



DAVID FEATHER
ENVIRONMENTAL SUPERVISOR
DIRECT: (432) 818-1615
E-MAIL: DAVID.FEATHER@APACHECORP.COM

October 25, 2019

Mr. Bradford Billings
State of New Mexico Oil Conservation Division
1220 South St Francis Drive
Santa Fe, NM 87505

RE: 1RP-3071 NEDU 238

Mr. Billings,

In compliance with 19.15.29.15(B) NMAC and the agreement submitted by Apache Corporation on November 8, 2018, Apache Corporation is submitting information related to closure for the release occurring June 27, 2012. Apache is respectfully submitting the closure report based on remediation and studies occurring in 2012 that demonstrate the site meeting the requirements of the agency. Unless further information is requested by NMOCD, Apache Corporation considers this release closed.

If there are any questions, please feel free to contact me by telephone at 432-818-1615 or by e-mail at David.Feather@ApacheCorp.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Feather", is placed above the typed name.

David Feather
Environmental Supervisor
Apache Corporation - Permian Basin Region

Attachment: Closure Report Dated October 21, 2019



Bruce Baker

NEDU #238

Closure Report

API NO. 30-025-35403

1RP-3071

Release Date: 6/27/2012

U/L S, Section 2, Township 21S, Range 37E

Lea County, NM

10/21/19

Prepared By:

Hungry Horse, LLC

4024 Plains Hwy

Lovington, NM 88260

October 21, 2019

**New Mexico Energy, Minerals & Natural Resources
Oil Conservation Division, Environmental Bureau-District I
C/O Dylan Rose-Coss
1625 South French Drive
Hobbs, NM 88240**

**RE: Closure Report
Apache Corporation
NEDU #238 (Northeast Drinkard Unit #238)
U/L S, Section 2, Township 21S, Range 37E
API No. 30-025-35403**

To Whom it May Concern:

Apache Corporation has retained Hungry Horse, LLC., to address the potential environmental impact for the site detailed herein.

Background

An initial form C-141 (Release Notification) for the site mentioned above was submitted by Apache Corporation on June 27, 2012. The site is located in Lea County, New Mexico, 5.8 miles north of Eunice, New Mexico, east from NM Highway 248 in unit letter 'S' of section 2, T21S, R37E. Approximately 20bbls of Oil/Produced water was released. Approximately 15bbls of oil/produced water was recovered. Trash was found in the back -pressure valve which caused the stuffing box to blow out. The back- pressure valve was cleaned out and the stuffing box was repacked.

Groundwater Information

Hungry Horse, LLC has conducted an extended groundwater study of the area and it has been determined that according to the New Mexico Office of the State Engineer, the three closest wells to the NEDU #238 range from 70' bgs to 75' bgs within 2325' to 3460' from the site listed herein:

CP00552- 75'dgw with a distance of 2325' from the site
CP00553- 75'dgw with a distance of 2325' from the site
CP00554- 70'dgw with a distance of 3460' from the site

Karst Information

According to the Karst Map, the NEDU #238 is located in the low risk area. Therefore, no concerns are found.

Remediation

On June 27, 2012 Apache Corporation began remediation of the site. Four surface samples were taken and delivered to Cardinal Laboratories and were tested for Chlorides, GRO and DRO. Below you will find the lab analysis for the surface samples dated June 27, 2012 for the NEDU #238.

Sample ID	Chlorides	GRO	DRO
PT. 1 Surface	4240	4040	7140
PT. 2 Surface	3600	869	6420
PT. 3 Surface	656	9380	59500
PT. 4 Surface	1520	5010	38600

Remediation of the site continued and on July 5, 2012 five more samples were taken and delivered to Cardinal Laboratories. Below you will find the lab analysis for the samples dated July 5, 2012.

