



October 12, 2020

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

RE: 1RP-3573 NMGSAU 1108

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 March 9, 2015. Apache is respectfully submitting the closure report based on remediation and studies occurring in 2017 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 432-631-6982 or by e-mail at larry.baker@apachecorp.com

Sincerely,

A handwritten signature in black ink that reads "Larry Baker".

Larry Baker
Environmental Technician SR.
Apache Corporation

Attachment: Closure Report Dated October 12, 2020



303 Veterans Airpark Lane Midland, TX 79705

Closure Report

October 12, 2020

Re: NMGSAU 1108
Case # 1RP-3573

On 3/9/2015 a release occurred due to 3 inch fiberglass flowline ruptured resulting in the loss of fluid. The release (GPS: 32.632197, -103.269308) is located north of Monument, New Mexico in unit letters G and H section 29 township 19S range 37E. A remediation plan was submitted to OCD and approved on 3/2/2017.

Apache Corporation completed in 2017 excavating, backfilling, and re-seeding in accordance with the OCD approved remediation plan and respectfully request that event # 1RP-3573 be closed.

Enclosed: C-141, Remediation Plan, Invoice and Photos.

Submitted by;

Bruce Baker

Environmental Technician

larry.baker@apachecorp.com

Cell# 432-631-6982

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: Larry Baker Title: Environmental Tech SR.
 Signature: Larry Baker Date: 10/12/2020
 email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: OCD Date: 7/29/2022

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: Ashley Maxwell Date: 12/21/2022
 Printed Name: Ashley Maxwell Title: Environmental Specialist

From: [Oberding, Tomas, EMNRD](#)
To: [Van Curen, Jennifer](#); [Groves, Amber](#)
Cc: [Baker, Larry](#)
Subject: RE: NMGSAU
Date: Thursday, March 02, 2017 9:32:30 AM

Ms. Van Curen,

Upon review of this document, the OCD approves the installation of the liner at 4' BGS.

Please keep us informed and confirm with the SLO.

Mahalo

-Doc

Tomáš 'Doc' Oberding PhD
Hydrologist, Adv-District 1
Oil Conservation Division, EMNRD
(505) 476-3403
E-Mail: tomas.oberding@state.nm.us
一期一会

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

-----Original Message-----

From: Van Curen, Jennifer [<mailto:Jennifer.VanCuren@arcadis.com>]
Sent: Wednesday, December 7, 2016 10:41 AM
To: Oberding, Tomas, EMNRD <Tomas.Oberding@state.nm.us>
Subject: NMGSAU

Your message is ready to be sent with the following file or link attachments:

Binder1.pdf

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Imagine the result

Apache Corporation

**NMGSAU
Remediation
Plan Proposal**

Lea County, New Mexico

October 16, 2016

Jennifer Van Curen
Environmental Project Scientist

NMGSAU

Remediation
Plan Proposal

Prepared for:
Apache
Corporation
Eddy County, New Mexico

Prepared by:
ARCADIS U.S., Inc.
1004 North Big Spring Street
Suite 300
Midland
Texas 79701
Tel 432 687 5400
Fax 432 687 5401

Our Ref.:
MT001200.0000.0000

Date:
October 16, 2016

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NMGSAU

**Remediation
Plan Proposal**

Apache
Corporation
Eddy County, New Mexico

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Eddy County, New Mexico

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Eddy County, New Mexico

1. INTRODUCTION

The subject site is located 425 feet north of the well pad at N32.632197 and W103.269308 in Section 29, T19S, R37E in Lea County. The site is operated by Apache Corporation.

2. SUMMARY OF SITE INVESTIGATION ACTIVITIES

The New Mexico Oil Conservation Division (NMOCD) was notified of the 10 barrel (bbl.) release at the site via form C-141, submitted on March 18, 2015 by Bruce Baker with Apache Corporation.

The release was reported to have had a 3-inch fiberglass line rupture resulting in fluid loss. The line was isolated and dusted with caliche.

Initial release site investigation activities were conducted in March 2015 by completing field sampling to 16 feet below ground surface (bgs). In September of 2015, a soil boring unit was used to delineate the horizontal extent of the release. The area was excavated and impacted soils were transported for disposal. A large amount of soil was stockpiled and tested for chlorides. The excavation was then lined with a clay liner and the stockpiled soil was replaced in the excavation. To ensure the vertical extent of soil impacted by chlorides was reached during excavation, a soil boring unit was brought in for further investigation in November 2015 and December 2015.

Several samples were taken at locations within the release site, outside of release site, and from the backfill material to be used following excavation installation of a clay liner. Soil sampling activities included soil sampling of two soil borings inside release area (vertical 1-2), four soil borings at the edge of release area for horizontal delineation (SB 1-4), and two sample points in release path (SP 1-2). The soil borings vary in depth to reach the NMOCD delineation guidelines for chlorides.

Soil sampling results are shown in the Table 1 with sample point locations in Figure 1 below. The laboratory results are attached in Appendix A.

Table: 1 Field and Laboratory Sample



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Corporation
Eddy County, New Mexico

Date	Sample #	Depth in feet	Sample Results Data	
			TPH (ppm)	CL's (ppm)
3/20/2015	Vertical 1	8	<10.0	531
		9	<10.0	653
		10	<10.0	707
		11	<10.0	1003
		12	<10.0	765
		13	<10.0	766
		14	<10.0	867
		15	<10.0	713
		16	<10.0	685
		11/16/2015		17
18	<10.0			64
19	<10.0			80
20	<10.0			96
21	<10.0			64
3/20/2015	Vertical 2	4	<10.0	580
		5	<10.0	540
		6	<10.0	335
		7	<10.0	543
		8	<10.0	284
		9	<10.0	374
		10	<10.0	167
		11	<10.0	118
		12	<10.0	89
		13	<10.0	85
11/16/2015		14	<10.0	83
		15	<10.0	89
		16	<10.0	89
		17	<10.0	128
		18	<10.0	144
		19	<10.0	80
		20	<10.0	80
		21	<10.0	64

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Horizontal Delineation for Chlorides (ppm)				
9/11/2015	SB-1	SB-2	SB-3	SB-4
0-3'	160	224	80	64
3-6'	144	116	80	40
6-9'	176	80	39	40
9-12'	160	80	39	40
12-15'	256	90	39	40

Date	Sample #	Depth in feet	Sample Results Data	
			TPH (ppm)	CL's (ppm)
11/16/2015	SP-1	Grab	562	160
Pile 1	SP-2	Grab	38.7	225
	SP-3	Grab	52.4	160
	SP-4	Grab	29.1	192
	SP-5	Grab	<10.0	352
	SP-6	Grab	15	320
	SP-7	Grab	<10.0	480
	SP-8	Grab	16	640
	SP-9	Grab	23	576
	SP-10	Grab	<10.0	320
	SP-11	Grab	45	160
	SP-12	Grab	<10.0	160
	Pile 2	SP-1	Grab	<10.0
SP-2		Grab	258	96
SP-3		Grab	<10.0	256
SP-4		Grab	<10.0	400
SP-5		Grab	<10.0	432
SP-6		Grab	<10.0	576
SP-7		Grab	<10.0	400
SP-8		Grab	<10.0	432

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**Remediation
Plan Proposal**

Apache
Corporation
Eddy County, New Mexico

Date	Sample #	Depth in feet	Sample Results Data
			CL's (ppm)
11/16/2015	SP 1	Surface	3951
		6"	896
		1	720
		1.5	423
		2	289
12/15/2015	SP 1	2.5	224
		3	208
11/16/2015	SP 2	6"	727
		1	289
		1.5	356
		2	470
		2.5	276
		3	396
		3.5	419
12/15/2015	SP 2	4	144
		4.5	224

Date	Sample #	Depth in feet	Sample Results Data
			CL's (ppm)
2/23/2016	Soil Bore 1	17'	96
		18'	64
		19'	80
		20'	96
		21'	64
2/23/2016	Soil Bore 2	17'	128
		18'	144
		19'	80
		20'	80
		21'	64

*Laboratory sample results are in red (Appendix C)

** Field sample results in black

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Remediation Plan Proposal

Apache Corporation
Eddy County, New Mexico

Figure: 1 Sample Point Locations



3. ENVIRONMENTAL ASSESSMENT

3.1 Surface and Mineral Ownership

This release site is located on State surface and minerals. (ArcMap)

3.2 Paleo

This release site falls into Potential Fossil Yield Classification (PFYC) 2, meaning there is a low potential of containing paleontological resources. (ArcMap)

3.3 Hydrology

Groundwater depths in the area average 23 feet bgs (Waters Map). There is no surface water near this release site. There are two intermittent streams where water could run in high rain events located greater than 1000 feet to the east and west. (ArcMap)

The site ranking for this site is a 20 based on the following:

Depth to ground water	>23' = 20
Wellhead Protection Area	>1000' = 0

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Distance to surface water body >1000' = 0

3.4 Karst

The area surrounding this release site has a low karst potential. There are no known karst features in this area. (ArcMap)

3.5 Soils, Geology, and Vegetation

Natural Resources Conservation Service (NRCS) classifies the soils in the area as Kimbrough-Lea Complex (KU) with 0-3 percent slopes. The natural drainage is well-drained. Water movement is moderately high. Shrink – swell potential is low to medium. The ecological site is very shallow to limy upland. The underlying geology is Piedmont alluvial deposits. The vegetation in the area consists of mesquite, sage, four-wing saltbush, cacti, yucca, and grasses found in sandy soils.

4. REMEDIATION PLAN

After review of various remedial options, we propose the following Remediation Plan for this release site is as follows:

4.1 Soil Remediation Plan

Impacted soils were removed via a backhoe within the spill area and transported to a NMOCD approved disposal facility. A clay liner was installed and the excavation was backfilled to complete further delineation via soil borings. OCD was notified of these actions prior to completion and actions were approved. The backfill material from the excavation was from the area around the spill site. This soil has some impact and samples are included as pile samples. Photos were taken and show vertical delineation, area and depth of excavation, setting clay liner and backfilling, taking samples via soil boring unit, plugging bore holes, and an overview (Appendix B). Apache completed horizontal delineation to 15 feet bgs and vertical delineation to 21 feet bgs with a soil boring unit. Soil samples were submitted for laboratory analysis and the results demonstrate the delineation meets NMOCD delineation guidelines for chlorides (Appendix A).

Apache would like to complete the remediation by installing a secondary reinforced poly liner at least four (4) feet bgs and backfilling to surface with clean material within

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Eddy County, New Mexico

the excavated area. Soils in the area outside the excavated area will be removed to 1 feet bgs at SP1 and SP 2.

4.2 Seeding and Noxious Weed Plan

The area will be seeded with blue gramma grass seed. The seed bed will be prepared by placing topsoil lightly over the area, treading area by walking across to make depressions to catch seed, broadcast seeding, and raking lightly to cover the seed.

Apache will treat noxious weeds if they become established within the areas of the remediation. Weed control will be maintained on the disturbed land where noxious weeds exist both prior to remediation and restoration. Apache will consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies. Apache, in coordination with the BLM and OCD, may develop a noxious weed plan to include recommendations and guidelines for noxious weed and invasive species management throughout the disturbed areas and to minimize the spread of weeds to adjacent areas.

5. REMEDIATION WORK SCHEDULE

Soil remediation activities are expected to be completed within 5 working days (Monday through Friday) with work commencing after receiving approval and funding of this Remediation Plan.

6. FOLLOW-UP SCHEDULE

A Closure Report with Form C-141 will be completed and mailed within 30 days of remediation work being completed. The Closure Report will include a map of showing the extent of excavation and photos of excavation, liner in place, and the reseeded site.

7. CITATIONS

NRCS, 2016, Web Soil Survey, <http://websoilsurvey.nrcs.usda.gov/app/>

USGS, 2016, Geological Surveys, <https://www.usgs.gov/>

BLM GIS Map Data, 2016, ArcMap, Disc

Waters Map, 2010, GWD, <http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html>



Appendix A

Attachments

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

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 Bruce Baker
Address: 2350 W Marland Blvd Hobbs, NM 88240	Telephone No. (432) 631-6982
Facility Name NMGSAU 1108	Facility Type: Oil Well

Surface Owner State	Mineral Owner	API No. 30-025-05737
---------------------	---------------	----------------------

LOCATION OF RELEASE

Unit Letter G and H	Section 29	Township 19S	Range 37E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
------------------------	---------------	-----------------	--------------	---------------	------------------	---------------	----------------	---------------

Latitude N32.632197 Longitude W103.269308

NATURE OF RELEASE

Type of Release: oil and produced water	Volume of Release 5 barrels of water and 5 barrels of oil	Volume Recovered 0 barrels
Source of Release: fiberglass line	Date and Hour of Occurrence 3/9/2015	Date and Hour of Discovery 3/9/2015
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	

Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.
---	---

RECEIVED
By OCD; Dr. Oberding at 3:19 pm, Mar 23, 2015

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* 3 inch buried fiberglass flow line ruptured resulting in the loss of fluid. The line was isolated and the area was dusted with caliche.
--

Describe Area Affected and Cleanup Action Taken.* Approximately 6,500 square feet all in pasture. The area was mapped and surface field samples collected.

