

Results of Directional Survey

API number:	30-025-41262			DD
OGRID:		Operator:	APACHE CORP	
		Property:	WEST BLINEBRY DRINKARD UNIT	# 142

surface	ULSTR:	P	09	T 21S	R 37E
				205 FSL	535 FEL

BH Loc	ULSTR:	P	09	T 21S	R 37E
6856	MD	6849.4	TVD	43 FSL	333 FEL

Top Perf/OH	ULSTR:	P	09	T 21S	R 37E
5616	MD	5610.9	TVD	84 FSL	377 FEL

Bot Perf/OH	ULSTR:	P	09	T 21S	R 37E
6639	MD	6632.7	TVD	52 FSL	360 FEL

	MD	N/S	E/W	VD
	5611	-121.23	158.28	5605.9
TOP PERFS/OH	5616	-121.34	158.42	5610.90
	5697	-123.08	160.74	5691.85
	6635	-153.21	192.92	6628.75
BOT PERFS/OH	6639	-153.38	174.80	6632.74
	6721	-156.79	-196.76	6714.59

NEXT TO LAST	6810	-160.44	200.57	6803.43
LAST READING	6856	-162.30	202.45	6849.35
TD	6856	-162.30	202.45	6849.35

Surface Location	205	FS	535	FE
Projected BHL	43	FS	333	FE
Location of				
Top Perfs/OH	84	FS	377	FE
Bottom Perfs/OH	52	FS	360	FE

SUMMARY of Subsurface Locations

Surface Location	P-09-21S-37E	205	FS	535	FE	Vert. Depth
Top Perfs/OH	P-09-21S-37E	84	FS	377	FE	5610.90
Bottom Perfs/OH	P-09-21S-37E	52	FS	360	FE	6632.74
Projected TD	P-09-21S-37E	43	FS	333	FE	6849.35

DEC 18 2013

Apache Corporation (873)
303 Veterans Airpark Lane, #3000
Midland, TX 79705

West Blinbry Drinkard Unit #142
Lea County, New Mexico

30-025-41262

P-9-215-37E

205' FSL + 535' FEL

250	2.50	0.60	1.05	2.63	2.63
494	2.44	0.40	0.70	1.71	4.33
739	2.45	0.40	0.70	1.72	6.05

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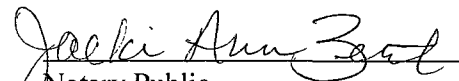
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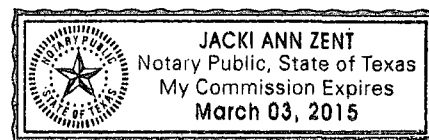
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Archie Brown - General Manager

The attached instrument was acknowledged before me on the 22nd day of October, 2013 by
Archie Brown - General Manager, CapStar Drilling, Inc.


Notary Public



CORPORATION

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Apache Corporation

Lea County, NM (NAD83 NME)

WBDU 30-025-41262

#142

SURF: P-9-21S-37E
205' FSL + 535' FEL

WB1/Job #1311329

Survey: Phoenix MWD Survey

Standard Survey Report

16 October, 2013



PHOENIX
TECHNOLOGY SERVICES

Phoenix Technology Services

Survey Report



CORPORATION

Company: Apache Corporation
 Project: Lea County, NM (NAD83 NME)
 Site: WBDU
 Well: #142
 Wellbore: WB1/Job #1311329
 Design: Surveys (Capstar 120)

Local Co-ordinate Reference: Well #142
 TVD Reference: KB @ 3477.00usft (Capstar 120)
 MD Reference: KB @ 3477.00usft (Capstar 120)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: GCR DB

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

Site	WBDU			
Site Position:		Northing:	542,793.05 usft	Latitude: 32° 29' 12.26799 N
From: Map		Easting:	902,763.71 usft	Longitude: 103° 9' 40.31178 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.63 °

Well	#142			
Well Position	+N/-S	0.00 usft	Northing:	542,793.05 usft
	+E/-W	0.00 usft	Easting:	902,763.71 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level: 3,466.00 usft

Wellbore	WB1/Job #1311329				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	10/03/13	7.13	60.44	48,587

Design	Surveys (Capstar 120)				
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	127.38	

Survey Program	Date 10/16/13				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	1,250.00	Gyro Survey (WB1/Job #1311329)	CB-GYRO-MS	Camera based gyro multishot	
1,250.00	6,856.00	Phoenix MWD Survey (WB1/Job #131132)	MWD	MWD - Standard	

