

### **Corrective Action Plan**

October 16, 2018

Re: WBDU 52 API# 30-025-38198 Case # 1RP-4588 **APPROVED** By CHernandez at 3:53 pm, Nov 09, 2018

See email correspondence.

To: Olivia Yu

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

### **Background:**

On December 19, 2016 a release occurred due to a flow line froze and ruptured. On December 21, 2016 an initial C-141 was submitted to NMOCD and BLM. The release is located north of Eunice NM (GPS Coordinates 32.4866638 -103.1641617) in unit letter O section 9 township 21S range 37E. A corrective action plan was submitted to NMOCD and BLM on May 18, 2017. During email correspondence an agreement between Apache Corporation and NMOCD that the estimated groundwater of the area was at 60 feet below ground surface.

On 12/22/2016 the release area was mapped and seven samples were collected at depths of 6" to 10" and submitted to a commercial laboratory for analysis of Cl-, TPH, and BTEX. On February 1, 2017 vertical were dug at sample points 1, 2, and 4. Samples were collected in one foot intervals and submitted to a commercial laboratory for analysis of Cl-, TPH, and BTEX.

### **Corrective Action:**

Upon review of the laboratory data collected Apache Corporation proposes that no action is required in the vicinity of SP 1. The area in the vicinity of SP 2 be excavated to a depth of 6". The areas in the vicinity of SP 3, 4, 5, 6, and 7 be excavated to a depth of 10". The area in the vicinity of SP 4 be excavated to a depth of 2 feet. After the excavation is complete final bottom and wall samples will be collected and submitted to a commercial laboratory for analysis of Cl-, TPH, and BTEX. Approximately 300 yards of contaminated soil will be hauled to an NMOCD approved disposal facility. The excavated areas in the pasture will be backfilled with clean imported topsoil and reseeded in consultation with the fee owner. The excavated area on the lease road and pad will be backfilled with caliche. Apache Corporation will complete remediation activities within 90 days of the approval date.

Enclosed: Initial C-141, Sample Data, Sample Diagram, Laboratory Analysis

Submitted by;

Bruce Baker

Environmental Technician larry.baker@apachecorp.com Cell# 432-631-6982 Off# 575-393-7106

### State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit I Copy to appropriate District Office in accordance with 19.15.29 NMAC,

pOY1703953315

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			Rele	ease Notifi	catior	and Co	orrective A	ction				
						<b>OPERA</b>	FOR	۵	🛛 Initia	al Report		Final Report
		\pache Corp				Contact Bri	ice Baker					
		ine Eunice, l	NM 8823	1			No. (432) 631-0	5982				
Facility Na	me WBDI	J 52				Facility Typ	e: Oil Well					· · · · ·
Surface Ow	ner Privat	ie		Mineral (	Owner	Federal			API No. 30-025-38198			
				LOC	ATION	N OF REI	LEASE					
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the	East/We	est Line	County		
0	9	21S	37E	190'	FSL	John Dife	1461'	FEL	54 12000	Lea		
	<u> </u>											
				Latitude 32.	4866638	<u>8</u> Longitudo	<u>-103.1641617</u>					
				NAT	TIRE	OF REL	EASE					
Type of Rele	ase: oil and	I produced wa	nter				Release 22 barre	ls of V	Volume I	Recovered 1	4 barre	ls of water
••		•					8 barrels of oil			rels of oil		
Source of Re	elease: Flow	r line					lour of Occurrenc			Hour of Dis		
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By Whom?	y Whom? Bruce Baker						lour 12/19/2016	-				
Was a Water		ched?					olume Impacting					
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If a Watercou	urse was Im	pacted, Desci	ibe Fully.	)			DECEN/E	5				3-1457
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Describe Are	a Affected	and Cleanup	Action Tal	en.*	· · · -							
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lease road in	pasture.			•		•		-			·	
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E-man Addr	ess: jurry.0	aker@apache	corp.com			Conditions of	e attached	directiv		Attached	$\Box$	
Date: 12/21	/2016		Pho	ne: (432) 631-69	82			uneun	~~			

1RP-4588

nOY1703953124

Operator/Responsible Party,

The OCD has received the form C-141 you provided on \_12/21/2016\_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number \_\_1R-\_4588\_ has been assigned. Please refer to this case number in all future correspondence.

