecorp.com	a release notifications and perform port by the OCD does not relieve t at pose a threat to groundwater, sur e operator of responsibility for com	corrective actions for relea the operator of liability sho face water, human health of apliance with any other fed nental Tech SR.	ases which may endanger uld their operations have or the environment. In	
OCD Only					
Received by:		Date:			

Received by OCD: 4/7/2021 2:05:37 PM Form C-141 State of New Mexico

Page 5

Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

# **Remediation Plan**

<u>Remediation Plan Checklist</u>: 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)

<b>Deferral Requests Only:</b> Each of the following items must be con	firmed as part of any request for deferral of remediation.						
Contamination must be in areas immediately under or around pr deconstruction.							
Extents of contamination must be fully delineated.							
Contamination does not cause an imminent risk to human health	n, 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.						
Signature: Larry Baker	Date: <u>8/4/2020</u>						
Signature:							
OCD Only							
Received by:	Date:						
Approved Approved with Attached Conditions of	Approval Denied Deferral Approved						
Signature:	Date:						

•

## **APPENDIX C**

**PHOTO PAGE** 

15

#### Location



Backside of Battery



Backside of Battery



Front of Battery



Front of Battery





July 15, 2020

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

RE: WP BYRD

Enclosed are the results of analyses for samples received by the laboratory on 07/10/20 16:48.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	07/10/2020	Sampling Date:	07/10/2020
Reported:	07/15/2020	Sampling Type:	Soil
Project Name:	WP BYRD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

#### Sample ID: SP 1 @ SURFACE (H001822-01)

BTEX 8021B	mg/kg		Analyzed By: MS						S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.200	0.200	07/13/2020	ND	1.90	95.0	2.00	2.84		
Toluene*	0.573	0.200	07/13/2020	ND	1.90	94.8	2.00	3.05		
Ethylbenzene*	<0.200	0.200	07/13/2020	ND	1.93	96.6	2.00	2.86		
Total Xylenes*	8.17	0.600	07/13/2020	ND	5.58	93.0	6.00	2.82		
Total BTEX	8.74	1.20	07/13/2020	ND						
Surrogate: 4-Bromofluorobenzene (PID	174	% 73.3-12	9							
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	07/13/2020	ND	416	104	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*	707	50.0	07/13/2020	ND	206	103	200	4.26		
DRO >C10-C28*	24600	50.0	07/13/2020	ND	191	95.3	200	8.73		
EXT DRO >C28-C36	5340	50.0	07/13/2020	ND						
Surrogate: 1-Chlorooctane	229	% 44.3-14	4							
Surrogate: 1-Chlorooctadecane	463	% 42.2-15	6							

#### 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 sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BA	ARLAND BLVD.		
		Fax To:	(575) 393-2432		
Received:	07/10/2020			Sampling Date:	07/10/2020
Reported:	07/15/2020			Sampling Type:	Soil
Project Name:	WP BYRD			Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN			Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN				

#### Sample ID: SP 1 @ 1' (H001822-02)

BTEX 8021B	mg/kg		Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	07/14/2020	ND	1.86	92.9	2.00	6.35	
Toluene*	2.29	0.500	07/14/2020	ND	1.87	93.3	2.00	6.58	
Ethylbenzene*	<0.500	0.500	07/14/2020	ND	1.88	93.9	2.00	6.65	
Total Xylenes*	14.7	1.50	07/14/2020	ND	5.41	90.2	6.00	6.73	
Total BTEX	17.0	3.00	07/14/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	132 9	73.3-12	9						
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	717	50.0	07/14/2020	ND	198	98.9	200	1.72	
DRO >C10-C28*	1910	50.0	07/14/2020	ND	182	90.8	200	1.56	
EXT DRO >C28-C36	105	50.0	07/14/2020	ND					
Surrogate: 1-Chlorooctane	131 9	% 44.3-14	4						

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\*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BA	ARLAND BLVD.		
		Fax To:	(575) 393-2432		
Received:	07/10/2020			Sampling Date:	07/10/2020
Reported:	07/15/2020			Sampling Type:	Soil
Project Name:	WP BYRD			Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN			Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN				

