

Results of Directional Survey

DD

API number:	30-025-40363			
OGRID:		Operator:	APACHE CORP	
		Property:	WEST BLINEBRY DRINKARD UNIT	# 111

surface	ULSTR:	H	09	T 21S	R 37E
				1600 FNL	330 FEL

BH Loc	ULSTR:	A	09	T 21S	R 37E
7215 MD		7199.1	TVD	1255 FNL	353 FEL

Top Perf/OH	ULSTR:	H	09	T 21S	R 37E
5595 MD		5586.3	TVD	1405 FNL	338 FEL

Bot Perf/OH	ULSTR:	A	09	T 21S	R 37E
6740 MD		6726.7	TVD	1304 FNL	349 FEL

	MD	N/S	E/W	VD
	5570	193.60	-7.60	5561.3
TOP PERFS/OH	5595	195.36	-7.79	5586.25
	5661	200.00	-8.30	5652.10
	6656	288.10	-18.30	6643.10
BOT PERFS/OH	6740	295.74	-18.96	6726.72
	6745	296.20	-19.00	6731.70

NEXT TO LAST	7166	339.40	-23.60	7150.40
LAST READING	7215	344.90	-23.40	7199.10
TD	7215	344.90	-23.40	7199.10

Surface Location	1600	FN	330	FE
Projected BHL	1255	FN	353	FE
Location of				
Top Perfs/OH	1405	FN	338	FE
Bottom Perfs/OH	1304	FN	349	FE

SUMMARY of Subsurface Locations

Surface Location	H-09-21S-37E	1600	FN	330	FE	Vert. Depth
Top Perfs/OH	H-09-21S-37E	1405	FN	338	FE	5586.25
Bottom Perfs/OH	A-09-21S-37E	1304	FN	349	FE	6726.72
Projected TD	A-09-21S-37E	1255	FN	353	FE	7199.10

APACHE CORPORATION

Gyrodata, Inc.

WELL NUMBER : WBOU 111

4" DRILLPIPE SURVEY

DATE RUN : 070212

JOB NUMBER : MD0212GDM174

Azimuth Corrected: -0.6300 deg to Grid North

SUR: H-9-21s-37e, 1600/N & 330/E
BHL: A-9-21s-37e, 1255/N & 353/E
API # 30-025-40363

MD	INC	AZ	TVD	LOCAL N	LOCAL E	V/S	DOG/ 100FT
86.8	0.03	275.2	86.75	0	-0.02	0	0.03
116.3	0.42	181.34	116.28	-0.11	-0.03	-0.1	1.44
175.7	0.02	252.51	175.65	-0.33	-0.04	-0.3	0.7
262.5	0.05	332.12	262.45	-0.3	-0.08	-0.3	0.06
349.2	0.01	272.55	349.23	-0.26	-0.1	-0.3	0.05
441.2	0.24	127.47	441.2	-0.38	0.04	-0.4	0.27
531.5	0.14	96.56	531.46	-0.51	0.3	-0.5	0.16
621.7	0.14	125.74	621.72	-0.58	0.49	-0.6	0.08
712	0.09	125.72	711.98	-0.69	0.64	-0.7	0.05
802.2	0.04	50.75	802.24	-0.72	0.73	-0.7	0.1
892.5	0.05	113.18	892.5	-0.71	0.78	-0.7	0.05
982.8	0.14	135.58	982.76	-0.81	0.9	-0.8	0.11
1073	0.11	134.05	1073.02	-0.95	1.04	-0.9	0.04
1074.8	0.5	109.87	1074.84	-0.95	1.04	-0.9	22.41
1253.5	0.1	188.59	1253.54	-1.37	1.76	-1.4	0.28
1343.8	0.06	166.13	1343.79	-1.5	1.76	-1.5	0.06
1434.1	0.6	105.49	1434.05	-1.67	2.22	-1.7	0.63
1524.3	0.45	115.52	1524.31	-1.95	2.99	-2	0.19
1614.6	0.43	128.98	1614.57	-2.32	3.57	-2.3	0.12
1795.1	0.53	93.32	1795.08	-2.79	4.92	-2.8	0.17
1885.4	0.67	58.91	1885.34	-2.54	5.79	-2.5	0.42
1975.6	0.3	37.74	1975.59	-2.08	6.39	-2.1	0.45
2065.9	0.4	55.1	2065.85	-1.71	6.79	-1.7	0.16
2156.1	0.39	56.19	2156.11	-1.36	7.3	-1.4	0.01
2246.4	0.39	54.1	2246.37	-1.02	7.8	-1	0.02
2336.7	0.43	65.04	2336.62	-0.69	8.35	-0.7	0.1
2426.9	0.37	64.08	2426.88	-0.42	8.92	-0.4	0.07
2517.2	0.32	64.22	2517.14	-0.19	9.41	-0.2	0.06
2607.4	0.34	70.28	2607.4	0.02	9.9	0	0.05
2697.7	0.28	78.47	2697.66	0.15	10.37	0.2	0.08
2788	0.28	74.42	2787.92	0.26	10.8	0.3	0.02
2878.2	0.3	90.67	2878.18	0.31	11.25	0.3	0.09
2968.5	0.23	95.77	2968.43	0.29	11.67	0.3	0.08
3058.7	0.19	106.61	3058.69	0.23	12	0.2	0.07
3149	0.15	119.73	3148.95	0.13	12.24	0.1	0.06

