devon

Amanda Davis

Apache 25 Federal #9

Closure Request

API NO. 30-015-32797

2RP-4606

Release Date: 1/23/2018

UL/J, Section 25, Township 22S, Range 30E

March 13, 2019

Prepared By:

White Buffalo Environmental, Inc.

407 East Broadway

Hobbs, NM 88240

Phone: (575)738-0424

Fax: (575)738-0430

March 13, 2019

New Mexico Energy, Minerals & Natural Resources
Oil Conservation Division, Environmental Bureau-District II
C/O Brad Billings
811 S. First St
Artesia, NM 88210

New Mexico Bureau of Land Management
C/O Crystal Weaver
620 E. Greene Street
Carlsbad, NM 88220

Devon Energy
C/O Amanda Davis
6488 Seven Rivers Hwy
Artesia, NM 88210

RE: Closure Request
Devon Energy – Apache 25 Federal #9
UL/J, S25, T18S, R33E
API No. 30-015-32797

To Whom it May Concern,

Devon Energy has retained White Buffalo Environmental to address potential environmental concerns for the site detailed herein.

Background

The site is located in Eddy County, New Mexico. The release occurred on January 23, 2018, due to a poly flowline that had busted at the wellhead causing a release of approximately 4.56bbls of produced water and 1.52bbls of oil. The well was immediately shut in to stop the release. A vacuum truck was dispatched out to recover the standing fluids. Approximately 2bbls of produced water and 1.5bbls of oil was recovered. All fluid was released to the location pad only. Devon Energy called in backhoe contractor to remove the saturated soil from around the wellhead, the material was stockpiled and later hauled off to a local disposal.

The area of impacted surface, was approximately 7003.82 sq. ft. on the pad from the wellhead heading towards the Devon field offices. WBE has attached the corresponding C-141's for the incident detailed herein.

Ground Water Information

WBE has conducted a ground water study of the area. It has been determined that according to the New Office of the State Engineer, the average depth of ground water is averaged at 187'bgs. Several wells were found in the area but no true data was found. Please see the water information attached to this report. Therefore, no eminent danger to groundwater impact can be found at this site.

With the average depth found, the Closure Criteria for Soils impacted by a Release is below based on the new rule. This site was delineated using the old rule based on delineation being conducted in May and July of 2018. Below you will find the new rule criteria for ground water depth of 187'bgs.

Depth	Constituent	Method	Limit
>100 feet	Chloride	EPA 300.0 OR SM4500 CL B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method	2,500 mg/kg
	GRO + DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

Delineation for 2RP-4606

On May 22nd of 2018, White Buffalo Environmental personnel-initiated delineation of this site as per Devon Energy. Based off of the initial information gathered by Devon when the release was found, WBE staff delineated the original area of impact. Surface samples were taken of the initial area of impact and field tested for chloride. The visual stained area had been removed shortly after the release was found due to it being on the same pad as the field offices, this information was determined after initial sampling of the release area for SP1-SP5 Surface Samples. Field testing indicated the following concentrations were found at the original area of impact as listed below (SP1-SP5) stockpile area (SP6-SP15):

SP1: SURFACE 636 MG/KG CHLORIDE, 40 MG/KG BTEX
SP2: SURFACE 6858 MG/KG CHLORIDE, 100 MG/KG BTEX
SP3: SURFACE 830 MG/KG CHLORIDE, 0 MG/KG BTEX
SP4: SURFACE 2800 MG/KG CHLORIDE, 0 MG/KG BTEX
SP5: SURFACE 112 MG/KG CHLORIDE, 0 MG/KG BTEX
SP6: SURFACE 330 MB/KG CHLORIDE, 0 MG/KG BTEX
SP7: SURFACE 484 MG/KG CHLORIDE, 0 MG/KG BTEX
SP8: SURFACE 7190 MG/KG CHLORIDE, 0 MG/KG BTEX
SP9: SURFACE 330 MG/KG CHLORIDE, 0 MG/KG BTEX
SP10: SURFACE 7190 MG/KG CHLORIDE, 0 MG/KG BTEX
SP11: SURFACE 1930 MG/KG CHLORIDE, 50 MG/KG BTEX
SP12: SURFACE 84 MG/KG CHLORIDE, 0 MG/KG BTEX
SP13: SURFACE 12978 MG/KG CHLORIDE, 0 MG/KG BTEX
SP14: SURFACE 278 MG/KG CHLORIDE, 0 MG/KG BTEX
SP15: SURFACE <30 MG/KG CHLORIDE, 0 MG/KG BTEX

On May 25th, 2108, WBE was pulled off of the site due to problems with the well. On June 27th, crews were working on issues with the pumpjack. On July 16th, work commenced to delineate the site. At this time the impacted area was fully delineated, horizontally and vertically to show migration of chloride contamination. Vertical soil samples were taken by use of hand auger and backhoe. Soil was field tested for chloride using both the chloride strip method as well as titration. A PID meter was also used to indicate concentrations of BTEX. Soil samples were taken in 1' intervals while using the hand auger and 2' intervals when the backhoe was used.

The vertical bottom hole samples for the impacted area on the pad are as follows and represent the confirmed concentrations by Cardinal Laboratories:

SP1: 4'BGS: 192 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <19.5 MG/KG TPH
SP2: 2'BGS: 288 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SP3: 2'BGS: 48 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SP4: 2'BGS: 64 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SP5: 2'BGS: 32 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SP6: 2'BGS: 32 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SP7: 1'BGS: 176 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SP8: 6'BGS: 80 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SP9: 1'BGS: 256 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SP10: 2'BGS: 32 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SP11: 4'BGS: 64 MG/KG CHLORIDE, <0.300 MG/KG BTEX, 31.1 MG/KG TPH
SP12: 2'BGS: 32 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SP13: 4'BGS: 128 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SP14: 2'BGS: 160 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SP15: 2'BGS: 48 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH

The horizontal sidewall samples for the impacted area for the stockpile section were field sampled. The area of the original spill sidewalls will be determined during final remediation due to conflict with field offices and traffic in and out of the office area. One sidewall (SW4 was taken in which was 4' from the office building. The samples for the stockpile have been confirmed by Cardinal Laboratories and are listed below:

SW1: 4' (NORTH) - 64 MG/KG CHLORIDE, <0.300 MG/KG BTEX, 55.7 MG/KG TPH
SW2: 4' (EAST) – 64 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SW3: 4' (SOUTH) – 560 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH
SW4: 6' (WEST @ BUILDING) – 2000 MG/KG CHLORIDE, <0.300 MG/KG BTEX, <10 MG/KG TPH

All final soil samples were delivered to Cardinal Laboratories for confirmation. As mention above, this location was sampled to the "old" rule. Please see the sample data sheet and sample map attached herein.