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)
1,250.00	0.61	201.89	1,249.98	1.40	0.13	-0.74	0.00	0.00	0.00
Tie-on to Gyro									
1,431.00	1.30	188.40	1,430.96	-1.53	-0.53	0.51	0.40	0.38	-7.45
First Phoenix MWD Survey									
1,516.00	3.20	162.80	1,515.89	-4.75	0.03	2.91	2.48	2.24	-30.12
1,602.00	4.00	141.90	1,601.72	-9.40	2.59	7.77	1.77	0.93	-24.30
1,687.00	3.50	121.90	1,686.54	-13.11	6.63	13.22	1.64	-0.59	-23.53
1,772.00	3.70	117.50	1,771.38	-15.74	11.26	18.51	0.40	0.24	-5.18
1,857.00	2.60	115.90	1,856.25	-17.85	15.43	23.10	1.30	-1.29	-1.88

Phoenix Technology Services

Survey Report



CORPORATION

Company: Apache Corporation
 Project: Lea County, NM (NAD83 NME)
 Site: WBDU
 Well: #142
 Wellbore: WB1/Job #1311329
 Design: Surveys (Capstar 120)

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Local Co-ordinate Reference: Well #142
 TVD Reference: KB @ 3477.00usft (Capstar 120)
 MD Reference: KB @ 3477.00usft (Capstar 120)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: GCR DB

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)
1,942.00	2.80	112.10	1,941.15	-19.48	19.09	26.99	0.32	0.24	-4.47
2,028.00	2.50	133.50	2,027.06	-21.56	22.39	30.88	1.19	-0.35	24.88
2,113.00	2.50	134.40	2,111.98	-24.13	25.06	34.56	0.05	0.00	1.06
2,198.00	2.50	134.80	2,196.90	-26.73	27.70	38.24	0.02	0.00	0.47
2,284.00	2.90	106.90	2,282.81	-28.69	31.11	42.14	1.58	0.47	-32.44
2,369.00	3.30	98.10	2,367.68	-29.66	35.59	46.29	0.73	0.47	-10.35
2,454.00	2.90	115.60	2,452.56	-30.93	39.96	50.53	1.20	-0.47	20.59
2,540.00	2.50	116.40	2,538.47	-32.71	43.60	54.50	0.47	-0.47	0.93
2,625.00	2.30	114.20	2,623.39	-34.23	46.81	57.98	0.26	-0.24	-2.59
2,710.00	2.60	123.00	2,708.31	-35.98	49.99	61.56	0.57	0.35	10.35
2,796.00	2.40	122.90	2,794.23	-38.02	53.13	65.30	0.23	-0.23	-0.12
2,881.00	2.50	119.10	2,879.15	-39.89	56.25	68.91	0.22	0.12	-4.47
2,966.00	2.20	118.40	2,964.08	-41.56	59.30	72.36	0.35	-0.35	-0.82
3,052.00	3.10	131.00	3,049.99	-43.88	62.51	76.31	1.24	1.05	14.65
3,137.00	2.90	131.10	3,134.87	-46.80	65.87	80.75	0.24	-0.24	0.12
3,222.00	2.40	131.70	3,219.78	-49.39	68.81	84.67	0.59	-0.59	0.71
3,307.00	1.90	135.80	3,304.72	-51.59	71.13	87.84	0.62	-0.59	4.82
3,392.00	2.70	124.60	3,389.65	-53.74	73.76	91.23	1.08	0.94	-13.18
3,478.00	2.60	121.50	3,475.56	-55.90	77.09	95.19	0.20	-0.12	-3.60
3,563.00	2.40	123.90	3,560.48	-57.90	80.21	98.89	0.27	-0.24	2.82
3,648.00	2.20	125.00	3,645.41	-59.83	83.02	102.30	0.24	-0.24	1.29
3,734.00	2.20	129.10	3,731.35	-61.82	85.65	105.59	0.18	0.00	4.77
3,820.00	3.70	137.20	3,817.23	-64.90	88.82	109.98	1.81	1.74	9.42
3,905.00	3.50	137.50	3,902.07	-68.82	92.44	115.24	0.24	-0.24	0.35
3,991.00	3.40	136.40	3,987.91	-72.61	95.97	120.34	0.14	-0.12	-1.28
4,076.00	3.30	136.80	4,072.77	-76.21	99.38	125.24	0.12	-0.12	0.47
4,161.00	3.20	132.10	4,157.63	-79.59	102.82	130.02	0.33	-0.12	-5.53
4,247.00	3.20	131.30	4,243.49	-82.78	106.40	134.81	0.05	0.00	-0.93
4,332.00	3.40	133.70	4,328.35	-86.09	110.01	139.68	0.29	0.24	2.82
4,417.00	3.30	135.30	4,413.21	-89.57	113.55	144.61	0.16	-0.12	1.88
4,503.00	3.30	133.40	4,499.07	-93.03	117.09	149.52	0.13	0.00	-2.21
4,588.00	3.30	132.50	4,583.92	-96.36	120.67	154.39	0.06	0.00	-1.06
4,673.00	3.30	131.80	4,668.78	-99.65	124.30	159.27	0.05	0.00	-0.82
4,758.00	3.20	120.40	4,753.65	-102.48	128.17	164.06	0.77	-0.12	-13.41
4,844.00	2.30	117.20	4,839.55	-104.48	131.77	168.14	1.06	-1.05	-3.72
4,929.00	2.50	120.30	4,924.47	-106.20	134.89	171.66	0.28	0.24	3.65
5,015.00	2.50	120.40	5,010.39	-108.09	138.13	175.38	0.01	0.00	0.12
5,100.00	2.60	119.50	5,095.31	-109.98	141.40	179.13	0.13	0.12	-1.06
5,185.00	2.40	123.30	5,180.23	-111.91	144.57	182.82	0.31	-0.24	4.47
5,270.00	2.30	124.00	5,265.16	-113.84	147.47	186.29	0.12	-0.12	0.82
5,356.00	2.20	122.20	5,351.09	-115.68	150.30	189.66	0.14	-0.12	-2.09
5,441.00	2.20	123.40	5,436.03	-117.45	153.04	192.91	0.05	0.00	1.41
5,526.00	2.20	125.80	5,520.96	-119.30	155.73	196.17	0.11	0.00	2.82

