



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". The signature is written in a cursive, flowing style.

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 OCD 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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Initial C-141

Depth to Groundwater Report

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Eddy County, New Mexico

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Existing Development
Geology
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Soils
Mineral and Surface Ownership
Topography

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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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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	<10.0	96
		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
		14	<10.0	83
		15	<10.0	89
		16	<10.0	89
11/16/2015		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	240
	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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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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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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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.	
If a Watercourse was Impacted, Describe Fully.*	<div style="border: 1px solid black; padding: 5px; text-align: center;"> RECEIVED By OCD; Dr. Oberding at 3:19 pm, Mar 23, 2015 </div>	

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: <u>Bruce Baker</u>		OIL CONSERVATION DIVISION	
Printed Name: Bruce Baker		Hydrologist Approved by Environmental Specialist: <u>[Signature]</u> 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.	
Date: 3/18/2015	Phone: (432) 631-6982	Attached <input type="checkbox"/>	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.

3/29/16 8:25 AM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



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 fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/11/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

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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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/11/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/11/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	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 BTX	<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



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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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/11/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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, 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	09/16/2015	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



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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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/11/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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



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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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/11/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

BTX 8021B		mg/ kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	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 BTX	<0.300	0.300	09/16/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 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	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



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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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/11/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	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 BTX	<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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Analytical Results For:

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

Received: 09/14/2015
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/11/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	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 BTX	<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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/11/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	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 BTX	<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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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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/11/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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, 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 79.7 % 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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/11/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

BTX 8021B		mg/ kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	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 BTX	<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	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



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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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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, 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 84.5 % 47.2-157

Surrogate: 1-Chlorooctadecane 93.9 % 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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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



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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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	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 BTX	2.19	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	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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Analytical Results For:

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

Received: 09/14/2015
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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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Analytical Results For:

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

Received: 09/14/2015
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	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 BTX	<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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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, SM4500CI-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



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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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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



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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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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, SM4500Cl-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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Analytical Results For:

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

Received: 09/14/2015
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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, SM4500Cl-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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	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 BTX	<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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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, SM4500CI-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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

BTX 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 BTX	3.91	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 200 % 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	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:

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

Received: 09/14/2015
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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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Analytical Results For:

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

Received: 09/14/2015
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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, SM4500CI-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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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, SM4500CI-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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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
 Reported: 09/23/2015
 Project Name: MT001181
 Project Number: NONE GIVEN
 Project Location: NEW MEXICO

Sampling Date: 09/14/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	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 BTX	<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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Celey D. Keene, Lab Director/Quality Manager

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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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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

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: ARCADIS / APACHE Project Manager: Hank McConner Address: 1004 N. Big Spring St. Ste 300 City: Midland, Texas State: TX Zip: 79701 Phone #: 432 687 5400 Fax #: Project #: M7001181 Project Owner: Apache Project Name: Project Location: New Mexico Sampler Name: Jerry Longwell		P.O. #: Company: Apache Attn: Bruce Baker Address: City: State: Zip: Phone #: Fax #:																
FOR LAB USE ONLY Lab I.D. Sample I.D.		(G)RAB OR (C)OMP. # CONTAINERS <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>GROUNDWATER</td></tr> <tr><td>WASTEWATER</td></tr> <tr><td>SOIL</td></tr> <tr><td>OIL</td></tr> <tr><td>SLUDGE</td></tr> <tr><td>OTHER :</td></tr> <tr><td>ACID/BASE:</td></tr> <tr><td>ICE / COOL</td></tr> <tr><td>OTHER :</td></tr> </table>		GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :						
GROUNDWATER																		
WASTEWATER																		
SOIL																		
OIL																		
SLUDGE																		
OTHER :																		
ACID/BASE:																		
ICE / COOL																		
OTHER :																		
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th rowspan="2">DATE</th> <th rowspan="2">TIME</th> <th colspan="2">MATRIX</th> <th>PRESERV</th> <th>SAMPLING</th> </tr> <tr> <th>GROUNDWATER</th> <th>WASTEWATER</th> <th></th> <th></th> </tr> </table>		DATE	TIME	MATRIX		PRESERV	SAMPLING	GROUNDWATER	WASTEWATER			<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>TPH</th> <th>DRO / 600</th> <th>BTEX</th> <th>8015</th> <th>CI</th> </tr> </table>		TPH	DRO / 600	BTEX	8015	CI
DATE	TIME			MATRIX		PRESERV	SAMPLING											
		GROUNDWATER	WASTEWATER															
TPH	DRO / 600	BTEX	8015	CI														
Relinquished By: Jerry Longwell Retained By: Hank McConner Date: 5/15/15 Time: 1:00 PM Received By: Hank McConner Date: 5/15/15 Time: 1:00 PM		Sample Condition: Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> CHECKED BY: (Initials) Jerry																
REMARKS: 432-266-0876		ANALYSIS REQUEST																



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name: ARCADIS / Apollo		P.O. #:		BILL TO		ANALYSIS REQUEST											
Project Manager: Hank McCoull		Company:															
Address: 1004 N. 3rd St. Ste. 51		City: Albuquerque		State: NM		Zip: 87102		Company:		Address:		City:		State:		Zip:	
Phone #: 505 261-5400		Fax #: 505 261-5401		Project Owner: Apollo		Project Name:		Project Location: New Mexico		Sampler Name: Lucy Skowron		FOR LAB USE ONLY		Lab I.D.:		Sample I.D.:	
Relinquished By: Lucy Skowron		Date: 9/15/15		Time: 1:51		Received By: Debi Jensen		Date: 9/15/15		Time: 1:51		Relinquished By:		Date:		Time:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		CHECKED BY: [Signature]		REMARKS:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		Add'l Phone #:		Add'l Fax #:			

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
H503416	12'-15' UMSA4 (58-5)	X	2	X						9/15/15	1507	TPH D20/620
	0'-3' UMSA4 (58-4)	X	2	X						9/15/15	0850	8TEX 8015
	9'-12' UMSA4 (58-4)	X	2	X						9/15/15	0856	CI
	12'-15' UMSA4 (58-4)	X	2	X						9/15/15	0502	
	5' LAD #20 (58-2)	X	2	X						9/15/15	1418	
	10' LAD #20 (58-2)	X	2	X						9/15/15	1420	
	15' LAD #20 (58-2)	X	2	X						9/15/15	1422	
	20' LAD #20 (58-2)	X	2	X						9/15/15	1424	
	25' LAD #20 (58-2)	X	2	X						9/15/15	1424	



