

Results of Directional Survey

API number:	30-025-41045	DD
OGRID:		Operator: APACHE CORP
		Property: NORTH MONUMENT G/SA UNIT # 392

surface	ULSTR:	O	30	T 19S	R 37E
				1190 FSL	2420 FEL

BH Loc	ULSTR:	O	30	T 19S	R 37E
4031	MD	4022.2	TVD	1308 FSL	2594 FEL

Top Perf/OH	ULSTR:	O	30	T 19S	R 37E
3792	MD	3784.0	TVD	1293 FSL	2581 FEL

Bot Perf/OH	ULSTR:	O	30	T 19S	R 37E
3895	MD	3886.7	TVD	1300 FSL	2587 FEL

	MD	N/S	E/W	VD
	3688	98.29	-154.64	3680.34
TOP PERFS/OH	3792	103.38	-160.66	3784.03
	3816	104.56	-162.05	3807.96
	3816	104.56	-162.05	3807.96
BOT PERFS/OH	3895	109.62	-166.51	3886.67
	3978	114.94	-171.20	3969.37

NEXT TO LAST	3978	114.94	-171.20	3969.37
LAST READING	4030	118.37	-174.17	4021.17
TD	4031	118.44	-174.23	4022.17

Surface Location	1190	FS	2420	FE
Projected BHL	1308	FS	2594	FE
Location of				
Top Perfs/OH	1293	FS	2581	FE
Bottom Perfs/OH	1300	FS	2587	FE

SUMMARY of Subsurface Locations

Surface Location	O-30-19S-37E	1190	FS	2420	FE	Vert. Depth
Top Perfs/OH	O-30-19S-37E	1293	FS	2581	FE	3784.03
Bottom Perfs/OH	O-30-19S-37E	1300	FS	2587	FE	3886.67
Projected TD	O-30-19S-37E	1308	FS	2594	FE	4022.17

DEC 02 2013

Apache Corporation
303 Veterans Airpark Lane, #3000
Midland, TX 79705

North Monument G/SA Unit #392
Lea County, New Mexico

API # 30-025-41045

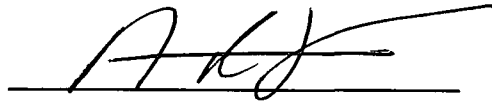
SL: 1190' FSL - 2420' FEL ; 0-30-195-37E

250	2.50	0.30	0.53	1.31	1.31
500	2.50	0.30	0.53	1.31	2.63
750	2.50	0.70	1.23	3.06	5.69
1000	2.50	0.90	1.58	3.94	9.63
1248	2.48	0.90	1.58	3.91	13.53

HOBBS OCD

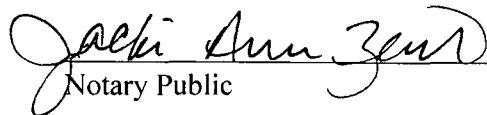
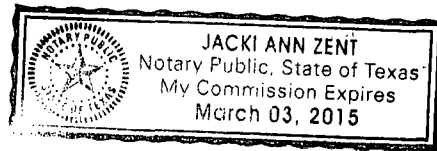
OCT 09 2013

RECEIVED



Archie Brown - General Manager

The attached instrument was acknowledged before me on the 3rd day of June, 2013 by
Archie Brown - General Manager, CapStar Drilling, Inc.


Notary Public

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	APACHE CORP	Local Co-ordinate Reference:	Well North Monument G/SA Unit #392
Project:	Eunice	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	North Monument G/SA Unit #392	North Reference:	Grid
Wellbore:	VH - Job #320513-K-530	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #320513-K-530	Database:	EDM-Regulatory

Project		Eunice	
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Lea County, NM			
Site Position:		Northing:	550,762.04 usft	Latitude:	32° 30' 31.140 N
From:	Lat/Long	Easting:	862,794.70 usft	Longitude:	103° 9' 23.400 W
Position Uncertainty:	0.00 usft	Slot Radius:	0"	Grid Convergence:	0.63 °

Well	North Monument G/SA Unit #392, Directional					
Well Position	+N/-S	0.00 usft	Northing:	593,524.22 usft	Latitude:	32° 37' 38.520 N
	+E/-W	0.00 usft	Easting:	821,201.81 usft	Longitude:	103° 17' 24.140 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	0.00 usft

Wellbore		VH - Job #320513-K-530			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	05/20/13	7.25	60.56	48,722

Design		VH - Job #320513-K-530		
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	304.20

Survey Program		Date	06/10/13		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
103.54	1,176.00	drop Gyro (VH - Job #320513-K-530)	Keeper	Keeper Gyro	