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

West Blinbry Drinkard Unit #111
Lea County, New Mexico

30-025-40363

1600' FULT + 330' FEL
Sec 9 T21S R37E

247	2.47	0.50	0.88	2.16	2.16
740	4.93	1.25	2.19	10.78	12.95
1223	4.83	0.75	1.31	6.34	19.29
1717	4.94	0.30	0.53	2.59	21.88
2122	4.05	1.40	2.45	9.92	31.80
2455	3.33	1.20	2.10	6.99	38.79
2573	1.18	1.00	1.75	2.07	40.86
2890	3.17	1.00	3.00	9.51	50.37
3025	1.35	1.10	1.93	2.60	52.97
3161	1.36	0.90	1.58	2.14	55.11

HOBBS OCD

MAR 16 2012

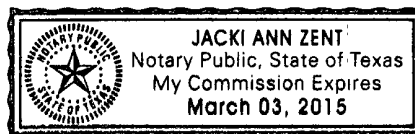
RECEIVED



Archie Brown - General Manager

The attached instrument was acknowledged before me on the 21st day of February, 2012
by Archie Brown - General Manager, CapStar Drilling, Inc.


Notary Public





HOBBS OCD

MAR 16 2012

RECEIVED

Apache Corporation

Lea County, NM

Sec 9, T21S, R37E

West Blinebry Drinkard Unit #111

Wellbore #1

API 30-025-40363

SUR: H-9-21s-37e, 1600/N & 330/E

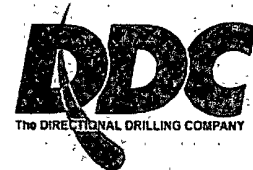
BHL: A-9-21s-37e, 1255/N & 353/E

API # 30-025-40363

Survey: MWD

DDC Survey Report

14 February, 2012





DDC Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well West Blinbry Drinkard Unit #111
Project:	Lea County, NM	TVD Reference:	WELL @ 3475'0usft (Capstar #118)
Site:	Sec 9, T21S, R37E	MD Reference:	WELL @ 3475'0usft (Capstar #118)
Well:	West Blinbry Drinkard Unit #111	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM		
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		Sec 9, T21S, R37E			
Site Position:		Northing:	546,211.64 usft	Latitude:	32° 29' 46.234 N
From:	Map	Easting:	861,743.80 usft	Longitude:	103° 9' 36.255 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.63 °

Well	West Blinbry Drinkard Unit #111					
Well Position	+N/-S	0.0 usft	Northing:	546,211.64 usft	Latitude:	32° 29' 46.234 N
	+E/-W	0.0 usft	Easting:	861,743.80 usft	Longitude:	103° 9' 36.255 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,464.0 usft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/1/2012	7.33	60.49	48,762

Design		Wellbore #1			
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	359.33	