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name: ARCHADES / Apollo		P.O. #:		BILL TO		ANALYSIS REQUEST					
Project Manager: Frank McLawrence		Company:									
Address: 1004 N. D. Springs Dr STE 300		Attn:									
City: Albuquerque		Address:									
Phone #: 505 683 5400		Fax #: 505 683 5400									
Project #: M100118		Project Owner:									
Project Name: Apollo		State:		Zip:							
Project Location:		Phone #:									
Sample Name: Corey S. Longwell		Fax #:									
FOR LAB USE ONLY											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX		PRESERV.	SAMPLING				
				GROUNDWATER							
				WASTEWATER							
				SOIL							
				OIL							
				SLUDGE							
				OTHER :							
				ACID/BASE:							
				ICE / COOL							
				OTHER :							
				DATE	TIME						
H562416	35' LWD#20 5B-2	G	1	9/14/15	1428	TPH D20/620					
33 30	40' LWD#20 5B-2	G	1	9/14/15	1430	BTEX 8015					
33 30	45' LWD#20 5A-2	G	1	9/14/15	1432	C					
34 30	5' LWD#20 5B-2	G	1	9/14/15	1552						
35 30	10' LWD#20 5B-2	G	1	9/14/15	1557						
36 30	15' LWD#20 5B-2	G	1	9/14/15	1559						
37 30	20' LWD#20 5B-2	G	1	9/14/15	1600						
38 30	25' LWD#20 5B-2	G	1	9/14/15	1601						
39 30	30' LWD#20 5B-2	G	1	9/14/15	1603						
40 30	35' LWD#20 5B-2	G	1	9/14/15	1604						

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Relinquished By: *[Signature]* Date: **9/14/15** Received By: *[Signature]* Date: **9/14/15**

Relinquished By: *[Signature]* Date: **9/14/15** Received By: *[Signature]* Date: **9/14/15**

Delivered By: (Circle One) **UPS** Sample Condition ☒ Cool ☒ Intact ☐ Yes ☐ No ☐ Yes ☐ No

Checker: *[Signature]* (Initials)

Phone Result: ☐ Yes ☐ No ☐ No Add'l Phone #: **575 393 2326**

Fax Result: ☐ Yes ☐ No Add'l Fax #: **575 393 2476**

REMARKS: **575 393 2476**

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



CARDINAL
Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name: <u>ARCADIS/APACHE</u> Project Manager: <u>Hank McConnell</u> Address: <u>1004 N 3rd Street St. Ste. 500</u> City: <u>Mesa</u> State: <u>AZ</u> Zip: <u>85201</u> Phone #: <u>480 687 5400</u> Fax #: _____ Project #: <u>47001181</u> Project Owner: _____ Project Name: <u>Apache</u> Project Location: _____ Sample Name: <u>Jerry S. Lawrence</u> 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 _____ GROUNDWATER _____ WASTEWATER _____ SOIL _____ OIL _____ SLUDGE _____ OTHER : _____ ACID/BASE: _____ ICE / COOL _____ OTHER : _____		MATRIX _____ PRESERV _____ SAMPLING _____	
Relinquished By: <u>G. Stevens</u> Date: <u>3/14/15</u> Time: _____ Relinquished By: _____ Date: _____ Time: _____		Received By: <u>Wendi Stevens</u> Date: _____ Time: _____	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: _____ Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> CHECKED BY: <u>[Signature]</u>		REMARKS: Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: _____ Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Fax #: _____	



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, stylized 'C' and 'K'.

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
 Reported: 11/20/2015
 Project Name: NM GSAU # 1108
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 11/16/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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							

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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
 Reported: 11/20/2015
 Project Name: NM GSAU # 1108
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 11/16/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

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	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, SM4500Cl-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
 Reported: 11/20/2015
 Project Name: NM GSAU # 1108
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 11/16/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

Chloride, SM4500Cl-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, SM4500Cl-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



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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: 11/16/2015
 Reported: 11/20/2015
 Project Name: NM GSAU # 1108
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 11/16/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

Chloride, SM4500Cl-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, SM4500Cl-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, SM4500Cl-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, SM4500Cl-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
 Reported: 11/20/2015
 Project Name: NM GSAU # 1108
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 11/16/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

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	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, 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	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, SM4500Cl-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		
<hr/>										
Surrogate: 1-Chlorooctane	90.9 %	35-147								
Surrogate: 1-Chlorooctadecane	98.1 %	28-171								

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

Chloride, SM4500Cl-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		
<hr/>										
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
 Reported: 11/20/2015
 Project Name: NM GSAU # 1108
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 11/16/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

Chloride, SM4500Cl-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, SM4500Cl-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, SM4500Cl-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 78.4 % 35-147

Surrogate: 1-Chlorooctadecane 81.2 % 28-171

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

Chloride, SM4500Cl-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	

Surrogate: 1-Chlorooctane 84.7 % 35-147

Surrogate: 1-Chlorooctadecane 90.5 % 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
 Reported: 11/20/2015
 Project Name: NM GSAU # 1108
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 11/16/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

Chloride, SM4500Cl-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, SM4500Cl-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

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

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

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A handwritten signature in black ink, appearing to read "C. 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

[illegible]



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Apache

Project Manager: Bruce Baker

Address:

City:

State:

Zip:

Phone #:

Fax #:

Project #:

Project Name: Apache

Project Location: NMGSRA #1108

Sample Name: Chris Flores

P.O. #:

Company:

Attn:

Address:

City:

State:

Zip:

Phone #:

Fax #:

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

H503025

11

12

Pile 1

SP11

Pile 1

SP12

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

Chloride

TPH

MATRIX

PRESERV

SAMPLING

Relinquished By:

Date: 11-16-2015

Time: 3:50

Received By: Scott Anderson

Delivered By: (Circle One)

Sample Condition

CHECKED BY: (initials)

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the 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 listed reasons or otherwise.

Relinquished By:

Date:

Time:

Received By:

REMARKS:

Phone Result:

Fax Result:

Add'l Phone #:

Add'l Fax #:

Email to: brett.baker@apachecorp.com



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Apache		P.O. #:		BILL TO												ANALYSIS REQUEST													
Project Manager: Bruce Baker		Company:																											
Address:		Attn:																											
City:		Address:																											
Phone #:		City:																											
Fax #:		State:																											
Project #:		Zip:																											
Project Name: Apache		State:																											
Project Location: NMGSAN #1108		Zip:																											
Sample Name: Chris Flores		Phone #:																											
FOR LAB USE ONLY		Fax #:																											
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX				PRESERV		SAMPLING															
H503025		13 Pile 2 SP 1		✓		✓		✓				✓		11-10-2015 10:25 AM		X		Chloride											
14 Pile 2 SP 2		✓		✓		✓				✓		10:30 AM		X		TPT													
15 Pile 2 SP 3		✓		✓		✓				✓		10:35 AM		X															
16 Pile 2 SP 4		✓		✓		✓				✓		10:40 AM		X															
17 Pile 2 SP 5		✓		✓		✓				✓		10:45 AM		X															
18 Pile 2 SP 6		✓		✓		✓				✓		10:50 AM		X															
19 Pile 2 SP 7		✓		✓		✓				✓		10:55 AM		X															
20 Pile 2 SP 8		✓		✓		✓				✓		11:00 AM		X															