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete <u>division-approved corrective action</u> for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District \_1\_ office in \_\_Hobbs\_\_\_\_ on or before \_3/8/2017\_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

• Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

• Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

• Nominal detection limits for field and laboratory analyses must be provided.

• Composite sampling is not generally allowed.

• Field screening and assessment techniques are acceptable (headspace, titration, EC (include algorithm for validation purposes), EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

•Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

• If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

• Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold OCD Environmental Bureau Chief 1220 South St. Francis Drive Santa Fe, New Mexico 87505 505-476-3465 jim.griswold@state.nm.us

10"		10"		10"			2'	10"	Surface		10"		2'	1'	6"	Surface		3'	2'	1'	œ	Surface	Depth
32		48		32			32	32	16		176		96	160	3280	3200		176	384	1200	2640	5730	Lab CL
<0.050		<0.050		<0.050		-	<0.050	9.57	3.31		<0.050		<0.050	<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	Benzene
<0.050		0.081		0.094			0.721	157	93.1		0.091		<0.050	<0.050	<0.050	6.41		<0.050	<0.050	<0.050	0.112	0.163	Toluene
<0.050	SP 7	0.176	SP 6	0.062	Sh 2		0.837	125	74.8	SP 4	0.261	SP 3	<0.050	<0.050	<0.050	16.4	SP 2	<0.050	<0.050	<0.050	0.185	0.829	Ethylbenzene
0.171		0.754		0.298			2.21	282	155		1.19		<0.150	<0.150	<0.150	46		<0.150	<0.150	<0.150	0.819	2.59	Total Xylenes
<0.300		1.01		0.455			3.77	573	326		1.54		<0.300	<0.300	<0.300	68.9		<0.300	<0.300	<0.300	1.12	3.59	Total BTEX
<10	1	15		<10			6.65	5840	3620		49.2		<10	<10	<10	1000		<10	<10	<10	<10	64.6	GRO
<10		149		58.2			466	11600	8120		702		<10	<10	<10	7210		<10	<10	<10	156	<u>932</u>	DRO

SP 1

### WBDU 52

### Remediation Plan Proposal

Apache Corporation Lea County, New Mexico

	]		Lab Data			Field Data
Date	Sample #	Depth	BTEX	трн	CL's	CL's
12/22/2016			•			
	SP 1	8″	1.12	156	2640	2240
	SP 2	6"	ND	ND	3280	2320
	SP 3	10"	1.54	751.2	176	180
	SP 4	10"	573	17,440	32	32
	SP 5	10"	0.455	58.2	32	32
	SP 6	10"	1.01	164	48	32
	SP 7	10"	0.171	ND	32	32
2/1/2017		1				
	SP 1	0"	3.59	996.6	5730	>4,000
		1'	ND	ND	1200	1,260
		2'	ND	ND	384	240
		3'	ND	ND	176	180
				r		
	SP 2	0'	68.9	8210	3200	2890
		1	ND	ND	160	180
		2'	ND	ND	96	64
	SP 4	0'	326	11740	16	16
		2'	3.77	526	32	16

### Table1: Soil Sample Results

TPH: Gasoline range (GRO) - >C6-C12; Diesel range (DRO) - >C12-C28



### **WBDU 52**

### Remediation Plan Proposal

Apache Corporation Lea County, New Mexico

Figure: 1 Sample Point Locations



### 3. ENVIRONMENTAL ASSESSMENT

### 3.1 Hydrology

Groundwater depths in the area is approximately 70 feet bgs (Waters Map). There is no surface water near this release site or water wells within 1,000 ft.