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: <i>Bruce Baker</i>	OIL CONSERVATION DIVISION	
Printed Name: Bruce Baker	Hydrologist Approved by Environmental Specialist: <i>[Signature]</i> P.K.O.	
Title: Environmental Technician	Approval Date: 03/23/2015	Expiration Date: 06/23/2015
E-mail Address: larry.baker@apachecorp.com	Conditions of Approval: Site samples required. Delineate and remediate are as per NMOCD guides.	Attached <input type="checkbox"/>
Date: 3/18/2015 Phone: (432) 631-6982		IRP-3573 873

* Attach Additional Sheets If Necessary

nTO1508255461

pTO1508255617



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	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 01251	L	LE		4	1	1	29	19S	37E	661434	3612218*	51	38	13
L 01252	L	LE		1	3	4	29	19S	37E	662058	3611223*	43		
L 02596	L	LE				3	29	19S	37E	661556	3611315*	50	20	30
L 03922	L	LE					29	19S	37E	661958	3611717*	42	22	20
L 03949	L	LE					29	19S	37E	661958	3611717*	36	18	18
L 03956	L	LE					29	19S	37E	661958	3611717*	40	20	20
L 04799	L	LE					29	19S	37E	661958	3611717*	150		
L 05314	L	LE		1	3	4	29	19S	37E	662058	3611223*	34	14	20
L 05500	L	LE		2	4	4	29	19S	37E	662661	3611229*	55		
L 05611 POD3	L	LE		2	2	3	29	19S	37E	661850	3611620*	80	28	52
L 06496	L	LE		3	4	3	29	19S	37E	661656	3611018*	50	27	23
L 09631	L	LE			1	4	29	19S	37E	662153	3611526*	35		
L 09632	L	LE			1	4	29	19S	37E	662153	3611526*	35		
L 09633	L	LE			1	4	29	19S	37E	662153	3611526*	35		
L 10498	L	LE					29	19S	37E	661958	3611717*	60		

Average Depth to Water: **23 feet**

Minimum Depth: **14 feet**

Maximum Depth: **38 feet**

Record Count: 15

PLSS Search:

Section(s): 29

Township: 19S

Range: 37E

*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.



Appendix B

Photos

Apache NMGSAU #1108

PHOTO PAGE



Collecting vertical sample, facing northeast
12/15/2015



Excavation, facing northeast
2/1/2016



Adding clay liner and backfilling excavation,
facing west
2/1/2016



Collecting soil bore sample, facing
northwest
2/23/2016



Plugging SB-1 with bentonite, facing east 2/23/2016



Plugging SB-2 with bentonite, facing west 2/23/2016



Overview of area after clay liner, backfilling, and plugging SB-1 & SB-2 2/23/2016



Appendix C

Laboratory Sample Results



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

September 23, 2015

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: MT001181

Enclosed are the results of analyses for samples received by the laboratory on 09/14/15 16:51.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/11/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-1) 0-3' (H502416-01)

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	09/16/2015	ND	1.97	98.6	2.00	10.2	
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5	
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26	
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37	
Total BTEX	<0.300	0.300	09/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/15/2015	ND	185	92.7	200	1.69	
DRO >C10-C28	<10.0	10.0	09/15/2015	ND	198	98.9	200	0.748	

Surrogate: 1-Chlorooctane 81.7 % 47.2-157

Surrogate: 1-Chlorooctadecane 88.0 % 52.1-176

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/11/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-1) 3-6' (H502416-02)

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	09/16/2015	ND	1.97	98.6	2.00	10.2	
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5	
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26	
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37	
Total BTEX	<0.300	0.300	09/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 85.6-137

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/15/2015	ND	185	92.7	200	1.69	
DRO >C10-C28	<10.0	10.0	09/15/2015	ND	198	98.9	200	0.748	

Surrogate: 1-Chlorooctane 81.4 % 47.2-157

Surrogate: 1-Chlorooctadecane 86.9 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/11/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-1) 6-9' (H502416-03)

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	09/16/2015	ND	1.97	98.6	2.00	10.2	
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5	
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26	
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37	
Total BTEX	<0.300	0.300	09/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 85.6-137

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/15/2015	ND	185	92.7	200	1.69	
DRO >C10-C28	<10.0	10.0	09/15/2015	ND	198	98.9	200	0.748	

Surrogate: 1-Chlorooctane 84.2 % 47.2-157

Surrogate: 1-Chlorooctadecane 88.5 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/11/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-1) 9-12' (H502416-04)

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	09/16/2015	ND	1.97	98.6	2.00	10.2		
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5		
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26		
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37		
Total BTEX	<0.300	0.300	09/16/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 85.6-137

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	09/17/2015	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	09/16/2015	ND	185	92.7	200	1.69		
DRO >C10-C28	<10.0	10.0	09/16/2015	ND	198	98.9	200	0.748		

Surrogate: 1-Chlorooctane 83.1 % 47.2-157

Surrogate: 1-Chlorooctadecane 85.9 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/11/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-1) 12-15' (H502416-05)

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	09/16/2015	ND	1.97	98.6	2.00	10.2	
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5	
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26	
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37	
Total BTEX	<0.300	0.300	09/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 85.6-137

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/16/2015	ND	185	92.7	200	1.69	
DRO >C10-C28	<10.0	10.0	09/16/2015	ND	198	98.9	200	0.748	

Surrogate: 1-Chlorooctane 83.8 % 47.2-157

Surrogate: 1-Chlorooctadecane 89.7 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/11/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-2) 0-3' (H502416-06)

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	09/16/2015	ND	1.97	98.6	2.00	10.2	
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5	
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26	
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37	
Total BTEX	<0.300	0.300	09/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 85.6-137

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/16/2015	ND	185	92.7	200	1.69	
DRO >C10-C28	<10.0	10.0	09/16/2015	ND	198	98.9	200	0.748	

Surrogate: 1-Chlorooctane 79.7 % 47.2-157

Surrogate: 1-Chlorooctadecane 82.3 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/11/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-2) 9-12' (H502416-07)

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	09/16/2015	ND	1.97	98.6	2.00	10.2	
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5	
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26	
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37	
Total BTEX	<0.300	0.300	09/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 85.6-137

Chloride, SM4500CI-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	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/16/2015	ND	185	92.7	200	1.69	
DRO >C10-C28	<10.0	10.0	09/16/2015	ND	198	98.9	200	0.748	

Surrogate: 1-Chlorooctane 78.3 % 47.2-157

Surrogate: 1-Chlorooctadecane 78.9 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/11/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-2) 12-15' (H502416-08)

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	09/16/2015	ND	1.97	98.6	2.00	10.2	
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5	
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26	
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37	
Total BTEX	<0.300	0.300	09/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 85.6-137

Chloride, SM4500CI-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	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/16/2015	ND	185	92.7	200	1.69	
DRO >C10-C28	<10.0	10.0	09/16/2015	ND	198	98.9	200	0.748	

Surrogate: 1-Chlorooctane 79.3 % 47.2-157

Surrogate: 1-Chlorooctadecane 90.0 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/11/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-3) 0-3' (H502416-09)

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	09/16/2015	ND	1.97	98.6	2.00	10.2	
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5	
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26	
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37	
Total BTEX	<0.300	0.300	09/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 85.6-137

Chloride, SM4500CI-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	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/16/2015	ND	185	92.7	200	1.69	
DRO >C10-C28	<10.0	10.0	09/16/2015	ND	198	98.9	200	0.748	

Surrogate: 1-Chlorooctane 72.5 % 47.2-157

Surrogate: 1-Chlorooctadecane 76.8 % 52.1-176

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/11/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-3) 9-12' (H502416-10)

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	09/16/2015	ND	1.97	98.6	2.00	10.2		
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5		
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26		
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37		
Total BTEX	<0.300	0.300	09/16/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 85.6-137

Chloride, SM4500CI-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	09/17/2015	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	09/16/2015	ND	185	92.7	200	1.69		
DRO >C10-C28	<10.0	10.0	09/16/2015	ND	198	98.9	200	0.748		

Surrogate: 1-Chlorooctane 79.7 % 47.2-157

Surrogate: 1-Chlorooctadecane 89.2 % 52.1-176

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/11/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-3) 12-15' (H502416-11)

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	09/16/2015	ND	1.97	98.6	2.00	10.2	
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5	
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26	
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37	
Total BTEX	<0.300	0.300	09/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 85.6-137

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/16/2015	ND	185	92.7	200	1.69	
DRO >C10-C28	<10.0	10.0	09/16/2015	ND	198	98.9	200	0.748	

Surrogate: 1-Chlorooctane 79.8 % 47.2-157

Surrogate: 1-Chlorooctadecane 91.6 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-4) 0-3' (H502416-12)

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	09/16/2015	ND	1.97	98.6	2.00	10.2	
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5	
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26	
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37	
Total BTEX	<0.300	0.300	09/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 85.6-137

Chloride, SM4500CI-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	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/16/2015	ND	185	92.7	200	1.69	
DRO >C10-C28	<10.0	10.0	09/16/2015	ND	198	98.9	200	0.748	

Surrogate: 1-Chlorooctane 80.1 % 47.2-157

Surrogate: 1-Chlorooctadecane 89.5 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-4) 9-12' (H502416-13)

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	09/16/2015	ND	1.97	98.6	2.00	10.2	
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5	
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26	
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37	
Total BTEX	<0.300	0.300	09/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 85.6-137

Chloride, SM4500Cl-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	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/16/2015	ND	185	92.7	200	1.69	
DRO >C10-C28	<10.0	10.0	09/16/2015	ND	198	98.9	200	0.748	

Surrogate: 1-Chlorooctane 84.5 % 47.2-157

Surrogate: 1-Chlorooctadecane 93.9 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: NMGSAU 1108 (SB-4) 12-15' (H502416-14)

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	09/16/2015	ND	1.97	98.6	2.00	10.2		
Toluene*	<0.050	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5		
Ethylbenzene*	<0.050	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26		
Total Xylenes*	<0.150	0.150	09/16/2015	ND	6.72	112	6.00	9.37		
Total BTEX	<0.300	0.300	09/16/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 85.6-137

Chloride, SM4500CI-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	09/17/2015	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	09/16/2015	ND	185	92.7	200	1.69		
DRO >C10-C28	<10.0	10.0	09/16/2015	ND	198	98.9	200	0.748		

Surrogate: 1-Chlorooctane 82.5 % 47.2-157

Surrogate: 1-Chlorooctadecane 90.0 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-1) 5' (H502416-15)

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	09/16/2015	ND	1.97	98.6	2.00	10.2	
Toluene*	0.063	0.050	09/16/2015	ND	1.84	91.8	2.00	10.5	
Ethylbenzene*	0.615	0.050	09/16/2015	ND	1.84	92.0	2.00	9.26	
Total Xylenes*	1.52	0.150	09/16/2015	ND	6.72	112	6.00	9.37	
Total BTEX	2.19	0.300	09/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5200	16.0	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	88.9	10.0	09/16/2015	ND	185	92.7	200	1.69	
DRO >C10-C28	2500	10.0	09/16/2015	ND	198	98.9	200	0.748	

Surrogate: 1-Chlorooctane 78.0 % 47.2-157

Surrogate: 1-Chlorooctadecane 85.6 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-1) 10' (H502416-16)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1330	16.0	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/17/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	28.3	10.0	09/17/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 82.7 % 47.2-157

Surrogate: 1-Chlorooctadecane 89.2 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-1) 15' (H502416-17)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 85.6-137

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/17/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	<10.0	10.0	09/17/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 81.9 % 47.2-157

Surrogate: 1-Chlorooctadecane 86.7 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-1) 20' (H502416-18)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/17/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	<10.0	10.0	09/17/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 66.9 % 47.2-157

Surrogate: 1-Chlorooctadecane 70.9 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-1) 25' (H502416-19)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	09/17/2015	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/17/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	<10.0	10.0	09/17/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 66.3 % 47.2-157

Surrogate: 1-Chlorooctadecane 70.4 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-1) 30' (H502416-20)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 85.6-137

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	09/21/2015	ND	416	104	400	0.00	

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	09/17/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	<10.0	10.0	09/17/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 62.3 % 47.2-157

Surrogate: 1-Chlorooctadecane 69.7 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-1) 35' (H502416-21)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1040	16.0	09/21/2015	ND	416	104	400	0.00	

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	09/17/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	<10.0	10.0	09/17/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 70.9 % 47.2-157