Conclusion

White Buffalo Environmental would like to propose leaving the contamination indicated in this delineation project in place until the well is plugged and offices have been moved out of the area. Devon Energy had another contractor haul off the stockpiled contaminated surface material to a local disposal. With no eminent danger to groundwater and delineation results are well under the limits, on behalf of Devon Energy we would like to present this report to close out the release for the site detailed herein.

If you have any questions or concerns please contact me.

Sincerely,

Natalie Gladden
Environmental & Regulatory Director
White Buffalo Environmental, Inc.
407 East Broadway
Hobbs, NM 88240
Office (575) 738-0424
Fax (575) 738-0430
Cell (575) 390-6397
Email: natalie.gladden@whitebuffalo.com

Attachments:

- C-141 & COA
- Groundwater Data
- Karst Map's
- Site Photographs & Site Diagram
- Sample Data and Lab Analyses
- Sample Map

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 06 2018
RECEIVED

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

nAB1803838073

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company Devon Energy Production Company 6137	Contact Wes Ryan, Production Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210	Telephone No. 575-390-5436
Facility Name Apache 25 Federal 9	Facility Type Oil

Surface Owner Federal	Mineral Owner Federal	API No. 30-015-32797

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	25	22S	30E					Eddy

Latitude_32.361248_ **Longitude**_103.8309479_ NAD83

NATURE OF RELEASE

Type of Release Produced water/Oil	Volume of Release 4.56bbls produced water/1.52bbl oil	Volume Recovered 2bbls produced water/1.5bbl oil
Source of Release Poly flow line at wellhead	Date and Hour of Occurrence January 23, 2018 @ 2:07 PM MST	Date and Hour of Discovery January 23, 2018 @ 2:07 PM MST
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher/Crystal Weaver, OCD Shelly Tucker, BLM	
By Whom? Mike Shoemaker, EHS Representative	Date and Hour Initial Notice January 24, 2018 @ 11:33 AM MST Corrected Notice January 25, 2018 @ 7:42 AM MST	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
The poly flow line busted at the well head causing a release of approximately 6.08 bbls of mixed fluids. The pumping unit was immediately turned off to stop the release. A vacuum truck was dispatched to recover any standing fluids.

Describe Area Affected and Cleanup Action Taken.*
Approximately 6.08 bbls (4.56bbls produced water and 1.52bbl of oil) were released and over sprayed onto the pad surface and the adjacent pasture. Approximately 3.5 bbls was recovered via the dispatched vacuum truck. An environmental contractor will be contacted to assist with the delineation and remediation efforts.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Michael Shoemaker	OIL CONSERVATION DIVISION
Printed Name: Michael Shoemaker	Approved by Environmental Specialist: Signed By
Title: Environmental Professional	Approval Date: 2/6/18 Expiration Date: N/A
E-mail Address: mike.shoemaker@dvn.com	Conditions of Approval: See attached Attached ☐ 3RP-460
Date: 2/6/18 Phone: 575.748.3371	

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 2/06/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4606 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 division-approved corrective action 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 2 office in ARTESIA on or before 3/06/2018. 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_6 thru C_{36}), 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_6 thru C_{36}), 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

Bratcher, Mike, EMNRD

From: Shoemaker, Mike <Mike.Shoemaker@dvn.com>
Sent: Tuesday, February 6, 2018 6:26 PM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Shelly Tucker (stucker@blm.gov)
Cc: Fulks, Brett; Fisher, Sheila
Subject: Apache 25 Federal 9 4.56bbl pw & 1.52bbl oil_1.23.18
Attachments: Apache 25 Fed 9_4.56bbl pw & 1.52bbl oil GIS Image_1.23.18.pdf; Apache 25 Fed 9_4.56bbl pw & 1.52bbl oil_Initial C-141_1.23.18.doc

Good Evening,

Attached please find the Initial C-141 and GIS Image for the 4.56 bbl produced water & 1.52 bbl oil release at the Apache 25 Federal 9 on 1.23.18.

If you have any questions please feel free to contact me.

Thank you,

Mike Shoemaker
EHS Representative

Devon Energy Corporation
6488 Seven Rivers Highway
Artesia, New Mexico 88210
575-746-5566 Office
575-513-5035 Mobile

devon

Bratcher, Mike, EMNRD

From: Shoemaker, Mike <Mike.Shoemaker@dvn.com>
Sent: Thursday, January 25, 2018 7:42 AM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Shelly Tucker (stucker@blm.gov)
Subject: RE: Apache 25 Federal 9 (API #30-015-32797)

All,
I need to update the following information for this release.

The revised numbers for this release are a total of 6.08 bbls of mixed fluids with 3.5 bbls recovered. A portion of the release was an overspray that did affect the adjacent pasture.

The spill breaks out as follows.
4.56 bbls on location
1.52 bbls overspray on location and adjacent pasture

A C-141 will be prepared and submitted with GPS coordinates of the area affected.

If you have any questions please let me know.

Thanks,

Mike Shoemaker
EHS Representative

Devon Energy Corporation
6488 Seven Rivers Highway
Artesia, New Mexico 88210
575-746-5566 Office
575-513-5035 Mobile

devon

From: Shoemaker, Mike
Sent: Wednesday, January 24, 2018 11:33 AM
To: 'Bratcher, Mike, EMNRD' <mike.bratcher@state.nm.us>; Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>; Shelly Tucker (stucker@blm.gov) <stucker@blm.gov>
Subject: Apache 25 Federal 9 (API #30-015-32797)

Good Morning,

Devon had the following release occur at 2:07 PM MST on 01/23/18. The incident is described below.

1. Apache 25 Federal 9 (API #30-015-32797)
    a. The poly flow line busted at the well head causing a release of approximately 5.63 bbls of mixed fluids. A vacuum truck was dispatched and recovered approximately 3.5 bbls of mixed fluid.

