



303 Veterans Airpark Lane Midland, TX 79705

Remediation Plan

September 18, 2020

Re: Hawk B 3 #004

Case # NRM2019630782

Background:

On 6/18/2020 a release occurred due to a stuffing box failure. The release (GPS: 32.5065041, -103.1445084) is located north of Eunice, New Mexico in unit letter I section 3 township 21S range 37E. A groundwater survey was conducted utilizing NMOSE and USGS well of record. The nearest well (CP 01741) is located near Monument Draw with a depth of 39 feet. The elevation of the well is 3435 feet and the release elevation is 3479 feet. Calculating the difference in elevation between the well and the release suggest that groundwater beneath the release is approximately 84 feet below ground surface.

On 8/27/2020 a vertical (SP1) was conducted utilizing a backhoe with samples collected in one foot intervals to a depth of 4 feet. All samples were field titrated and representative samples were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Horizontal 5 point surface composite samples were collected and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Laboratory results were below table one standards for releases 51-100 feet to groundwater.

Remediation Plan:

Apache Corporation proposes that final 5 point surface samples be collected not to exceed 200 square feet and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. If laboratory analysis meet the criteria of table one standards for releases 51-100 feet to groundwater than no excavation will be conducted. If laboratory analysis confirm levels above table one standards for releases 51-100 feet to groundwater than those area will be excavated to below table one standards with final 5 point bottom and wall samples collected not to exceed 200 square feet. Once laboratory analysis confirm all samples meet table one standards the excavation will be backfilled with clean imported caliche to restore the lease road and pad. Remediation activities will be completed within 180 days of OCD approval of the plan.

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

Submitted by;

Bruce Baker

Environmental Technician

larry.baker@apachecorp.com

Cell# 432-631-6982

Incident ID	NRM2019630782
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?	<u>84</u> (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 type="checkbox"/> Yes <input checked="" 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.

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	NRM2019630782
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.
Signature: Larry Baker Date: 9/18/2020
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: Cristina Eads Date: 09/18/2020

Incident ID	NRM2019630782
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.
Signature: Larry Baker Date: 9/18/2020
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

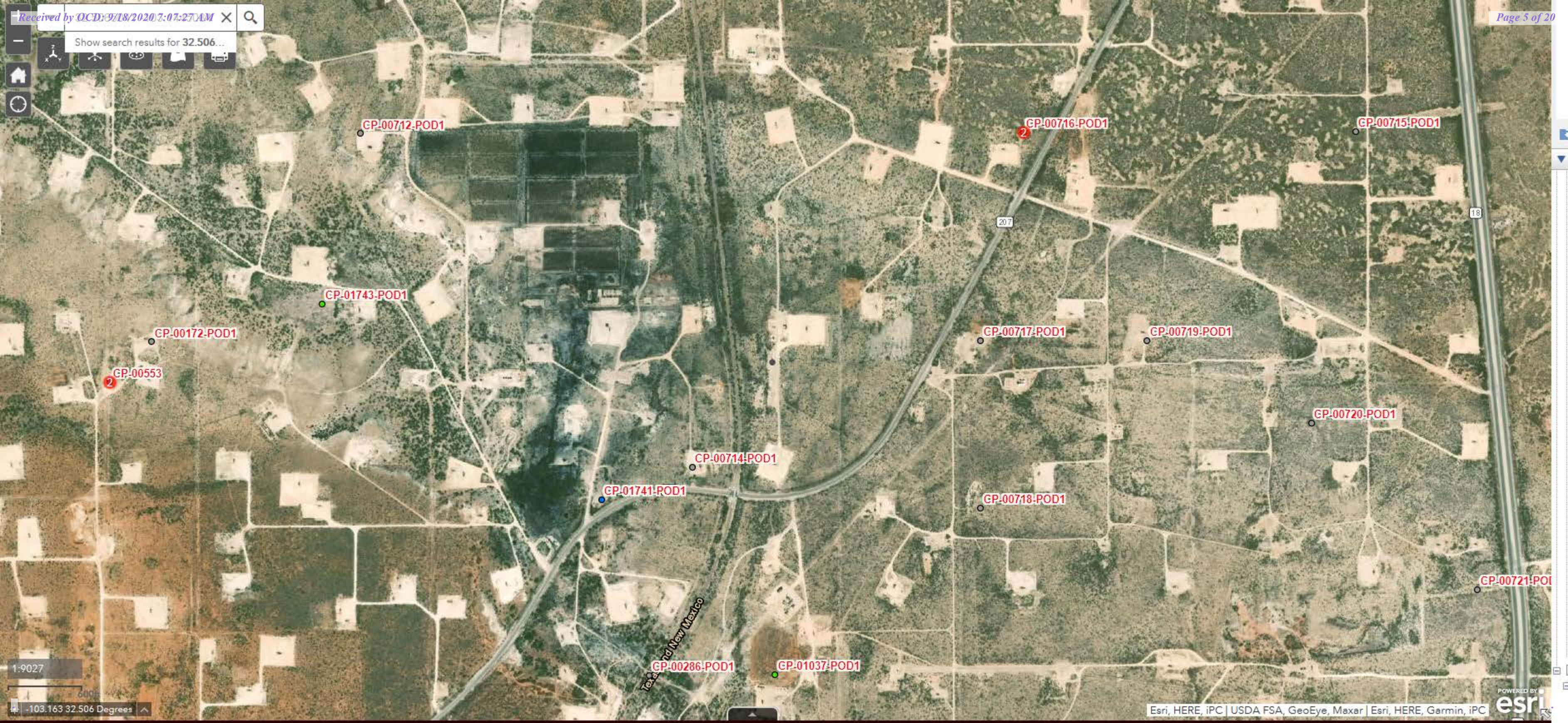
Received by: Cristina Eads Date: 09/18/2020