Survey Program		Date	2/14/2012	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
86.8	3,149.0	GYRO (Wellbore #1)	Good_gyro	Good Gyro
3,213.0	7,215.0	MWD (Wellbore #1)	MWD default	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)
Tie into Gyro									
3,149.0	0.15	119.73	3,149.0	0.1	12.3	0.0	0.00	0.00	0.00
3,213.0	0.40	55.50	3,213.0	0.2	12.5	0.1	0.56	0.39	-100.36
3,303.0	1.80	335.90	3,302.9	1.7	12.2	1.5	1.97	1.56	-88.44
3,394.0	2.20	348.80	3,393.9	4.7	11.3	4.6	0.66	0.44	14.18
3,484.0	4.80	354.70	3,483.7	10.2	10.6	10.0	2.91	2.89	6.56
3,575.0	4.80	349.60	3,574.4	17.7	9.5	17.6	0.47	0.00	-5.60
3,666.0	5.00	5.40	3,665.1	25.4	9.2	25.3	1.49	0.22	17.36
3,757.0	5.30	355.90	3,755.7	33.5	9.3	33.4	0.99	0.33	-10.44
3,847.0	5.20	339.10	3,845.3	41.5	7.6	41.4	1.71	-0.11	-18.67



DDC
Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well West Blinbry Drinkard Unit #111
Project:	Lea County, NM	TVD Reference:	WELL @ 3475.0usft (Capstar #118)
Site:	Sec 9, T21S, R37E	MD Reference:	WELL @ 3475.0usft (Capstar #118)
Well:	West Blinbry Drinkard Unit #111	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM-5000.1 Single User Db

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)
3,940.0	5.00	340.30	3,938.0	49.2	4.7	49.2	0.24	-0.22	1.29
4,028.0	4.90	339.10	4,025.6	56.4	2.1	56.3	0.16	-0.11	-1.36
Crossed Hard Line @ 4110' MD									
4,110.0	5.26	341.46	4,107.3	63.2	-0.4	63.2	0.51	0.44	2.88
4,119.0	5.30	341.70	4,116.3	64.0	-0.7	64.0	0.51	0.44	2.66
4,210.0	5.80	347.50	4,206.8	72.5	-3.0	72.5	0.83	0.55	6.37
4,301.0	5.20	346.20	4,297.4	80.9	-4.9	81.0	0.67	-0.66	-1.43
4,392.0	5.20	344.80	4,388.0	88.9	-7.0	89.0	0.14	0.00	-1.54
4,483.0	5.50	355.80	4,478.7	97.3	-8.4	97.4	1.17	0.33	12.09
4,618.0	5.70	354.60	4,613.0	110.4	-9.5	110.5	0.17	0.15	-0.89
4,709.0	5.50	352.10	4,703.6	119.2	-10.5	119.3	0.35	-0.22	-2.75
4,800.0	5.70	9.70	4,794.1	128.0	-10.4	128.1	1.89	0.22	19.34
4,890.0	5.30	7.90	4,883.7	136.5	-9.1	136.6	0.48	-0.44	-2.00
4,981.0	5.30	6.60	4,974.3	144.8	-8.0	144.9	0.13	0.00	-1.43
5,071.0	5.10	3.30	5,064.0	153.0	-7.3	153.0	0.40	-0.22	-3.67
5,161.0	5.00	3.20	5,153.6	160.9	-6.8	160.9	0.11	-0.11	-0.11
5,297.0	4.40	2.50	5,289.2	172.0	-6.3	172.1	0.44	-0.44	-0.51
5,388.0	4.80	355.40	5,379.9	179.3	-6.4	179.4	0.76	0.44	-7.80
5,479.0	4.70	355.10	5,470.6	186.8	-7.1	186.9	0.11	-0.11	-0.33
5,570.0	3.90	355.80	5,561.3	193.6	-7.6	193.7	0.88	-0.88	0.77
5,661.0	4.20	351.20	5,652.1	200.0	-8.3	200.1	0.49	0.33	-5.05
5,751.0	4.00	352.20	5,741.8	206.3	-9.3	206.4	0.24	-0.22	1.11
5,887.0	5.10	350.90	5,877.4	217.0	-10.9	217.1	0.81	0.81	-0.96
6,023.0	5.90	352.90	6,012.8	229.9	-12.7	230.1	0.60	0.59	1.47
6,113.0	5.80	351.10	6,102.3	239.0	-14.0	239.1	0.23	-0.11	-2.00
6,204.0	5.40	356.00	6,192.9	247.8	-15.0	248.0	0.68	-0.44	5.38
6,294.0	4.80	351.10	6,282.5	255.8	-15.9	255.9	0.82	-0.67	-5.44
6,384.0	5.10	356.00	6,372.2	263.5	-16.7	263.6	0.58	0.33	5.44
6,475.0	4.90	353.90	6,462.8	271.4	-17.4	271.6	0.30	-0.22	-2.31
6,566.0	5.50	359.70	6,553.5	279.6	-17.8	279.8	0.88	0.66	6.37
6,656.0	5.40	354.50	6,643.1	288.1	-18.3	288.3	0.56	-0.11	-5.78
6,745.0	5.10	355.20	6,731.7	296.2	-19.0	296.4	0.34	-0.34	0.79
6,881.0	5.50	344.20	6,867.1	308.5	-21.3	308.8	0.80	0.29	-8.09
7,016.0	6.50	356.90	7,001.4	322.4	-23.5	322.6	1.23	0.74	9.41
7,166.0	6.50	2.00	7,150.4	339.4	-23.6	339.6	0.38	0.00	3.40
TD									
7,215.0	6.50	2.00	7,199.1	344.9	-23.4	345.1	0.00	0.00	0.00