A C-141 will be prepared and submitted with GPS coordinates of the area affected.

Thanks,

Mike Shoemaker
EHS Representative

Devon Energy Corporation
6488 Seven Rivers Highway
Artesia, New Mexico 88210
575-746-5566 Office
575-513-5035 Mobile

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 609991.36 **Northing (Y):** 3581079.12 **Radius:** 1000

1/15/19 2:29 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

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

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 03221 EXPLORE		CUB	ED	1	2	1	30	22S	31E	610995	3581935*	1319	651		
C 02637		CUB	ED	1	3	3	24	22S	30E	608950	3582377*	1664	759		
C 03561 POD4		CUB	ED	3	2	3	36	22S	30E	609419	3579425	1750	25	0	25
C 03561 POD5		CUB	ED	3	2	3	36	22S	30E	609419	3579425	1750	20	0	20
C 03561 POD3		CUB	ED	3	2	3	36	22S	30E	609393	3579425	1758	25	0	25
C 03561 POD2		CUB	ED	3	2	3	36	22S	30E	609314	3579424	1787	25	0	25
C 03561 POD1		CUB	ED	3	2	3	36	22S	30E	609288	3579393	1826	30	0	30
C 02950 EXPL		CUB	ED	4	2	4	23	22S	30E	608740	3582576*	1951	845		
C 02766		CUB	ED	3	3	3	29	22S	31E	612216	3580541*	2288	589		
C 02418		CUB	ED	3	2	3	29	22S	31E	612613	3580948*	2624	617	413	204
C 02419		CUB	ED	3	2	3	29	22S	31E	612613	3580948*	2624	225		
C 02758		CUB	ED	3	2	1	29	22S	31E	612604	3581752*	2697	661		
C 02762		CUB	ED	3	2	1	29	22S	31E	612604	3581752*	2697	672		
C 02763		CUB	ED	3	2	1	29	22S	31E	612604	3581752*	2697	660		
C 02759		CUB	ED	1	2	1	29	22S	31E	612604	3581952*	2754	795		
C 03559 POD1		CUB	ED	4	3	2	01	23S	30E	609928	3578260	2819	50	0	50
C 03559 POD2		CUB	ED	4	3	2	01	23S	30E	609928	3578260	2819	25	0	25
C 03559 POD3		CUB	ED	4	3	2	01	23S	30E	609928	3578260	2819	20	0	20
C 03559 POD4		CUB	ED	4	3	2	01	23S	30E	609928	3578260	2819	25	0	25
C 03559 POD5		CUB	ED	4	3	2	01	23S	30E	609912	3578236	2844	50		
C 02683		CUB	ED	3	1	1	20	22S	31E	612184	3583356*	3160	840		
C 02638		CUB	ED	4	3	3	35	22S	30E	607558	3578948*	3234	528		
C 03976 POD1		CUB	ED	1	3	4	20	22S	31E	612967	3582387	3250	180		
C 03976 POD2		CUB	ED	1	3	4	20	22S	31E	612967	3582387	3250	70		
C 03976 POD3		CUB	ED	1	3	4	20	22S	31E	612967	3582387	3250	182		
C 02725		CUB	ED	1	1	1	05	23S	31E	612240	3578731*	3251	532		
C 02775		CUB	ED	1	1	1	05	23S	31E	612240	3578731*	3251	529		
C 03139		CUB	ED	4	2	4	01	23S	30E	610424	3577764*	3343	425		
C 02776		CUB	ED	2	1	1	05	23S	31E	612440	3578731*	3392	661		
C 02662		CUB	ED	1	2	2	29	22S	31E	613409	3581960*	3529	856		

C_02765	CUB	ED	1	2	2	29	22S	31E	613409	3581960*	3529	856		
C_02989	CUB	ED	3	4	4	20	22S	31E	613404	3582162*	3580	54		
C_02413	CUB	ED	1	2	1	20	22S	31E	612586	3583560*	3589	737		
C_02760	CUB	ED	2	2	4	29	22S	31E	613618	3581156*	3627	725		
C_02761	CUB	ED	2	2	4	29	22S	31E	613618	3581156*	3627	730		
C_02764	CUB	ED	2	2	4	29	22S	31E	613618	3581156*	3627	902		
C_03207	CUB	ED	4	2	4	29	22S	31E	613618	3580956*	3628	150		
C_02753	CUB	ED	1	4	4	20	22S	31E	613404	3582362*	3645	851		
C_02986	CUB	ED	1	4	4	20	22S	31E	613404	3582362*	3645	71		
C_02990	CUB	ED	1	4	4	20	22S	31E	613404	3582362*	3645	71		
C_02737	C	ED	2	4	2	29	22S	31E	613604	3581567	3646	710		
C_02811	CUB	ED	2	4	2	29	22S	31E	613613	3581558*	3653	80		
C_02761 POD1	CUB	ED	2	2	4	29	22S	31E	613651	3581101	3659	725		
C_02417	CUB	ED	4	4	4	29	22S	31E	613623	3580554*	3669	681		
C_02505	CUB	ED	4	4	4	20	22S	31E	613604	3582162*	3771	69	48	21
C_02506	CUB	ED	4	4	4	20	22S	31E	613604	3582162*	3771	69	48	21
C_02507	CUB	ED	4	4	4	20	22S	31E	613604	3582162*	3771	73	45	28
C_02752	CUB	ED	4	4	4	20	22S	31E	613604	3582162*	3771	2875		
C_02801	CUB	ED	4	4	4	20	22S	31E	613604	3582162*	3771	65		
C_02802	CUB	ED	4	4	4	20	22S	31E	613604	3582162*	3771	65		
C_02803	CUB	ED	4	4	4	20	22S	31E	613604	3582162*	3771	65		
C_02981	CUB	ED	4	4	4	20	22S	31E	613604	3582162*	3771	62		
C_02983	CUB	ED	4	4	4	20	22S	31E	613604	3582162*	3771	60		
C_02987	CUB	ED	4	4	4	20	22S	31E	613604	3582162*	3771	68		
C_02991	CUB	ED	4	4	4	20	22S	31E	613604	3582162*	3771	64		
C_02980	CUB	ED	2	4	4	20	22S	31E	613604	3582362*	3833	62		
C_02982	CUB	ED	2	4	4	20	22S	31E	613604	3582362*	3833	65		
C_02984	CUB	ED	2	4	4	20	22S	31E	613604	3582362*	3833	65		
C_02985	CUB	ED	2	4	4	20	22S	31E	613604	3582362*	3833	62		
C_02988	CUB	ED	2	4	4	20	22S	31E	613604	3582362*	3833	75		
C_02754	CUB	ED	4	2	4	20	22S	31E	613599	3582564*	3901	1045		
C_02755	CUB	ED	4	4	2	20	22S	31E	613595	3582966*	4067	1040		
C_03015	CUB	ED	1	4	3	22	22S	30E	606099	3582353*	4095	1316	262	1054
C_02749	CUB	ED	1	1	1	18	22S	31E	610556	3585146*	4105	640		
C_02750	CUB	ED	1	1	1	18	22S	31E	610556	3585146*	4105	741		
C_02751	CUB	ED	1	1	1	18	22S	31E	610556	3585146*	4105	637		
C_02748	CUB	ED	1	2	3	17	22S	31E	612576	3584364*	4179	3856		
C_03520 POD1	C	ED	3	1	1	07	23S	31E	610733	3576905	4238	500		
C_02664	CUB	ED	3	3	2	05	23S	31E	613049	3578138*	4242	4291	354	3937