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

Signature: Cristina Eads Date: 11/06/2020

Show search results for 32.506...


Map navigation controls: Home, Previous View, Next View, Full Screen, Print, Measure, etc.





New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	CP 01741 POD1	1	3	4	03	21S	37E	673895	3597759 
Driller License:	1710	Driller Company:			STRAUB CORPORATION				
Driller Name:	MARTIN STRAUB								
Drill Start Date:	10/01/2018	Drill Finish Date:			10/01/2018			Plug Date:	
Log File Date:	11/05/2018	PCW Rcv Date:						Source: Shallow	
Pump Type:		Pipe Discharge Size:						Estimated Yield:	
Casing Size:	4.00	Depth Well:			45 feet			Depth Water:	
Water Bearing Stratifications:					Top	Bottom	Description		
					39	45	Other/Unknown		
Casing Perforations:					Top	Bottom			
					25	45			

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

9/17/20 3:32 PM

POINT OF DIVERSION SUMMARY

Radius

Buffer Size (miles) : 0.5

Click Map to Draw Radius

Coordinates

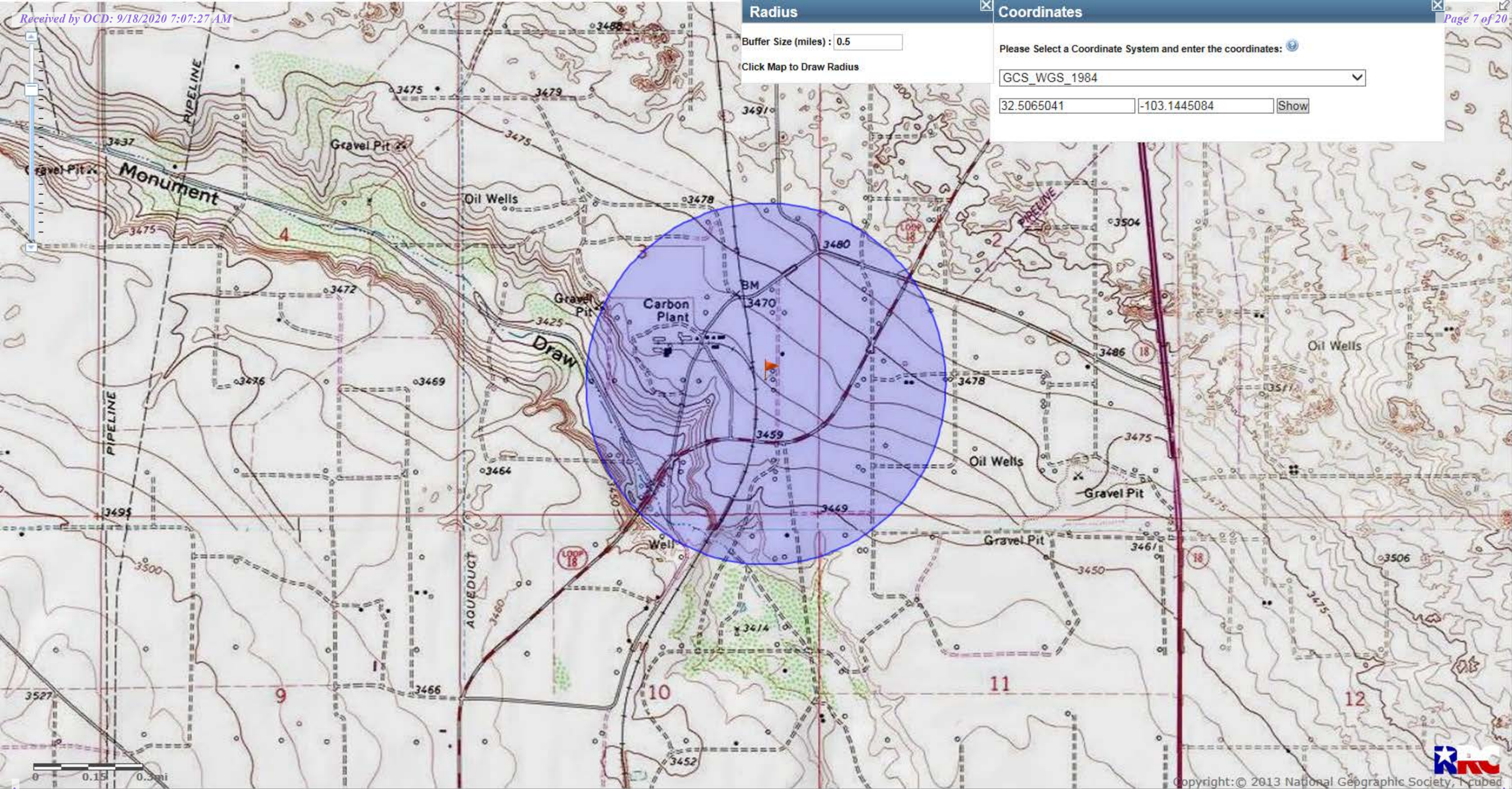
Please Select a Coordinate System and enter the coordinates:

GCS_WGS_1984

32.5065041

-103.1445084

Show





© 2020 Google

Google earth



Delineation Samples

Sample Date	Sample ID	Depth	Chloride Field	Chloride Lab	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
8/27/2020	SP 1	S	2,817	2160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	173	106	32.506529 -103.144423
8/27/2020		1'	905										
8/27/2020		2'	1268	944	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/27/2020		3'	896										
8/27/2020		4'	393	496	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/27/2020	HC1	S	378	288	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	33.7	14.1	32.50668 -103.14449