Sample ID	Chlorides	GRO	DRO
North Wall Center	64	<10.0	<10.0
South Wall Center	48	<10.0	<10.0
East Wall Center	32	<10.0	<10.0
West Wall Center	32	<10.0	<10.0
5 PT Bottom Comp	16	<10.0	<10.0

On July 9, 2012 five more samples were taken and delivered to Cardinal Laboratories. Below you will find the lab analysis for the samples dated July 9, 2012.

Sample ID	Chlorides	GRO	DRO
N Wall Center	64	<10.0	<10.0
S Wall Center	64	<10.0	<10.0
E Wall Center	80	<10.0	<10.0
W Wall Center	80	<10.0	<10.0
5 PT Bottom Comp	48	<10.0	<10.0

One final sample was taken July 10, 2019 to confirm that the imported soil was clean for backfill. Below you will find the lab analysis for the sample dated July 10, 2019.

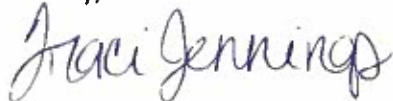
Chloride	GRO	DRO
48	<10.0	<10.0

Conclusion

Based on the lab analysis and the information provided, Apache Corporation, submits the final C-141 and respectfully requests the closure of the regulatory file for the NEDU #238. This site was remediated in July of 2012. Please see the lab analysis and mapping of the site.

Apache Corporation appreciates the opportunity to work with you on this project. Please call Bruce Baker at 432-631-6982 if you have any questions or concerns.

Sincerely,



Traci Jennings
Compliance Manager
Hungry Horse, LLC.
4024 Plains Highway
Lovington, NM 88260
Cell (575) 390-1761
tjennings@hungry-horse.com

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

HOBBS OCD

AUG 16 2012

RECEIVED

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Apache Corporation	Contact Natalie Gladden
Address PO Box 1849 Eunice, NM 88231	Telephone No. 575-390-4186
Facility Name NEDU #238	Facility Type Producing well

Surface Owner McNeil Ranch	Mineral Owner State of NM	API No. 30-025-35403
----------------------------	---------------------------	----------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
S	2	21S	37E	2500	FSL	1700	FWL	Lea

Latitude

Longitude

NATURE OF RELEASE

Type of Release Oil/Produced Water	Volume of Release 20	Volume Recovered 15
Source of Release BPV	Date and Hour of Occurrence 06/27/12	Date and Hour of Discovery 06/27/12
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Geoffrey Leking	
By Whom? Natalie Gladden	Date and Hour 06/27/12 5:27pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.*

DTW=27'


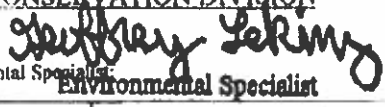
Describe Cause of Problem and Remedial Action Taken.*

Trash was found in the back pressure valve which caused the stuffing box to blow out.

Describe Area Affected and Cleanup Action Taken.*

BPV was cleaned out and stuffing box packing was repacked. Remediation will follow the NMOCD Guidelines to closure.

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: 	OIL CONSERVATION DIVISION	
Printed Name: Natalie Gladden	Approved by:  Environmental Specialist	
Title: EHS Environmental Tech	Approval Date: 07/01/12	Expiration Date: 09/01/12
E-mail Address: natalie.gladden@apachecorp.com	Conditions of Approval: 30MFR FINAL C-141 BY 09/01/12	Attached <input type="checkbox"/> IRP-06-14-3071
Date: 07/01/12 Phone: 575-390-4186		

* Attach Additional Sheets If Necessary

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?	<u>70</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NJXK1606056611
District RP	1RP-3071
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: Bruce BAKER Title: Environmental Tech SR.
 Signature: Bruce Baker Date: 10-24-19
 email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: Cristina Eads Date: 04/03/2020

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: Cristina Eads Date: 04/03/2020