The site ranking for this site is a 10 based on the following:

Depth to ground water	>70' = 10
Wellhead Protection Area	>1000' = 0
Distance to surface water body	>1000' = 0







January 05, 2017

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

**RE: WBDU FLOWLINE** 

Enclosed are the results of analyses for samples received by the laboratory on 12/22/16 9:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accred certif.html.

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,

Celegit 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:	12/22/2016	Sampling Date:	12/22/2016
Reported:	01/05/2017	Sampling Type:	Soil
Project Name:	WBDU FLOWLINE	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	9-21-37		

### Sample ID: SP 1 (H602858-01)

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	12/28/2016	ND	1.91	95.7	2.00	2.70	
Toluene*	0.112	0.050	12/28/2016	ND	2.02	101	2.00	2.11	
Ethylbenzene*	0.185	0.050	12/28/2016	ND	1.98	98.9	2.00	2.63	
Total Xylenes*	0.819	0.150	12/28/2016	ND	5,95	99.1	6.00	2.49	
Total BTEX	1.12	0.300	12/28/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE 131 % 73.6-140

Chloride, SM4500Ci-B	mg,	/kg	Analyze	d By: AC		_			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2640	16.0	12/28/2016	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	12/27/2016	ND	186	93.0	200	6.66	
DRO >C10-C28	156	10.0	12/27/2016	ND	189	94.4	200	6.77	
Surrogate: 1-Chlorooctane	86.1	% 35-147							
Surrogate: 1-Chlorooctadecane	92.5	% 28-171							

### **Cardinal Laboratories**

### \*=Accredited Analyte

PLEASE NOTE: Liabédry and Damages. Cardinal's habitry and client's exclusive remedy for any claim ansing, 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 waved unless made in writing and received by Cardinal within thiny (30) days after completion of the applicable service. In no event shall Cardinal be lable for inoderbal or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits movined by client, is subsidianes, affiliates or successors among out of or related to the performance of the services hereunder by Cardinal, negarilless of whether such claim is based upon any of the above stated reasons or otherwase. Results relate only to the samples identified above. This report shall not be reproduced except in hill with written approval of Cardinal Laboratores.

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

Received:	12/22/2016	Sampling Date:	12/22/2016
Reported:	01/05/2017	Sampling Type:	Soil
Project Name:	WBDU FLOWLINE	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	9-21-37		

### Sample ID: SP 2 (H602858-02)

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	12/28/2016	ND	1.91	95.7	2.00	2.70	
Toluene*	<0.050	0.050	12/28/2016	ND	2.02	101	2.00	2.11	
Ethylbenzene*	<0.050	0.050	12/28/2016	NĎ	1.98	98.9	2.00	2.63	
Total Xylenes*	<0.150	0.150	12/28/2016	ND	5,95	99.1	6.00	2.49	
Total BTEX	<0.300	0.300	12/28/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	128 9	6 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S	% Recovery	True Value QC	RPD	Qualifier
Chloride	3280	16.0	01/03/2017	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	12/27/2016	ND	186	93.0	200	6.66	
DRO >C10-C28	<10.0	10.0	12/27/2016	ND	189	94.4	200	6.77	
Surrogate: 1-Chlorooctane	96.7	35-147							
Surrogate: 1-Chlorooctadecane	100 9	6 28-171							

### **Cardinal Laboratories**

### \*=Accredited Analyte

PLEXE NOTE: Liability and Damages. Cardinal's liability and clemt's exclusive remedy for any claim ansing, whether based in contract or tont, shall be imited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoener shall be deemed waved unless made in writing and received by claims, including those for negligence and including, without imitation, business interruptores, loss of use, or loss of use,

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

Received:	12/22/2016	Sampling Date:	12/22/2016
Reported:	01/05/2017	Sampling Type:	Soil
Project Name:	WBDU FLOWLINE	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	9-21-37		

