

Results of Directional Survey

API number:	30-025-41648		
OGRID:		Operator:	YATES PETROLEUM CORPORATION
		Property:	MAMBA BQN STATE COM # 2H

surface	ULSTR:	C	31	T 24S	R 33E
				175 FNL	2230 FWL

BH Loc	ULSTR:	C	30	T 24S	R 33E
16010.1	MD	11061.8	TVD	299 FNL	1949 FWL
				4981 FSL	

Top Perf/OH	ULSTR:	C	31	T 24S	R 33E
11576	MD	11098.3	TVD	553 FSL	2177 FWL

Bot Perf/OH	ULSTR:	C	30	T 24S	R 33E
15942	MD	11064.4	TVD	367 FNL	1954 FWL
				4913 FSL	

	MD	N/S	E/W	VD
	11556	708.40	-52.30	11098
TOP PERFS/OH	11576	728.34	-53.01	11098.32
	11587	739.30	-53.40	11098.50
	15849	4995.20	-270.50	11067.00
BOT PERFS/OH	15942	5088.00	-276.40	11064.40
	15942	5088.00	-276.40	11064.40

NEXT TO LAST	15977	5122.90	-278.60	11063.10
LAST READING	16010.1	5155.90	-280.80	11061.80
TD	16010.1	5155.90	-280.80	11061.80

Surface Location	175	FN	2230	FW
Projected BHL	4981	FS	1949	FW
Location of				
Top Perfs/OH	553	FS	2177	FW
Bottom Perfs/OH	4913	FS	1954	FW

SUMMARY of Subsurface Locations

Surface Location	C-31-24S-33E	175	FN	2230	FW	Vert. Depth
Top Perfs/OH	C-31-24S-33E	553	FS	2177	FW	11098.32
Bottom Perfs/OH	C-30-24S-33E	4913	FS	1954	FW	11064.40
Projected TD	C-30-24S-33E	4981	FS	1949	FW	11061.80

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Yates Petroleum

Lea County, NM (NAD-83)

Mamba BQN State Com

#2H

OH

Design: OH

Survey Report - Geographic

05 April, 2014

Survey Report - Geographic

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM (NAD-83)	TVD Reference:	RKB @ 3558.5usft (Nomac22 KB=21.5')
Site:	Mamba BQN State Com	MD Reference:	RKB @ 3558.5usft (Nomac22 KB=21.5')
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Project	Lea County, NM (NAD-83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Mamba BQN State Com		
Site Position:		Northing:	430,311.00 usft
From:	Map	Easting:	764,314.20 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 10' 51.418 N
		Longitude:	103° 36' 45.415 W
		Grid Convergence:	0.38 °

Well	#2H		
Well Position	+N/-S	0.0 usft	Northing: 430,311.00 usft
	+E/-W	0.0 usft	Easting: 764,314.20 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 10' 51.418 N
		Longitude:	103° 36' 45.415 W
		Ground Level:	3,537.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	2/17/2014	7.27
			Dip Angle
			(°)
			60.07
			Field Strength
			(nT)
			48,317

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			356.88

Survey Program	Date 4/5/2014		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
138.0	16,010.1	Survey #1 - Crescent MWD Surveys (OH)	MWD
			Description
			MWD - Standard