Phoenix Technology Services

Survey Report



CORPORATION

Company: Apache Corporation
 Project: Lea County, NM (NAD83 NME)
 Site: WBDU
 Well: #142
 Wellbore: WB1/Job #1311329
 Design: Surveys (Capstar 120)

HOBBES OCD

DEC 06 2013

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Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:
 Database:

Well #142
 KB @ 3477.00usft (Capstar 120)
 KB @ 3477.00usft (Capstar 120)
 Grid
 Minimum Curvature
 GCR DB

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)
5,611.00	2.10	128.20	5,605.90	-121.22	158.27	199.36	0.16	-0.12	2.82
5,697.00	2.00	125.80	5,691.85	-123.07	160.73	202.44	0.15	-0.12	-2.79
5,782.00	1.80	123.00	5,776.80	-124.67	163.05	205.25	0.26	-0.24	-3.29
5,867.00	2.00	138.10	5,861.76	-126.50	165.16	208.04	0.63	0.24	17.76
5,953.00	2.00	124.20	5,947.70	-128.46	167.41	211.01	0.56	0.00	-16.16
6,038.00	2.80	138.40	6,032.63	-130.84	170.01	214.53	1.17	0.94	16.71
6,124.00	2.80	139.40	6,118.53	-134.01	172.77	218.65	0.06	0.00	1.16
6,209.00	2.40	135.20	6,203.44	-136.85	175.38	222.44	0.52	-0.47	-4.94
6,294.00	2.60	139.00	6,288.36	-139.57	177.90	226.09	0.31	0.24	4.47
6,379.00	3.60	131.30	6,373.23	-142.78	181.17	230.64	1.27	1.18	-9.06
6,465.00	3.40	130.80	6,459.07	-146.23	185.12	235.88	0.24	-0.23	-0.58
6,550.00	3.60	131.90	6,543.91	-149.66	189.02	241.06	0.25	0.24	1.29
6,635.00	3.50	132.80	6,628.75	-153.20	192.91	246.30	0.13	-0.12	1.06
6,721.00	3.50	133.00	6,714.59	-156.78	196.76	251.53	0.01	0.00	0.23
6,810.00	3.30	134.70	6,803.43	-160.43	200.56	256.77	0.25	-0.22	1.91
Current Survey									
6,856.00	3.30	134.70	6,849.36	-162.30	202.44	259.40	0.00	0.00	0.00
Projection to TD									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,250.00	1,249.98	1.39	0.14	Tie-on to Gyro
1,431.00	1,430.96	-1.54	-0.52	First Phoenix MWD Survey
6,810.00	6,803.43	-160.44	200.57	Current Survey
6,856.00	6,849.36	-162.30	202.45	Projection to TD