### Sample ID: SP 3 (H602858-03)

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	12/28/2016	ND	1.91	95.7	2.00	2.70	
Toluene*	0.091	0.050	12/28/2016	ND	2.02	101	2.00	2.11	
Ethylbenzene*	0.261	0.050	12/28/2016	ND	1.98	98.9	2.00	2.63	
Total Xylenes*	1.19	0.150	12/28/2016	ND	5.95	99.1	6.00	2.49	
Total BTEX	1.54	0.300	12/28/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE 134 % 73.6-140

Chloride, SM4500CI-B	mg/l	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	12/28/2016	ND	416	104	400	0.00	
TPH 8015M	mg/l	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	49.2	10.0	12/27/2016	ND	186	93.0	200	6.66	
DRO >C10-C28	702	10.0	12/27/2016	ND	189	94.4	200	6.77	
Surrogate: 1-Chlorooctane	108 %	6 35-147							
Surrogate: 1-Chlorooctadecane	115 %	6 28-171							

### **Cardinal Laboratories**

### \*=Accredited Analyte

PLEASE NOTE: Lubberly and Damages. Cardinal's labelity and client's evolutive remedy for any claim ansang, whether based in contract or tort, shall be lawsed to the amount paid by client for analyses. All claims, including those for nepligence and any other cause whitsberver shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be labelie for incidental or consequential damages, including, without iterations, biss of use, or loss of profits incurred by client, its aubstrateries, affliates or successors anang out of or related to the performance of the services hereunder by Cardinal, regardless of whether such dams observed unless insternations or otherwee. Results relate only to the samples torification to the condition of the approval claimal laborationes.

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

Received:	12/22/2016	Sampling Date:	12/22/2016
Reported:	01/05/2017	Sampling Type:	Soil
Project Name:	WBDU FLOWLINE	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	9-21-37		

### Sample ID: SP 4 (H602858-04)

BTEX 8021B	mg	/kg	Analyze	d By: MS		<u> </u>			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	9.57	5.00	12/28/2016	ND	2.06	103	2.00	1.01	QM-07
Toluene*	157	5.00	12/28/2016	ND	2.16	108	2.00	0.806	QM-07
Ethylbenzene*	125	5.00	12/28/2016	ND	2.12	106	2.00	0.955	QM-07
Total Xylenes*	282	15.0	12/28/2016	ND	6.36	106	6.00	0.865	QM-07
Total BTEX	573	30.0	12/28/2016	ND					

Surrogate 4-Bromofluorobenzene (PIE 135 % 73.6-140

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/28/2016	ND	416	104	400	0.00	
ГРН 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	5840	100	12/27/2016	ND	186	93.0	200	6.66	
DRO >C10-C28	11600	100	12/27/2016	ND	189	94.4	200	6.77	
Surrogate: 1-Chlorooctane	242	% 35-147	с. С						

Surrogate: 1-Chlorooctadecane 258 % 28-171

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### \*=Accredited Analyte

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

Received:	12/22/2016	Sampling Date:	12/22/2016
Reported:	01/05/2017	Sampling Type:	Soil
Project Name:	WBDU FLOWLINE	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	9-21-37		

### Sample ID: SP 5 (H602858-05)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	<0.050	0.050	12/28/2016	ND	2.06	103	2.00	1.01	
Toluene*	0.094	0.050	12/28/2016	ND	2.16	108	2.00	0.806	
Ethylbenzene*	0.062	0.050	12/28/2016	ND	2.12	106	2.00	0.955	
Total Xylenes*	0.298	0.150	12/28/2016	ND	6.36	106	6.00	0.865	
Total BTEX	0.455	0.300	12/28/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIE	131	% 73.6-14	0						
Chloride, SM4500CI-B	mg,	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Chloride	32.0	16.0	12/28/2016	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	Qualifie
GRO C6-C10	<10.0	10.0	12/27/2016	ND	186	93.0	200	6.66	
DR0 >C10-C28	58.2	10.0	12/27/2016	ND	189	<del>9</del> 4.4	200	6.77	
Surrogate: 1-Chlorooctane	95.6	% 35-147							