C_02684	CUB	ED	4	2	2	20	22S	31E	613590	3583368*	4264	1060		
C_02492	CUB	ED	4	4	4	06	23S	31E	612056	3577320*	4288	135	85	50
C_02865	CUB	ED	4	4	4	06	23S	31E	612056	3577320*	4288	174		
C_02420	CUB	ED	4	2	3	28	22S	31E	614423	3580964*	4433	779	450	329
C_02421	CUB	ED	4	2	3	28	22S	31E	614423	3580964*	4433	786	450	336
C_02422	CUB	ED	4	2	3	28	22S	31E	614423	3580964*	4433	785	450	335
C_02423	CUB	ED	4	2	3	28	22S	31E	614423	3580964*	4433	782	450	332
C_02424	CUB	ED	4	2	3	28	22S	31E	614423	3580964*	4433	786	450	336
C_02425	CUB	ED	4	2	3	28	22S	31E	614423	3580964*	4433	788	450	338
C_02426	CUB	ED	4	2	3	28	22S	31E	614423	3580964*	4433	785	450	335
C_02492 POD2	C	ED	3	2	2	07	23S	31E	611767	3576996	4452	400	125	275
C_02639	CUB	ED	4	4	4	17	22S	31E	613585	3583770*	4489	3928		
C_02111	CUB	ED	2	2	2	33	22S	30E	605505	3580336*	4547	248	155	93
C_03222 EXPLORE	CUB	ED	1	1	4	12	23S	30E	609833	3576349*	4732	365		
C_02414	CUB	ED	3	1	3	16	22S	31E	613782	3584176*	4894	846		
C_02723	CUB	ED	2	2	3	15	22S	30E	606282	3584363*	4954	651		

Average Depth to Water: **187 feet**

Minimum Depth: **0 feet**

Maximum Depth: **450 feet**

Record Count: 85

UTMNAD83 Radius Search (in meters):

Easting (X): 609991.36 **Northing (Y):** 3581079.12 **Radius:** 5000

***UTM location was derived from PLSS - see Help**

1/15/19 2:24 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 03221 EXPLORE	1	2	1	30	22S	31E	610995	3581935*

Driller License:	1184	**Driller Company:**	WEST TEXAS WATER WELL SERVICE		
Driller Name:	KEITH, LARRY				
Drill Start Date:	05/30/2006	**Drill Finish Date:**	06/16/2006	**Plug Date:**	
Log File Date:	06/30/2006	**PCW Rcv Date:**		**Source:**	Artesian
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	12.75	**Depth Well:**	651 feet	**Depth Water:**	

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 02637	1	3	3	24	22S	30E	608950	3582377*

Driller License:		**Driller Company:**			
Driller Name:					
Drill Start Date:	10/04/1976	**Drill Finish Date:**	10/04/1976	**Plug Date:**	
Log File Date:		**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:		**Depth Well:**	759 feet	**Depth Water:**	

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer

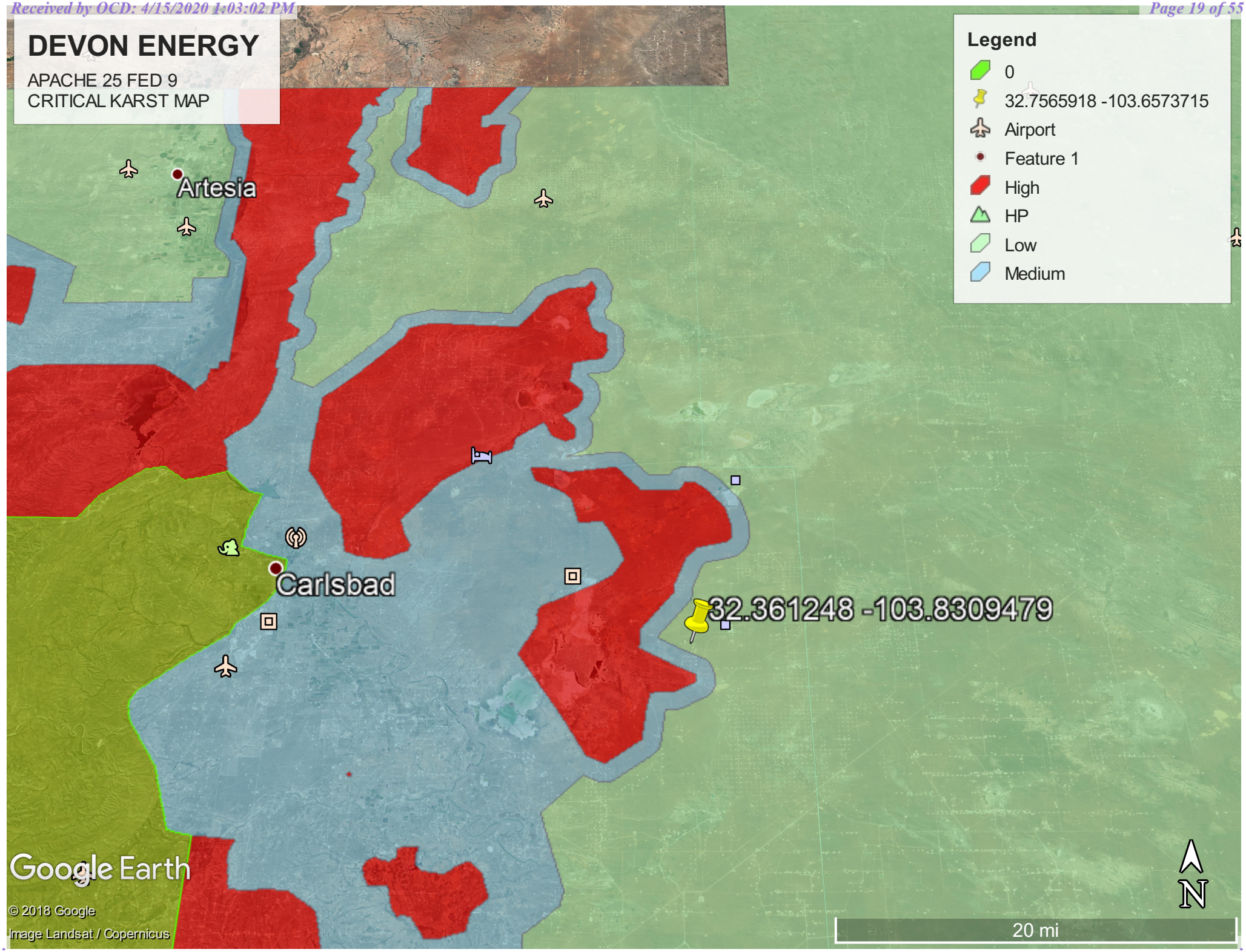
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 03561 POD4	3	2	3	36	22S	30E	609419	3579425