Surrogate: 1-Chlorooctadecane 75.5 % 52.1-176

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Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-1) 40' (H502416-22)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 85.6-137

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1230	16.0	09/21/2015	ND	416	104	400	0.00	

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	09/17/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	15.2	10.0	09/17/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 88.2 % 47.2-157

Surrogate: 1-Chlorooctadecane 93.7 % 52.1-176

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Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-1) 45' (H502416-23)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 85.6-137

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	09/21/2015	ND	416	104	400	0.00	

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	09/17/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	40.6	10.0	09/17/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 84.3 % 47.2-157

Surrogate: 1-Chlorooctadecane 87.7 % 52.1-176

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Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-2) 5' (H502416-24)

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	0.054	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	0.318	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	3.34	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	3.71	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 231 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7120	16.0	09/21/2015	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	179	10.0	09/17/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	5160	10.0	09/17/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 124 % 47.2-157

Surrogate: 1-Chlorooctadecane 140 % 52.1-176

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Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-2) 10' (H502416-25)

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	0.074	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	0.100	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	3.74	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	3.91	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 200 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7400	16.0	09/21/2015	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	73.4	10.0	09/17/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	1440	10.0	09/17/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 104 % 47.2-157

Surrogate: 1-Chlorooctadecane 101 % 52.1-176

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Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-2) 15' (H502416-26)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 85.6-137

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2560	16.0	09/21/2015	ND	416	104	400	0.00	

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	09/17/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	129	10.0	09/17/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 95.3 % 47.2-157

Surrogate: 1-Chlorooctadecane 90.1 % 52.1-176

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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-2) 20' (H502416-27)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	864	16.0	09/21/2015	ND	416	104	400	0.00	

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	09/17/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	136	10.0	09/17/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 95.4 % 47.2-157

Surrogate: 1-Chlorooctadecane 88.1 % 52.1-176

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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-2) 25' (H502416-28)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	09/21/2015	ND	416	104	400	0.00	

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	09/23/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	82.7	10.0	09/23/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 75.8 % 47.2-157

Surrogate: 1-Chlorooctadecane 76.1 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-2) 30' (H502416-29)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	09/21/2015	ND	416	104	400	0.00	

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	09/23/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	<10.0	10.0	09/23/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 81.4 % 47.2-157

Surrogate: 1-Chlorooctadecane 83.7 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-2) 35' (H502416-30)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1170	16.0	09/21/2015	ND	416	104	400	0.00	

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	09/23/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	<10.0	10.0	09/23/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 77.0 % 47.2-157

Surrogate: 1-Chlorooctadecane 81.8 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-2) 40' (H502416-31)

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	09/22/2015	ND	1.91	95.7	2.00	2.47	
Toluene*	<0.050	0.050	09/22/2015	ND	2.07	104	2.00	2.96	
Ethylbenzene*	<0.050	0.050	09/22/2015	ND	1.93	96.3	2.00	3.95	
Total Xylenes*	<0.150	0.150	09/22/2015	ND	6.06	101	6.00	3.70	
Total BTEX	<0.300	0.300	09/22/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1630	16.0	09/21/2015	ND	416	104	400	0.00	

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	09/23/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	<10.0	10.0	09/23/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 85.3 % 47.2-157

Surrogate: 1-Chlorooctadecane 84.4 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2015	Sampling Date:	09/14/2015
Reported:	09/23/2015	Sampling Type:	Soil
Project Name:	MT001181	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NEW MEXICO		

Sample ID: LW #20 (SB-2) 45' (H502416-32)

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	09/22/2015	ND	1.91	95.7	2.00	2.47	
Toluene*	<0.050	0.050	09/22/2015	ND	2.07	104	2.00	2.96	
Ethylbenzene*	<0.050	0.050	09/22/2015	ND	1.93	96.3	2.00	3.95	
Total Xylenes*	<0.150	0.150	09/22/2015	ND	6.06	101	6.00	3.70	
Total BTEX	<0.300	0.300	09/22/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 85.6-137

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1330	16.0	09/21/2015	ND	416	104	400	0.00	

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	09/23/2015	ND	197	98.7	200	1.64	
DRO >C10-C28	37.7	10.0	09/23/2015	ND	206	103	200	1.15	

Surrogate: 1-Chlorooctane 84.8 % 47.2-157

Surrogate: 1-Chlorooctadecane 87.3 % 52.1-176

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: **ARCADIS / Apache**
 Project Manager: **Heath M. Cowen**
 Address: **1004 D. Big Spring St. Ste 300**
 City: **Midland, Big Spring St.** State: **TX** Zip: **79701**
 Phone #: **932 687 5400** Fax #:
 Project #: **M7001181** Project Owner: **Apache**
 Project Name: **New Mexico**
 Project Location: **Terry S. Longwell**
 Sampler Name: **Terry S. Longwell**
 FOR LAB USE ONLY

P.O. #: Company: **Apache**
 Attn: **Bruce Baker**
 Address: City: State: Zip:
 Phone #: Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV			
H502416	0-3' UM6SAU1108(SB-1)	X	2			X					9/11/15	1109	TPH DRD/620
	3-6' UM6SAU1108(SB-1)	X	2			X					9/11/15	1110	BTEX 8015
	6-9' UM6SAU1108(SB-1)	X	2			X					9/11/15	1105	CI
	9-12' UM6SAU1108(SB-1)	X	2			X					9/11/15	1149	
	12-15' UM6SAU1108(SB-2)	X	2			X					9/11/15	1152	
	0-3' UM6SAU1108(SB-2)	X	2			X					9/11/15	1322	
	4-12' UM6SAU1108(SB-2)	X	2			X					9/11/15	1324	
	12-15' UM6SAU1108(SB-2)	X	2			X					9/11/15	1327	
	0-3' UM6SAU1108(SB-3)	X	2			X					9/11/15	1503	
	9-12' UM6SAU1108(SB-3)	X	2			X					9/11/15	1505	

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Relinquished By: **Terry S. Longwell** Date: **9/11/15** Time: **1:05**
 Received By: **Jerry Henderson**
 Requisitioned By: **Jerry Henderson** Date: **9/11/15** Time: **1:05**

Delivered By: (Circle One) **Sampler** - JPS - Bus - Other: **5.22**
 Sample Condition: Cool Intact Yes No
 CHECKED BY: **Jerry Henderson**
 REMARKS: **432-266-0876**

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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: **ARCADIS / Apollo**
 Project Manager: **Hank McCoull**
 Address: **1004 W. 3rd St. Ste. 51** State: **NM** Zip: **88230**
 City: **Albuquerque**
 Phone #: **505 687 5900** Fax #: **505 687 5901**
 Project #: **MR20118101** Project Owner: **Apollo**
 Project Name:
 Project Location: **New Mexico**
 Sampler Name: **Jerry Skowron**
 FOR LAB USE ONLY

P.O. #: _____ Company: _____
 Attn: _____ Address: _____
 City: _____ State: _____ Zip: _____
 Phone #: _____ Fax #: _____

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.			DATE	TIME	TPH	DRO	GZD	620	BTEX	8015	CI
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :									
H503416																					
12-15'	UMGSA44 (58-5)	X	2	X																	
0'-3'	UMGSA44 (58-4)	X	2	X																	
9'-12'	UMGSA44 (58-4)	X	2	X																	
12-15'	UMGSA44 (58-4)	X	2	X																	
5'	UMGSA44 (58-2)	X	2	X																	
10'	UMGSA44 (58-2)	X	2	X																	
15'	UMGSA44 (58-2)	X	2	X																	
20'	UMGSA44 (58-2)	X	2	X																	
25'	UMGSA44 (58-2)	X	2	X																	
30'	UMGSA44 (58-2)	X	2	X																	
35'	UMGSA44 (58-2)	X	2	X																	
40'	UMGSA44 (58-2)	X	2	X																	
45'	UMGSA44 (58-2)	X	2	X																	
50'	UMGSA44 (58-2)	X	2	X																	

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Relinquished By: **Lowry** Date: **9/15/15**
 Received By: **Wadi Jensen** Date: **9/15/15**
 Relinquished By: **Lowry** Date: **9/15/15**
 Received By: **Wadi Jensen** Date: **9/15/15**

Delivered By: (Circle One) **UPS**
 Sampler - UPS - Bus - Other: **5.22**
 Sample Condition: Cool Intact
 Checked By: **[Signature]**
 Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____

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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: ARCHDES / Apodis		P.O. #:		BILL TO		ANALYSIS REQUEST																																																																																																																																																																																			
Project Manager: Frank McLawer		Company:																																																																																																																																																																																							
Address: 1004 N. D. S. Springs Dr STE 300		Attn:		Company:		TPH 220/520																																																																																																																																																																																			
City: Albuquerque		State: NM		Address:		STX 805																																																																																																																																																																																			
Phone #: 505 687 5400		Fax #: 505 687 5400		City:		C																																																																																																																																																																																			
Project #: M100118		Project Owner:		State:																																																																																																																																																																																					
Project Name: Apodis		State:		Zip:																																																																																																																																																																																					
Project Location:		Phone #:		Fax #:																																																																																																																																																																																					
Sampler Name: Terri S. Longwell		FOR LAB USE ONLY																																																																																																																																																																																							
Lab I.D. H562416		Sample I.D.																																																																																																																																																																																							
<table border="1"> <tr> <th>Lab I.D.</th> <th>Sample I.D.</th> <th>(G)RAB OR (C)OMP.</th> <th># CONTAINERS</th> <th>GROUNDWATER</th> <th>WASTEWATER</th> <th>MATRIX</th> <th>SOIL</th> <th>OIL</th> <th>SLUDGE</th> <th>OTHER :</th> <th>ACID/BASE:</th> <th>ICE / COOL</th> <th>OTHER :</th> <th>DATE</th> <th>TIME</th> </tr> <tr> <td>01 30</td> <td>35' LW#20 SB-2</td> <td>G</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9/14/15</td> <td>1428</td> </tr> <tr> <td>02 30</td> <td>40' LW#20 SB-2</td> <td>G</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9/14/15</td> <td>1430</td> </tr> <tr> <td>03 30</td> <td>45' LW#20 SB-2</td> <td>G</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9/14/15</td> <td>1432</td> </tr> <tr> <td>04 30</td> <td>5' LW#20 SB-2</td> <td>G</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9/14/15</td> <td>1552</td> </tr> <tr> <td>05 30</td> <td>20' LW#20 SB-2</td> <td>G</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9/14/15</td> <td>1557</td> </tr> <tr> <td>06 30</td> <td>15' LW#20 SB-2</td> <td>G</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9/14/15</td> <td>1559</td> </tr> <tr> <td>07 30</td> <td>20' LW#20 SB-2</td> <td>G</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9/14/15</td> <td>1600</td> </tr> <tr> <td>08 30</td> <td>25' LW#20 SB-2</td> <td>G</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9/14/15</td> <td>1601</td> </tr> <tr> <td>09 30</td> <td>30' LW#20 SB-2</td> <td>G</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9/14/15</td> <td>1603</td> </tr> <tr> <td>10 30</td> <td>35' LW#20 SB-2</td> <td>G</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9/14/15</td> <td>1604</td> </tr> </table>		Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	MATRIX	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	01 30	35' LW#20 SB-2	G				X								9/14/15	1428	02 30	40' LW#20 SB-2	G				X								9/14/15	1430	03 30	45' LW#20 SB-2	G				X								9/14/15	1432	04 30	5' LW#20 SB-2	G				X								9/14/15	1552	05 30	20' LW#20 SB-2	G				X								9/14/15	1557	06 30	15' LW#20 SB-2	G				X								9/14/15	1559	07 30	20' LW#20 SB-2	G				X								9/14/15	1600	08 30	25' LW#20 SB-2	G				X								9/14/15	1601	09 30	30' LW#20 SB-2	G				X								9/14/15	1603	10 30	35' LW#20 SB-2	G				X								9/14/15	1604	Date: 9/14/15 Time: 14:51		Date: 9/14/15 Time:		RECEIVED BY: Terri S. Longwell		PHONE RESULT: <input type="checkbox"/> Yes <input type="checkbox"/> No FAX RESULT: <input type="checkbox"/> Yes <input type="checkbox"/> No ADD'l PHONE #: _____ ADD'l FAX #: _____	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	MATRIX	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME																																																																																																																																																																										
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Delivered By: (Circle One) UPS - Bus - Other:		Sample Condition Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		CHECKED BY: [Signature]		REMARKS:																																																																																																																																																																																			

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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: ARCADIS/APACLE
 Project Manager: Hank McConroe
 Address: 1007 N BIP SPRING ST. STE. 500
 City: MARLAND NJ State: TX Zip: 79701
 Phone #: 432 687 5400 Fax #: _____
 Project #: MT001181 Project Owner: _____
 Project Name: APACLE
 Project Location: _____
 Sampler Name: Jerry S. Longwell
 P.O. #: _____ Company: _____
 Attn: _____ Address: _____
 City: _____ State: _____ Zip: _____
 Phone #: _____ Fax #: _____