Printed Name: Cristina Eads Title: Environmental Specialist



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	CP 00552	2	4	04	21S	37E		672700	3598022* 
Driller License: 208		Driller Company:				VAN NOY, W.L.			
Driller Name:		VAN NOY, W.L.							
Drill Start Date: 07/31/1976		Drill Finish Date:				07/31/1976		Plug Date:	
Log File Date: 01/11/1979		PCW Rcv Date:						Source: Shallow	
Pump Type:		Pipe Discharge Size:				Estimated Yield:			
Casing Size: 6.63		Depth Well:				90 feet		Depth Water: 75 feet	
Water Bearing Stratifications:					Top	Bottom	Description		
					75	88	Sandstone/Gravel/Conglomerate		
Casing Perforations:					Top	Bottom			
					75	89			

*UTM location was derived from PLSS - see Help

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


10/16/19 9:26 AM

POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)				(NAD83 UTM in meters)	
		(quarters are smallest to largest)				X	Y
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng
	CP 00553	2	4	04	21S	37E	672700 3598022* 
Driller License: 208		Driller Company:		VAN NOY, W.L.			
Driller Name: VAN NOY, W.L.							
Drill Start Date:	09/30/1976	Drill Finish Date:		09/30/1976		Plug Date:	
Log File Date:	01/10/1979	PCW Rcv Date:				Source:	Shallow
Pump Type:		Pipe Discharge Size:				Estimated Yield:	
Casing Size:	6.63	Depth Well:		90 feet		Depth Water:	75 feet
Water Bearing Stratifications:		Top	Bottom	Description			
		75	85	Sandstone/Gravel/Conglomerate			
Casing Perforations:		Top	Bottom				
		75	89				

*UTM location was derived from PLSS - see Help

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


10/16/19 9:27 AM

POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer

Point of Diversion Summary

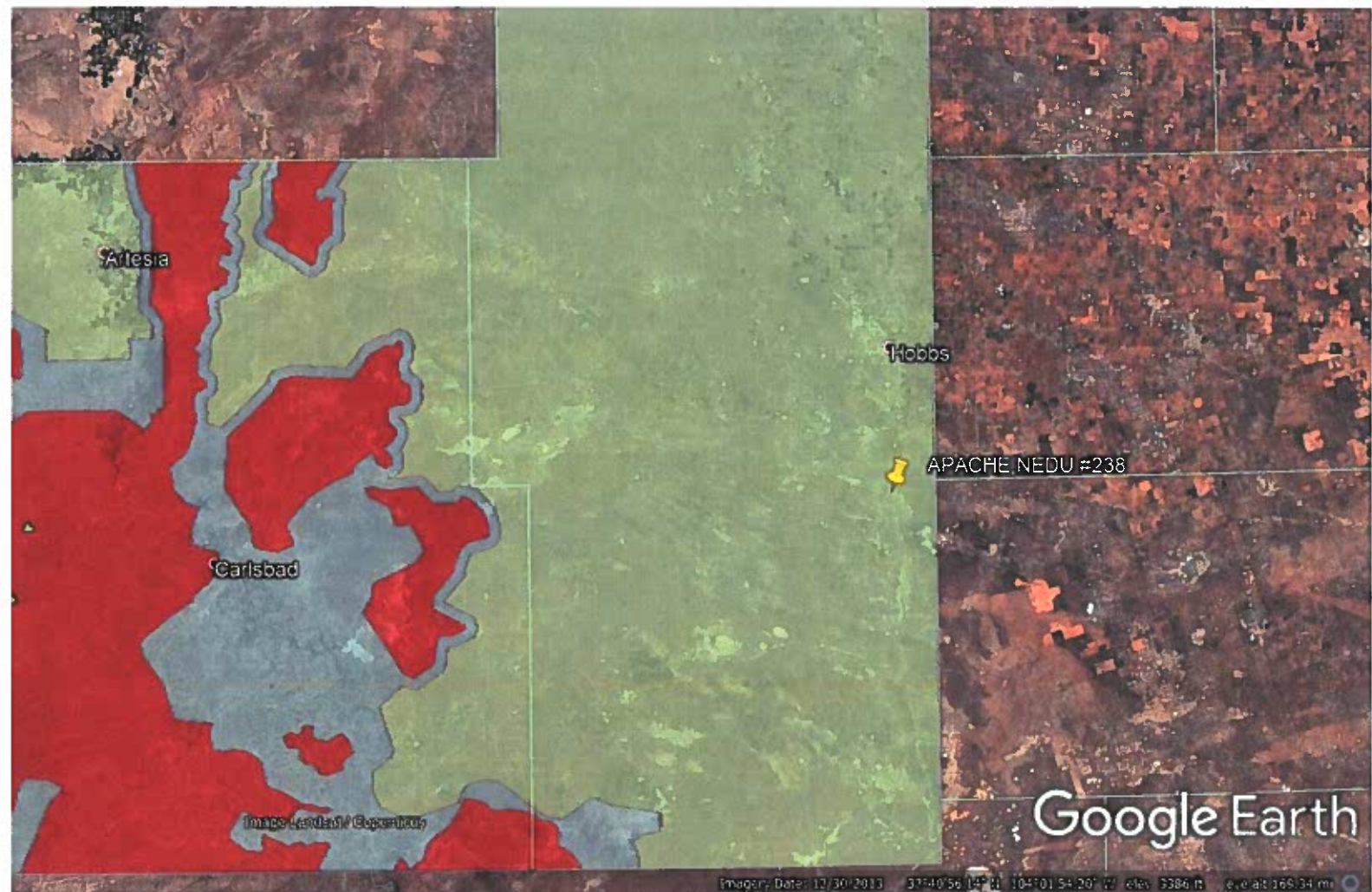
		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)				(NAD83 UTM in meters)			
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	CP 00554	2	2	16	21S	37E	672744	3595610*	
<hr/>									
Driller License: 208		Driller Company:		VAN NOY, W.L.					
Driller Name:		VAN NOY, W.L.							
Drill Start Date: 06/01/1976		Drill Finish Date:		06/05/1976		Plug Date:			
Log File Date: 04/05/1977		PCW Rcv Date:				Source:		Shallow	
Pump Type:		Pipe Discharge Size:				Estimated Yield:			
Casing Size: 5.00		Depth Well:		80 feet		Depth Water:		70 feet	
<hr/>									
Water Bearing Stratifications:				Top	Bottom	Description			
				75	80	Sandstone/Gravel/Conglomerate			
<hr/>									
Casing Perforations:				Top	Bottom				
				64	80				