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Map	Map	Latitude	Longitude
Depth	(°)	(°)	Depth	(usft)	(usft)	Northing	Easting		
(usft)			(usft)			(usft)	(usft)		
0.0	0.00	0.00	0.0	0.0	0.0	430,311.00	764,314.20	32° 10' 51.418 N	103° 36' 45.415 W
138.0	0.30	1.40	138.0	0.4	0.0	430,311.36	764,314.21	32° 10' 51.421 N	103° 36' 45.415 W
229.0	0.20	12.80	229.0	0.8	0.0	430,311.75	764,314.25	32° 10' 51.425 N	103° 36' 45.414 W
319.0	0.00	310.90	319.0	0.9	0.1	430,311.91	764,314.28	32° 10' 51.427 N	103° 36' 45.414 W
410.0	0.40	33.10	410.0	1.2	0.3	430,312.17	764,314.46	32° 10' 51.429 N	103° 36' 45.412 W
500.0	0.60	66.20	500.0	1.6	0.9	430,312.63	764,315.06	32° 10' 51.434 N	103° 36' 45.405 W
592.0	0.20	33.90	592.0	2.0	1.4	430,312.95	764,315.59	32° 10' 51.437 N	103° 36' 45.398 W
685.0	0.50	47.80	685.0	2.4	1.8	430,313.36	764,315.98	32° 10' 51.441 N	103° 36' 45.394 W
872.0	0.40	27.00	872.0	3.5	2.7	430,314.49	764,316.88	32° 10' 51.452 N	103° 36' 45.383 W
1,058.0	0.70	24.80	1,058.0	5.1	3.5	430,316.10	764,317.65	32° 10' 51.468 N	103° 36' 45.374 W
1,079.0	1.00	17.80	1,079.0	5.4	3.6	430,316.39	764,317.76	32° 10' 51.471 N	103° 36' 45.373 W
1,244.0	1.00	10.00	1,243.9	8.2	4.3	430,319.18	764,318.45	32° 10' 51.498 N	103° 36' 45.365 W