8/27/2020	HC2	S	358	272	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.50640 -103.14437
8/27/2020	HC3	S	293	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.50624 -103.14437
8/27/2020	HC4	S	146	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.50631 -103.14445



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

August 28, 2020

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: HAWK B -3 #4

Enclosed are the results of analyses for samples received by the laboratory on 08/27/20 10:56.

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 www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/27/2020
 Reported: 08/28/2020
 Project Name: HAWK B -3 #4
 Project Number: NONE GIVEN
 Project Location: HAWK B-3 #4

Sampling Date: 08/27/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ SURFACE (H002263-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2020	ND	2.07	104	2.00	2.83	
Toluene*	<0.050	0.050	08/28/2020	ND	2.06	103	2.00	3.51	
Ethylbenzene*	<0.050	0.050	08/28/2020	ND	2.04	102	2.00	3.11	
Total Xylenes*	<0.150	0.150	08/28/2020	ND	5.90	98.4	6.00	3.16	
Total BTX	<0.300	0.300	08/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2160	16.0	08/28/2020	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/28/2020	ND	212	106	200	3.97	
DRO >C10-C28*	173	10.0	08/28/2020	ND	224	112	200	1.95	
EXT DRO >C28-C36	106	10.0	08/28/2020	ND					

Surrogate: 1-Chlorooctane 134 % 44.3-144

Surrogate: 1-Chlorooctadecane 141 % 42.2-156

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: 08/27/2020
 Reported: 08/28/2020
 Project Name: HAWK B -3 #4
 Project Number: NONE GIVEN
 Project Location: HAWK B-3 #4