*UTM location was derived from PLSS - see Help

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

10/21/19 10:14 AM

POINT OF DIVERSION SUMMARY





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

July 06, 2012

NATALIE GLADDEN

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: NEDU #238 AD

Enclosed are the results of analyses for samples received by the laboratory on 07/02/12 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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/neld/ga/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2336 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

APACHE - EUNICE
NATALIE GLADDEN
P. O. BOX 1849
EUNICE NM, 88231
Fax To: 394-2425

Received: 07/02/2012
Reported: 07/06/2012
Project Name: NEDU #238 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/27/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: PT. 1 SURFACE (H201488-01)

Chloride, SM4500Cl-B

mg/kg

Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4240	16.0	07/03/2012	ND	416	104	400	0.00	

TPH 8015M

mg/kg

Analyzed By: AM

S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	4040	100	07/03/2012	ND	193	96.5	200	1.57	
DRO >C10-C28	7140	100	07/03/2012	ND	201	101	200	0.257	

Surrogate 1-Chlorooctane 242 % 63 2-140

Surrogate 1-Chlorooctadecane 192 % 63 6-154

Sample ID: PT. 2 SURFACE (H201488-02)

Chloride, SM4500Cl-B

mg/kg

Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3600	16.0	07/03/2012	ND	416	104	400	0.00	

TPH 8015M

mg/kg

Analyzed By: AM

S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	859	100	07/05/2012	ND	192	96.2	200	1.25	
DRO >C10-C28	6420	100	07/05/2012	ND	200	100	200	2.99	