Survey Report - Geographic

Company:	Yates-Petroleum	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM (NAD-83)	TVD Reference:	RKB @ 3558.5usft (Nomac22 KB=21.5')
Site:	Mamba BQN State Com	MD Reference:	RKB @ 3558.5usft (Nomac22 KB=21.5')
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,430.0	1.40	4.00	1,429.9	12.0	4.7	430,323.05	764,318.89	32° 10' 51.537 N	103° 36' 45.359 W
1,618.0	0.70	36.30	1,617.9	15.3	5.5	430,326.26	764,319.73	32° 10' 51.568 N	103° 36' 45.349 W
1,805.0	0.90	83.20	1,804.9	16.4	7.7	430,327.36	764,321.87	32° 10' 51.579 N	103° 36' 45.324 W
1,992.0	1.10	79.20	1,991.8	16.9	10.9	430,327.87	764,325.09	32° 10' 51.584 N	103° 36' 45.287 W
2,178.0	1.50	76.40	2,177.8	17.8	15.0	430,328.77	764,329.21	32° 10' 51.593 N	103° 36' 45.239 W
2,365.0	0.80	129.70	2,364.7	17.5	18.4	430,328.52	764,332.59	32° 10' 51.590 N	103° 36' 45.199 W
2,553.0	1.10	167.70	2,552.7	14.9	19.8	430,325.91	764,333.99	32° 10' 51.564 N	103° 36' 45.183 W
2,740.0	1.50	170.00	2,739.7	10.8	20.6	430,321.75	764,334.79	32° 10' 51.523 N	103° 36' 45.174 W
2,927.0	1.10	173.90	2,926.6	6.6	21.2	430,317.56	764,335.41	32° 10' 51.481 N	103° 36' 45.167 W
3,114.0	1.30	170.70	3,113.6	2.7	21.7	430,313.68	764,335.94	32° 10' 51.443 N	103° 36' 45.162 W
3,301.0	0.50	130.90	3,300.6	0.0	22.7	430,311.05	764,336.90	32° 10' 51.417 N	103° 36' 45.151 W
3,487.0	0.60	127.40	3,486.6	-1.1	24.1	430,309.93	764,338.29	32° 10' 51.405 N	103° 36' 45.135 W
3,675.0	0.40	123.00	3,674.5	-2.0	25.4	430,308.97	764,339.62	32° 10' 51.396 N	103° 36' 45.119 W
3,861.0	0.90	108.00	3,860.5	-2.8	27.4	430,308.17	764,341.56	32° 10' 51.388 N	103° 36' 45.097 W
4,048.0	0.90	108.70	4,047.5	-3.8	30.1	430,307.24	764,344.34	32° 10' 51.378 N	103° 36' 45.064 W
4,234.0	1.30	129.50	4,233.5	-5.6	33.2	430,305.43	764,347.35	32° 10' 51.360 N	103° 36' 45.029 W
4,421.0	1.10	127.40	4,420.4	-8.0	36.2	430,302.99	764,350.42	32° 10' 51.336 N	103° 36' 44.994 W
4,608.0	1.60	125.90	4,607.4	-10.6	39.8	430,300.37	764,353.96	32° 10' 51.310 N	103° 36' 44.953 W
4,796.0	1.10	160.50	4,795.3	-13.9	42.5	430,297.13	764,356.69	32° 10' 51.278 N	103° 36' 44.921 W
4,982.0	1.20	156.40	4,981.3	-17.3	43.9	430,293.66	764,358.06	32° 10' 51.243 N	103° 36' 44.906 W
5,047.0	1.30	149.50	5,046.3	-18.6	44.5	430,292.40	764,358.71	32° 10' 51.231 N	103° 36' 44.898 W
5,189.0	1.40	155.40	5,188.2	-21.6	46.1	430,289.44	764,360.25	32° 10' 51.201 N	103° 36' 44.881 W
5,375.0	1.40	154.40	5,374.2	-25.7	48.0	430,285.32	764,362.18	32° 10' 51.160 N	103° 36' 44.859 W
5,562.0	1.20	153.70	5,561.1	-29.5	49.8	430,281.51	764,364.03	32° 10' 51.122 N	103° 36' 44.837 W
5,749.0	1.20	160.30	5,748.1	-33.1	51.4	430,277.91	764,365.56	32° 10' 51.087 N	103° 36' 44.820 W
5,935.0	1.10	161.10	5,934.1	-36.6	52.6	430,274.39	764,366.79	32° 10' 51.052 N	103° 36' 44.806 W
6,122.0	0.20	153.10	6,121.0	-38.6	53.3	430,272.40	764,367.52	32° 10' 51.032 N	103° 36' 44.797 W
6,308.0	0.20	126.20	6,307.0	-39.1	53.7	430,271.92	764,367.93	32° 10' 51.027 N	103° 36' 44.793 W
6,494.0	0.40	116.20	6,493.0	-39.6	54.6	430,271.44	764,368.78	32° 10' 51.023 N	103° 36' 44.783 W
6,682.0	0.70	268.30	6,681.0	-39.9	54.0	430,271.11	764,368.22	32° 10' 51.019 N	103° 36' 44.789 W
6,869.0	0.90	283.60	6,868.0	-39.6	51.5	430,271.42	764,365.65	32° 10' 51.023 N	103° 36' 44.819 W
7,058.0	0.70	278.50	7,057.0	-39.1	48.9	430,271.94	764,363.06	32° 10' 51.028 N	103° 36' 44.849 W
7,247.0	0.90	257.70	7,246.0	-39.2	46.3	430,271.80	764,360.47	32° 10' 51.027 N	103° 36' 44.879 W
7,434.0	0.70	250.50	7,433.0	-39.9	43.8	430,271.10	764,357.96	32° 10' 51.020 N	103° 36' 44.909 W
7,621.0	0.70	251.80	7,620.0	-40.6	41.6	430,270.37	764,355.80	32° 10' 51.013 N	103° 36' 44.934 W
7,807.0	0.70	230.30	7,805.9	-41.7	39.6	430,269.29	764,353.84	32° 10' 51.002 N	103° 36' 44.957 W
7,993.0	1.10	248.10	7,991.9	-43.1	37.1	430,267.89	764,351.31	32° 10' 50.989 N	103° 36' 44.986 W
8,180.0	1.10	237.50	8,178.9	-44.7	33.9	430,266.26	764,348.13	32° 10' 50.973 N	103° 36' 45.023 W
8,367.0	1.10	276.00	8,365.8	-45.5	30.6	430,265.48	764,344.83	32° 10' 50.965 N	103° 36' 45.062 W
8,554.0	1.20	281.50	8,552.8	-44.9	26.9	430,266.06	764,341.13	32° 10' 50.971 N	103° 36' 45.105 W
8,740.0	1.20	315.00	8,738.8	-43.2	23.6	430,267.83	764,337.85	32° 10' 50.989 N	103° 36' 45.143 W
8,927.0	1.40	302.70	8,925.7	-40.6	20.3	430,270.45	764,334.54	32° 10' 51.015 N	103° 36' 45.181 W
9,113.0	1.60	280.20	9,111.7	-38.9	15.9	430,272.13	764,330.07	32° 10' 51.032 N	103° 36' 45.233 W
9,300.0	1.40	302.00	9,298.6	-37.2	11.4	430,273.81	764,325.56	32° 10' 51.049 N	103° 36' 45.285 W
9,487.0	1.20	312.40	9,485.6	-34.7	8.0	430,276.34	764,322.18	32° 10' 51.074 N	103° 36' 45.325 W
9,673.0	1.10	291.00	9,671.5	-32.7	4.9	430,278.29	764,319.08	32° 10' 51.094 N	103° 36' 45.361 W
9,859.0	1.80	256.00	9,857.5	-32.8	0.4	430,278.22	764,314.57	32° 10' 51.093 N	103° 36' 45.413 W
10,046.0	2.50	255.80	10,044.3	-34.5	-6.4	430,276.51	764,307.77	32° 10' 51.077 N	103° 36' 45.492 W
10,232.0	1.40	291.30	10,230.2	-34.7	-12.5	430,276.34	764,301.72	32° 10' 51.076 N	103° 36' 45.563 W
10,419.0	0.50	28.30	10,417.2	-33.1	-14.2	430,277.89	764,299.98	32° 10' 51.091 N	103° 36' 45.583 W
10,436.0	0.40	9.20	10,434.2	-33.0	-14.2	430,278.01	764,300.02	32° 10' 51.092 N	103° 36' 45.582 W
10,467.0	0.50	17.10	10,465.2	-32.7	-14.1	430,278.25	764,300.08	32° 10' 51.094 N	103° 36' 45.582 W
10,498.0	2.50	358.10	10,496.2	-31.9	-14.1	430,279.06	764,300.10	32° 10' 51.102 N	103° 36' 45.581 W
KOP: 10498.0' MD: 10496.2' TVD									
10,529.0	6.30	355.80	10,527.1	-29.6	-14.2	430,281.43	764,299.95	32° 10' 51.126 N	103° 36' 45.583 W