Driller License:	1478	**Driller Company:**	STRAUB CORPORATION		
Driller Name:	EDWARD BRYAN				
Drill Start Date:	08/22/2012	**Drill Finish Date:**	08/22/2012	**Plug Date:**	08/22/2012
Log File Date:	09/04/2012	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:		**Depth Well:**	25 feet	**Depth Water:**	0 feet

DEVON ENERGY

APACHE 25 FED 9
CRITICAL KARST MAP



DEVON ENERGY – APACHE 25 FEDERAL 9

DEVON ENERGY – APACHE 25 FEDERAL 9

Devon Energy

Legend

Apache 25 Federal #9

Apache 25 Federal #9

Google Earth

400 ft

N

DEVON - APACHE 25 FED 9

Sample ID	Ft	Titration	PID	Lab-Chl	Lab-BTEX	Lab-GRO	Lab-DRO	Lab-MRO	TPH	Soil	Notes
SP1	SUR	636	40							CAL	
	2'	128	30	288	<0.300	<10	<10	<10	<10	CAL	
	4'	594	20	192	<0.300	<10	19.5	<10	19.5	CAL	
SP2	SUR	6858	100							CAL	TPH
	1'	278	50							CAL	
	2'	146	0	288	<0.300	<10	<10	<10	<10	CAL	
	4'	164	0							TS	
	6'	164	0							TS	
SP3	SUR	830	0							CAL	
	1'	<30	0							CAL	
	2'	<30	0	48	<0.300	<10	<10	<10	<10	CAL	
SP4	SUR	2800	0							CAL	
	1'	<30	0							CAL	
	2'	<30	0	64	<0.300	<10	<10	<10	<10	CAL	
SP5	SUR	112	0							CAL	
	1'	<30	0							CAL	
	2'	<30	0	32	<0.300	<10	<10	<10	<10	CAL	
SP6	SUR	330	0							CAL	
	1'	72	0							CAL	
	2'	<30	0	32	<0.300	<10	<10	<10	<10	CAL	
SP7	SUR	484	0							CAL	
	1'	146	0	176	<0.300	<10	<10	<10	<10	CAL	CALICHE BARRIER
SP8	SUR	7190	0							CAL	
	1'	278	0							CAL	
	2'	830	0							CAL	
	4'	72	0							TS	
	6'	146	0	80	<0.300	<10	<10	<10	<10	TS	
SP9	SUR	330	0							CAL	
	1'	206	0	256	<0.300	<10	<10	<10	<10	CAL	
SP10	SUR	7190	0							CAL	
	1'	278	0							CAL	
	2'	<30	0	32	<0.300	<10	<10	<10	<10	TS	

SP11	SUR	1930	50							CAL	
	2'	278	30							CAL	
	4'	<30	25	64	<0.300	<10	31.1	<10	31.1	TS	
SP12	SUR	84	0							CAL	
	2'	<30	0	32	<0.300	<10	<10	<10	<10	CAL	
SP13	SUR	12978	0							CAL	
	2'	146	0							CAL	
	4'	72	0	128	<0.300	<10	<10	<10	<10	CAL	
SP14	SUR	278	0							CAL	
	2'	146	0	160	<0.300	<10	<10	<10	<10	CAL	
SP15	SUR	<30	0							CAL	
	2'	<30	0	48	<0.300	<10	<10	<10	<10	CAL	
SW1	1'	866	60							CAL	
	2'	1596	100							CAL	
	3'	388	60							TS	
	4'	<30	50	64	<0.300	<10	55.7	<10	55.7	TS	
SW2	1'	1036	0							CAL	
	2'	3586	0							CAL	
	3'	450	0							TS	
	4'	254	0	64	<0.300	<10	<10	<10	<10	TS	
SW3	2'	72	0							CAL	
	4'	418	0	560	<0.300	<10	<10	<10	<10	TS	
SW4	2'	418	0							CAL	
	4'	556	0							CAL	
	6'	964	0	2000	<0.300	<10	<10	<10	<10	TS	