Surrogate: 1-Chlorooctadecane 85.1% 28-171

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

Received:	12/22/2016	Sampling Date:	12/22/2016
Reported:	01/05/2017	Sampling Type:	Soil
Project Name:	WBDU FLOWLINE	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	9-21-37		

### Sample ID: SP 6 (H602858-06)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Anatyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/28/2016	ND	2.06	103	2.00	1.01	
Toluene*	0.081	0.050	12/28/2016	ND	2.16	108	2.00	0.806	
Ethylbenzene*	0.176	0.050	12/28/2016	ND	2.12	106	2.00	0.955	
Total Xylenes*	0.754	0.150	12/28/2016	ND	6.36	106	6.00	0.865	
Total BTEX	1.01	0.300	12/28/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL 132 % 73.6-140

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	12/28/2016	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	15.0	10.0	12/27/2016	ND	186	93.0	200	6.66	
DRO >C10-C28	149	10.0	12/27/2016	ND	189	94.4	200	6.77	
Surrogate: 1-Chlorooctane	89.1	% 35-147	,						
Surrogate: 1-Chlorooctadecane	89.7	% 28-171							

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

Received:	12/22/2016	Sampling Date:	12/22/2016
Reported:	01/05/2017	Sampling Type:	Soil
Project Name:	WBDU FLOWLINE	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	9-21-37		

### Sample ID: SP 7 (H602858-07)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BŞ	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/29/2016	ND	2.06	103	2.00	1.01	
Toluene*	<0.050	0.050	12/29/2016	ND	2.16	108	2.00	0.806	
Ethylbenzene*	<0.050	0.050	12/29/2016	ND	2.12	106	2.00	0.955	
Total Xylenes*	0.171	0.150	12/29/2016	ND	6.36	106	6.00	0.865	
Total BTEX	<0.300	0.300	12/29/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	130 5	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/28/2016	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	12/27/2016	ND	186	93.0	200	6.66	
DRO >C10-C28	<10.0	10.0	12/27/2016	ND	189	94.4	200	6.77	
Surrogate: 1-Chlorooctane	95.3	% 35-147							
Surrogate: 1-Chlorooctadecane	88.6	% 28-171							

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

Received:	12/22/2016	Sampling Date:	12/22/2016
Reported:	01/05/2017	Sampling Type:	Soil
Project Name:	WBDU FLOWLINE	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	9-21-37		

### Sample ID: DUP (H602858-08)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	8.06	5.00	12/29/2016	ND	2.06	103	2.00	1.01	
Toluene*	157	5.00	12/29/2016	ND	2.16	108	2.00	0.806	
Ethyibenzene*	128	5.00	12/29/2016	ND	2.12	106	2.00	0.955	
Total Xylenes*	285	15.0	12/29/2016	ND	6.36	106	6.00	0.865	
Total BTEX	577	30.0	12/29/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIE	135	% 73.6-14	0						
Chloride, SM4500CI-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	12/28/2016	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	6100	100	12/27/2016	ND	186	93.0	200	6.66	

ND

189

94.4

200

6.77

12/27/2016

Surrogate: 1-Chlorooctane 263 % 35-147 Surrogate: 1-Chlorooctadecane 291 % 28-171

12900

100

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DRO >C10-C28

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### **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.
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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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240



Cardinal cannot accept verbal changes. Please fax written changes to (575) 395 2026

Page 11 of 11



February 08, 2017

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

RE: WBDU #52

Enclosed are the results of analyses for samples received by the laboratory on 02/01/17 14:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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,

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

Received:	02/01/2017	Sampling Date:	02/01/2017
Reported:	02/08/2017	Sampling Type:	Soil
Project Name:	WBDU #52	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