Sampling Date: 08/27/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 2' (H002263-02)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2020	ND	2.07	104	2.00	2.83	
Toluene*	<0.050	0.050	08/28/2020	ND	2.06	103	2.00	3.51	
Ethylbenzene*	<0.050	0.050	08/28/2020	ND	2.04	102	2.00	3.11	
Total Xylenes*	<0.150	0.150	08/28/2020	ND	5.90	98.4	6.00	3.16	
Total BTX	<0.300	0.300	08/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	944	16.0	08/28/2020	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/28/2020	ND	212	106	200	3.97	
DRO >C10-C28*	<10.0	10.0	08/28/2020	ND	224	112	200	1.95	
EXT DRO >C28-C36	<10.0	10.0	08/28/2020	ND					

Surrogate: 1-Chlorooctane 117 % 44.3-144

Surrogate: 1-Chlorooctadecane 122 % 42.2-156

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: 08/27/2020
 Reported: 08/28/2020
 Project Name: HAWK B -3 #4
 Project Number: NONE GIVEN
 Project Location: HAWK B-3 #4

Sampling Date: 08/27/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 4' (H002263-03)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2020	ND	2.07	104	2.00	2.83	
Toluene*	<0.050	0.050	08/28/2020	ND	2.06	103	2.00	3.51	
Ethylbenzene*	<0.050	0.050	08/28/2020	ND	2.04	102	2.00	3.11	
Total Xylenes*	<0.150	0.150	08/28/2020	ND	5.90	98.4	6.00	3.16	
Total BTX	<0.300	0.300	08/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	08/28/2020	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/28/2020	ND	212	106	200	3.97	
DRO >C10-C28*	<10.0	10.0	08/28/2020	ND	224	112	200	1.95	
EXT DRO >C28-C36	<10.0	10.0	08/28/2020	ND					

Surrogate: 1-Chlorooctane 131 % 44.3-144

Surrogate: 1-Chlorooctadecane 140 % 42.2-156

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: 08/27/2020
 Reported: 08/28/2020
 Project Name: HAWK B -3 #4
 Project Number: NONE GIVEN
 Project Location: HAWK B-3 #4

Sampling Date: 08/27/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: HC 1 (H002263-04)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2020	ND	2.07	104	2.00	2.83	
Toluene*	<0.050	0.050	08/28/2020	ND	2.06	103	2.00	3.51	
Ethylbenzene*	<0.050	0.050	08/28/2020	ND	2.04	102	2.00	3.11	
Total Xylenes*	<0.150	0.150	08/28/2020	ND	5.90	98.4	6.00	3.16	
Total BTX	<0.300	0.300	08/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	08/28/2020	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/28/2020	ND	212	106	200	3.97	
DRO >C10-C28*	33.7	10.0	08/28/2020	ND	224	112	200	1.95	
EXT DRO >C28-C36	14.1	10.0	08/28/2020	ND					

Surrogate: 1-Chlorooctane 117 % 44.3-144

Surrogate: 1-Chlorooctadecane 124 % 42.2-156

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: 08/27/2020
 Reported: 08/28/2020
 Project Name: HAWK B -3 #4
 Project Number: NONE GIVEN
 Project Location: HAWK B-3 #4

Sampling Date: 08/27/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: HC 2 (H002263-05)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2020	ND	2.07	104	2.00	2.83	
Toluene*	<0.050	0.050	08/28/2020	ND	2.06	103	2.00	3.51	
Ethylbenzene*	<0.050	0.050	08/28/2020	ND	2.04	102	2.00	3.11	
Total Xylenes*	<0.150	0.150	08/28/2020	ND	5.90	98.4	6.00	3.16	
Total BTX	<0.300	0.300	08/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	08/28/2020	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/28/2020	ND	212	106	200	3.97	
DRO >C10-C28*	<10.0	10.0	08/28/2020	ND	224	112	200	1.95	
EXT DRO >C28-C36	<10.0	10.0	08/28/2020	ND					

Surrogate: 1-Chlorooctane 115 % 44.3-144

Surrogate: 1-Chlorooctadecane 118 % 42.2-156

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: 08/27/2020
 Reported: 08/28/2020
 Project Name: HAWK B -3 #4
 Project Number: NONE GIVEN
 Project Location: HAWK B-3 #4

Sampling Date: 08/27/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: HC 3 (H002263-06)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2020	ND	2.07	104	2.00	2.83	
Toluene*	<0.050	0.050	08/28/2020	ND	2.06	103	2.00	3.51	
Ethylbenzene*	<0.050	0.050	08/28/2020	ND	2.04	102	2.00	3.11	
Total Xylenes*	<0.150	0.150	08/28/2020	ND	5.90	98.4	6.00	3.16	
Total BTX	<0.300	0.300	08/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	08/28/2020	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/27/2020	ND	202	101	200	2.63	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	205	103	200	1.46	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 110 % 44.3-144