CARDINAL Laboratories

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

June 01, 2018

MIKE SHOEMAKER

WHITE BUFFALO

8908 YALE AVE #210

TULSA, OK 74137

RE: APACHE 25 FED 09

Enclosed are the results of analyses for samples received by the laboratory on 05/29/18 16:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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 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. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	05/29/2018	Sampling Date:	05/22/2018
Reported:	06/01/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 2 @ 2' (H801463-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/31/2018	ND	1.70	85.1	2.00	2.16	
Toluene*	<0.050	0.050	05/31/2018	ND	1.67	83.6	2.00	3.60	
Ethylbenzene*	<0.050	0.050	05/31/2018	ND	1.69	84.7	2.00	2.03	
Total Xylenes*	<0.150	0.150	05/31/2018	ND	5.33	88.9	6.00	1.13	
Total BTEX	<0.300	0.300	05/31/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**288**	16.0	05/30/2018	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/30/2018	ND	189	94.5	200	4.51	
DRO >C10-C28*	<10.0	10.0	05/30/2018	ND	188	93.9	200	6.61	
EXT DRO >C28-C36	<10.0	10.0	05/30/2018	ND					

Surrogate: 1-Chlorooctane *81.6 %* *41-142*

Surrogate: 1-Chlorooctadecane *89.5 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	05/29/2018	Sampling Date:	05/22/2018
Reported:	06/01/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 3 @ 2' (H801463-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/31/2018	ND	1.70	85.1	2.00	2.16	
Toluene*	<0.050	0.050	05/31/2018	ND	1.67	83.6	2.00	3.60	
Ethylbenzene*	<0.050	0.050	05/31/2018	ND	1.69	84.7	2.00	2.03	
Total Xylenes*	<0.150	0.150	05/31/2018	ND	5.33	88.9	6.00	1.13	
Total BTEX	<0.300	0.300	05/31/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	05/30/2018	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/30/2018	ND	189	94.5	200	4.51	
DRO >C10-C28*	<10.0	10.0	05/30/2018	ND	188	93.9	200	6.61	
EXT DRO >C28-C36	<10.0	10.0	05/30/2018	ND					

Surrogate: 1-Chlorooctane *82.2 %* *41-142*

Surrogate: 1-Chlorooctadecane *90.3 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	05/29/2018	Sampling Date:	05/22/2018
Reported:	06/01/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 4 @ 2' (H801463-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/31/2018	ND	1.70	85.1	2.00	2.16	
Toluene*	<0.050	0.050	05/31/2018	ND	1.67	83.6	2.00	3.60	
Ethylbenzene*	<0.050	0.050	05/31/2018	ND	1.69	84.7	2.00	2.03	
Total Xylenes*	<0.150	0.150	05/31/2018	ND	5.33	88.9	6.00	1.13	
Total BTEX	<0.300	0.300	05/31/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	05/30/2018	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/30/2018	ND	189	94.5	200	4.51	
DRO >C10-C28*	<10.0	10.0	05/30/2018	ND	188	93.9	200	6.61	
EXT DRO >C28-C36	<10.0	10.0	05/30/2018	ND					

Surrogate: 1-Chlorooctane *84.3 %* *41-142*

Surrogate: 1-Chlorooctadecane *92.6 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	05/29/2018	Sampling Date:	05/23/2018
Reported:	06/01/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 5 @ 2' (H801463-04)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/31/2018	ND	1.70	85.1	2.00	2.16	
Toluene*	<0.050	0.050	05/31/2018	ND	1.67	83.6	2.00	3.60	
Ethylbenzene*	<0.050	0.050	05/31/2018	ND	1.69	84.7	2.00	2.03	
Total Xylenes*	<0.150	0.150	05/31/2018	ND	5.33	88.9	6.00	1.13	
Total BTEX	<0.300	0.300	05/31/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	05/30/2018	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/30/2018	ND	189	94.5	200	4.51	
DRO >C10-C28*	<10.0	10.0	05/30/2018	ND	188	93.9	200	6.61	
EXT DRO >C28-C36	<10.0	10.0	05/30/2018	ND					

Surrogate: 1-Chlorooctane *84.6 %* *41-142*

Surrogate: 1-Chlorooctadecane *92.2 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	05/29/2018	Sampling Date:	05/23/2018
Reported:	06/01/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 6 @ 2' (H801463-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/31/2018	ND	1.70	85.1	2.00	2.16	
Toluene*	<0.050	0.050	05/31/2018	ND	1.67	83.6	2.00	3.60	
Ethylbenzene*	<0.050	0.050	05/31/2018	ND	1.69	84.7	2.00	2.03	
Total Xylenes*	<0.150	0.150	05/31/2018	ND	5.33	88.9	6.00	1.13	
Total BTEX	<0.300	0.300	05/31/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	05/30/2018	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/30/2018	ND	192	96.2	200	4.33	
DRO >C10-C28*	<10.0	10.0	05/30/2018	ND	204	102	200	4.50	
EXT DRO >C28-C36	<10.0	10.0	05/30/2018	ND					

Surrogate: 1-Chlorooctane *95.3 %* *41-142*

Surrogate: 1-Chlorooctadecane *88.3 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Devon Energy
Project Manager:	Mike Shoemaker
Address:	6488 7 Rivers Hwy
City:	Artesia State: NM Zip: 88210
Phone #:	(575) 746-5566 Fax #:
Project #:	Project Owner:
Project Name:	Apache 25 Fed 09
Project Location:	Environmental REM-NM
Sampler Name:	Monique Cueto

BILL TO

P.O. #:	
Company:	White Buffalo
Attn:	
Address:	8908 Yale Ave #210
City:	Tulsa
State: OK	Zip: 74137
Phone #:	918-660-0999
Fax #:	

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: Chloride	BTEX	TPH (GRO, DRO, MRO)
H501463- 1	SP 2 @ 2'	G				X					X		5/22	11:00	X	X	X
2	SP 3 @ 2'	G				X					X		5/22	10:20	X	X	X
3	SP 4 @ 2'	G				X					X		5/22	10:32	X	X	X
4	SP 5 @ 2'	G				X					X		5/23	10:50	X	X	X
5	SP 6 @ 2'	G				X					X		5/23	11:53	X	X	X

Relinquished By:	Date: 5/29/18 Time: 4:35	Received By:	
Relinquished By:	Date: Time:	Received By:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	4.9° Corrected 4.8°	Sample Condition Cool: ☑ Yes ☐ No Intact: ☐ Yes ☐ No	CHECKED BY: (Initials) TO #25

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS: Email: Dakeotah.montanez@whitebuffalo.com
Natalie.gladden@whitebuffalo.com.