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:			
<u>H502416</u>	<u>31 40' 40' LW #20 SB-2</u>	<u>G</u>	<u>1</u>		<u>X</u>	<u>X</u>					<u>9/14/15</u>	<u>1605</u>	<u>TPH DRO/BRO</u>
<u>32 41' 45' LW #20 SB-2</u>	<u>G</u>	<u>1</u>	<u>X</u>								<u>9/14/15</u>	<u>1606</u>	<u>BTEX 8015</u>
													<u>CI</u>

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Relinquished By: Jerry S. Longwell Date: 9/14/15
 Received By: Scotti Henderson Date: 9/15
 Relinquished By: _____ Date: _____
 Received By: _____ Date: _____

Delivered By: (Circle One) UPS 5:22
 Sampler - UPS - Bus - Other: _____
 Sample Condition: Cool Intact
 Yes No Yes No
 CHECKED BY: [Signature]
 Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____
 REMARKS: _____

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



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

November 20, 2015

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NM GSAU # 1108

Enclosed are the results of analyses for samples received by the laboratory on 11/16/15 15:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" at the beginning.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/16/2015	Sampling Date:	11/16/2015
Reported:	11/20/2015	Sampling Type:	Soil
Project Name:	NM GSAU # 1108	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: PILE 1 SP 1 (H503025-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	11/18/2015	ND	400	100	400	0.00	
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	11/17/2015	ND	196	98.0	200	1.17	
DRO >C10-C28	562	10.0	11/17/2015	ND	196	98.2	200	1.00	

Surrogate: 1-Chlorooctane 95.1 % 35-147
 Surrogate: 1-Chlorooctadecane 105 % 28-171

Sample ID: PILE 1 SP 2 (H503025-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	11/18/2015	ND	400	100	400	0.00	
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	11/17/2015	ND	196	98.0	200	1.17	
DRO >C10-C28	38.7	10.0	11/17/2015	ND	196	98.2	200	1.00	

Surrogate: 1-Chlorooctane 90.6 % 35-147
 Surrogate: 1-Chlorooctadecane 99.1 % 28-171

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/16/2015	Sampling Date:	11/16/2015
Reported:	11/20/2015	Sampling Type:	Soil
Project Name:	NM GSAU # 1108	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: PILE 1 SP 3 (H503025-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	11/18/2015	ND	400	100	400	0.00	
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	11/17/2015	ND	196	98.0	200	1.17	
DRO >C10-C28	52.4	10.0	11/17/2015	ND	196	98.2	200	1.00	

Surrogate: 1-Chlorooctane 90.3 % 35-147
 Surrogate: 1-Chlorooctadecane 101 % 28-171

Sample ID: PILE 1 SP 4 (H503025-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	11/18/2015	ND	400	100	400	0.00	
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	11/17/2015	ND	196	98.0	200	1.17	
DRO >C10-C28	29.1	10.0	11/17/2015	ND	196	98.2	200	1.00	

Surrogate: 1-Chlorooctane 93.0 % 35-147
 Surrogate: 1-Chlorooctadecane 102 % 28-171

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/16/2015	Sampling Date:	11/16/2015
Reported:	11/20/2015	Sampling Type:	Soil
Project Name:	NM GSAU # 1108	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: PILE 1 SP 5 (H503025-05)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	11/18/2015	ND	400	100	400	0.00	
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	11/17/2015	ND	196	98.0	200	1.17	
DRO >C10-C28	<10.0	10.0	11/17/2015	ND	196	98.2	200	1.00	

Surrogate: 1-Chlorooctane 82.9 % 35-147
 Surrogate: 1-Chlorooctadecane 87.2 % 28-171

Sample ID: PILE 1 SP 6 (H503025-06)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	11/18/2015	ND	400	100	400	0.00	
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	11/17/2015	ND	196	98.0	200	1.17	
DRO >C10-C28	15.2	10.0	11/17/2015	ND	196	98.2	200	1.00	

Surrogate: 1-Chlorooctane 89.1 % 35-147
 Surrogate: 1-Chlorooctadecane 92.4 % 28-171

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/16/2015	Sampling Date:	11/16/2015
Reported:	11/20/2015	Sampling Type:	Soil
Project Name:	NM GSAU # 1108	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: PILE 1 SP 7 (H503025-07)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	11/18/2015	ND	400	100	400	0.00	
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	11/17/2015	ND	196	98.0	200	1.17	
DRO >C10-C28	<10.0	10.0	11/17/2015	ND	196	98.2	200	1.00	

Surrogate: 1-Chlorooctane 89.6 % 35-147
 Surrogate: 1-Chlorooctadecane 96.1 % 28-171

Sample ID: PILE 1 SP 8 (H503025-08)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	11/18/2015	ND	400	100	400	0.00	
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	11/17/2015	ND	196	98.0	200	1.17	
DRO >C10-C28	16.6	10.0	11/17/2015	ND	196	98.2	200	1.00	

Surrogate: 1-Chlorooctane 91.4 % 35-147
 Surrogate: 1-Chlorooctadecane 98.8 % 28-171

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/16/2015	Sampling Date:	11/16/2015
Reported:	11/20/2015	Sampling Type:	Soil
Project Name:	NM GSAU # 1108	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: PILE 1 SP 9 (H503025-09)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	11/18/2015	ND	400	100	400	0.00	
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	11/17/2015	ND	196	98.0	200	1.17	
DRO >C10-C28	23.6	10.0	11/17/2015	ND	196	98.2	200	1.00	

Surrogate: 1-Chlorooctane 87.1 % 35-147
 Surrogate: 1-Chlorooctadecane 92.4 % 28-171

Sample ID: PILE 1 SP 10 (H503025-10)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	11/18/2015	ND	400	100	400	0.00	
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	11/17/2015	ND	196	98.0	200	1.17	
DRO >C10-C28	<10.0	10.0	11/17/2015	ND	196	98.2	200	1.00	

Surrogate: 1-Chlorooctane 84.6 % 35-147
 Surrogate: 1-Chlorooctadecane 89.5 % 28-171

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/16/2015	Sampling Date:	11/16/2015
Reported:	11/20/2015	Sampling Type:	Soil
Project Name:	NM GSAU # 1108	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: PILE 1 SP 11 (H503025-11)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	11/18/2015	ND	400	100	400	0.00	
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	11/17/2015	ND	196	98.0	200	1.17	
DRO >C10-C28	45.4	10.0	11/17/2015	ND	196	98.2	200	1.00	

Surrogate: 1-Chlorooctane 93.1 % 35-147
 Surrogate: 1-Chlorooctadecane 100 % 28-171

Sample ID: PILE 1 SP 12 (H503025-12)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	11/18/2015	ND	400	100	400	0.00	
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	11/17/2015	ND	203	102	200	1.70	
DRO >C10-C28	<10.0	10.0	11/17/2015	ND	196	98.1	200	4.55	

Surrogate: 1-Chlorooctane 84.5 % 35-147
 Surrogate: 1-Chlorooctadecane 92.3 % 28-171

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/16/2015	Sampling Date:	11/16/2015
Reported:	11/20/2015	Sampling Type:	Soil
Project Name:	NM GSAU # 1108	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: PILE 2 SP 1 (H503025-13)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	11/18/2015	ND	400	100	400	0.00	
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	11/17/2015	ND	203	102	200	1.70	
DRO >C10-C28	<10.0	10.0	11/17/2015	ND	196	98.1	200	4.55	

Surrogate: 1-Chlorooctane 90.9 % 35-147
 Surrogate: 1-Chlorooctadecane 98.1 % 28-171

Sample ID: PILE 2 SP 2 (H503025-14)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	11/19/2015	ND	416	104	400	0.00	
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	11/17/2015	ND	203	102	200	1.70	
DRO >C10-C28	258	10.0	11/17/2015	ND	196	98.1	200	4.55	

Surrogate: 1-Chlorooctane 94.0 % 35-147
 Surrogate: 1-Chlorooctadecane 108 % 28-171

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/16/2015	Sampling Date:	11/16/2015
Reported:	11/20/2015	Sampling Type:	Soil
Project Name:	NM GSAU # 1108	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: PILE 2 SP 3 (H503025-15)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	11/18/2015	ND	416	104	400	0.00	
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	11/17/2015	ND	203	102	200	1.70	
DRO >C10-C28	<10.0	10.0	11/17/2015	ND	196	98.1	200	4.55	

Surrogate: 1-Chlorooctane 85.4 % 35-147
 Surrogate: 1-Chlorooctadecane 92.5 % 28-171

Sample ID: PILE 2 SP 4 (H503025-16)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	11/18/2015	ND	416	104	400	0.00	
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	11/18/2015	ND	200	100	200	3.13	
DRO >C10-C28	<10.0	10.0	11/18/2015	ND	199	99.6	200	3.15	

Surrogate: 1-Chlorooctane 81.0 % 35-147
 Surrogate: 1-Chlorooctadecane 87.3 % 28-171

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/16/2015	Sampling Date:	11/16/2015
Reported:	11/20/2015	Sampling Type:	Soil
Project Name:	NM GSAU # 1108	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: PILE 2 SP 5 (H503025-17)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	11/18/2015	ND	416	104	400	0.00	
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	11/18/2015	ND	200	100	200	3.13	
DRO >C10-C28	<10.0	10.0	11/18/2015	ND	199	99.6	200	3.15	
<i>Surrogate: 1-Chlorooctane</i>		<i>78.4 %</i>	<i>35-147</i>						
<i>Surrogate: 1-Chlorooctadecane</i>		<i>81.2 %</i>	<i>28-171</i>						

Sample ID: PILE 2 SP 6 (H503025-18)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	11/18/2015	ND	416	104	400	0.00	
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	11/18/2015	ND	200	100	200	3.13	
DRO >C10-C28	<10.0	10.0	11/18/2015	ND	199	99.6	200	3.15	
<i>Surrogate: 1-Chlorooctane</i>		<i>84.7 %</i>	<i>35-147</i>						
<i>Surrogate: 1-Chlorooctadecane</i>		<i>90.5 %</i>	<i>28-171</i>						

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/16/2015	Sampling Date:	11/16/2015
Reported:	11/20/2015	Sampling Type:	Soil
Project Name:	NM GSAU # 1108	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: PILE 2 SP 7 (H503025-19)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	11/18/2015	ND	416	104	400	0.00	
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	11/18/2015	ND	200	100	200	3.13	
DRO >C10-C28	<10.0	10.0	11/18/2015	ND	199	99.6	200	3.15	

Surrogate: 1-Chlorooctane 86.4 % 35-147
 Surrogate: 1-Chlorooctadecane 96.2 % 28-171

Sample ID: PILE 2 SP 8 (H503025-20)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	11/18/2015	ND	416	104	400	0.00	
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	11/18/2015	ND	200	100	200	3.13	
DRO >C10-C28	<10.0	10.0	11/18/2015	ND	199	99.6	200	3.15	

Surrogate: 1-Chlorooctane 76.0 % 35-147
 Surrogate: 1-Chlorooctadecane 80.7 % 28-171

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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

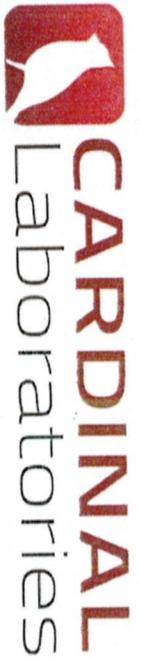
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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: Apache P.O. #:
 Project Manager: Bruce Baker Company:
 Address: State: Zip: Attn:
 City: Address:
 Phone #: Fax #: City:
 Project #: Project Owner: State: Zip:
 Project Name: Apache
 Project Location: NMGSAU #1108 Phone #:
 Sampler Name: Chris Flores Fax #:
 FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	Chloride	TPT
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :						
<u>H503025</u>															
	1	SP 1	1									11-16-2015	8:55 AM	X	X
	2	SP 2	1										9:00 AM	X	X
	3	SP 3	1										9:05 AM	X	X
	4	SP 4	1										9:10 AM	X	X
	5	SP 5	1										9:15 AM	X	X
	6	SP 6	1										9:20 AM	X	X
	7	SP 7	1										9:25 AM	X	X
	8	SP 8	1										9:30 AM	X	X
	9	SP 9	1										9:35 AM	X	X
	10	SP 10	1										9:40 AM	X	X

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Relinquished By: [Signature] Date: 11-16-2015 Received By: [Signature]
 Relinquished By: [Signature] Date: 11-16-2015 Time: 3:50 Received By: [Signature]