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

Relinquished By:	Date: 11-16-2015	Received By:	Date: 11-16-2015	Time: 3:50	Phone Result:	Yes	No	Add'l Phone #:
Relinquished By:		Received By:			Fax Result:	Yes	No	Add'l Fax #:
REMARKS: Email to: Larry.baker@apachecorp.com								

Delivered By: (Circle One) ☒ UPS ☐ Bus ☐ Other: -3.20

Sample Condition: ☒ Cool ☐ Intact ☐ Yes ☐ No

CHECKED BY: [Signature]

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

#4

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". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

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, 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	12/16/2015	ND	432	108	400	0.00		

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

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	12/16/2015	ND	432	108	400	0.00	

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

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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



CARDINAL
Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

[illegible]



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". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

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, 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	12/15/2015	ND	432	108	400	0.00	

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

Chloride, SM4500Cl-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

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A handwritten signature in black ink, appearing to read "C. 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

[illegible]



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". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

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
 Reported: 03/01/2016
 Project Name: NMGSAU #1108
 Project Number: NMGSAU #1108
 Project Location: NOT GIVEN

Sampling Date: 02/23/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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
 Reported: 03/01/2016
 Project Name: NMGSAU #1108
 Project Number: NMGSAU #1108
 Project Location: NOT GIVEN

Sampling Date: 02/23/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SOIL BORE 1 @ 21' (H600407-05)**Chloride, SM4500Cl-B****mg/kg****Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	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

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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A handwritten signature in black ink, appearing to read "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

Company Name: APACHE		P.O. #:		BILL TO																				
Project Manager: Brice Baker		Company:		ANALYSIS REQUEST																				
Address:		Attn:																						
City:		Address:																						
State:		City:																						
Zip:		State:																						
Phone #:		Fax #:																						
Project #:		Project Owner:																						
Project Name: Apache		Phone #:																						
Project Location: NMGS# 41108		Fax #:																						
Sampler Name: Chris Flores		PRESERV		SAMPLING																				
FOR LAB USE ONLY																								
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX				DATE	TIME															
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :												
H000407																								
1	Soil Bore 1 @ 1'		1										2/23/2016 10:20 AM	X										
2	Soil Bore 1 @ 18'		1										10:40 AM	X										
3	Soil Bore 1 @ 19'		1										11:00 AM	X										
4	Soil Bore 1 @ 20'		1										11:20 AM	X										
5	Soil Bore 1 @ 21'		1										11:40 AM	X										
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Relinquished By: Chris Flores		Date: 2/23/2016		Received By: Brice Baker		Date: 2/23/2016		Time: 4:12 PM		Sample Condition		CHECKED BY: Brice Baker												
Relinquished By:		Date:		Received By:		Date:		Time:		Cool		Intact												
										Yes		Yes												
										No		No												
Delivered By: (Circle One)		4:12 PM																						
Sampler - UPS - Bus - Other:																								
REMARKS: email to: males@diversifiedsi.com mburton@mpattersoncflores@capachecorp.com																								

† 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.

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". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

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
 Reported: 03/01/2016
 Project Name: NMGSAU #1108
 Project Number: NMGSAU #1108
 Project Location: NOT GIVEN

Sampling Date: 02/23/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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
 Reported: 03/01/2016
 Project Name: NMGSAU #1108
 Project Number: NMGSAU #1108
 Project Location: NOT GIVEN

Sampling Date: 02/23/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	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, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	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
 Reported: 03/01/2016
 Project Name: NMGSAU #1108
 Project Number: NMGSAU #1108
 Project Location: NOT GIVEN

Sampling Date: 02/23/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	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 81.7 % 28-171

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Celey D. Keene, Lab Director/Quality Manager



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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

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A handwritten signature in black ink, appearing to read "C. D. Keene", written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

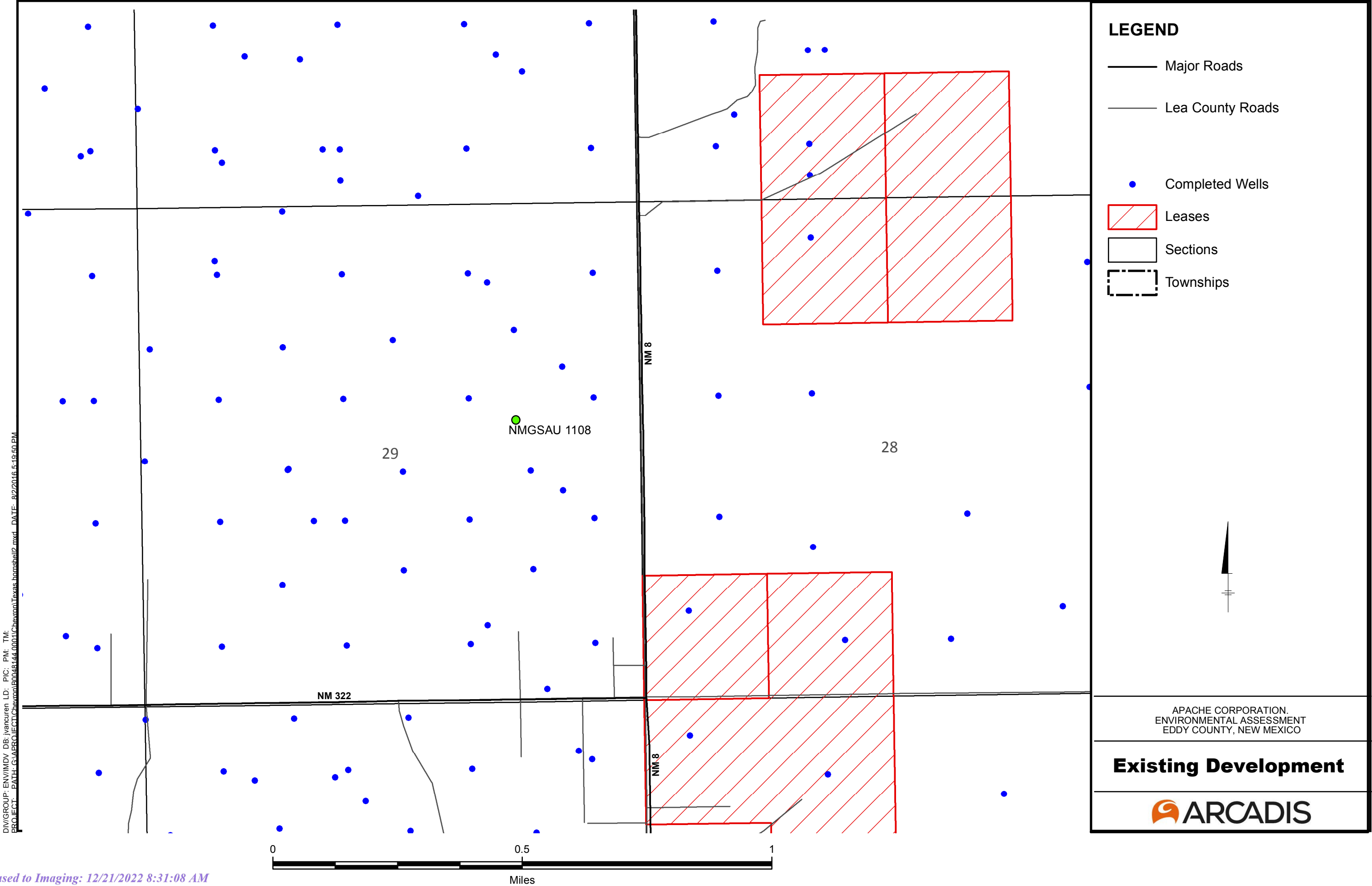
101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