Surrogate 1-Chlorooctane 165 % 63 2-140

Surrogate 1-Chlorooctadecane 191 % 63 6-154

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages: Cardinal's liability and service excludes remedy for any claim arising, whether based in contract or tort, that is limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be barred unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits sustained by client, its subsidiaries, affiliates or successors arising out of or related to the performance of its services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated theories or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE - EUNICE
NATALIE GLADDEN
P. O. BOX 1849
EUNICE NM, 88231
Fax To: 394-2425

Received: 07/02/2012
Reported: 07/06/2012
Project Name: NEDU #238 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/27/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: PT. 3 SURFACE (H201488-03)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	07/03/2012	ND	416	104	400	0.00	
TPH 8015M		mg/kg	Analyzed By: AM						

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	9380	200	07/05/2012	ND	192	96.2	200	1.25	
DRO >C10-C28	59500	200	07/05/2012	ND	200	100	200	2.99	

Surrogate: 1-Chlorooctane 538 % 65.2-140

Surrogate: 1-Chlorooctadecane 497 % 63.6-154

Sample ID: PT. 4 SURFACE (H201488-04)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1520	16.0	07/03/2012	ND	416	104	400	0.00	
TPH 8015M		mg/kg	Analyzed By: AM						

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	5010	200	07/05/2012	ND	192	96.2	200	1.25	
DRO >C10-C28	38600	200	07/05/2012	ND	200	100	200	2.99	

Surrogate: 1-Chlorooctane 312 % 65.2-140

Surrogate: 1-Chlorooctadecane 377 % 63.6-154

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages: Cardinal's liability and claims exclusion remedy for any claim arising, whether based on contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services rendered by Cardinal regardless of whether such claim is based upon any of the above stated remedies or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages: Cardinal's liability and damage exclusion remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be held liable for accident or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated releases or otherwise. Reports relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (326) 673-7001 FAX (326) 673-7020

[illegible]



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

July 12, 2012

NATALIE GLADDEN

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: NEDU #238 AD

Enclosed are the results of analyses for samples received by the laboratory on 07/09/12 10:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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/lab/accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Hope S. Moreno". The signature is written in a cursive, flowing style.

Hope Moreno

Inorganic Technical Director



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

Analytical Results For:

APACHE EUNICE
NATALIE GLADDEN
P. O. BOX 1849
EUNICE NM, 88231
Fax To: 394-2425

Received: 07/09/2012
Reported: 07/12/2012
Project Name: NEDU #238 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/05/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: NORTH WALL CENTER (H201550-01)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/10/2012	ND	400	100	400	3.92	
TPH 8015M		mg/kg	Analyzed By: AM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/10/2012	ND	188	93.9	200	0.634	
DRO >C10-C28	<10.0	10.0	07/10/2012	ND	207	103	200	3.14	
Surrogate 1-Chlorooctane	86.5 %	65.2-140							
Surrogate 1-Chlorooctadecane	101 %	63.6-154							

Sample ID: SOUTH WALL CENTER (H201550-02)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/10/2012	ND	400	100	400	3.92	
TPH 8015M		mg/kg	Analyzed By: AM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/10/2012	ND	188	93.9	200	0.634	
DRO >C10-C28	<10.0	10.0	07/10/2012	ND	207	103	200	3.14	
Surrogate 1-Chlorooctane	82.0 %	65.2-140							
Surrogate 1-Chlorooctadecane	95.4 %	63.6-154							

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages: Cardinal's liability and charges exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples described above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Hope S. Moreno

Hope Moreno, Inorganic Technical Director



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

Analytical Results For:

APACHE EUNICE
NATALIE GLADDEN
P. O. BOX 1849
EUNICE NM, 88231
Fax To: 394-2425

Received: 07/09/2012
Reported: 07/12/2012
Project Name: NEDU #238 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/05/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: EAST WALL CENTER (H201550-03)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	15.0	07/10/2012	ND	400	100	400	3.92		
TPH 8015M		mg/kg	Analyzed By: AM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRD C6-C10	<10.0	10.0	07/10/2012	ND	188	93.9	200	0.634		
DRO >C10-C28	<10.0	10.0	07/10/2012	ND	207	103	200	3.14		
Surrogate 1-Chlorooctane	84.4 %	65.2-140								
Surrogate 1-Chlorodecane	94.6 %	63.6-154								

