

Results of Directional Survey

DD

API number:	30-025-40824		
OGRID:		Operator:	APACHE CORP
		Property:	NORTHEAST DRINKARD UNIT # 267

surface	ULSTR:	M(E)	03	T	21S	R	37E
		Lot 13		2890	FSL	920	FWL

BH Loc	ULSTR:	T(L)	03	T	21S	R	37E
7010	MD	7000.4	TVD	2590	FSL	861	FWL

Top Perf/OH	ULSTR:	M(E)	03	T	21S	R	37E
5711	MD	5704.0	TVD	2672	FSL	863	FWL

Bot Perf/OH	ULSTR:	T(L)	03	T	21S	R	37E
6778	MD	6768.9	TVD	2606	FSL	861	FWL

	MD	N/S	E/W	VD
	5700	-217.25	-57.08	5693.05
TOP PERFS/OH	5711	-217.84	-57.12	5704.03
	5913	-228.75	-57.91	5905.73
	6766	-283.46	-59.04	6756.95
BOT PERFS/OH	6778	-284.27	-59.05	6768.92
	6962	-296.61	-59.26	6952.51

NEXT TO LAST	6962	-296.61	-59.26	6952.51
LAST READING	7010	-299.79	-59.22	7000.40
TD	7010	-299.79	-59.22	7000.40

Surface Location	2890	FS	920	FW
Projected BHL	2590	FS	861	FW
Location of				
Top Perfs/OH	2672	FS	863	FW
Bottom Perfs/OH	2606	FS	861	FW

SUMMARY of Subsurface Locations

Surface Location	M-03-21S-37E	2890	FS	920	FW	Vert. Depth
Top Perfs/OH	M-03-21S-37E	2672	FS	863	FW	5704.03
Bottom Perfs/OH	T-03-21S-37E	2606	FS	861	FW	6768.92
Projected TD	T-03-21S-37E	2590	FS	861	FW	7000.40

FEB 05 2013

Apache Corporation (873)
6120 S. Yale Ste 1500
Tulsa, OK 74136

North East Drinkard Unit #267
Lea County, New Mexico

30-025-40824
2890' FSL + 920' FWL m-3-21s-37E LOT 13

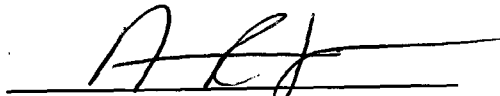
250	2.50	0.70	1.23	3.06	3.06
500	2.50	0.70	1.23	3.06	6.13
750	2.50	0.20	0.35	0.88	7.00
1000	2.50	0.20	0.35	0.88	7.88
1283	2.83	0.20	0.35	0.99	8.87

HOBBS OCD

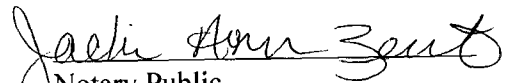
JAN 23 2013

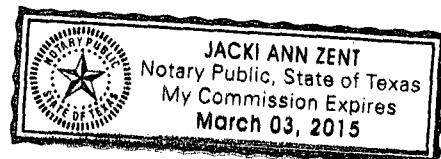
RECEIVED

SUR: M-03-21s-37e, 2890/S & 920/W
BHL: T-03-21s-37e, 2590/S & 861/W
API # 30-025-40824


Archie Brown - General Manager

The attached instrument was acknowledged before me on the 4th day of December, 2012 by
Archie Brown - General Manager, CapStar Drilling, Inc.


Notary Public





HOBBS OCD

JAN 23 2013

Apache (873)

RECEIVED

Lea County, New Mexico (NAD 27)

NEDU

267

Wellbore #1

30-025-40824
2890' FSL + 920' FWL
M-3-21S-37E LOT 13

Survey: MS MWD

Standard Survey Report

30 November, 2012

SUR: M-03-21s-37e, 2890/S & 920/W
BHL: T-03-21s-37e, 2590/S & 861/W
API # 30-025-40824

MS Energy ServicesTM
WWW.MSENERGYSERVICES.COM



MS Energy Services
Survey Report



Company:	Apache	Local Co-ordinate Reference:	Well: 267
Project:	Lea County, New Mexico (NAD 27)	TVD Reference:	WELL @ 3439.00usft (Capstar: 120)
Site:	NEDU	MD Reference:	WELL @ 3439.00usft (Capstar: 120)
Well:	267	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

Project:	Lea County, New Mexico (NAD 27)		
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		

Well:	267				
Well Position	+N/-S	0.00 usft	Northing:	550,720.31 usft	Latitude: 32° 30' 30.7111 N
	+E/-W	0.00 usft	Easting:	862,940.72 usft	Longitude: 103° 9' 21.701 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level: 3,428.00 usft

Wellbore:	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM_2010	11/12/12	7.26	60.48	48,688