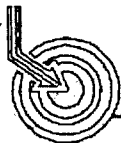
Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
103.54	0.29	264.44	103.54	-0.03	-0.26	264.44		0.26
130.37	0.32	269.23	130.37	-0.03	-0.40	265.33		0.40
219.09	0.29	246.42	219.09	-0.13	-0.86	261.63		0.87
306.81	0.33	253.59	306.81	-0.29	-1.30	257.60		1.33
396.30	0.21	271.15	396.30	-0.36	-1.71	258.27		1.75
487.45	0.08	213.91	487.45	-0.41	-1.92	258.06		1.96
574.86	0.29	191.49	574.85	-0.67	-1.99	251.36		2.10
664.30	0.39	182.64	664.29	-1.20	-2.05	239.73		2.38
749.74	0.56	158.31	749.73	-1.88	-1.91	225.54		2.68
835.18	0.55	154.71	835.17	-2.64	-1.58	210.99		3.07
920.62	0.61	161.26	920.60	-3.44	-1.26	200.16		3.66

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	APACHE CORP	Local Co-ordinate Reference:	Well North Monument G/SA Unit #392
Project:	Eunice	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	North Monument G/SA Unit #392	North Reference:	Grid
Wellbore:	VH - Job #320513-K-530	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #320513-K-530	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,006.01	0.69	173.35	1,005.99	-4.38	-1.06	193.56	4.50
1,091.52	0.47	165.54	1,091.49	-5.23	-0.91	189.86	5.31
1,176.00	0.51	162.45	1,175.97	-5.92	-0.71	186.83	5.97