Sample ID: WEST WALL CENTER (H201550-04)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	15.0	07/10/2012	ND	400	100	400	3.92	
TPH 8015M		mg/kg	Analyzed By: AM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/10/2012	ND	188	93.9	200	0.634	
DRO >C10-C28	<10.0	10.0	07/10/2012	ND	207	103	200	3.14	
Surrogate 1-Chlorooctane	86.2 %	65.2-140							
Surrogate 1-Chlorooctadecane	100 %	63.6-154							

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for indirect or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services furnished by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the sample as identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Hope S. Moreno
Hope Moreno, Inorganic Technical Director



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

Analytical Results For:

APACHE - EUNICE
NATALIE GLADDEN
P. O. BOX 1849
EUNICE NM, 88231
Fax To: 394-2425

Received: 07/09/2012
Reported: 07/12/2012
Project Name: NEDU #238 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/05/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: 5 PT BOTTOM COMP (H201550-05)

Chloride, SM4300CI-B

mg/kg

Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/10/2012	ND	400	100	400	3.92	

TPH 8015M

mg/kg

Analyzed By: AM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/10/2012	ND	188	93.9	200	0.634	
DRO >C10-C28	<10.0	10.0	07/10/2012	ND	207	103	200	3.14	

Surrogate 1-Chlorooctane 84.8 % 65.2-140

Surrogate 1-Chlorooctadecane 98.5 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages: Cardinal's liability and claims' existence remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated remedies or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Hope S. Moreno

Hope Moreno, Inorganic Technical Director



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 SM4500C-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, no sub-license, attestation or successors arising out of or related to the performance of the services rendered by Cardinal, regardless of whether such claims based upon any of the above stated reasons or otherwise. Results relate only to the samples described above. This report shall not be reproduced e-copy or full with written approval of Cardinal Laboratories.

Hope S. Moreno

Hope Moreno, Inorganic Technical Director

**CARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240 2111 Geochwood, Abilene, TX 79601
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7026

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Apache Corp Project Manager: Natalie Gladdon Address: City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: <i>Nirx # 238-1012</i> Project Location: _____ Sampler Name: <i>Jackie</i>				BILL TO P.O. #: _____ Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____		ANALYSIS REQUEST													
Lab I.D. <i>1701556</i>	Sample I.D. <i>1701556</i>	UPAS OR CHMP <input type="checkbox"/> CONTAINER <input type="checkbox"/> WASTE	MATRIAL <input type="checkbox"/> GROUNDWATER <input type="checkbox"/> WASTEWATER	PRESERV <input type="checkbox"/> COOL <input type="checkbox"/> ACID <input type="checkbox"/> OTHER	SAMPLING DATE _____ TIME _____	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS								
<small>NOTE: Samples must be properly labeled and stored in accordance with the following instructions. Failure to follow these instructions may result in sample rejection. All samples must be labeled with the following information: Project Name, Project Location, Sampler Name, Date, Time, and Matrix. All samples must be stored in the original container and sealed with the original cap. All samples must be stored in a cool, dry place. All samples must be stored for a minimum of 30 days. All samples must be stored for a maximum of 90 days. All samples must be stored for a minimum of 30 days. All samples must be stored for a maximum of 90 days.</small>																			
Relinquished By: _____ Date: <i>7-12</i>		Received By: _____ Date: <i>7-12</i>		Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #: _____															
Relinquished By: _____ Date: <i>7-9-12</i>		Received By: _____ Date: <i>7-9-12</i>		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Fax #: _____															
Delivered By: (Circle One) _____		Sample Condition: <input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		CHECKED BY: _____ Up/Down: _____															
Sampler: <input type="checkbox"/> GPS <input type="checkbox"/> Bus <input type="checkbox"/> Other _____		-120		email results: natalie.gladdon@apachecorp.com Zconder@rice-ecs.com Bbaker@rice-ecs.com hconder@rice-ecs.com Lweinheimer@rice-ecs.com jkamplain@rice-ecs.com															

* Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

1701556



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

July 16, 2012

NATALIE GLADDEN

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: NEDU #238 AD

Enclosed are the results of analyses for samples received by the laboratory on 07/09/12 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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/lab/accred/certif.html.

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

Method EPA 552.2	Halooacetic 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



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

Analytical Results For:

APACHE - EUNICE
NATALIE GLADDEN
P. O. BOX 1849
EUNICE NM, 88231
Fax To: 394-2425

Received: 07/09/2012
Reported: 07/16/2012
Project Name: NEDU #238 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/09/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: N WALL CENTER (H201559-01)

Chloride, SM4500Cl-B

mg/kg

Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/11/2012	ND	432	108	400	3.77	

TPH 8015M

mg/kg

Analyzed By: AM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/11/2012	ND	171	85.5	200	3.36	
DRO >C10-C28	<10.0	10.0	07/11/2012	ND	184	92.2	200	1.06	

Surrogate 1-Chlorooctane 77.2 % 65.2-140

Surrogate 1-Chlorooctadecane 97.6 % 63.6-154

Sample ID: S WALL CENTER (H201559-02)

Chloride, SM4500Cl-B

mg/kg

Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/11/2012	ND	432	108	400	3.77	

TPH 8015M

mg/kg

Analyzed By: AM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/11/2012	ND	171	85.5	200	3.36	
DRO >C10-C28	<10.0	10.0	07/11/2012	ND	184	92.2	200	1.06	

Surrogate 1-Chlorooctane 65.5 % 65.2-140

Surrogate 1-Chlorooctadecane 77.1 % 63.6-154

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages: Cardinal's liability and owner's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, loss of use, or loss of profits, damages by third parties, substances, affiliates or successors arising out of or related to the performance of the services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated matters or otherwise. Results relate only to the samples identified above. This report shall not be reproduced or stored in any manner without approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE - EUNICE
NATALIE GLADDEN
P. O. BOX 1849
EUNICE NM, 88231
Fax To: 394-2425

Received: 07/09/2012
Reported: 07/16/2012
Project Name: NEDU #238 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/09/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: E WALL CENTER (H201559-03)

Chloride, SM4500Cl-B

mg/kg

Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/11/2012	ND	432	108	400	3.77	
TPH 8015M	mg/kg Analyzed By: AM								

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/11/2012	ND	171	85.5	200	3.36	
DRO >C10-C28	<10.0	10.0	07/11/2012	ND	184	92.2	200	1.06	

Surrogate 1-Chlorooctane 77.0 % 65 2-140

Surrogate 1-Chlorooctadecane 98.1 % 63 6-154

Sample ID: W WALL CENTER (H201559-04)

Chloride, SM4500Cl-B

mg/kg

Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/11/2012	ND	432	108	400	3.77	
TPH 8015M	mg/kg Analyzed By: AM								

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/11/2012	ND	171	85.5	200	3.36	
DRO >C10-C28	<10.0	10.0	07/11/2012	ND	184	92.2	200	1.06	

Surrogate 1-Chlorooctane 75.8 % 65 2-140

Surrogate 1-Chlorooctadecane 92.1 % 63 6-154

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Release: Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced or copied in full without written approval of Cardinal Laboratories.