SUR: H-9-21s-37e, 1600/N & 330/E
BHL: A-9-21s-37e, 1255/N & 353/E
API # 30-025-40363



DDC
Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well West Blinebry Drinkard Unit #111
Project:	Lea County, NM	TVD Reference:	WELL @ 3475.0usft (Capstar #118)
Site:	Sec 9, T21S, R37E	MD Reference:	WELL @ 3475.0usft (Capstar #118)
Well:	West Blinebry Drinkard Unit #111	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,149.0	3,149.0	0.1	12.3	Tie into Gyro
4,110.0	4,107.3	63.2	-0.4	Crossed Hard Line @ 4110' MD
7,215.0	7,199.1	344.9	-23.4	TD

Checked By: _____ Approved By: _____ Date: _____

A Gyrodata Directional Survey

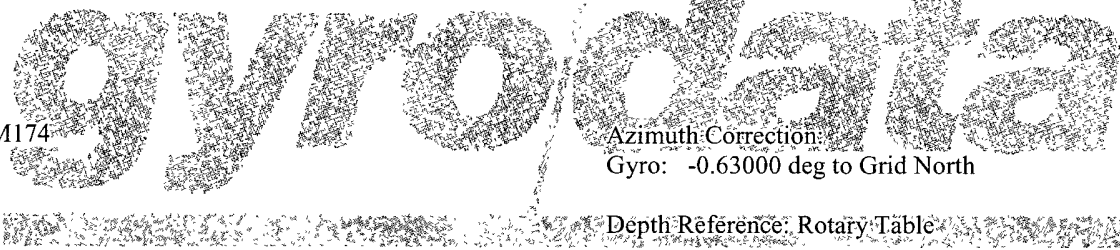
FINAL DEFINITIVE COPY

for

APACHE CORPORATION

Lease: WBOU Well: 111, 4" DRILLPIPE

Location: CAPSTAR # 18, LEA COUNTY, NEW MEXICO



Job Number: MD0212GDM174

Run Date: 07 Feb 2012

Surveyor: Michael Hattar

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Well Plan/Plot

Survey Latitude: 32.496176 deg. N Longitude: 103.160071 deg. W

Azimuth Correction:

Gyro: -0.63000 deg to Grid North

Depth Reference: Rotary Table

Rotary Table Elevation: 11.00

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

A Gyrodata Directional Survey

APACHE CORPORATION

Lease: WBOU Well: 111, 4" DRILLPIPE

Location: CAPSTAR # 18, LEA COUNTY, NEW MEXICO

Job Number: MD0212GDM174

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	N 0 0 E	0.00	0.00	0.0	0.0	0.00 N 0.00 E
0 - 3190 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4" DRILLPIPE								
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO CAPSTAR DRILLING RIG #18 R.K.B. HEIGHT OF 11 FT.								
86.75	0.03	275.20	N 84 48 W	0.03	86.75	0.0	275.2	0.00 N 0.02 W
116.28	0.42	181.34	S 1 20 W	1.44	116.28	0.1	195.7	0.11 S 0.03 W
175.65	0.02	252.51	S 72 31 W	0.70	175.65	0.3	187.6	0.33 S 0.04 W
262.45	0.05	332.12	N 27 53 W	0.06	262.45	0.3	194.2	0.30 S 0.08 W
349.23	0.01	272.55	N 87 27 W	0.05	349.23	0.3	201.5	0.26 S 0.10 W
441.20	0.24	127.47	S 52 32 E	0.27	441.20	0.4	174.1	0.38 S 0.04 E
531.46	0.14	96.56	S 83 27 E	0.16	531.46	0.6	149.7	0.51 S 0.30 E
621.72	0.14	125.74	S 54 16 E	0.08	621.72	0.8	139.8	0.58 S 0.49 E
711.98	0.09	125.72	S 54 17 E	0.05	711.98	0.9	137.1	0.69 S 0.64 E
802.24	0.04	50.75	N 50 45 E	0.10	802.24	1.0	134.6	0.72 S 0.73 E
892.50	0.05	113.18	S 66 49 E	0.05	892.50	1.1	132.3	0.71 S 0.78 E
982.76	0.14	135.58	S 44 25 E	0.11	982.76	1.2	132.0	0.81 S 0.90 E
1073.02	0.11	134.05	S 45 57 E	0.04	1073.02	1.4	132.4	0.95 S 1.04 E
1074.84	0.50	109.87	S 70 8 E	22.41	1074.84	1.4	132.3	0.95 S 1.04 E
1253.54	0.10	188.59	S 8 35 W	0.28	1253.54	2.2	128.0	1.37 S 1.76 E
1343.80	0.06	166.13	S 13 52 E	0.06	1343.79	2.3	130.5	1.50 S 1.76 E
1434.06	0.60	105.49	S 74 31 E	0.63	1434.05	2.8	127.0	1.67 S 2.22 E
1524.32	0.45	115.52	S 64 29 E	0.19	1524.31	3.6	123.1	1.95 S 2.99 E
1614.58	0.43	128.98	S 51 1 E	0.12	1614.57	4.3	123.0	2.32 S 3.57 E

A Gyrodata Directional Survey

APACHE CORPORATION

Lease: WBOU Well: 111, 4" DRILLPIPE

Location: CAPSTAR # 18, LEA COUNTY, NEW MEXICO

Job Number: MD0212GDM174

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
1795.10	0.53	93.32	S 86 41 E	0.17	1795.08	5.7 119.5	2.79 S 4.92 E
1885.36	0.67	58.91	N 58 55 E	0.42	1885.34	6.3 113.7	2.54 S 5.79 E
1975.62	0.30	37.74	N 37 44 E	0.45	1975.59	6.7 108.0	2.08 S 6.39 E
2065.88	0.40	55.10	N 55 6 E	0.16	2065.85	7.0 104.2	1.71 S 6.79 E
2156.14	0.39	56.19	N 56 12 E	0.01	2156.11	7.4 100.6	1.36 S 7.30 E
2246.40	0.39	54.10	N 54 6 E	0.02	2246.37	7.9 97.4	1.02 S 7.80 E
2336.66	0.43	65.04	N 65 2 E	0.10	2336.62	8.4 94.8	0.69 S 8.35 E
2426.92	0.37	64.08	N 64 5 E	0.07	2426.88	8.9 92.7	0.42 S 8.92 E
2517.18	0.32	64.22	N 64 13 E	0.06	2517.14	9.4 91.1	0.19 S 9.41 E
2607.44	0.34	70.28	N 70 17 E	0.05	2607.40	9.9 89.9	0.02 N 9.90 E
2697.70	0.28	78.47	N 78 28 E	0.08	2697.66	10.4 89.2	0.15 N 10.37 E
2787.96	0.28	74.42	N 74 25 E	0.02	2787.92	10.8 88.6	0.26 N 10.80 E
2878.22	0.30	90.67	S 89 20 E	0.09	2878.18	11.3 88.4	0.31 N 11.25 E
2968.48	0.23	95.77	S 84 14 E	0.08	2968.43	11.7 88.6	0.29 N 11.67 E
3058.74	0.19	106.61	S 73 23 E	0.07	3058.69	12.0 88.9	0.23 N 12.00 E
3149.00	0.15	119.73	S 60 16 E	0.06	3148.95	12.2 89.4	0.13 N 12.24 E

Final Station Closure: Distance: 12.24 ft AZ: 89.40 deg.