Delivered By: (Circle One) UPS 3.25 Sample Condition: Intact Cool Yes No
 Sampler - UPS - Bus - Other: 3.25 CHECKED BY: [Signature] (Initials)

REMARKS: Email to Larry Baker @apacheco.com
 Phone Result: Yes No Add'l Phone #:
 Fax Result: Yes No Add'l Fax #:

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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: Apache
 Project Manager: Bruce Baker
 Address: _____
 City: _____ State: _____ Zip: _____
 Phone #: _____ Fax #: _____
 Project #: _____ Project Owner: _____
 Project Name: Apache
 Project Location: NWMSAV #1108
 Sampler Name: Chris Flores
 FOR LAB USE ONLY

P.O. #: _____
 Company: _____
 Attn: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Phone #: _____
 Fax #: _____

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	Chloride	pH
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :				
H503025	Pile 2 SP 1	✓	1	✓		✓				11-10-2015	07:25 AM	X	X
	Pile 2 SP 2	✓	1	✓		✓					07:30 AM	X	X
	Pile 2 SP 3	✓	1	✓		✓					10:35 AM	X	X
	Pile 2 SP 4	✓	1	✓		✓					10:40 AM	X	X
	Pile 2 SP 5	✓	1	✓		✓					10:45 AM	X	X
	Pile 2 SP 6	✓	1	✓		✓					10:50 AM	X	X
	Pile 2 SP 7	✓	1	✓		✓					10:55 AM	X	X
	Pile 2 SP 8	✓	1	✓		✓					11:00 AM	X	X

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Relinquished By: _____ Date: 11-10-2015
 Received By: Scotti Skunson
 Time: _____ Date: 3:50

REMARKS: email to: Larry.baker@apacelcorp.com
 Phone Result: Yes No Add'l Phone #:
 Fax Result: Yes No Add'l Fax #:

Delivered By: (Circle One)
 Sampler - UPS - Bus - Other: -3.20
 Sample Condition: Cool Intact
 Yes No

CHECKED BY: _____
 Initials: _____

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

3



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

December 17, 2015

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NMGSAU #1108

Enclosed are the results of analyses for samples received by the laboratory on 12/15/15 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	12/15/2015	Sampling Date:	12/15/2015
Reported:	12/17/2015	Sampling Type:	Soil
Project Name:	NMGSAU #1108	Sampling Condition:	Cool & Intact
Project Number:	NMGSAU #1108	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VERTICAL 2 @ 4' (H503259-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	12/16/2015	ND	432	108	400	0.00	

Sample ID: VERTICAL 2 @ 4.5' (H503259-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	12/16/2015	ND	432	108	400	0.00	

Cardinal Laboratories

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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

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Celey D. Keene, Lab Director/Quality Manager



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

December 17, 2015

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NM GSAU # 1108

Enclosed are the results of analyses for samples received by the laboratory on 12/15/15 8:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	12/15/2015	Sampling Date:	12/14/2015
Reported:	12/17/2015	Sampling Type:	Soil
Project Name:	NM GSAU # 1108	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: VERTICAL 1 @ 2.5' (H503246-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	12/15/2015	ND	432	108	400	0.00	

Sample ID: VERTICAL 1 @ 3' (H503246-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	12/15/2015	ND	432	108	400	0.00	

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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

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: Apache P.O. #:
 Project Manager: Bruce Baker Company:
 Address: Attn:
 City: State: Zip: Address:
 Phone #: Fax #: Project Owner:
 Project #: City: State: Zip:
 Project Name: Apache Phone #: Fax #:
 Project Location: NMGSAN #1108 Phone #: Fax #:
 Sampler Name: Chris Flores

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	ANALYSIS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:			
<u>H503246</u>	<u>Vertical 1 @ 2.5'</u>	<u>G</u>	<u>1</u>			<u>✓</u>					<u>12/14/2015 3:30PM</u>	<u>4:40PM</u>	<u>Chloride</u>
	<u>Vertical 1 @ 3'</u>	<u>G</u>	<u>1</u>			<u>✓</u>							

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Relinquished By: _____ Date: 11/15/15 Received By: Walter Johnson
 Time: _____ Date: 8:10 Received By: _____
 Relinquished By: _____ Date: _____ Received By: _____
 Time: _____

Delivered By: (Circle One) UPS Sample Condition: Intact CHECKED BY: (initials)
 Sampler - UPS - Bus - Other: -1.42 Cool Intact: Yes Yes Yes No No

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



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

March 01, 2016

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NMGSAU #1108

Enclosed are the results of analyses for samples received by the laboratory on 02/23/16 14:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	02/23/2016	Sampling Date:	02/23/2016
Reported:	03/01/2016	Sampling Type:	Soil
Project Name:	NMGSAU #1108	Sampling Condition:	Cool & Intact
Project Number:	NMGSAU #1108	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE 1 @ 17' (H600407-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	02/24/2016	ND	448	112	400	3.64	

Sample ID: SOIL BORE 1 @ 18' (H600407-02)

Chloride, SM4500CI-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	02/24/2016	ND	416	104	400	7.41	

Sample ID: SOIL BORE 1 @ 19' (H600407-03)

Chloride, SM4500CI-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	02/24/2016	ND	416	104	400	7.41	

Sample ID: SOIL BORE 1 @ 20' (H600407-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	02/24/2016	ND	416	104	400	7.41	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	02/23/2016	Sampling Date:	02/23/2016
Reported:	03/01/2016	Sampling Type:	Soil
Project Name:	NMGSAU #1108	Sampling Condition:	Cool & Intact
Project Number:	NMGSAU #1108	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE 1 @ 21' (H600407-05)

Chloride, SM4500CI-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	02/24/2016	ND	416	104	400	7.41	

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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- ** 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
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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: APACHE		P.O. #:
Project Manager: Bruce Baker		Company:
Address:	State:	City:
City:	Zip:	Address:
Phone #:	Fax #:	City:
Project #:	Project Owner:	State:
Project Name: Apache		Zip:
Project Location: NMGSAN #1108		Phone #:
Sampler Name: Chris Flores		Fax #:
FOR LAB USE ONLY		
Lab I.D.:	Sample I.D.	
H000407		
1	Soil Bore 1 @ 17'	(G)RAB OR (C)OMP.
2	Soil Bore 1 @ 18'	# CONTAINERS
3	Soil Bore 1 @ 19'	GROUNDWATER
4	Soil Bore 1 @ 20'	WASTEWATER
5	Soil Bore 1 @ 21'	SOIL
		OIL
		SLUDGE
		OTHER :
		ACID/BASE:
		ICE / COOL
		OTHER :
		DATE
		TIME
		Chloride

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Relinquished By: *[Signature]* Date: **2/23/2016** Time: **4:50**

Received By: *[Signature]* Date: **2/23/2016** Time: **11:50**

Sample Condition: Cool Intact Yes No

Delivered By: (Circle One) **UPS** **4:20c**

Sampler - UPS - Bus - Other:

Checked By: *[Signature]*

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

#54



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

March 01, 2016

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NMGSAU #1108

Enclosed are the results of analyses for samples received by the laboratory on 02/23/16 14:50.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	02/23/2016	Sampling Date:	02/23/2016
Reported:	03/01/2016	Sampling Type:	Soil
Project Name:	NMGSAU #1108	Sampling Condition:	Cool & Intact
Project Number:	NMGSAU #1108	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE 2 @ 17' (H600406-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	02/24/2016	ND	448	112	400	3.64	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/24/2016	ND	200	99.9	200	3.16	
DRO >C10-C28	<10.0	10.0	02/24/2016	ND	213	106	200	4.56	
Surrogate: 1-Chlorooctane	96.7 %	35-147							
Surrogate: 1-Chlorooctadecane	77.2 %	28-171							

Sample ID: SOIL BORE 2 @ 18' (H600406-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	02/24/2016	ND	448	112	400	3.64	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/24/2016	ND	200	99.9	200	3.16	
DRO >C10-C28	<10.0	10.0	02/24/2016	ND	213	106	200	4.56	
Surrogate: 1-Chlorooctane	110 %	35-147							
Surrogate: 1-Chlorooctadecane	115 %	28-171							

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	02/23/2016	Sampling Date:	02/23/2016
Reported:	03/01/2016	Sampling Type:	Soil
Project Name:	NMGSAU #1108	Sampling Condition:	Cool & Intact
Project Number:	NMGSAU #1108	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE 2 @ 19' (H600406-03)

Chloride, SM4500CI-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	02/24/2016	ND	448	112	400	3.64	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/24/2016	ND	200	99.9	200	3.16	
DRO >C10-C28	<10.0	10.0	02/24/2016	ND	213	106	200	4.56	

Surrogate: 1-Chlorooctane 102 % 35-147
 Surrogate: 1-Chlorooctadecane 78.7 % 28-171

Sample ID: SOIL BORE 2 @ 20' (H600406-04)

Chloride, SM4500CI-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	02/24/2016	ND	448	112	400	3.64	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/24/2016	ND	200	99.9	200	3.16	
DRO >C10-C28	<10.0	10.0	02/24/2016	ND	213	106	200	4.56	

Surrogate: 1-Chlorooctane 107 % 35-147
 Surrogate: 1-Chlorooctadecane 112 % 28-171

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	02/23/2016	Sampling Date:	02/23/2016
Reported:	03/01/2016	Sampling Type:	Soil
Project Name:	NMGSAU #1108	Sampling Condition:	Cool & Intact
Project Number:	NMGSAU #1108	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE 2 @ 21' (H600406-05)

Chloride, SM4500CI-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	02/24/2016	ND	448	112	400	3.64	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/24/2016	ND	200	99.9	200	3.16	
DRO >C10-C28	<10.0	10.0	02/24/2016	ND	213	106	200	4.56	

Surrogate: 1-Chlorooctane 102 % 35-147
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Cardinal Laboratories

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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

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: HPACHE **BILL TO** ANALYSIS REQUEST

Project Manager: Grace Baker P.O. #: _____ Company: _____

Address: _____ Attn: _____

City: _____ State: _____ Zip: _____ Address: _____

Phone #: _____ Fax #: _____ Project Owner: _____ City: _____

Project #: _____ Project Location: Apache State: _____ Zip: _____

Project Name: Apache Phone #: _____ Fax #: _____

Project Location: NMGSAN #1108 State: _____ Zip: _____

Sampler Name: Chris Flores Phone #: _____ Fax #: _____

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	ANALYSIS REQUEST						
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					ACID/BASE:	ICE / COOL	OTHER :	Yes	No		
<u>H00040</u>	<u>1 Soil Bore 2</u>		<u>1</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>						<u>12:40 PM</u>	<u>X</u>	<u>X</u>						
	<u>2 Soil Bore 2</u>		<u>1</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>						<u>1:00 PM</u>	<u>X</u>	<u>X</u>						
	<u>3 Soil Bore 2</u>		<u>1</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>						<u>1:20 PM</u>	<u>X</u>	<u>X</u>						
	<u>4 Soil Bore 2</u>		<u>1</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>						<u>1:40 PM</u>	<u>X</u>	<u>X</u>						
	<u>5 Soil Bore 2</u>		<u>1</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>						<u>2:00 PM</u>	<u>X</u>	<u>X</u>						

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

Relinquished By: _____ Date: 4/23/2016 Received By: Yodi Hernandez

Relinquished By: _____ Date: 4:50 Received By: _____

Delivered By: (Circle One) UPS Sample Condition: Cool Intact

Sampler - UPS - Bus - Other: 4:20 Yes Yes

Checked By: _____ Initials: [Signature]