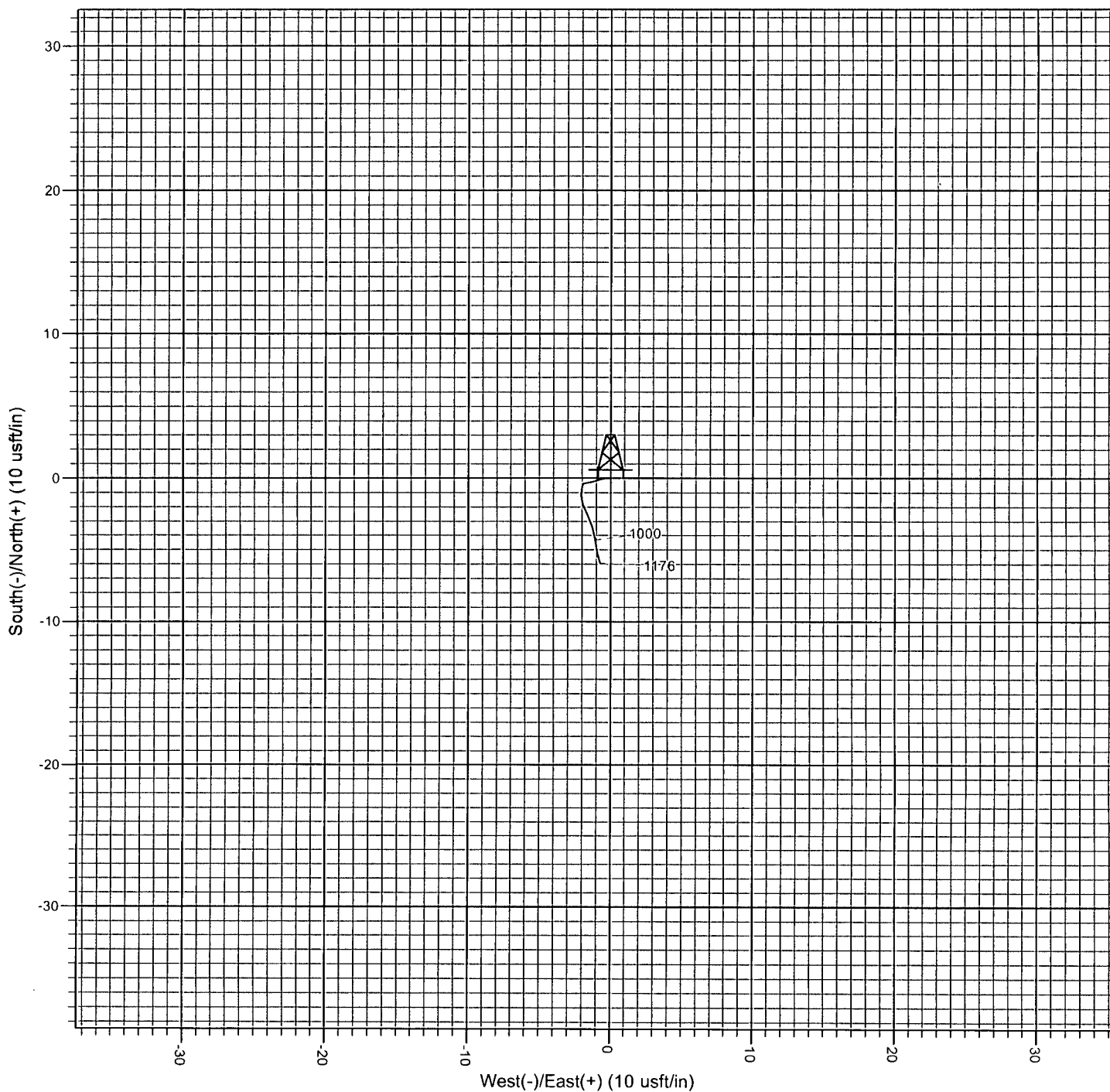


Scientific Drilling

Project: Eunice
Lea County, NM
Well: North Monument G/SA Unit #392
Wellbore: VH - Job #320513-K-530
Design: VH - Job #320513-K-530

WELL DETAILS: North Monument G/SA Unit #392
WELL @ 0.00usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	593524.22	821201.81	32° 37' 38.520 N	103° 17' 24.140 W	



PROJECT DETAILS: Eunice	SITE DETAILS: Lea County, NM
Geodetic System: US State Plane 1927 (Exact solution)	Site Centre Latitude: 32° 30' 31.140 N
Datum: NAD 1927 (NADCON CONUS)	Longitude: 103° 9' 23.400 W
Ellipsoid: Clarke 1866	Positional Uncertainty: 0.00
Zone: New Mexico East 3001	Convergence: 0.63
System Datum: Mean Sea Level	Local North: Grid

PHOENIX TECHNOLOGY SERVICES INC. SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 1310456

OPERATOR Apache Corp

WELL NAME NMGSAU #392

COUNTY & STATE

LEA COUNTY

API WELL NUMBER 30-025-41045

PROPOSED DIRECTION 270.6

TIE-IN DATA						
MEASURED DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA SOURCE
1,176 ft	0.51	.51 ft	162.45	5.94 S	0.72 W	PHOENIX MWD

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
21-May-13	1,256 ft	0.8	175.9

SURVEY INSTRUMENT TYPE
PHOENIX MWD

HOBBS OCD
JUN 06 2013

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LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
22-May-13	3,978 ft	5.0	319.1

TO THE BEST OF MY KNOWLEDGE I
CERTIFY THIS SURVEY DATA TO BE
TRUE AND CORRECT.

PROJECTED TD SURVEY DATE	PROJECTED TD SURVEY DEPTH	INCLIN	AZIMUTH
22-May-13	4,032 ft	5.0	319.1

Brian McNutt

PRINT YOUR NAME ABOVE

Brian McNutt

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.84
DECLINATION OR GRID	Grid

05/22/13

TODAY'S DATE

MWD SUPERVISOR 1

Brian McNutt

DIRECTIONAL DRILLER 1

Brinton Donaldson

MWD SUPERVISOR 2

NONE

DIRECTIONAL DRILLER 2

NONE

1805 Brittmore Road

Houston, Texas 77043

(713)3370609 (Voice), (713)337-0599 (Fax)



Apache Corporation

Lea County, NM (NAD83 NME)

NMGSAU

#392

OH / Job #1310456

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Survey: Phoenix MWD Survey

Phoenix Final Survey Report

31 May, 2013



PHOENIX
TECHNOLOGY SERVICES



Phoenix Technology Services

Phoenix Final Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #392
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	KB @ 3630.00usft (Capstar 120)
Site:	NMGSAU	MD Reference:	KB @ 3630.00usft (Capstar 120)
Well:	#392	North Reference:	True
Wellbore:	OH / Job #1310456	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 120)	Database:	GCR DB

Project	Lea County, NM (NAD83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	NMGSAU		
Site Position:		Northing:	582,973.08 usft
From:	Map	Easting:	870,597.88 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 35' 53.144390 N
		Longitude:	103° 15' 51.083479 W
		Grid Convergence:	0.58 °

Well	#392		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 37' 38.527497 N
		Longitude:	103° 17' 24.141215 W
		Ground Level:	3,619.00 usft

Wellbore	OH / Job #1310456		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010_14	04/18/13	7.26
			Dip Angle (°)
			60.56
			Field Strength (nT)
			48,704

Design	Surveys (Capstar 120)		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction (°)
			270.60