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

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

July 27, 2018

MIKE SHOEMAKER

WHITE BUFFALO

8908 YALE AVE #210

TULSA, OK 74137

RE: APACHE 25 FED 09

Enclosed are the results of analyses for samples received by the laboratory on 07/23/18 14:30.

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

Cardinal Laboratories is 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. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/17/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 1 @ 4' (H802003-01)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *115 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	07/25/2018	ND	448	112	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2018	ND	213	106	200	0.359	
DRO >C10-C28*	**19.5**	10.0	07/24/2018	ND	221	110	200	0.563	
EXT DRO >C28-C36	<10.0	10.0	07/24/2018	ND					

Surrogate: 1-Chlorooctane *110 %* *41-142*

Surrogate: 1-Chlorooctadecane *102 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/17/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 7 @ 1' (H802003-02)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	07/25/2018	ND	448	112	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2018	ND	213	106	200	0.359	
DRO >C10-C28*	<10.0	10.0	07/25/2018	ND	221	110	200	0.563	
EXT DRO >C28-C36	<10.0	10.0	07/25/2018	ND					

Surrogate: 1-Chlorooctane *105 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.2 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/17/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 8 @ 6' (H802003-03)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	07/25/2018	ND	448	112	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2018	ND	213	106	200	0.359	
DRO >C10-C28*	<10.0	10.0	07/25/2018	ND	221	110	200	0.563	
EXT DRO >C28-C36	<10.0	10.0	07/25/2018	ND					

Surrogate: 1-Chlorooctane *119 %* *41-142*

Surrogate: 1-Chlorooctadecane *111 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/17/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 9 @ 1' (H802003-04)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	07/25/2018	ND	448	112	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2018	ND	213	106	200	0.359	
DRO >C10-C28*	<10.0	10.0	07/25/2018	ND	221	110	200	0.563	
EXT DRO >C28-C36	<10.0	10.0	07/25/2018	ND					

Surrogate: 1-Chlorooctane *120 %* *41-142*

Surrogate: 1-Chlorooctadecane *113 %* *37.6-147*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/17/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 10 @ 2' (H802003-05)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *114 %* *69.8-142*

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	07/25/2018	ND	448	112	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2018	ND	213	106	200	0.359	
DRO >C10-C28*	<10.0	10.0	07/25/2018	ND	221	110	200	0.563	
EXT DRO >C28-C36	<10.0	10.0	07/25/2018	ND					

Surrogate: 1-Chlorooctane *112 %* *41-142*

Surrogate: 1-Chlorooctadecane *106 %* *37.6-147*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/17/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 11 @ 4' (H802003-06)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	07/25/2018	ND	448	112	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2018	ND	213	106	200	0.359	
DRO >C10-C28*	**31.1**	10.0	07/25/2018	ND	221	110	200	0.563	
EXT DRO >C28-C36	<10.0	10.0	07/25/2018	ND					

Surrogate: 1-Chlorooctane *121 %* *41-142*

Surrogate: 1-Chlorooctadecane *114 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/17/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 12 @ 2' (H802003-07)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *114 %* *69.8-142*

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	07/25/2018	ND	448	112	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2018	ND	213	106	200	0.359	
DRO >C10-C28*	<10.0	10.0	07/25/2018	ND	221	110	200	0.563	
EXT DRO >C28-C36	<10.0	10.0	07/25/2018	ND					

Surrogate: 1-Chlorooctane *113 %* *41-142*

Surrogate: 1-Chlorooctadecane *107 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/17/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 13 @ 4' (H802003-08)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *112 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	07/25/2018	ND	448	112	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2018	ND	202	101	200	0.742	
DRO >C10-C28*	<10.0	10.0	07/25/2018	ND	205	103	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	07/25/2018	ND					

Surrogate: 1-Chlorooctane *106 %* *41-142*

Surrogate: 1-Chlorooctadecane *99.5 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/17/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 14 @ 2' (H802003-09)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	07/25/2018	ND	448	112	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2018	ND	202	101	200	0.742	
DRO >C10-C28*	<10.0	10.0	07/25/2018	ND	205	103	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	07/25/2018	ND					

Surrogate: 1-Chlorooctane *108 %* *41-142*

Surrogate: 1-Chlorooctadecane *101 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/17/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SP 15 @ 2' (H802003-10)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *115 %* *69.8-142*

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	07/25/2018	ND	448	112	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2018	ND	202	101	200	0.742	
DRO >C10-C28*	<10.0	10.0	07/25/2018	ND	205	103	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	07/25/2018	ND					

Surrogate: 1-Chlorooctane *107 %* *41-142*

Surrogate: 1-Chlorooctadecane *101 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/17/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SW 1 @ 4' (H802003-11)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	07/25/2018	ND	448	112	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2018	ND	202	101	200	0.742	
DRO >C10-C28*	**55.7**	10.0	07/25/2018	ND	205	103	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	07/25/2018	ND					

Surrogate: 1-Chlorooctane *102 %* *41-142*

Surrogate: 1-Chlorooctadecane *100 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/18/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SW 2 @ 4' (H802003-12)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *112 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	07/25/2018	ND	448	112	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2018	ND	202	101	200	0.742	
DRO >C10-C28*	<10.0	10.0	07/25/2018	ND	205	103	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	07/25/2018	ND					

Surrogate: 1-Chlorooctane *103 %* *41-142*

Surrogate: 1-Chlorooctadecane *96.2 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/18/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SW 3 @ 4' (H802003-13)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**560**	16.0	07/25/2018	ND	448	112	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2018	ND	202	101	200	0.742	
DRO >C10-C28*	<10.0	10.0	07/25/2018	ND	205	103	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	07/25/2018	ND					

Surrogate: 1-Chlorooctane *104 %* *41-142*

Surrogate: 1-Chlorooctadecane *96.4 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

WHITE BUFFALO
MIKE SHOEMAKER
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received:	07/23/2018	Sampling Date:	07/17/2018
Reported:	07/27/2018	Sampling Type:	Soil
Project Name:	APACHE 25 FED 09	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ENVIRONMENTAL REM-NM		