### Sample ID: SP 1 @ SURFACE (H700243-01)

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	02/02/2017	ND	2.14	107	2.00	0.0867	
Toluene*	0.163	0.050	02/02/2017	ND	2.10	105	2.00	0.136	
Ethylbenzene*	0.829	0.050	02/02/2017	ND	2.11	106	2.00	0.0711	
Total Xylenes*	2.59	0.150	02/02/2017	ND	5.99	99.8	6.00	0.215	
Total BTEX	3.59	0.300	02/02/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIE 117 % 73.6-140

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5730	16.0	02/03/2017	ND	432	108	400	0.00	QM-07
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	64.6	10.0	02/02/2017	ND	194	97.1	200	4.66	
DRO >C10-C28	932	10.0	02/02/2017	ND	213	107	200	9.16	QM-07
Surrogate: 1-Chlorooctane	94.4	% 35-147							
Surrogate: 1-Chlorooctadecane	105	% 28-171							

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

Received:	02/01/2017	Sampling Date:	02/01/2017
Reported:	02/08/2017	Sampling Type:	Soil
Project Name:	WBDU #52	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

### Sample ID: SP 1 @ 1' (H700243-02)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	<0.050	0.050	02/02/2017	ND	2.14	107	2.00	0.0867	
Toluene*	<0.050	0.050	02/02/2017	ND	2.10	105	2.00	0.136	
Ethylbenzene*	<0.050	0.050	02/02/2017	ND	2.11	106	2.00	0.0711	
Total Xylenes*	<0.150	0.150	02/02/2017	ND	5.99	99.8	6.00	0.215	
Total BTEX	<0.300	0.300	02/02/2017	ND					
Surrogate: 4-Bromofluorobenzene (PIL	103 9	6 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1200	16.0	02/03/2017	ND	432	108	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	02/02/2017	ND	194	97.1	200	4.66	
DRO >C10-C28	<10.0	10.0	02/02/2017	ND	213	107	200	9.16	
Surrogate: 1-Chlorooctane	81.45	% 35-147	,						
Surrogate: 1-Chlorooctadecane	85.8 9	6 28-171	,						

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

Received:	02/01/2017	Sampling Date:	02/01/2017
Reported:	02/08/2017	Sampling Type:	Soil
Project Name:	WBDU #52	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

### Sample ID: SP 1 @ 2' (H700243-03)

BTEX 8021B	mg/l	g	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/02/2017	ND	2.14	107	2.00	0.0867	
Toluene*	<0.050	0.050	02/02/2017	ND	2.10	105	2.00	0.136	
Ethylbenzene*	<0.050	0.050	02/02/2017	ND	2.11	106	2.00	0.0711	
Total Xylenes*	<0.150	0.150	02/02/2017	ND	5.99	99.8	6.00	0.215	
Total BTEX	<0.300	0.300	02/02/2017	ND					
Surrogate 4-Bromofluorobenzene (PIE	103 %	5 73 6-14	0						
Chloride, SM4500CI-B	mg/l	g	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	02/03/2017	ND	432	108	400	0.00	
TPH 8015M	mg/i	g	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	02/02/2017	ND	194	97.1	200	4.66	
DRO >C10-C28	<10.0	10.0	02/02/2017	ND	213	107	200	9.16	
Surrogate: 1-Chlorooctane	94.4 9	6 35-147	,						
Surrogate: 1-Chlorooctadecane	92.9 %	6 28-171							

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

Received:	02/01/2017	Sampling Date:	02/01/2017
Reported:	02/08/2017	Sampling Type:	Soil
Project Name:	WBDU #52	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

### Sample ID: SP 1 @ 3' (H700243-04)

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	02/03/2017	ND	2.14	107	2.00	0.0867	
Toluene*	<0.050	0.050	02/03/2017	ND	2.10	105	2.00	0.136	
Ethylbenzene*	<0.050	0.050	02/03/2017	ND	2.11	106	2.00	0.0711	
Total Xylenes*	<0.150	0.150	02/03/2017	ND	5.99	99.8	6.00	0.215	
Total BTEX	<0.300	0.300	02/03/2017	ND					
Surrogate: 4-Bromofluorobenzene (PIE	104 9	6 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	02/03/2017	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/02/2017	ND	194	97.1	200	4.66	
DRO >C10-C28	<10.0	10.0	02/02/2017	ND	213	107	200	9.16	
Surrogate: 1-Chlorooctane	94.5 9	35-14	,						
Surrogate: 1-Chlorooctadecane	103 %	6 28-171	i						