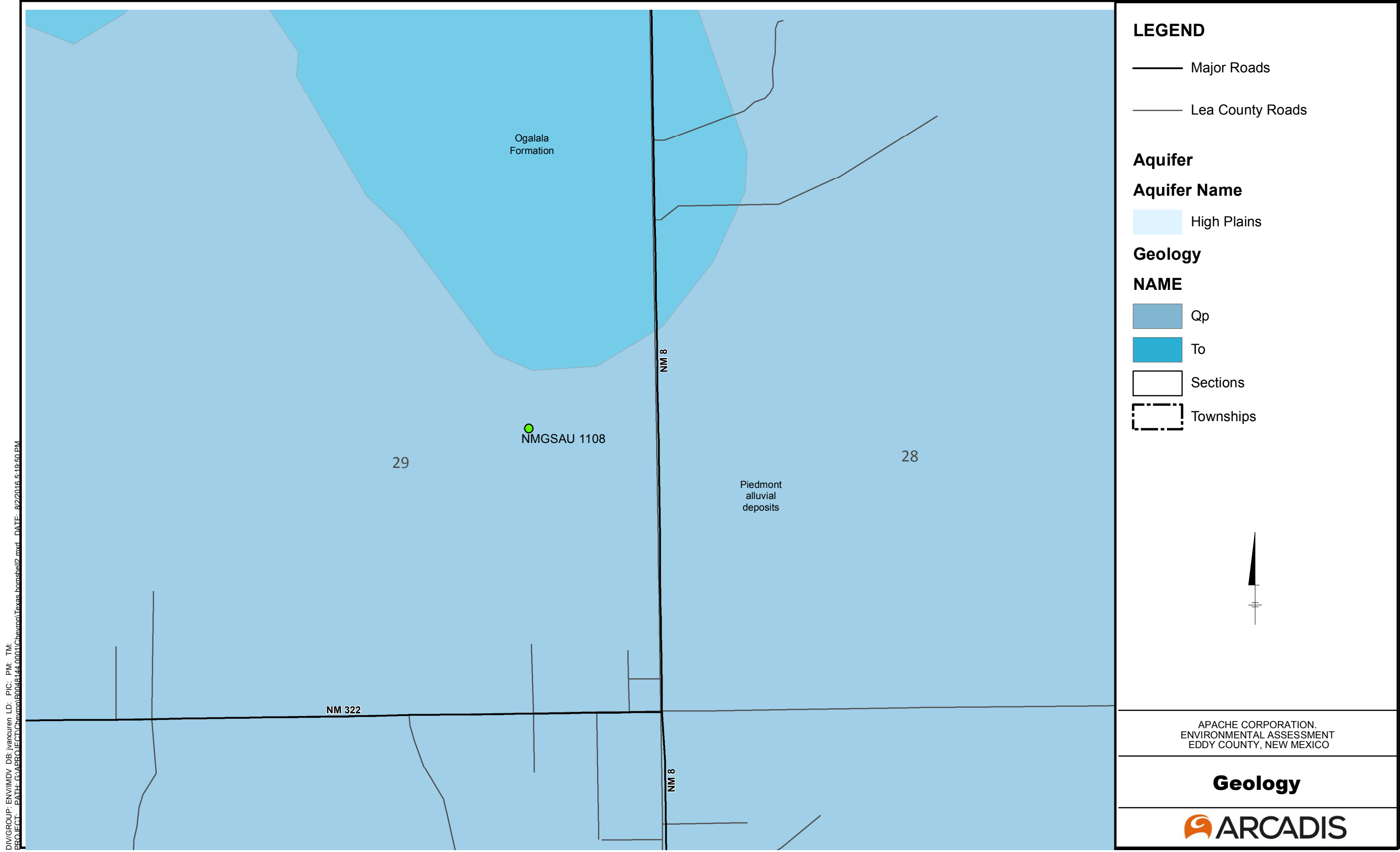
[illegible]