Checked By: _____ Approved By: _____ Date: _____



PHOENIX TECHNOLOGY SERVICES

Survey Calculation Sheet

MOORE OGD

DEC 06 2013

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Company: Apache Corporation
Well: WBDU #172
Field: Permian Basin
Rig: Capstar 120
Phoenix Rep: Samuel D. Wilson

North Reference: Grid
Magnetic Dilation: 7.13
Convergence Angle: 0.63
Total Correction: 6.50
Datum: MSL
Target TVD: 6850
VS Direction: 127.38
Ground Level:

Date	No.	DEPTH	INC.	AZM	C.L.	T.V.D.	V.S.	N/S	E/W	DLS	B./D.	Source
Tie - In	0	1250	0.61	201.89	0	1249.98	-0.74	1.39 N	0.14 E	0.35	0.00	Surface
11-Oct	1	1431	1.30	188.40	181	1430.95	0.52	1.54 S	0.52 W	0.40	0.38	
	2	1516	3.20	162.80	85	1515.89	2.92	4.76 S	0.04 E	2.48	2.24	
	3	1602	4.00	141.90	86	1601.72	7.78	9.41 S	2.60 E	1.77	0.93	
	4	1687	3.50	121.90	85	1686.54	13.23	13.11 S	6.63 E	1.64	-0.59	
	5	1772	3.70	117.50	85	1771.37	18.52	15.75 S	11.27 E	0.40	0.24	
	6	1857	2.60	115.90	85	1856.24	23.11	17.86 S	15.44 E	1.30	-1.29	
	7	1942	2.80	112.10	85	1941.15	27.00	19.48 S	19.09 E	0.32	0.24	
	8	2028	2.50	133.50	86	2027.06	30.89	21.56 S	22.40 E	1.19	-0.35	
	9	2113	2.50	134.40	85	2111.98	34.58	24.14 S	25.07 E	0.05	0.00	
	10	2198	2.50	134.80	85	2196.90	38.25	26.74 S	27.71 E	0.02	0.00	
	11	2284	2.90	106.90	86	2282.81	42.15	28.70 S	31.12 E	1.58	0.47	
	12	2369	3.30	98.10	85	2367.68	46.30	29.66 S	35.60 E	0.73	0.47	
	13	2454	2.90	115.60	85	2452.56	50.54	30.94 S	39.96 E	1.20	-0.47	
	14	2540	2.50	116.40	86	2538.46	54.51	32.71 S	43.61 E	0.47	-0.47	
	15	2625	2.30	114.20	85	2623.39	57.99	34.24 S	46.82 E	0.26	-0.24	
	16	2710	2.60	123.00	85	2708.31	61.57	35.99 S	49.99 E	0.57	-0.35	
	17	2796	2.40	122.90	86	2794.23	65.31	38.03 S	53.14 E	0.23	-0.23	
	18	2881	2.50	119.10	85	2879.15	68.92	39.89 S	56.26 E	0.22	0.12	
	19	2966	2.20	118.40	85	2964.08	72.37	41.57 S	59.31 E	0.35	-0.35	
	20	3052	3.10	131.00	86	3049.99	76.32	43.88 S	62.52 E	1.24	1.05	
	21	3137	2.90	131.10	85	3134.87	80.76	46.80 S	65.87 E	0.24	-0.24	
	22	3222	2.40	131.70	85	3219.78	84.68	49.40 S	68.82 E	0.59	-0.59	
	23	3307	1.90	135.80	85	3304.72	87.85	51.60 S	71.13 E	0.62	-0.59	
	24	3392	2.70	124.60	85	3389.65	91.24	53.74 S	73.76 E	1.08	0.94	
	25	3478	2.60	121.50	86	3475.56	95.21	55.91 S	77.09 E	0.20	-0.12	
	26	3563	2.40	123.90	85	3560.48	98.90	57.91 S	80.22 E	0.27	-0.24	
	27	3648	2.20	125.00	85	3645.41	102.31	59.84 S	83.03 E	0.24	-0.24	
	28	3734	2.20	129.10	86	3731.35	105.61	61.83 S	85.66 E	0.18	0.00	
	29	3820	3.70	137.20	86	3817.23	109.99	64.91 S	88.83 E	1.81	1.74	
	30	3905	3.50	137.50	85	3902.06	115.25	68.83 S	92.45 E	0.24	-0.24	
	31	3991	3.40	136.40	86	3987.91	120.35	72.61 S	95.98 E	0.14	-0.12	
	32	4076	3.30	136.80	85	4072.76	125.25	76.22 S	99.39 E	0.12	-0.12	
	33	4161	3.20	132.10	85	4157.63	130.03	79.60 S	102.83 E	0.33	-0.12	
	34	4247	3.20	131.30	86	4243.49	134.82	82.79 S	106.41 E	0.05	0.00	
	35	4332	3.40	133.70	85	4328.35	139.69	86.10 S	110.01 E	0.29	0.24	
	36	4417	3.30	135.30	85	4413.20	144.62	89.58 S	113.56 E	0.16	-0.12	
	37	4503	3.30	133.40	86	4499.06	149.53	93.04 S	117.10 E	0.13	0.00	
	38	4588	3.30	132.50	85	4583.92	154.40	96.37 S	120.68 E	0.06	0.00	
	39	4673	3.30	131.80	85	4668.78	159.28	99.65 S	124.31 E	0.05	0.00	
	40	4758	3.20	120.40	85	4753.64	164.07	102.48 S	128.18 E	0.77	-0.12	
	41	4844	2.30	117.20	86	4839.54	168.15	104.49 S	131.78 E	1.06	-1.05	
	42	4929	2.50	120.30	85	4924.47	171.67	106.20 S	134.90 E	0.28	0.24	
	43	5015	2.50	120.40	86	5010.39	175.39	108.10 S	138.14 E	0.01	0.00	
	44	5100	2.60	119.50	85	5095.30	179.14	109.99 S	141.41 E	0.13	0.12	
	45	5185	2.40	123.30	85	5180.22	182.83	111.91 S	144.58 E	0.31	-0.24	
	46	5270	2.30	124.00	85	5265.15	186.31	113.84 S	147.48 E	0.12	-0.12	
	47	5356	2.20	122.20	86	5351.09	189.67	115.69 S	150.31 E	0.14	-0.12	
	48	5441	2.20	123.40	85	5436.02	192.92	117.46 S	153.05 E	0.05	0.00	
	49	5526	2.20	125.80	85	5520.96	196.18	119.31 S	155.73 E	0.11	0.00	
	50	5611	2.10	128.20	85	5605.90	199.37	121.23 S	158.28 E	0.16	-0.12	