REMARKS: email to : malves@diversifredsi.com

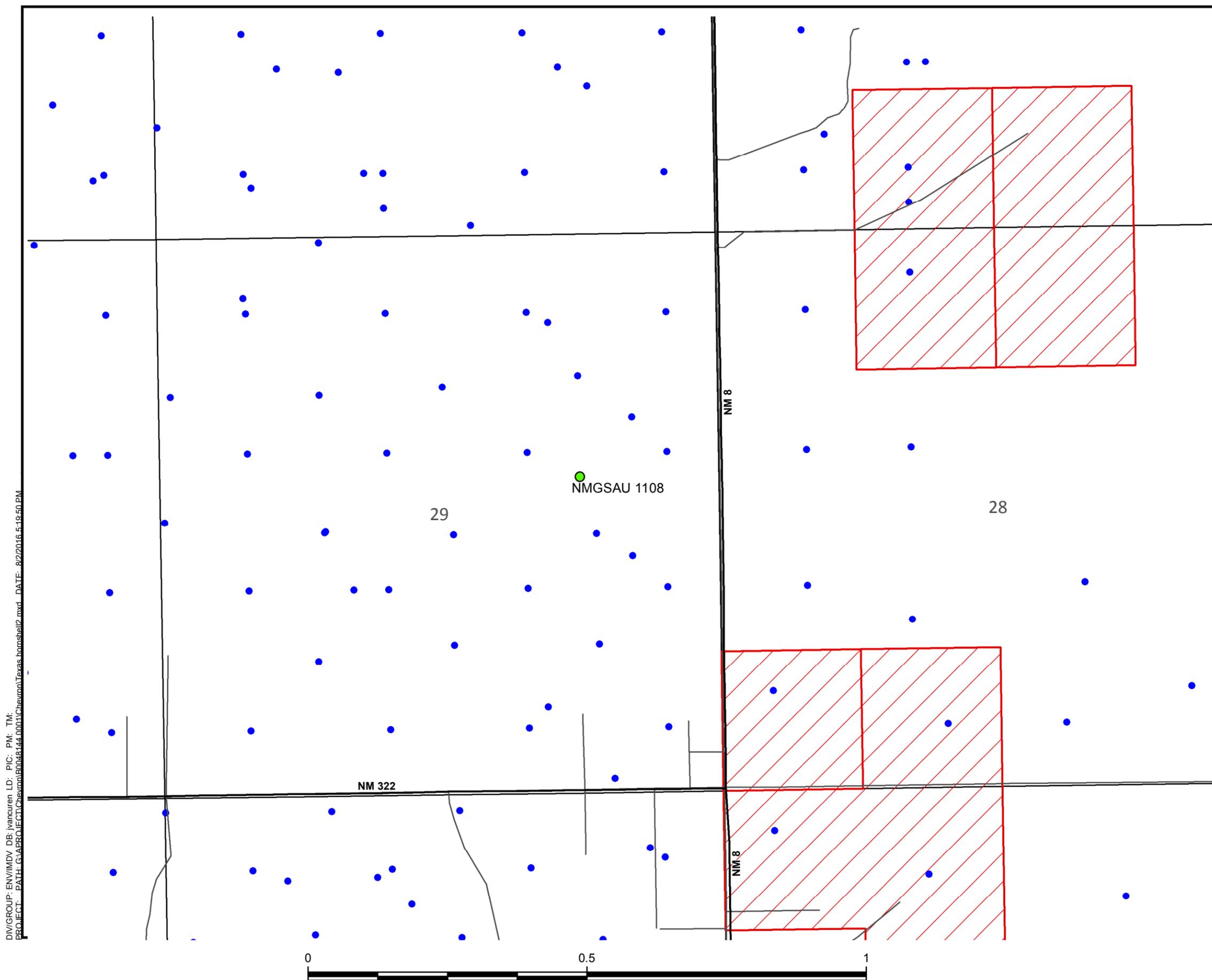
Larry Baker @ apache corp. com

#54



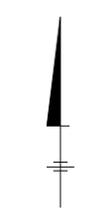
Appendix D

Constraints Maps



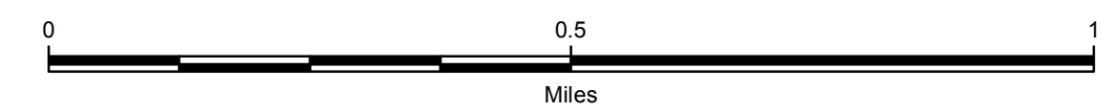
LEGEND

- Major Roads
- Lea County Roads
- Completed Wells
- ▨ Leases
- Sections
- ▭ Townships



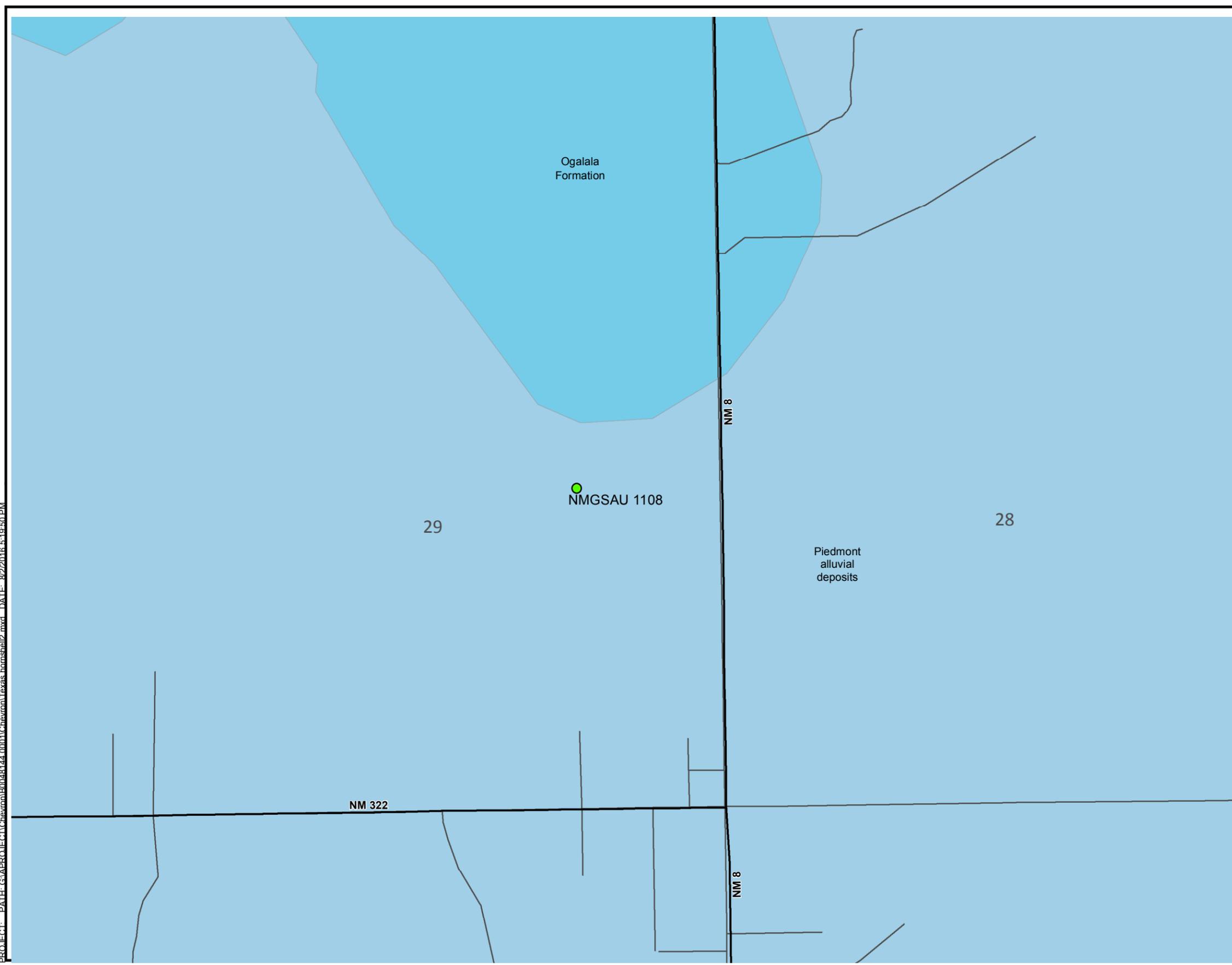
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 ENVIRONMENTAL ASSESSMENT
 EDDY COUNTY, NEW MEXICO