#### Sample ID: SP 1 @ 2' (H001822-03)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	07/14/2020	ND	1.86	92.9	2.00	6.35	
Toluene*	0.301	0.200	07/14/2020	ND	1.87	93.3	2.00	6.58	
Ethylbenzene*	<0.200	0.200	07/14/2020	ND	1.88	93.9	2.00	6.65	
Total Xylenes*	2.99	0.600	07/14/2020	ND	5.41	90.2	6.00	6.73	
Total BTEX	3.29	1.20	07/14/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	119 %	6 73.3-12	9						
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	96.9	10.0	07/14/2020	ND	198	98.9	200	1.72	
DRO >C10-C28*	616	10.0	07/14/2020	ND	182	90.8	200	1.56	
EXT DRO >C28-C36	53.1	10.0	07/14/2020	ND					
Surrogate: 1-Chlorooctane	105 9	44.3-14	4						
Surrogate: 1-Chlorooctadecane	107 9	42.2-15	6						

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

# Page 53 of 61 gloge of 6 Laboratories

101 East Marland, Hobbs, NM 88240

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Project Manager:	apache Corporation Bruce baken		P.O. #:
Address:	1	0	Company:
City:	State:	Zip: Ai	Attn:
Phone #:	Fax #:		Address:
Project #:	Project Owner:		City:
Project Location: A	H BYRO	P	Phone #:
Sampler Name: Ve	15 Brown	Fa	Fax #:
FOR LAB USE ONLY	2 K 104	MATRIX	PRESERV. SAMPLING
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER :	ACID/BASE: ICE / COOL OTHER :
2 - J	1 @ Sutacl		
S S	1 0 2'		
LEASE NOTE: Liability and Damag inalyses, All claims including those f ervice. In no event shall Cardinal be iffliates or successors arising out of r	LESSE NOTE: Liability and Damages. Cardina's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the malyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable errice. In on event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, finiates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claims is based upon any of the above stated reasons or otherwise.	Iny claim arising whether based in contract or to deemed waived unless made in writing and rec g without limitation, business interruptions, loss u 2ardinal, regardless of whether such claim is ba	prt, shall be limited to the amount paid by the client for th reverd by Cardinal within 30 days after completion of the of use, or loss of profils incurred by client, its subsidiaries used upon any of the above stated reasons or otherwise.
Relinquished By:	Date: 7/10/20 Time: 7/10/20 Date:	Received By:	
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	ne) Observed Temp. °C Other: Corrected Temp. °C	Sample Condition Cool Intact Yes Yes No No	CHECKED BY: Turnaround Time: (Initials) Thermometer ID #113 Correction Factor None
	ء +	Cardinal cannot accept verbal changes. Please email changes to celey keene@cardinallabsnm.com	es. Please email chang

# Received by OCD: 4/7/2021 2:05:37 PM



July 21, 2020

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

RE: WP BYRD

Enclosed are the results of analyses for samples received by the laboratory on 07/16/20 12:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	07/16/2020	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	WP BYRD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

#### Sample ID: SP 1 @ 3' (H001857-01)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2020	ND	1.96	98.2	2.00	0.0226	
Toluene*	<0.050	0.050	07/17/2020	ND	1.97	98.6	2.00	0.434	
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	1.99	99.4	2.00	0.215	
Total Xylenes*	0.381	0.150	07/17/2020	ND	5.73	95.5	6.00	0.266	
Total BTEX	0.381	0.300	07/17/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	115 %	6 73.3-12	9						
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	41.5	10.0	07/17/2020	ND	218	109	200	0.595	
DRO >C10-C28*	791	10.0	07/17/2020	ND	209	105	200	1.72	
EXT DRO >C28-C36	143	10.0	07/17/2020	ND					
Surrogate: 1-Chlorooctane	109 %	6 44.3-14	4						
Surrogate: 1-Chlorooctadecane	112 %	6 42.2-15							

#### **Cardinal Laboratories**

\*=Accredited Analyte

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



NONE GIVEN

#### Analytical Results For:

		APACHE C	ORP - HOBBS		
		BRUCE BA	KER		
		2350 W. M	1arland Blvd.		
		HOBBS NN	4, 88240		
		Fax To:	(575) 393-2432	2	
Received:	07/16/2020			Sampling Date:	07/16/2020
Reported:	07/21/2020			Sampling Type:	Soil
Project Name:	WP BYRD			Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN			Sample Received By:	Tamara Oldaker

#### Sample ID: SP 1 @ 4' (H001857-02)

Project Location:

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2020	ND	1.92	96.2	2.00	3.21	
Toluene*	<0.050	0.050	07/17/2020	ND	1.92	95.9	2.00	3.86	
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	1.94	96.9	2.00	3.43	
Total Xylenes*	<0.150	0.150	07/17/2020	ND	5.57	92.9	6.00	3.84	
Total BTEX	<0.300	0.300	07/17/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.6 9	% 73.3-12	9						
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/17/2020	ND	197	98.4	200	5.32	
DRO >C10-C28*	<10.0	10.0	07/17/2020	ND	218	109	200	5.43	QM-07
EXT DRO >C28-C36	<10.0	10.0	07/17/2020	ND					
Surrogate: 1-Chlorooctane	89.9 9	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	94.3	% 42.2-15							

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



#### **Notes and Definitions**

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

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#### \*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

# Page 58 of 61 Solor a tories Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

(575) 393-232	575) 393-2326 FAX (5/5) 393-24/6			
Company Name: alache	Corporation	BILL TO	ANALYSIS	REQUEST
Project Manager: Druce	0.	P.O. #:		
Address:		Company:		
City:	State: Zip:	Attn:		
Phone #:	Fax #:	Address:		
Project #:	Project Owner:	City:		82
Project Name: UN BYR	0	State: Zip:		
Project Location: WP BYND	0	Phone #:		
R	con	Fax #:		
		PRESERV. SAMPLING	LING	
Lab I.D. Samp	(G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL	SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :	BTEX	
150203'			P 1 1480	
1 0 1 NS 2		7/16/22	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
PLEASE NOTE: Liability and Damages. Cardinal's liabil analyses. All claims including those for negligence and a service. In no event shall Cardinal be liable for incidenta service.	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be demed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including whout timitation, business interruptors, loss of use, or loss of profits neurred by client, its subsidiaries.	ntract or tort, shall be limited to the armount paid by the client for the or and received by Cardinal within 30 days after completion of the roms, loss of use, or loss of profits incurred by client, its subsidiante claim is based upon any of the above stated reasons or otherwise.	I by the client for the completion of the applicable lient, its subsidiaries, saons or otherwise.	-
Relinquished By:	Time: 45 Received By:	2 Mallo	Verbal Result: □ Yes □ No  Add'l Phone #: All Results are emailed. Please provide Email address:	ress:
By	Date: Received By: Time:			
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 4.8 Sample Condition Cool Intact Corrected Temp. °C Pres	ndition CHECKED BY: ct (Initials) No	Turnaround Time: Standard Eacter Rush Cool II Thermometer ID #113 Correction Factor None	Bacteria (only) Sample Condition Cool Intact Observed Temp. °C Ves Yes No No Corrected Temp. °C

### Received by OCD: 4/7/2021 2:05:37 PM

UNIVI-UUD

7 J. 1 U0/U4/20

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

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**END OF REPORT** 

19

Received by OCD: 4/7/2021 2:05:37 PM Form C-141 State of New Mexico

Oil Conservation Division

Incident ID	NRM2010837524
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)

<b><u>Deferral Requests Only</u></b> : Each of the following items must be conjugate to the second secon	firmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around prodeconstruction.	oduction equipment where remediation could cause a major facility
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	e to the best of my knowledge and understand that pursuant to OCD
	ertain release notifications and perform corrective actions for releases nee of a C-141 report by the OCD does not relieve the operator of and remediate contamination that pose a threat to groundwater, neceptance of a C-141 report does not relieve the operator of
Printed Name: Larry Baker	Title: Environmental Tech SR.
Signature: Larry Baker	Date: 4/7/2021
Signature: Larry Baker email: larry.baker@apachecorp.com	Telephone: 432-631-6982
OCD Only	
Received by: <u>Robert Hamlet</u>	Date:7/14/2021
Approved X Approved with Attached Conditions of A	Approval Denied Deferral Approved
Signature: Robert Hamlet	Date: 7/14/2021

Page 5

District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator: 0	OGRID:
APACHE CORPORATION	873
303 Veterans Airpark Ln	Action Number:
Midland, TX 79705	23325
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created	Condition	Condition
By		Date
rhamlet	The Workplan/Remediation Plan is approved with the following conditions: Sidewall/floor samples need to comply with the strictest closure criteria limits 600 mg/kg for Chlorides and 100	7/14/2021
	mg/kg TPH. Soil contamination levels need to meet closure criteria standards for proven depth to water determination. A closure report will need to be uploaded to the OCD payment portal	
	within 90 days of approval of the remediation plan.	

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Action 23325