	51	5697	2.00	125.80	86	5691.85	202.45	123.08 S	160.74 E	0.15	-0.12	HOBS OCD
	52	5782	1.80	123.00	85	5776.80	205.26	124.67 S	163.06 E	0.26	-0.24	
	53	5867	2.00	138.10	85	5861.75	208.05	126.50 S	165.17 E	0.63	0.24	
	54	5953	2.00	124.20	86	5947.70	211.02	128.46 S	167.41 E	0.56	0.00	DEC 06 2013
	55	6038	2.80	138.40	85	6032.63	214.54	130.85 S	170.02 E	1.17	0.94	
	56	6124	2.80	139.40	86	6118.52	218.66	134.02 S	172.78 E	0.06	0.00	
	57	6209	2.40	135.20	85	6203.44	222.45	136.85 S	175.39 E	0.52	-0.47	RECEIVED
	58	6294	2.60	139.00	85	6288.35	226.10	139.57 S	177.90 E	0.31	0.24	
	59	6379	3.60	131.30	85	6373.23	230.65	142.79 S	181.17 E	1.27	1.18	
	60	6465	3.40	130.80	86	6459.07	235.89	146.24 S	185.13 E	0.24	-0.23	
	61	6550	3.60	131.90	85	6543.91	241.07	149.67 S	189.03 E	0.25	0.24	
	62	6635	3.50	132.80	85	6628.75	246.31	153.21 S	192.92 E	0.13	-0.12	
	63	6721	3.50	133.00	86	6714.59	251.54	156.79 S	196.76 E	0.01	0.00	
	64	6810	3.30	134.70	89	6803.43	256.78	160.44 S	200.57 E	0.25	-0.22	
PTB	65	6856	3.30	134.70	46	6849.35	259.41	162.30 S	202.45 E	0.00	0.00	
	66				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	67				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	68				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	69				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	70				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	71				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	72				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	73				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	74				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	75				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	76				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	77				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	78				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	79				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	80				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	81				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	82				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	83				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	84				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	85				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	86				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	87				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	88				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	89				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	90				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	91				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	92				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	93				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	94				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	95				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	96				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	97				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	98				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	99				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	100				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	101				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	102				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	103				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	104				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	105				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	106				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	107				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	108				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	109				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	110				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	111				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	112				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	113				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	114				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	115				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	116				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	117				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	