Sample ID: SW 4 @ 4' (H802003-14)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2018	ND	1.81	90.6	2.00	0.424	
Toluene*	<0.050	0.050	07/25/2018	ND	1.79	89.3	2.00	0.450	
Ethylbenzene*	<0.050	0.050	07/25/2018	ND	1.79	89.4	2.00	0.0616	
Total Xylenes*	<0.150	0.150	07/25/2018	ND	5.58	93.0	6.00	0.189	
Total BTEX	<0.300	0.300	07/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *115 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2000**	16.0	07/25/2018	ND	432	108	400	0.00	QM-07

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2018	ND	202	101	200	0.742	
DRO >C10-C28*	<10.0	10.0	07/25/2018	ND	205	103	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	07/25/2018	ND					

Surrogate: 1-Chlorooctane *104 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.8 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Devon Energy
Project Manager:	Mike Shoemaker
Address:	6488 7 Rivers Hwy
City:	Artesia State: NM Zip: 88210
Phone #:	(575) 746-5566 Fax #:
Project #:	Project Owner:
Project Name:	Apache 25 Fed 9
Project Location:	Environmental REG-NM
Sampler Name:	Monique Cueto

BILL TO

P.O. #:	
Company:	White Buffalo
Attn:	Steve McFarlin
Address:	8908 Yale Ave #210
City:	Tulsa
State:	OK Zip: 74137
Phone #:	918-660-0999
Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING DATE	SAMPLING TIME	ANALYSIS REQUEST: Chlorides	BTEX	TPH (GRO, PRO, MRO)
H807003																	
1	SP1 - 4'	G				X							7/17/18	1:45	X	X	X
2	SP7 - 1'	G				X							7/17/18	1:05	X	X	X
3	SP8 - 6'	G				X							7/17/18	10:15	X	X	X
4	SP9 - 1'	G				X							7/17/18	11:29	X	X	X
5	SP10 - 2'	G				X							7/17/18	11:00	X	X	X
6	SP11 - 4'	G				X							7/17/18	11:45	X	X	X
7	SP12 - 2'	G				X							7/17/18	12:05	X	X	X
8	SP13 - 4'	G				X							7/17/18	1:30	X	X	X
9	SP14 - 2'	G				X							7/17/18	1:42	X	X	X
10	SP15 - 2'	G				X							7/17/18	1:50	X	X	X

Relinquished By:	Date: 7-23-18	Received By:	
Monique Cueto	Time: 2:30	Tamara Oldaker	
Relinquished By:	Date:	Received By:	
	Time:		

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:
Email:
Dakoatah.Montanez@whitebuffalo.com
Natalie.Gladden@whitebuffalo.com

Delivered By: (Circle One) -9.6°c
Sampler - UPS - Bus - Other: Corrected -9.6°c

Sample Condition: Cool ☐ Yes ☐ No; Intact ☑ Yes ☐ No
CHECKED BY: (Initials) TO #75

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Devon Energy	BILL TO P.O. #:	
Project Manager:	Mike Shoemaker	Company:	White Buffalo
Address:	6488 T Rivers Hwy	Attn:	Steve McFarlin
City:	Artesia	State: NM Zip:	88210
Phone #:	(575) 746-5566	Fax #:	
Project #:		Project Owner:	
Project Name:	Apache 25 Fed 9		
Project Location:			
Sampler Name:	Monique Cueto		

Address:	8908 Yale Ave #210
City:	Tulsa
State: OK	Zip: 74137
Phone #:	918-660-0999
Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING DATE	TIME	ANALYSIS REQUEST: Chlorides	BTEX	TPH (GRO, DRO, MRO)
H802003																	
11	SW1-4'	G				X							7/17/18	1:39	X	X	X
12	SW2-4'	G				X							7/18/18	9:12	X	X	X
13	SW3-4'	G				X							7/18/18	7:50	X	X	X
14	SW4-4'	G				X							7/17/18	11:18	X	X	X

Relinquished By:	Date: 7-23-18	Received By:	
Monique Cueto	Time: 2:30	Tamara Oldaker	
Relinquished By:	Date:	Received By:	
	Time:		

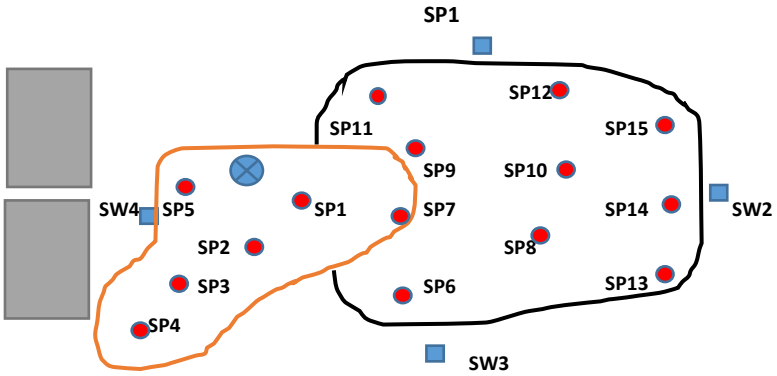
Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:
Email:
Dakoatah.Montanez@whitebuffalo.com
Natalie.Gladden@whitebuffalo.com

Delivered By: (Circle One) Sampler - UPS - Bus - Other: -9.6° Corrected -9.6°

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials) TO #75

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326



OFFICE'S
WELLHEAD
SAMPLE POINTS
SIDE WALLS
ORIGINAL RELEASE AREA
STOCKPILE AREA

DEVON - APACHE 25 FED 9
2RP-4606
30-015-32797
RELEASE DATE: 1-23-2018

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

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?	187' (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 **not** 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 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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
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: Natalie Gladden Title: Environmental and Regulatory Director

Signature: Natalie Gladden Date: ~~2/7/19~~ 3/15/19

email: Natalie.Gladden@whitebuffalo.com Telephone: 575-390-6397

OCD Only

Received by: _____ Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	
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: Natalie Gladden Title: Environmental and Regulatory Director

Signature: Natalie Gladden Date: 3-15-19

email: natalie.gladden@whitebuffalo.com Telephone: 575-390-6397

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☑ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☑ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☑ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Natalie Gladden Title: Env. + Reg. Director

Signature: Natalie Gladden Date: 3-15-19

email: natalie.gladden@whitebuffalo.com Telephone: 575-390-6397

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____