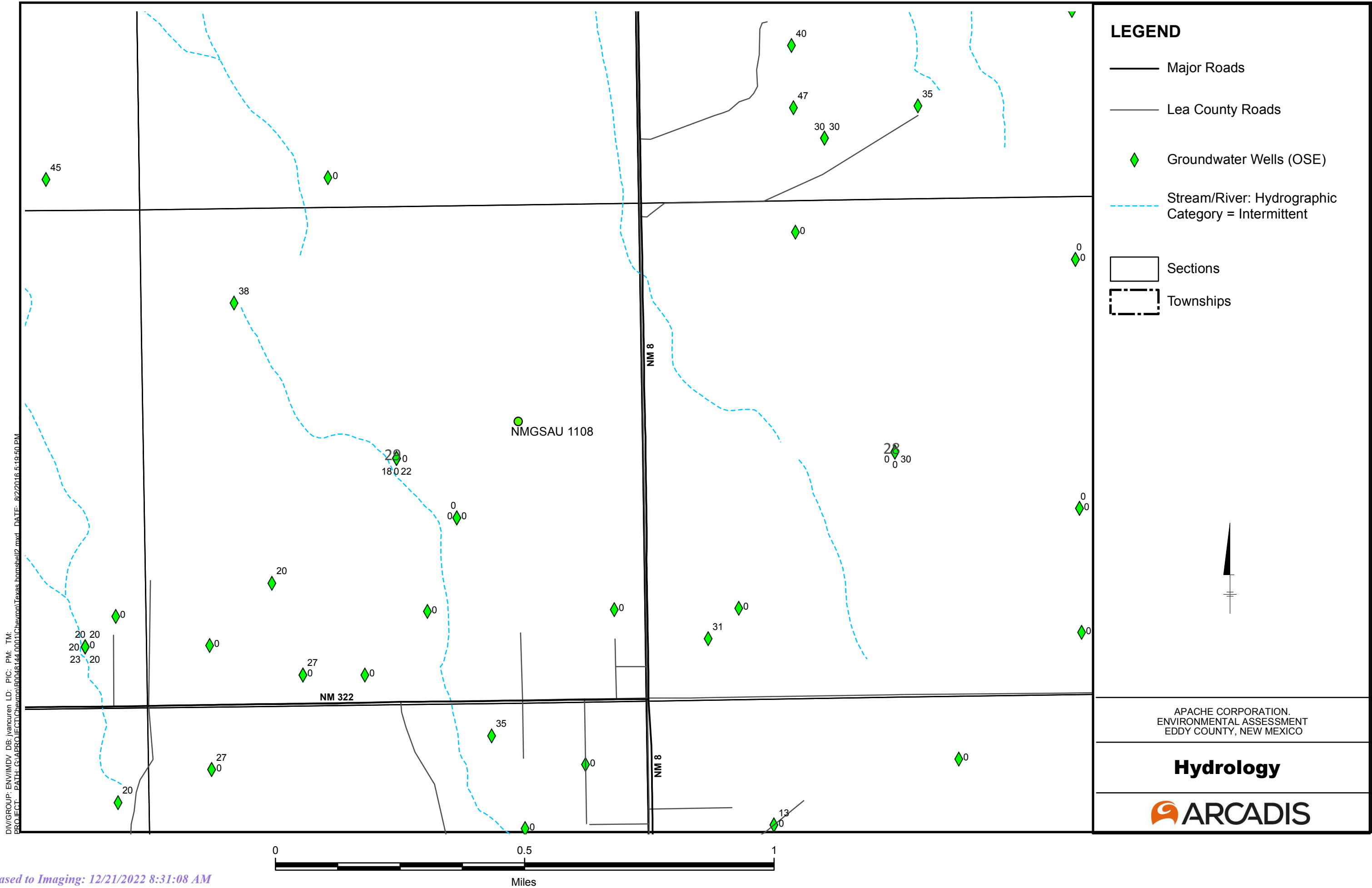
Appendix D

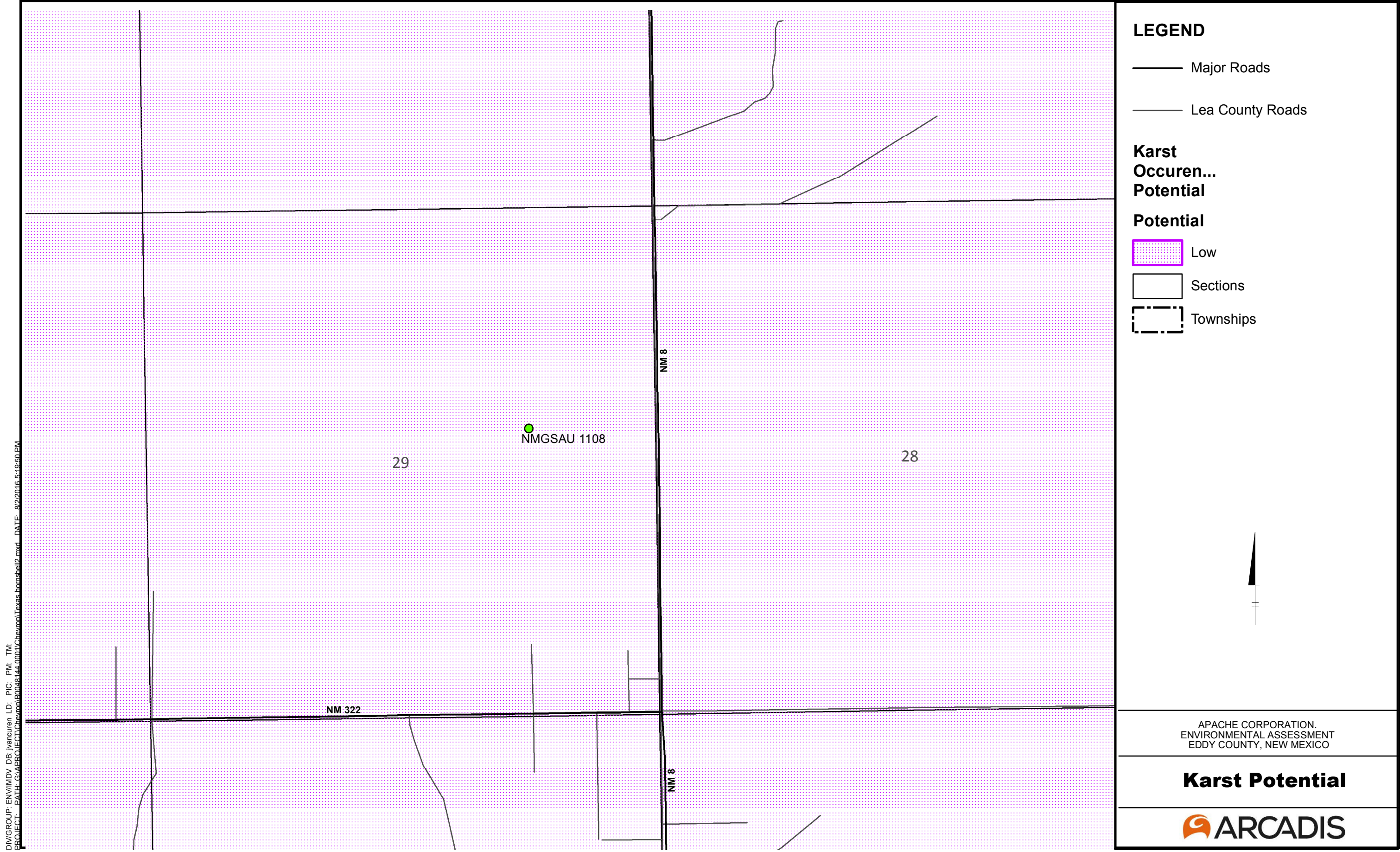
Constraints Maps



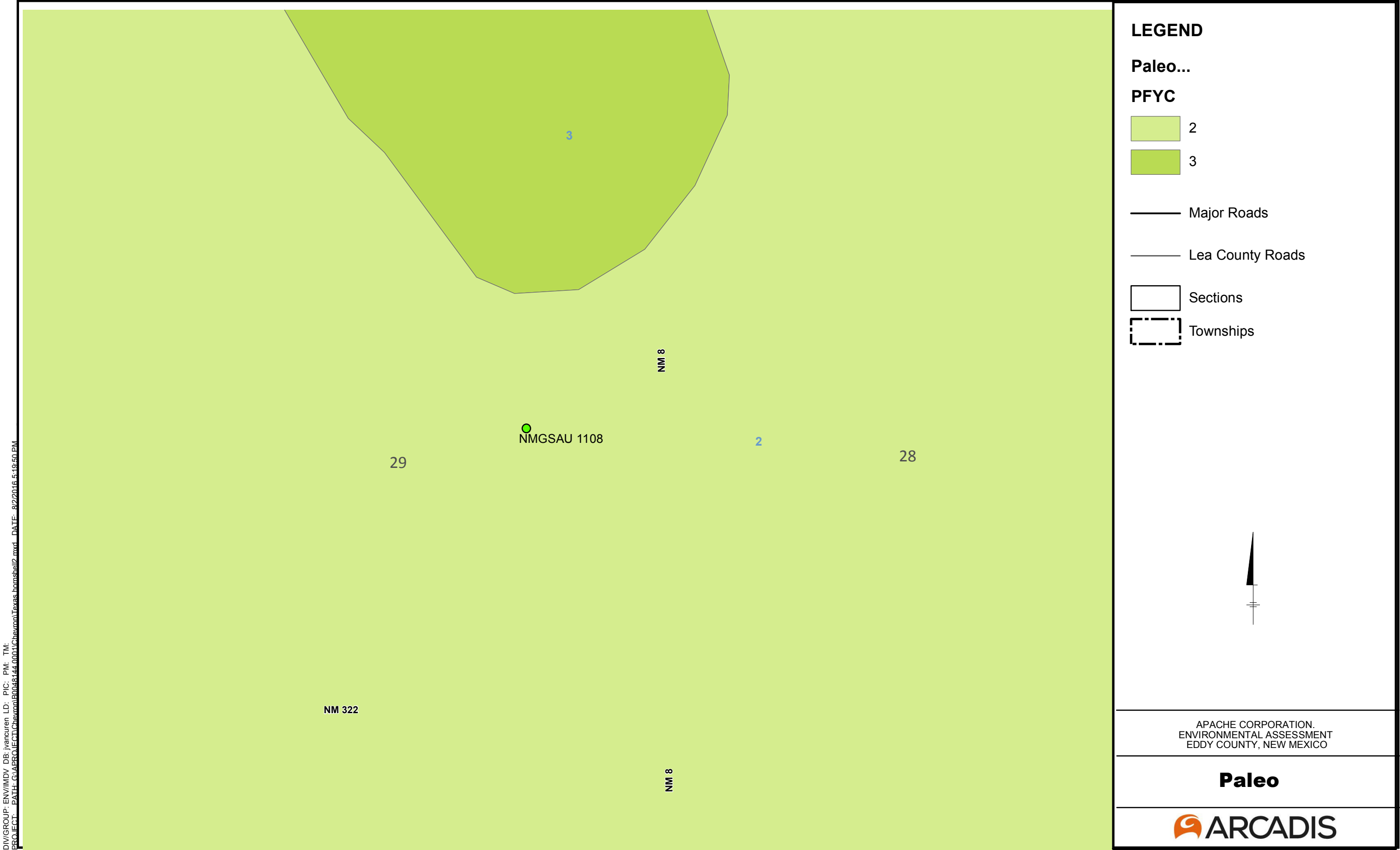


DIV/GROUP: ENV/IMDV DB: ivarcuren LD: PIC: PM: TM:
PROJECT: PATH: G:\PROJECT\Chavon\50048144\0001\Chavon\Texas\homshel2.mxd DATE: 8/2/2016 5:19:50 PM






DIV/GRP: ENV/IMDV DB: Ivarcuren LD: PIC: PM: TM:
PROJECT: PATH: G:\PROJECT\Chevron\50048144\0001\Chevron\Texas\honestel2.mxd DATE: 8/2/2016 5:19:50 PM



DIV/GROUP: ENV/IMDV DB: ivarcuren LD: PIC: PM: TM:
PROJECT: PATH: G:\PROJECT\Chavon\50048144\0001\Chavon\Texas\homshel2.mxd DATE: 8/2/2016 5:19:50 PM