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### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinally lability and client's evolvavie remedy for any claim anising, whether based in contract or tort, shall be inneed to the amount paid by client for analyses. All claims, including those for negligence and any other cause whiteboever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be lable for incidential or consequential damages, including, webout lamoton, business interruptions, loss of use, or loss of profits incurred by client, its subedanes, atflattes or successors anong out of or related to the performance of the services hereunder by Candinal, regardless of whether such dama based upon any of the biots stated reasons or otherwake, results relative only to the samples demined base. This reprodicible ricefor influ work written approval of Cardinal Laboratores.

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

Received:	02/01/2017	Sampling Date:	02/01/2017
Reported:	02/08/2017	Sampling Type:	Soil
Project Name:	WBDU #52	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

### Sample ID: SP 2 @ SURFACE (H700243-05)

BTEX 80216	mg/	/kg	Analyze	d By: MS					-
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	02/03/2017	ND	2.14	107	2.00	0.0867	
Toluene*	6.41	0.500	02/03/2017	ND	2.10	105	2.00	0.136	
Ethylbenzene*	16.4	0.500	02/03/2017	ND	2.11	106	2.00	0.0711	
Total Xylenes*	46.0	1.50	02/03/2017	ND	5.99	99.8	6.00	0.215	
Total BTEX	68.9	3.00	02/03/2017	ND					
Surrogate: 4-Bromofluorobenzene (PIE	120	% 73.6-14	0						
Chloride, SM4500CI-B	mg,	/kg	Anaiyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3200	16.0	02/03/2017	ND	432	108	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	1000	50.0	02/02/2017	ND	194	97.1	200	4.66	
DRO >C10-C28	7210	50.0	02/02/2017	ND	213	107	200	9.16	

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Surrogate: 1-Chlorooctane Surrogate: 1-Chlorooctadecane

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147%

184%

35-147

28-171



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

Received:	02/01/2017	Sampling Date:	02/01/2017
Reported:	02/08/2017	Sampling Type:	Soil
Project Name:	WBDU #52	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

### Sample ID: SP 2 @ 1' (H700243-06)

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	02/03/2017	ND	2.14	107	2.00	0.0867	
Toluene*	<0.050	0.050	02/03/2017	ND	2.10	105	2.00	0.136	
Ethylbenzene*	<0.050	0.050	02/03/2017	ND	2.11	106	2.00	0.0711	
Total Xylenes*	<0.150	0.150	02/03/2017	ND	5.99	99.8	6.00	0.215	
Total BTEX	<0.300	0.300	02/03/2017	ND					
Surrogate: 4-Bromofluorobenzene (PIL	103 9	6 73.6-14	0						
Chloride, SM4500CI-8	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	02/03/2017	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/02/2017	ND	194	97.1	200	4.66	
DRO >C10-C28	<10.0	10.0	02/02/2017	ND	213	107	200	9.16	
Surrogate: 1-Chlorooctane	87.8	% 35-147							
Surrogate: 1-Chlorooctadecane	86.9	6 28-171							

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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:	02/01/2017	Sampling Date:	02/01/2017
Reported:	02/08/2017	Sampling Type:	Soil
Project Name:	WBDU #52	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