Celeste D. Keene

Celeste D. Keene, Lab Director/Quality Manager



PHONE (875) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

APACHE • EUNICE
NATALIE GLADDEN
P. O. BOX 1849
EUNICE NM, 88231
Fax To: 394-2425

Received: 07/09/2012
Reported: 07/16/2012
Project Name: NEDU #238 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/09/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: 5 PT BOTTOM (H201559-05)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/11/2012	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: AM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/11/2012	ND	171	85.5	200	3.36	
ORO >C10-C28	<10.0	10.0	07/11/2012	ND	184	92.2	200	1.06	
Surrogate 1-Chlorooctane	79.0 %	65.2-140							
Surrogate 1-Chlorooctadecane	97.9 %	63.6-154							

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages: Cardinal's liability and dollar's exposure remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for indirect or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits suffered by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated remedies or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, no subsequent, efficient or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims are based upon any of the above stated causes of action. Results relate only to the samples identified above. This report shall not be reproduced or used in full without written approval of Cardinal Laboratories.

Ceiley D. Keene

Ceiley D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

† Cardinal cannot accept verbal changes. Please fax written changes to 545-191 24/5



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

July 16, 2012

NATALIE GLADDEN

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: NEDU #238 AD

Enclosed are the results of analyses for samples received by the laboratory on 07/10/12 16:29.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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/het/qa/lab/accred/conf.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

APACHE - EUNICE
NATALIE GLADDEN
P. O. BOX 1849
EUNICE NM, 88231
Fax To: 394-2425

Received: 07/10/2012
Reported: 07/16/2012
Project Name: NEDU #238 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/10/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: IMPORTED CALICHE (H201571-01)

Chloride, SM4500Cl-B

mg/kg

Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/12/2012	ND	400	100	400	4.08	

TPH 8015M

mg/kg

Analyzed By: AM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/12/2012	ND	167	83.4	200	0.491	
DRO >C10-C28	<10.0	10.0	07/12/2012	ND	175	87.7	200	1.55	

Surrogate 1-Chloronctane 70.8 % 65.2-140

Surrogate 1-Chlorooctadecane 91.9 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages: Cardinal's liability and claims are limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruption, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the 100-4 hazard removal or otherwise. Results relate only to the samples identified above. This report shall not be reproduced or copied in any form without approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

PLEASE NOTE: Liability and Damages. Cardinal's liability and charge is limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be held liable for material or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reports or otherwise. Reports valid only as the samples described above. This report shall not be reproduced without the written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

**CARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 873-7001 FAX (325) 873-7020

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Apache Corp				BILL TO		ANALYSIS REQUEST											
Project Manager: Natalie Gladden				P.O. #		Chlorides	TPH 8015 M	BTX	Texas TPH	Complete Cations/Anions	TDS						
Address:				Company													
City: State: Zip:				Attn:													
Phone # Fax #				Address													
Project # Project Owner:				City													
Project Name: NE(02) 736.01				State Zip													
Project Location:				Phone #													
Sampler Name: [Signature]				Fax #													
Lab I.D.	Sample I.D.	MATRIX	PRESERV	SAMPLING	DATE	TIME											
H201571	1. [Signature] Culch	GROUNDWATER	ACID BASE	ICE COOL	7-16	11:45	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									

PLEASE NOTE: Samples and Containers must be clearly labeled with the sample name and the date and time of collection. Samples must be delivered to the laboratory within 24 hours of collection. Samples must be stored at 4°C or below until analysis. Samples must be analyzed within 30 days of collection. Samples must be analyzed within 30 days of collection. Samples must be analyzed within 30 days of collection.

Relinquished By: [Signature]	Date: 7-16-01	Received By: [Signature]	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #: [Blank]
Relinquished By: [Signature]	Date: 7-16-01	Received By: [Signature]	Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #: [Blank]
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 4.50			Sample Condition: Cool - Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
CHECKED BY: [Signature]			email results natalie.gladden@apachecorp.com Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#26

Apache

NEDU #238 View from 2/2014

Legend

Impacted Area

APACHE NEDU #238

Impacted Area

Google Earth

100 ft



APACHE


NEDU #238

View of site from February 2019

Legend

 Impacted Area

APACHE NEDU #238

 Impacted Area

Google Earth

100 ft