Survey Program	Date 05/31/13		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
103.54	1,176.00	SDI Gyro (OH / Job #1310456)	Keeper
1,256.00	4,030.00	Phoenix MWD Survey (OH / Job #1310456)	MWD
			Description
			Keeper Standard Rate Gyro
			MWD - Standard

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
1,176.00	0.51	162.45	1,175.97	-5.92	-0.71	0.65	0.00
Tie-on to SDI Gyro							
1,256.00	0.80	175.90	1,255.96	-6.82	-0.56	0.49	0.41
First Phoenix MWD Survey							
1,384.00	3.10	312.30	1,383.91	-5.38	-3.06	3.00	2.91
1,512.00	4.50	311.70	1,511.62	0.29	-9.37	9.37	1.09
1,641.00	4.40	315.10	1,640.24	7.16	-16.64	16.71	0.22
1,769.00	4.60	320.60	1,767.84	14.60	-23.36	23.52	0.37
1,897.00	4.30	307.40	1,895.46	21.49	-30.43	30.66	0.83
2,025.00	3.60	321.60	2,023.16	27.55	-36.74	37.03	0.94
2,153.00	5.40	308.60	2,150.76	34.46	-43.95	44.31	1.61



Phoenix Technology Services
Phoenix Final Survey Report



Company: Apache Corporation
Project: Lea County, NM (NAD83 NME)
Site: NMGSAU
Well: #392
Wellbore: OH / Job #1310456
Design: Surveys (Capstar 120)

Local Co-ordinate Reference: Well #392
TVD Reference: KB @ 3630.00usft (Capstar 120)
MD Reference: KB @ 3630.00usft (Capstar 120)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: GCR DB

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (%/100usft)
2,280.00	5.90	292.00	2,277.15	40.63	-54.67	55.09	1.34
2,409.00	5.30	293.30	2,405.54	45.47	-66.29	66.76	0.48
2,536.00	5.20	307.50	2,532.01	51.30	-76.24	76.78	1.02
2,664.00	4.50	308.20	2,659.55	57.93	-84.79	85.40	0.55
2,792.00	5.00	301.10	2,787.11	63.92	-93.51	94.18	0.60
2,919.00	4.60	302.10	2,913.66	69.48	-102.57	103.29	0.32
3,048.00	4.10	307.10	3,042.29	75.01	-110.63	111.41	0.49
3,176.00	5.30	294.20	3,169.86	80.20	-119.67	120.51	1.24
3,304.00	4.60	297.50	3,297.39	84.99	-129.61	130.50	0.59
3,432.00	4.30	297.10	3,425.00	89.55	-138.44	139.38	0.24
3,560.00	4.10	297.80	3,552.66	93.87	-146.76	147.74	0.16
3,688.00	4.00	300.80	3,680.34	98.29	-154.64	155.67	0.18
3,816.00	4.80	318.10	3,807.96	104.56	-162.05	163.15	1.20
3,978.00	5.00	319.10	3,969.37	114.94	-171.20	172.40	0.13
Last Phoenix MWD Survey							
4,030.00	5.00	319.10	4,021.17	118.37	-174.17	175.41	0.00
Projection to TD							

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,176.00	1,175.97	-5.92	-0.71	Tie-on to SDI Gyro
1,256.00	1,255.96	-6.82	-0.56	First Phoenix MWD Survey
3,978.00	3,969.37	114.94	-171.20	Last Phoenix MWD Survey
4,030.00	4,021.17	118.37	-174.17	Projection to TD

Checked By: _____ Approved By: _____ Date: _____



Email to: Amy Pope at APope@phxtech.com

NAME:	John Spencer IV
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Dept:	101
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Date: (mm/dd/yr)	05/01/13
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Expense Details

(Accounting use only)

(Accounting use only)

Account distribution:		
Account #	Dept	Amount
7120	101	\$ -
6700	101	\$ -
	101	
Total		\$ 943.00

Authorization:

Employee Signature: _____

John Spencer IV

Approved By:



PHOENIX
TECHNOLOGY SERVICES

May 31, 2013

Oil Conservation Division
State of New Mexico
1625 N. French Drive
District 1 - Hobbs
Hobbs, New Mexico 88240

HOBBS OCD

JUN 06 2013

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Attention: Regulatory Department

Re: Apache Corporation
NMGSAU #392
Lea County, NM
API #30-025-41045
Job No. 1310456

Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced Well by Phoenix Technology Services, Inc. (P-5 No. 664171). Other information required by your office is as follows:

Name & Title of Surveyor	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Brian McNutt	392	1,256	3,978	05/21/13	05/22/13	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

Kelly Jo Walter

Kelly Jo Walter
Operations Administrator

Certified mail receipt number: 7011 1570 0001 9841