Surrogate: 1-Chlorooctadecane 115 % 42.2-156

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: 08/27/2020
 Reported: 08/28/2020
 Project Name: HAWK B -3 #4
 Project Number: NONE GIVEN
 Project Location: HAWK B-3 #4

Sampling Date: 08/27/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: HC 4 (H002263-07)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2020	ND	2.07	104	2.00	2.83	
Toluene*	<0.050	0.050	08/28/2020	ND	2.06	103	2.00	3.51	
Ethylbenzene*	<0.050	0.050	08/28/2020	ND	2.04	102	2.00	3.11	
Total Xylenes*	<0.150	0.150	08/28/2020	ND	5.90	98.4	6.00	3.16	
Total BTX	<0.300	0.300	08/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	08/28/2020	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/27/2020	ND	202	101	200	2.63	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	205	103	200	1.46	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 99.1 % 44.3-144

Surrogate: 1-Chlorooctadecane 107 % 42.2-156

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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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.

A handwritten signature in cursive script, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

01 jo 01 ega



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Apache Corporation</u>		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager: <u>Bruce Baker</u>		Company:					
Address:		Attn:					
City:		Address:					
Phone #:		City:					
Project #:		State:					
Project Name: <u>Hawk B3 #4</u>		Zip:					
Project Location: <u>Hawk B3 #4</u>		Phone #:					
Sampler Name: <u>Jeff Brown</u>		Fax #:					
FOR LAB USE ONLY							
Lab I.D.		Sample I.D.					
<u>H06224B</u>							
1 SP1 @ Surface		(G)RAB OR (C)OMP.					
2 SP1 @ 2'		# CONTAINERS					
3 SP1 @ 4'		GROUNDWATER					
4 HC 1		WASTEWATER					
5 HC 2		SOIL					
6 HC 3		OIL					
7 HC 4		SLUDGE					
		OTHER :					
		ACID/BASE:					
		ICE / COOL					
		OTHER :					
		DATE					
		TIME					
		CL-					
		BTX					
		EXT. TPH					

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

Relinquished By: Jeff Brown Date: 8/27/20 Received By: Amara Clark Verbal Result: ☐ Yes ☐ No Add'l Phone #:

Relinquished By: Jeff Brown Date: 10/12 Received By: Amara Clark All Results are emailed. Please provide Email address:

Delivered By: (Circle One) Observed Temp. °C 5.8 Sample Condition ☐ Cool ☒ Intact ☐ Yes ☒ No ☐ Yes ☒ No CHECKED BY: (Initials) TP Turnaround Time: Standard ☒ Rush ☐ Bacteria (only) Sample Condition ☐ Cool ☐ Intact ☐ Yes ☐ No ☐ Yes ☐ No Corrected Temp. °C

Sampler - UPS - Bus - Other: Corrected Temp. °C

FORW-000 R.S. 1 09/04/20

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

Hank R3 #4 - 8/27/2020

Caliche SP1 @ Surface - 32.506529, -103.144423

$$10.0/30.3 = 3.03 = .93 = 2,817 \text{ CL-}$$

Caliche SP1 @ 1'

$$10.0/30.2 = 3.02 = .30 = 905 \text{ CL-}$$

Caliche SP1 @ 2'

$$10.0/30.2 = 3.02 = .42 = 1,268 \text{ CL-}$$

Caliche SP1 @ 3'

$$10.1/30.2 = 2.99 = .30 = 896 \text{ CL-}$$

Caliche SP1 @ 4'

$$10.3/30.0 = 3.03 = .13 = 393 \text{ CL-}$$

Caliche HC2 - 32.50668, -103.14449

$$10.3/30.0 = 2.91 = .13 = 378 \text{ CL-}$$

Caliche HC2 - 32.506⁴⁰~~68~~, -103.14437

$$10.1/30.2 = 2.99 = .12 = 358 \text{ CL-}$$

Caliche HC3 - 32.50624, -103.14437

$$10.3/30.3 = 2.94 = .10 = 293 \text{ CL-}$$

Caliche HC4 - 32.50631, -103.14445

$$10.3/30.2 = 2.93 = .05 = 146 \text{ CL-}$$