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

0 0.002 0.004 0.008 Miles


Legend

- ★ Source
- Misc_points
- Soil_bores

Pipeline

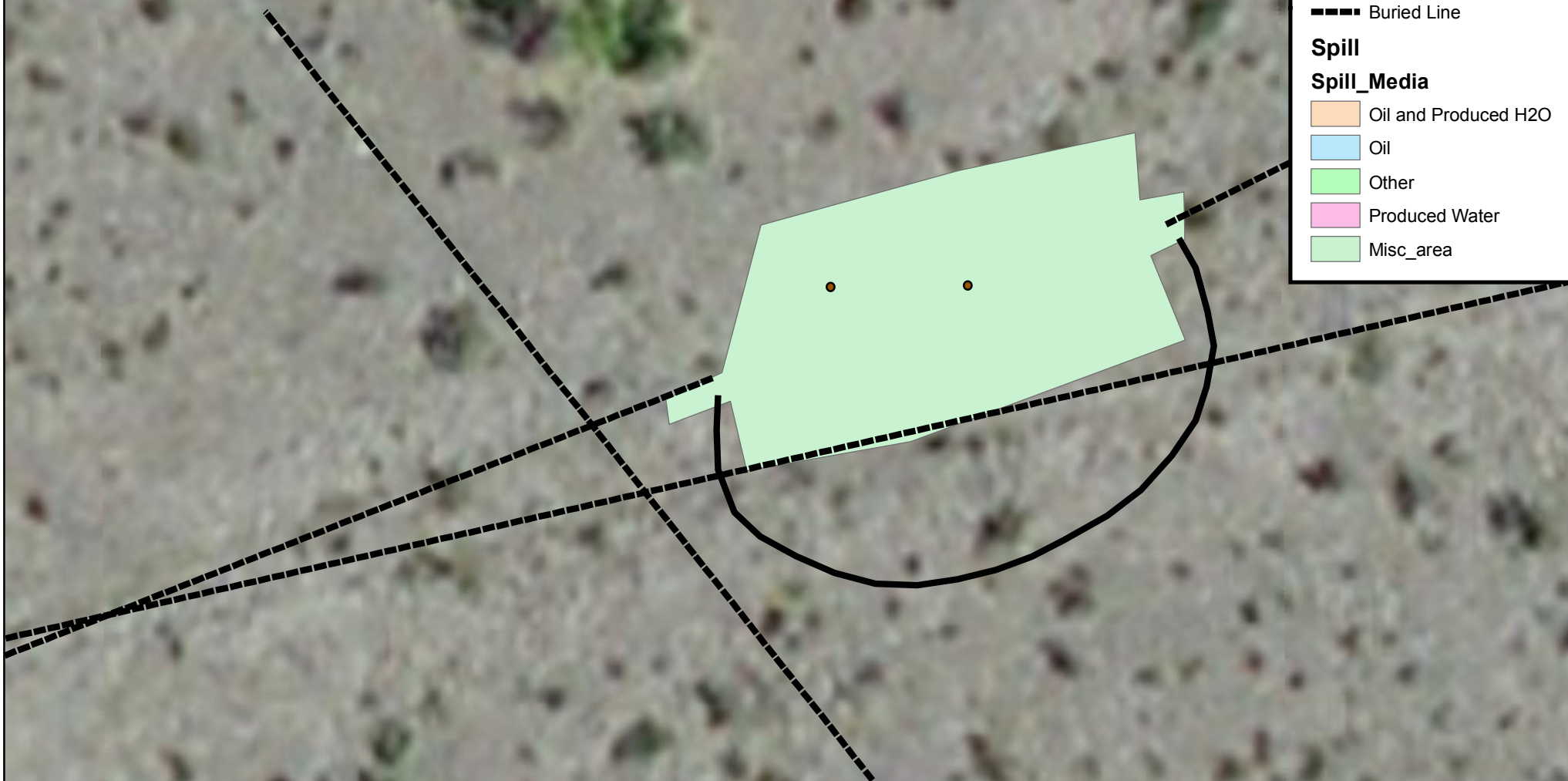
Type

- Above Ground Line
- - - Buried Line

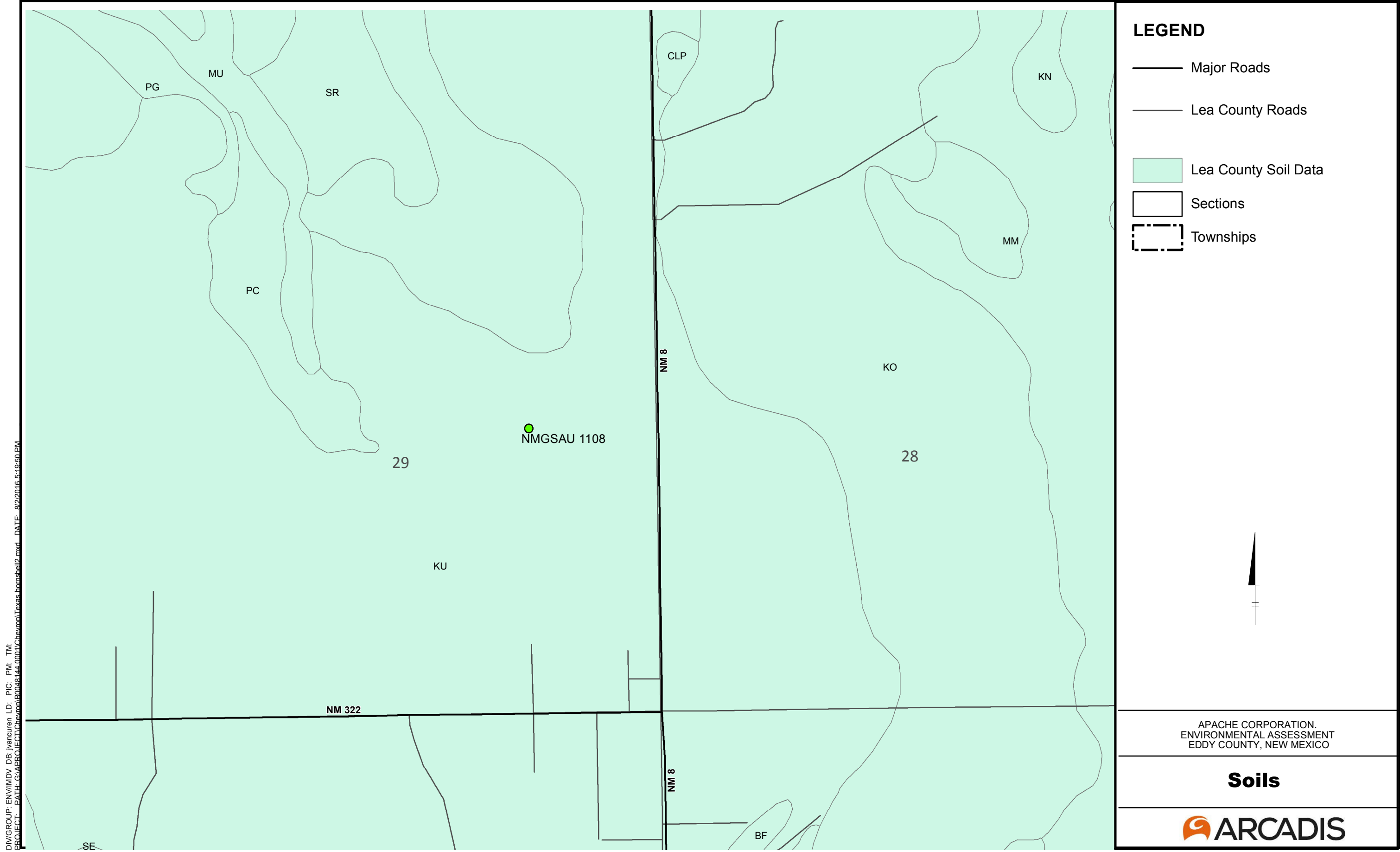
Spill

Spill_Media

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

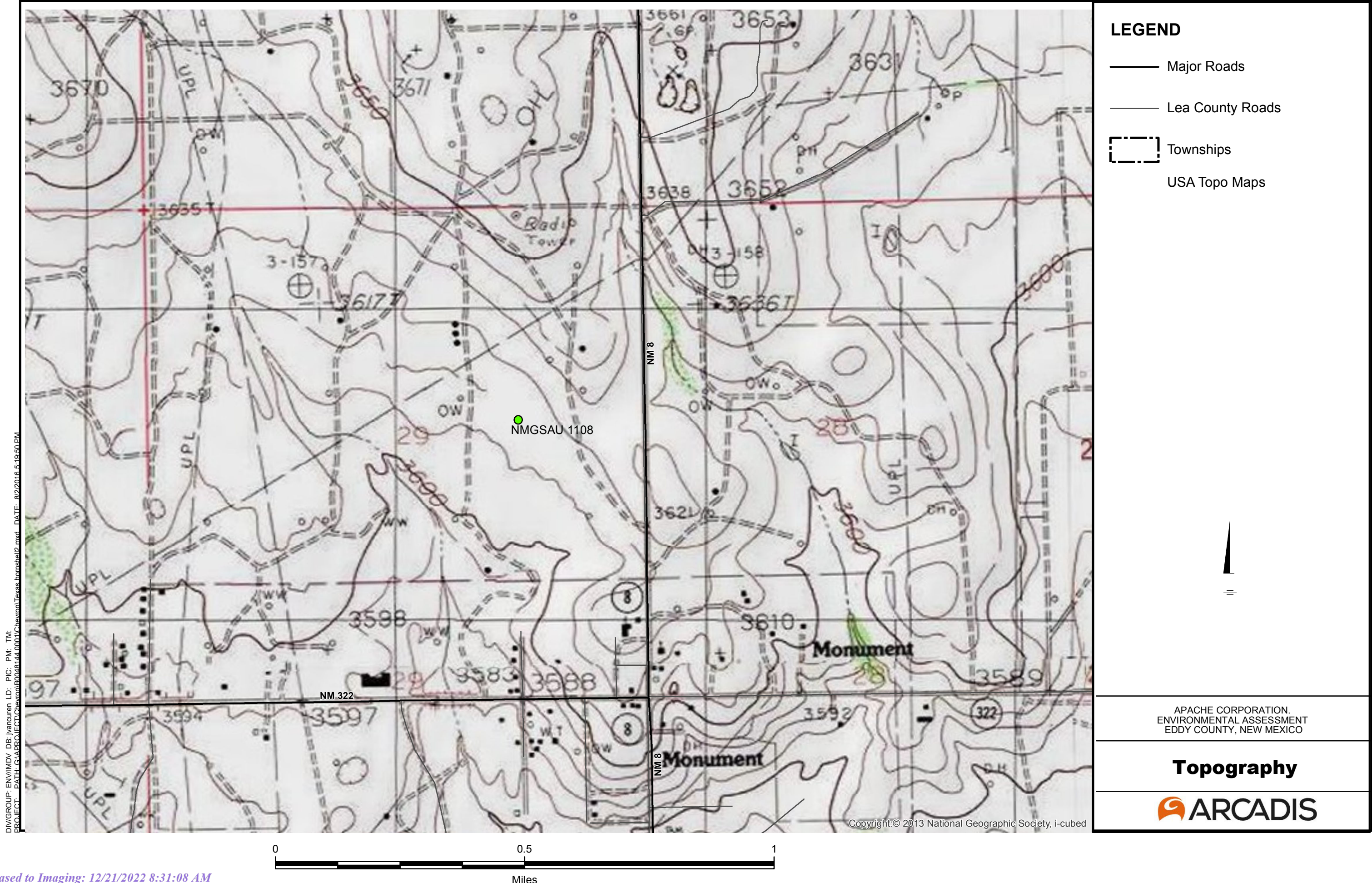


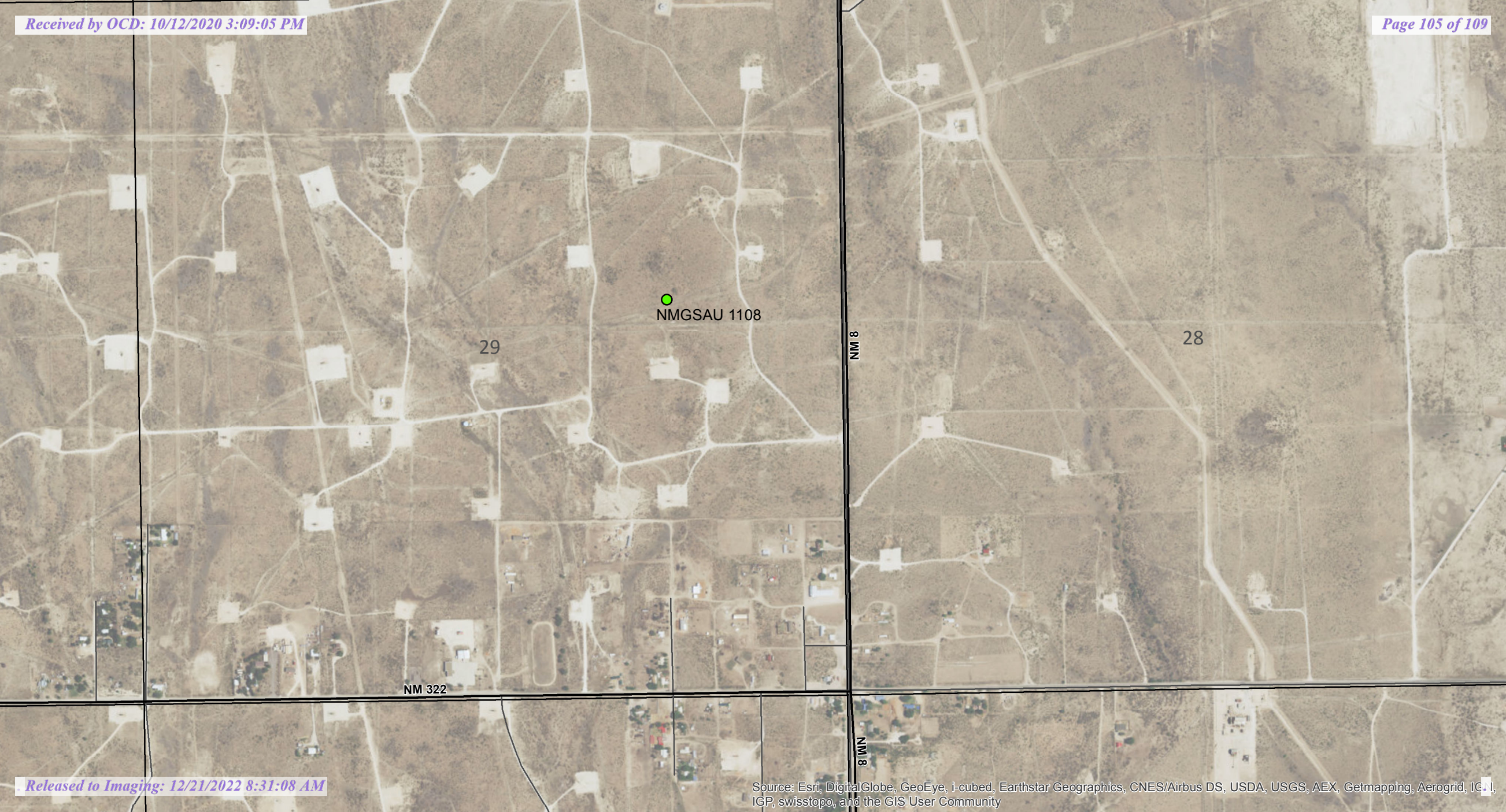
Site Diagram



DIV/GROUP: ENV/IMDV DB: ivarcuren LD: PIC: PM: TM:
PROJECT: PATH: G:\PROJECT\Chavon\50048144\0001\Chavon\Texas\homshel2.mxd DATE: 8/2/2016 5:19:50 PM







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	\$1,226.00
Grass Seed (BLM #3)	30.00	\$6.30	\$189.00
		\$0.00	\$0.00
		\$0.00	\$0.00
		\$0.00	\$0.00
3rd Party Invoice Surcharge		\$0.00	\$183.90
Fuel Surcharge		\$0.00	\$0.00

Employees

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
		\$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