HOBBS OCD

DEC 06 2013

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APACHE CORP

Eunice

Lea County, NM

West Blinbry Drinkard Unit #142

VH - Job #321013-KW-1054

Survey: Gyro

SDI Survey Report

This survey is correct to the best of my knowledge and is supported by actual field data.

Robert

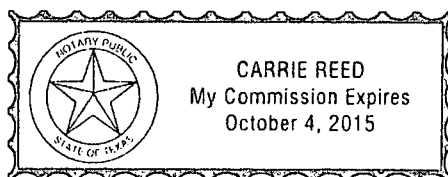
Notarized this date 28th of October, 2013.

Carrie Reed

Notary Signature

County of Midland

State of Texas



SDI
SDI Survey Report

DEC 06 2013

Company: APACHE CORP
Project: Eunice
Site: Lea County, NM
Well: West Blinbry Drinkard Unit #142
Wellbore: VH - Job #321013-KW-1054
Design: VH - Job #321013-KW-1054

Local Co-ordinate Reference: Well West Blinbry Drinkard Unit #142
TVD Reference: WELL @ 0.0usft (Original Well Elev)
MD Reference: WELL @ 0.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM-Regulatory

RECEIVED

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:	0.0 usft	Slot Radius:	0"	Grid Convergence:	0.63 °

Well	West Blinbry Drinkard Unit #142, Vertical					
Well Position	+N/-S	0.0 usft	Northing:	542,775.45 usft	Latitude:	32° 29' 12.270 N
	+E/-W	0.0 usft	Easting:	861,434.17 usft	Longitude:	103° 9' 40.310 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore	VH - Job #321013-KW-1054				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/9/2013	7.13	60.44	48,612

Design	VH - Job #321013-KW-1054				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	127.38	

Survey Program	Date	10/25/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	1,250.0	Gyro (VH - Job #321013-KW-1054)	Keeper	Keeper Gyro	

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0		
100.0	0.33	53.97	100.0	0.2	0.2	53.97	0.3		
200.0	0.34	34.65	200.0	0.6	0.6	47.43	0.9		
300.0	0.19	43.74	300.0	0.9	0.9	44.11	1.3		
400.0	0.40	39.78	400.0	1.3	1.3	43.25	1.8		
500.0	0.17	342.99	500.0	1.7	1.4	39.45	2.3		
600.0	0.20	340.61	600.0	2.1	1.3	33.04	2.4		
700.0	0.11	80.23	700.0	2.2	1.4	31.56	2.6		
800.0	0.34	24.84	800.0	2.5	1.6	32.28	3.0		
900.0	0.21	329.58	900.0	2.9	1.6	28.85	3.4		
1,000.0	0.34	216.38	1,000.0	2.9	1.4	25.29	3.2		
1,100.0	0.44	232.54	1,100.0	2.4	0.9	20.04	2.5		

SDI
SDI Survey Report

Company: APACHE CORP
Project: Eunice
Site: Lea County, NM
Well: West Blinbry Drinkard Unit #142
Wellbore: VH - Job #321013-KW-1054
Design: VH - Job #321013-KW-1054

Local Co-ordinate Reference: Well West Blinbry Drinkard Unit #142
TVD Reference: WELL @ 0.0usft (Original Well Elev)
MD Reference: WELL @ 0.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM-Regulatory

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,200.0	0.47	213.25	1,200.0	1.8	0.3	10.70	1.8
1,250.0	0.61	201.89	1,250.0	1.4	0.1	5.37	1.4

HOBBS OCD

DEC 06 2013

RECEIVED



Project: Eunice
Lea County, NM
Well: West Blinbry Drinkard Unit #142
Wellbore: VH - Job #321013-KW-1054
Design: VH - Job #321013-KW-1054