Existing Development



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LEGEND

- Major Roads
- Lea County Roads

Aquifer

Aquifer Name

- High Plains

Geology

NAME

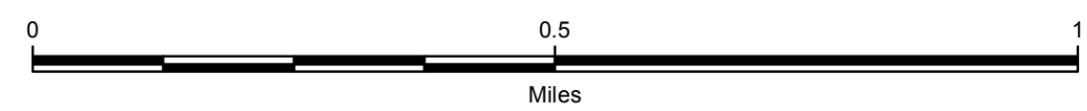
- Qp
- To

- Sections
- Townships

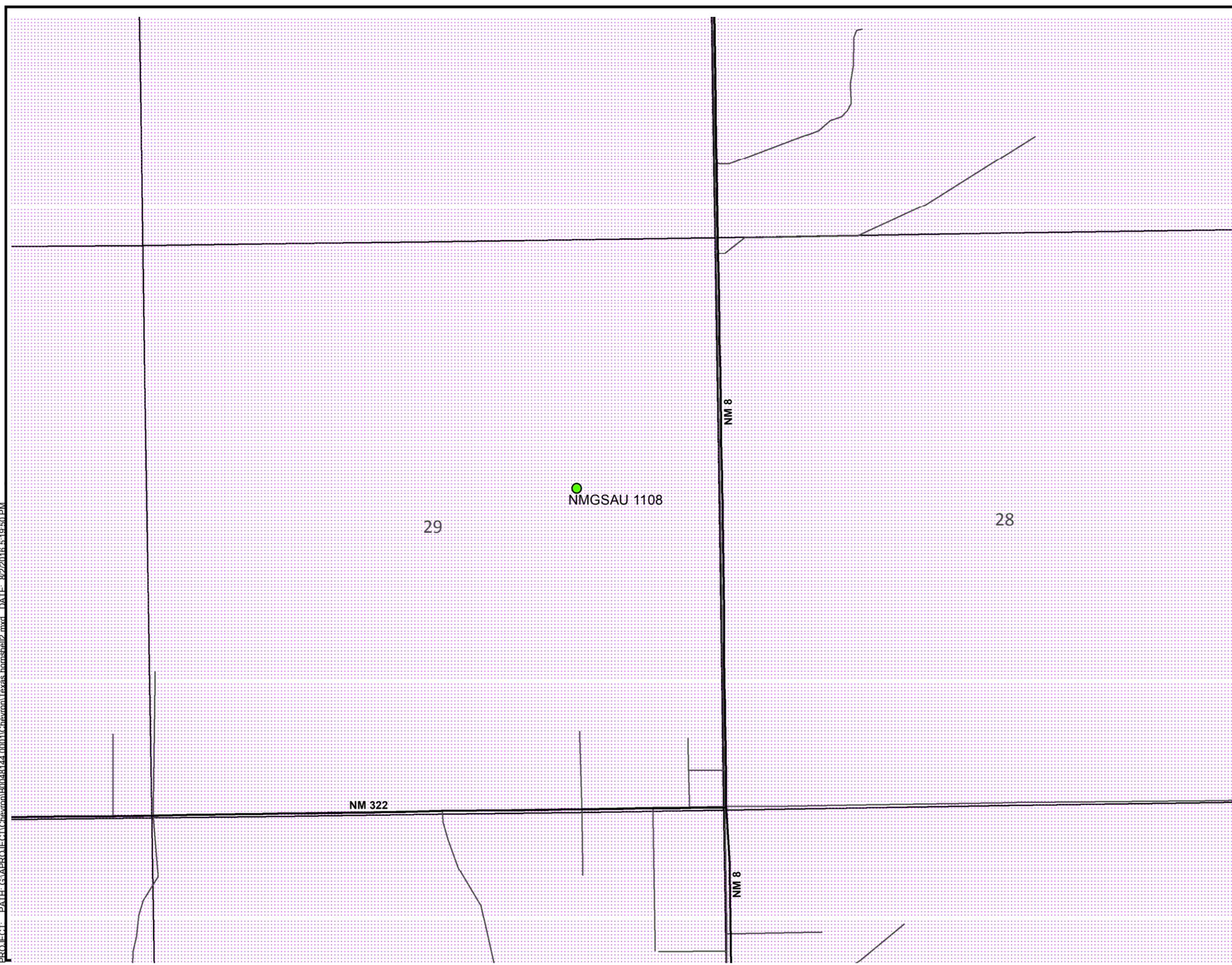


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Geology



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LEGEND

- Major Roads
- Lea County Roads

Karst Occure... Potential

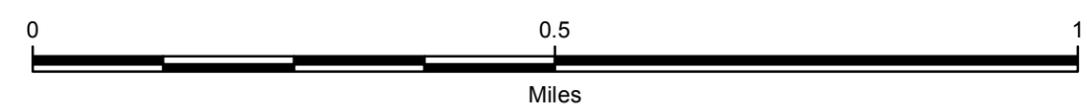
Potential

- Low
- Sections
- Townships

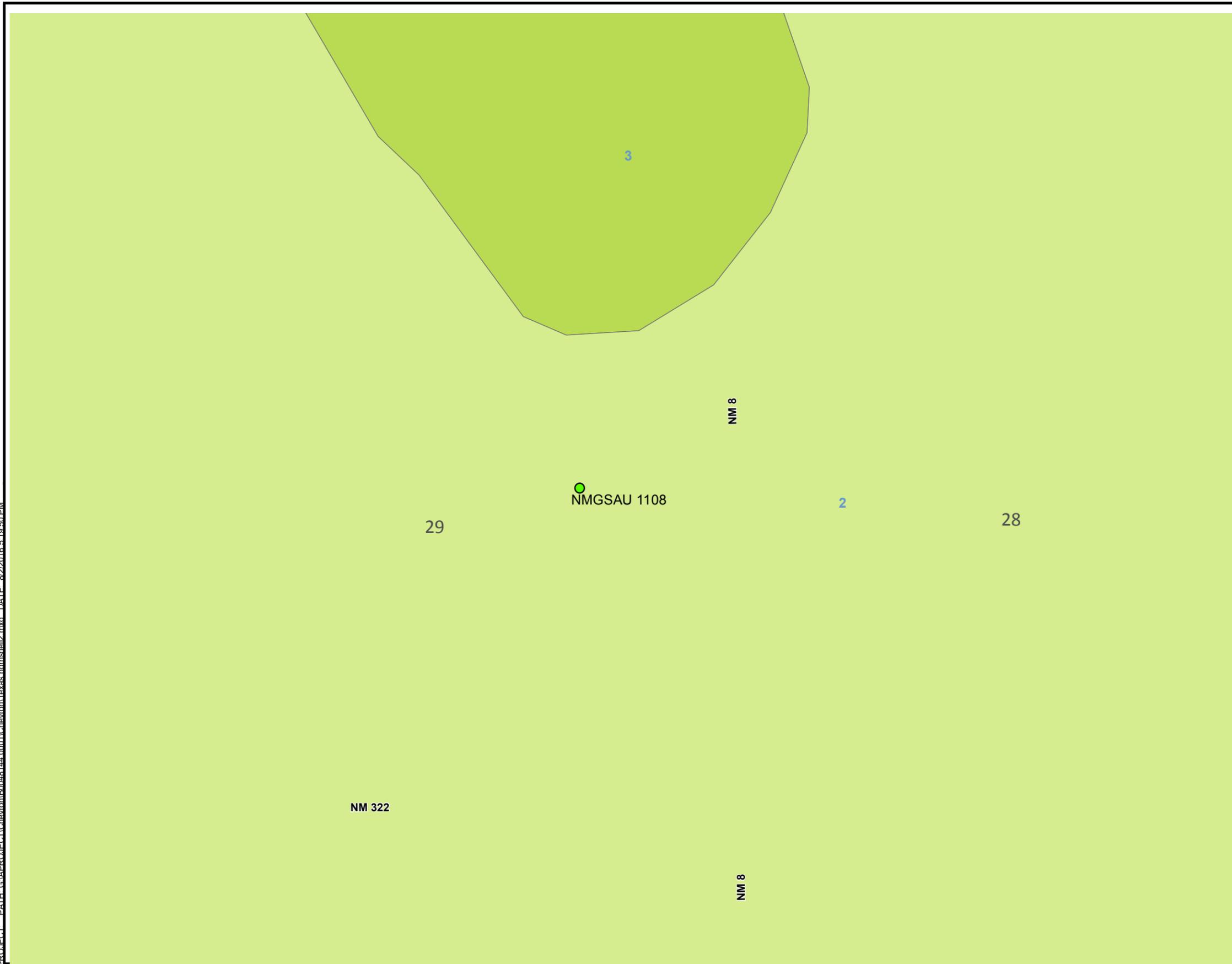


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Karst Potential



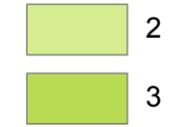
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LEGEND

Paleo...

PFYC



— Major Roads

— Lea County Roads

▭ Sections

▭ Townships

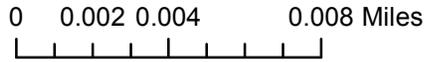


APACHE CORPORATION.
ENVIRONMENTAL ASSESSMENT
EDDY COUNTY, NEW MEXICO

Paleo



Apache, NMISSAU # 1108
Unit Letter N/A, Sec. N/A, T-N/A, R-N/A
County: Lea, NM
Drafted By: Chris Flores, 2-26-2016