### Sample ID: SP 2 @ 2' (H700243-07)

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	02/03/2017	ND	2.14	107	2.00	0.0867	
Toluene*	<0.050	0.050	02/03/2017	ND	2.10	105	2.00	0.136	
Ethylbenzene*	<0.050	0.050	02/03/2017	ND	2.11	106	2.00	0.0711	
Total Xylenes*	<0.150	0.150	02/03/2017	ND	5.99	99.8	6.00	0.215	
Total BTEX	<0.300	0.300	02/03/2017	ND					
Surrogate: 4-Bromofluorobenzene (PIL	104 9	6 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	02/03/2017	ND	432	108	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	02/02/2017	ND	194	97.1	200	4.66	
DRO >C10-C28	<10.0	10.0	02/02/2017	ND	213	107	200	9.16	
Surrogate: 1-Chlorooctane	91.09	6 35-141		· · · · · · · · · · · · · · · · · · ·					
Surrogate: 1-Chlorooctadecane	96.6 9	6 28-171	-						

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### Sample ID: SP 4 @ SURFACE (H700243-08)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	3.31	2.00	02/03/2017	ND	2.14	107	2.00	0.0867	
Toluene*	93.1	2.00	02/03/2017	ND	2.10	105	2.00	0.136	
Ethylbenzene*	74.8	2.00	02/03/2017	ND	2.11	106	2.00	0.0711	
Total Xylenes*	155	6.00	02/03/2017	ND	5.99	99.8	6.00	0.215	
Totał BTEX	326	12.0	02/03/2017	ND					
Surrogate: 4-Bromofluorobenzene (PIC	109	% 73.6-14	0						
Chloride, SM4500CI-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	02/03/2017	ND	432	108	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	3620	50.0	02/02/2017	ND	194	97.1	200	4.66	
DRO >C10-C28	8120	50.0	02/02/2017	ND	213	107	200	9.16	
Surrogate: 1-Chlorooctane	177	% 35-147	7						
Surrogate: 1-Chlorooctadecane	200	% 28-171	1						

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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:	02/01/2017	Sampling Date:	02/01/2017
Reported:	02/08/2017	Sampling Type:	Soil
Project Name:	WBDU #52	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

### Sample ID: SP 4 @ 2' (H700243-09)

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	02/03/2017	ND	2.14	107	2.00	0.0867	
Toluene*	0.721	0.050	02/03/2017	ND	2.10	105	2.00	0.136	
Ethylbenzene*	0.837	0.050	02/03/2017	ND	2.11	106	2.00	0.0711	
Total Xylenes*	2.21	0.150	02/03/2017	ND	5.99	99.8	6.00	0.215	
Total BTEX	3.77	0.300	02/03/2017	ND					
Surrogate: 4-Bromofluorobenzene (PIL	109 9	6 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/03/2017	ND	432	108	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	59.9	10.0	02/02/2017	ND	194	97.1	200	4.66	
DRO >C10-C28	466	10.0	02/02/2017	ND	213	107	200	9.16	
Surrogate: 1-Chlorooctane	107 9	6 35-147	7						
Surrogate 1-Chlorooctadecane	122 9	6 28-171							

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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.
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,
5	Chloride by SM4500CI-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

### 101 East Marland, Hobbs, NM 88240 (675) 192.2126 EAY (675) 193-2476

(575) 393-2326 FAX (575) 393-2475 Company Name: ///////	BILL TO	ANALYSIS REQUEST
Project Manager: Junity Van (WCN	P.O. #	
Address:	Company: HVAUU	
City: State:	Zip: Attn: BITUCE	
Phone #: Fax #:	Address:	
Project #: Project Owner:	r: City:	
ame: WBDU 52		
Project Location: LLA / ULM H	Phone #:	
Sampler Name: JANNUW RUN (WEN	Fax #	
	MATRIX PRESERV SAMPLING	đi
Lab I.D. Sample I.D.	ASE	Phlonu TPH BTEX
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18	Received By:	Phone Result: Ves No Add'I Phone #:
Retinquished By: Dete: Dete:	Regeneral By: MUNDON	
Delivered By: (Circle One)	Sample Condition CHECKED BY:	
Sampler - UPS - Bus - Other: #15	S. W. Drand Pres	

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Page 12 of 12