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DEC 06 2013

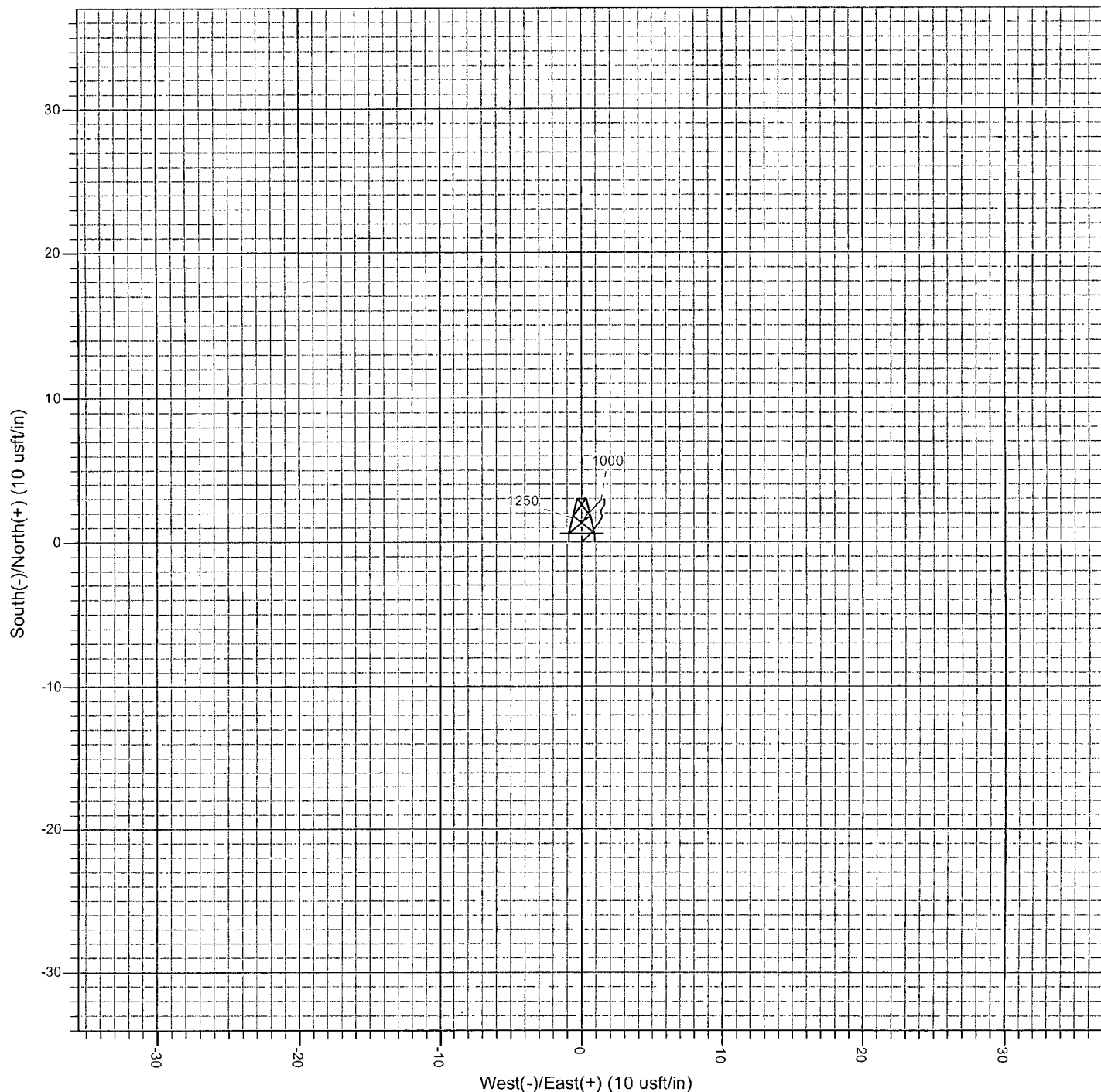
RECEIVED

WELL DETAILS: West Blinbry Drinkard Unit #142

WELL @ 0.0usft (Original Well Elev)

Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	542775.45	861434.17	32° 29' 12.270 N	103° 9' 40.310 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: 0.0
Zone: New Mexico East 3001	Convergence: 0.63
System Datum: Mean Sea Level	Local North: Grid