Design:	Surveys				
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	192.91	

Survey Program	Date 11/30/12				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
134.36	1,246.30	Scientific Gyro Surveys (Wellbore #1)	NS-GYRO-SS	NS Gyro single shots	
1,307.00	7,010.00	MS MWD (Wellbore #1)	MWD	MWD - Standard	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,246.30	0.36	288.31	1,246.24	6.70	-6.17	-5.15	0.00	0.00	0.00
Tie-In to Scientific Gyro-1246.30 MD									
1,307.00	0.40	247.20	1,306.94	6.68	-6.55	-5.05	0.44	0.07	-67.73
1,392.00	1.80	205.30	1,391.93	5.36	-7.39	-3.57	1.80	1.65	-49.29
1,478.00	3.30	186.80	1,477.84	1.68	-8.26	0.21	1.97	1.74	-21.51
1,563.00	3.60	187.30	1,562.69	-3.40	-8.89	5.30	0.35	0.35	0.59
1,648.00	3.40	186.40	1,647.53	-8.55	-9.51	10.46	0.24	-0.24	-1.06
1,862.00	3.30	179.50	1,861.16	-21.02	-10.16	22.76	0.19	-0.05	-3.22
2,074.00	4.20	186.80	2,072.71	-34.83	-11.03	36.41	0.48	0.42	3.44
2,287.00	4.60	211.70	2,285.10	-49.84	-16.44	52.25	0.91	0.19	11.69
2,501.00	2.30	215.50	2,498.70	-60.64	-23.45	64.34	1.08	-1.07	1.78
2,714.00	2.20	169.20	2,711.55	-68.14	-25.16	72.03	0.83	-0.05	-21.74
2,927.00	2.10	183.30	2,924.40	-76.05	-24.62	79.63	0.25	-0.05	6.62
3,140.00	1.60	172.20	3,137.29	-82.89	-24.44	86.25	0.29	-0.23	-5.21
3,354.00	4.00	185.30	3,351.02	-93.28	-24.72	96.45	1.15	1.12	6.12



MS Energy Services
Survey Report



Company:	Apache	Local Co-ordinate Reference:	Well 267
Project:	Lea County, New Mexico (NAD 27)	TVD Reference:	WELL @ 3439.00usft (Capstar 120)
Site:	NEDU	MD Reference:	WELL @ 3439.00usft (Capstar 120)
Well:	267	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
3,568.00	4.50	189.80	3,564.43	-108.99	-26.84	112.23	0.28	0.23	2.10	
3,780.00	4.10	190.40	3,775.83	-124.64	-29.63	128.11	0.19	-0.19	0.28	
3,994.00	3.60	185.70	3,989.35	-138.85	-31.68	142.41	0.28	-0.23	-2.20	
4,207.00	4.50	206.20	4,201.83	-153.00	-36.03	157.18	0.79	0.42	9.62	
4,420.00	3.20	212.70	4,414.34	-165.50	-42.93	170.91	0.64	-0.61	3.05	
4,634.00	2.20	230.80	4,628.11	-173.12	-49.34	179.77	0.61	-0.47	8.46	
4,847.00	1.60	179.30	4,841.00	-178.68	-52.47	185.89	0.82	-0.28	-24.18	
5,061.00	2.70	172.50	5,054.85	-186.67	-51.78	193.52	0.53	0.51	-3.18	
5,274.00	2.30	174.60	5,267.65	-195.90	-50.72	202.28	0.19	-0.19	0.99	
5,487.00	3.50	202.40	5,480.38	-206.16	-52.80	212.75	0.85	0.56	13.05	
5,700.00	2.90	199.60	5,693.05	-217.25	-57.08	224.51	0.29	-0.28	-1.31	
5,913.00	3.50	171.30	5,905.73	-228.75	-57.91	235.91	0.78	0.28	-13.29	
6,126.00	3.40	174.50	6,118.34	-241.47	-56.32	247.95	0.10	-0.05	1.50	
6,340.00	3.90	189.10	6,331.91	-254.97	-56.86	261.23	0.49	0.23	6.82	
6,553.00	3.80	182.90	6,544.43	-269.17	-58.36	275.41	0.20	-0.05	-2.91	
6,766.00	3.90	182.50	6,756.95	-283.46	-59.04	289.48	0.05	0.05	-0.19	
6,962.00	3.80	179.40	6,952.51	-296.61	-59.26	302.35	0.12	-0.05	-1.58	
7,010.00	3.80	179.40	7,000.40	-299.79	-59.22	305.45	0.00	0.00	0.00	
Projection to TD-7010.00' MD										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,246.30	1,246.24	6.70	-6.17	Tie-In to Scientific Gyro-1246.30' MD	
7,010.00	7,000.40	-299.79	-59.22	Projection to TD-7010.00' MD	