Legend

- ★ Source
- Misc_points
- Soil_bores

Pipeline

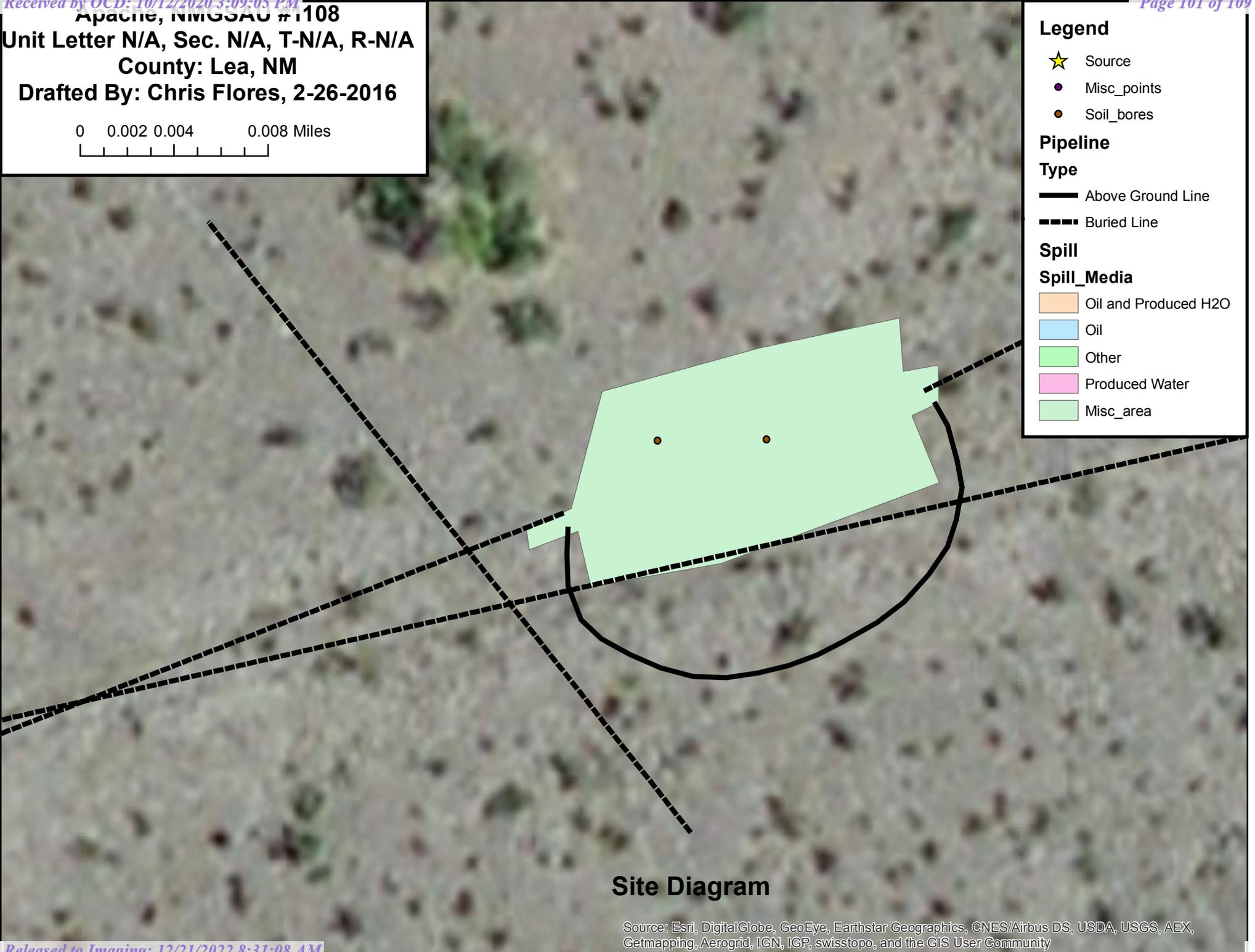
Type

- Above Ground Line
- - - Buried Line

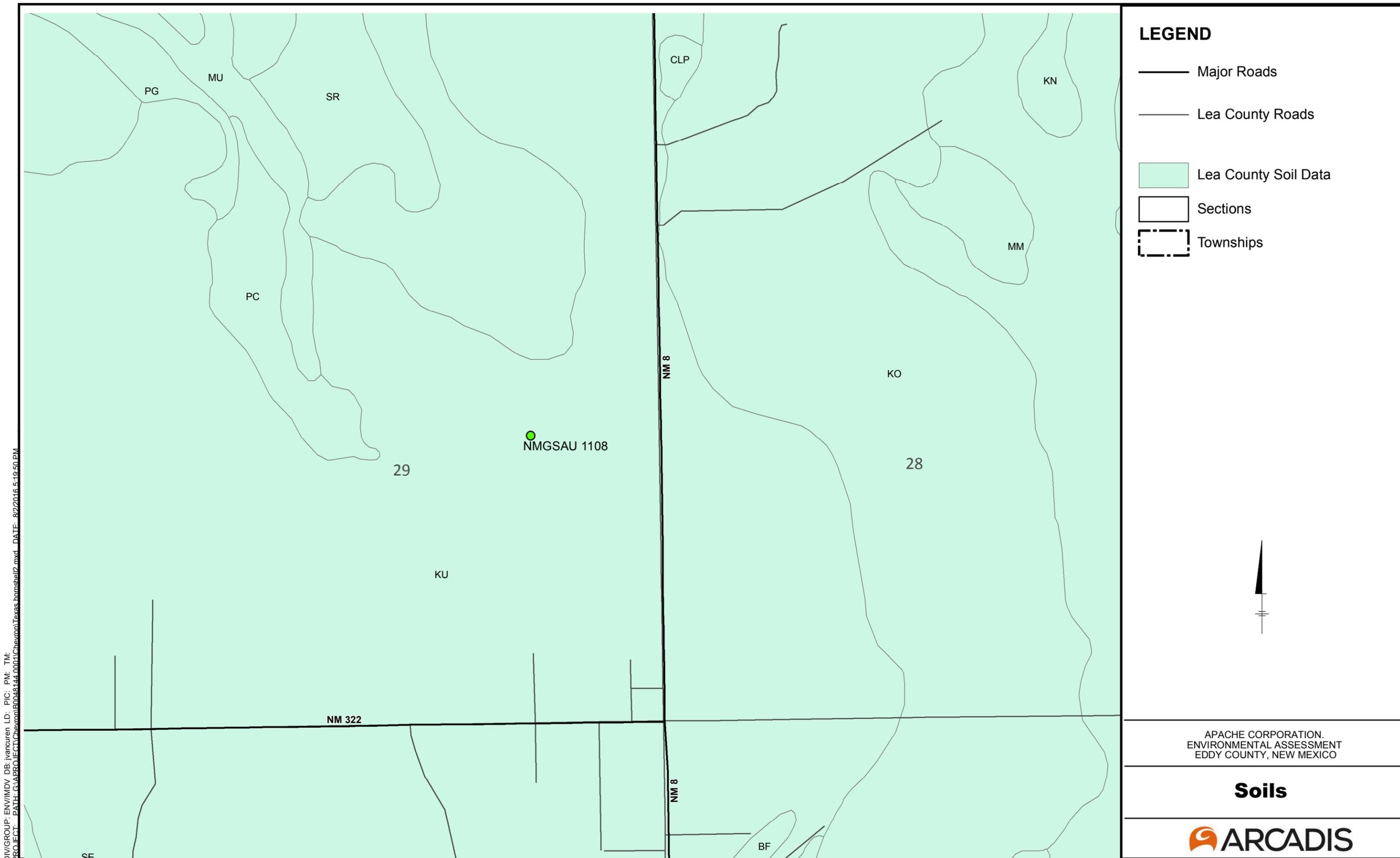
Spill

Spill_Media

- Oil and Produced H2O
- Oil
- Other
- Produced Water
- Misc_area



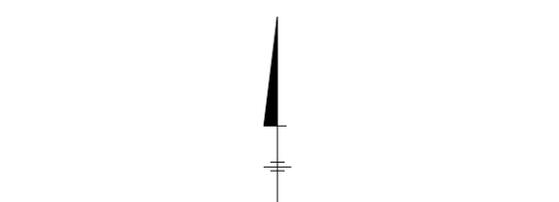
Site Diagram



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LEGEND

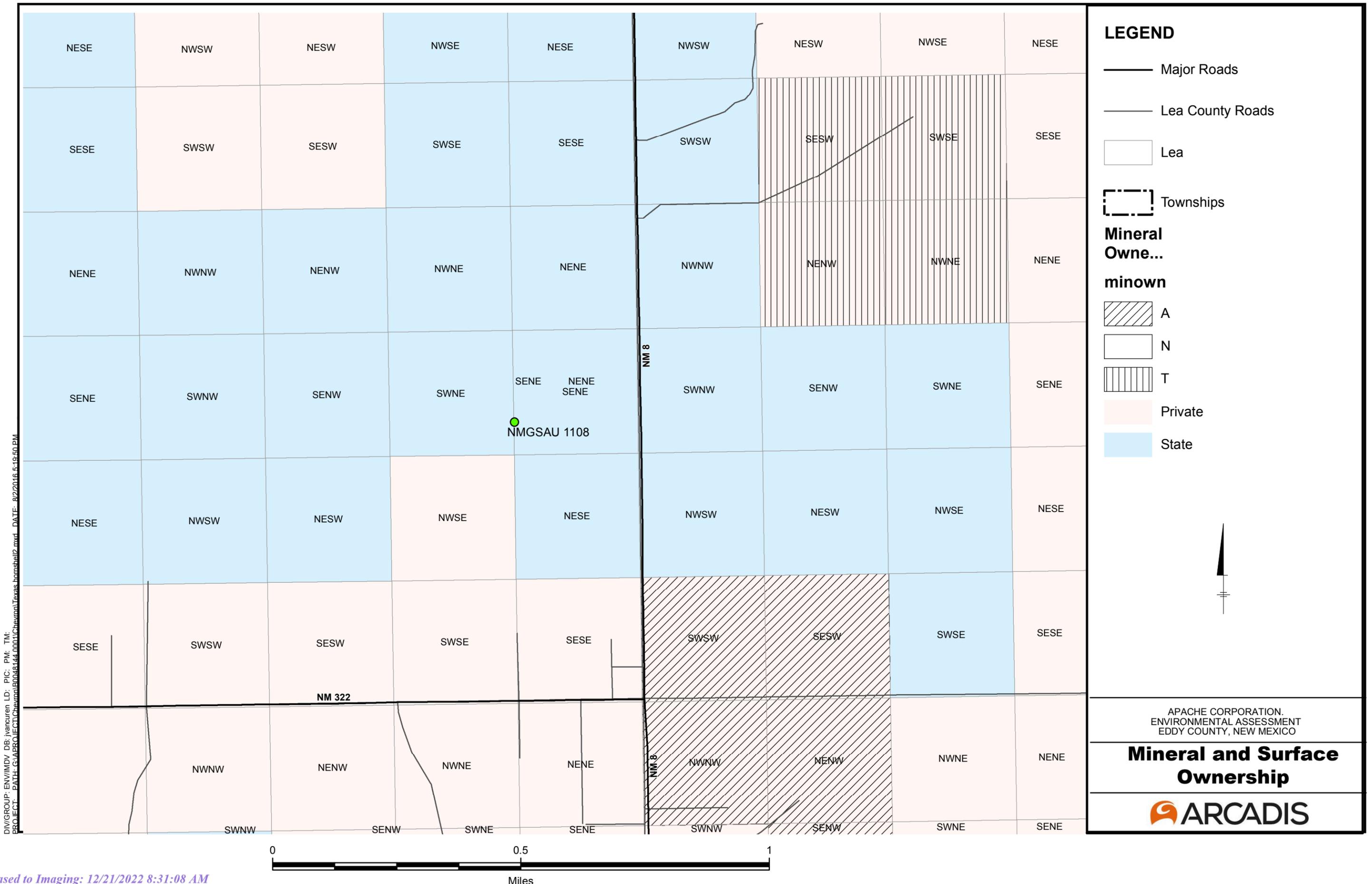
- Major Roads
- Leas County Roads
- Lea County Soil Data
- Sections
- Townships



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 EDDY COUNTY, NEW MEXICO

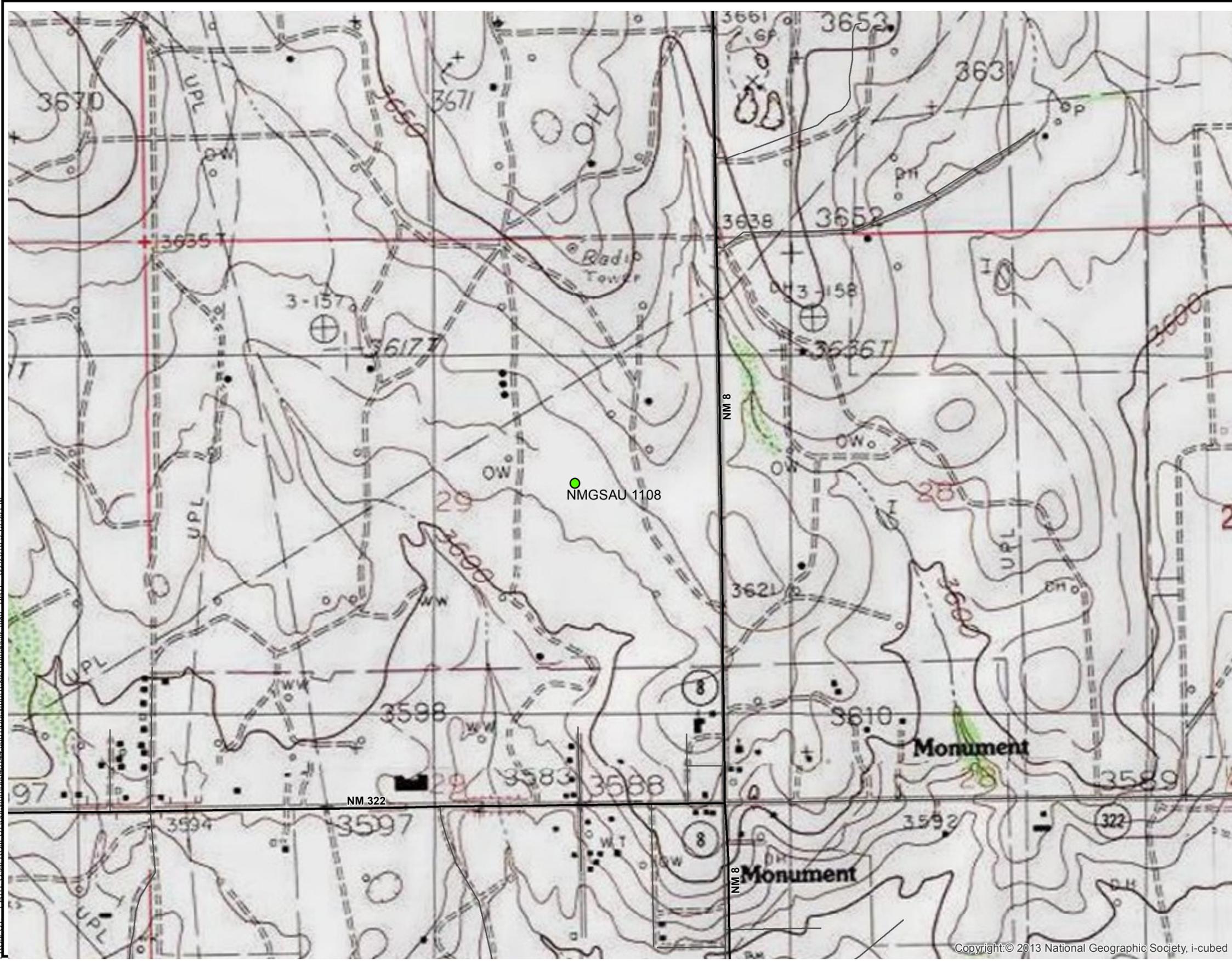
Soils





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LEGEND

-  Major Roads
-  Lea County Roads
-  Townships
-  USA Topo Maps

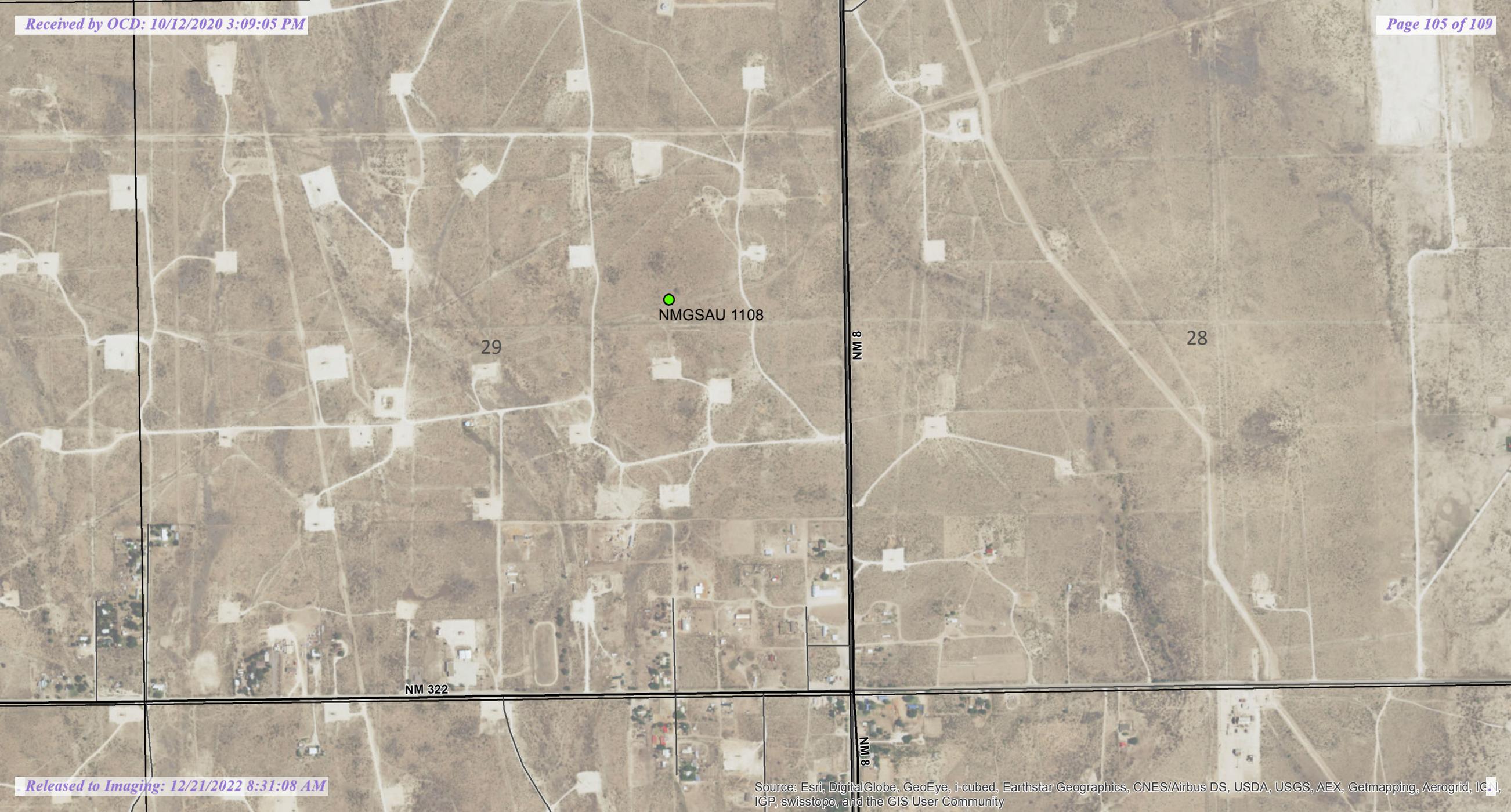


APACHE CORPORATION.
ENVIRONMENTAL ASSESSMENT
EDDY COUNTY, NEW MEXICO

Topography




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Time Ticket # 35059



Environmental Plus, Inc.

Consulting & Remedial Construction

Company Apache (Bruce Baker)

Date: 5/30/2017

Lease Name & No NMGSAU 1108

County: Lea

State: NM

Legal Description

Job Description Reseed Release Area / 3rd Party Invoice
 Work Ticket for seed and liner charges

Description of and Equipment Used

	Units	Price	Amount
966 CAT Loader/Forklift w/Operator and Pickup	6	\$112.00	\$672.00
		\$0.00	\$0.00
		\$0.00	\$0.00
		\$0.00	\$0.00
		\$0.00	\$0.00
		\$0.00	\$0.00
		\$0.00	\$0.00
3rd Party Invoice #748 (Akome, Inc.)		\$0.00	\$1,228.00
Grass Seed (BLM #3)	30.00	\$6.30	\$189.00
		\$0.00	\$0.00
		\$0.00	\$0.00
3rd Party Invoice Surcharge		\$0.00	\$183.90
Fuel Surcharge		\$0.00	\$0.00

Employees

	Units	Price	Amount
Skilled Laborer	6	\$19.00	\$114.00
		\$0.00	\$0.00
		\$0.00	\$0.00
		\$0.00	\$0.00
		\$0.00	\$0.00
		\$0.00	\$0.00

	Sub Total		\$2,384.90
Sales Tax	Tax	5.5000%	\$131.17
	Total		\$2,516.07

EPI REPRESENTATIVE

RECEIVED BY _____





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

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

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

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

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

CONDITIONS
 Action 10595

CONDITIONS

Operator: APACHE CORPORATION 303 Veterans Airpark Ln Midland, TX 79705	OGRID: 873
	Action Number: 10595
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	12/21/2022