Survey Report - Geographic

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM (NAD-83)	TVD Reference:	RKB @ 3558.5usft (Nomac22 KB=21.5')
Site:	Mamba BQN State Com	MD Reference:	RKB @ 3558.5usft (Nomac22 KB=21.5')
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
10,561.0	9.50	354.10	10,558.8	-25.2	-14.6	430,285.81	764,299.55	32° 10' 51.169 N	103° 36' 45.587 W	
10,592.0	12.00	353.50	10,589.2	-19.4	-15.3	430,291.56	764,298.92	32° 10' 51.226 N	103° 36' 45.594 W	
10,623.0	15.30	353.20	10,619.4	-12.2	-16.1	430,298.82	764,298.07	32° 10' 51.298 N	103° 36' 45.603 W	
10,654.0	18.30	354.10	10,649.0	-3.3	-17.1	430,307.72	764,297.09	32° 10' 51.386 N	103° 36' 45.614 W	
10,686.0	20.90	355.10	10,679.2	7.4	-18.1	430,318.41	764,296.08	32° 10' 51.492 N	103° 36' 45.625 W	
10,717.0	24.10	355.80	10,707.8	19.2	-19.0	430,330.24	764,295.15	32° 10' 52.218 N	103° 36' 45.635 W	
10,747.0	26.40	356.00	10,734.9	32.0	-20.0	430,343.00	764,294.23	32° 10' 51.736 N	103° 36' 45.645 W	
10,779.0	29.40	355.60	10,763.2	46.9	-21.1	430,357.93	764,293.14	32° 10' 51.883 N	103° 36' 45.656 W	
10,810.0	33.30	356.30	10,789.7	63.0	-22.2	430,374.02	764,292.00	32° 10' 52.043 N	103° 36' 45.668 W	
10,841.0	36.60	356.50	10,815.1	80.7	-23.3	430,391.74	764,290.89	32° 10' 52.218 N	103° 36' 45.680 W	
10,872.0	39.80	356.30	10,839.5	99.9	-24.5	430,410.87	764,289.68	32° 10' 52.407 N	103° 36' 45.692 W	
10,903.0	42.90	356.50	10,862.7	120.3	-25.8	430,431.30	764,288.40	32° 10' 52.610 N	103° 36' 45.706 W	
10,934.0	45.40	356.70	10,885.0	141.9	-27.1	430,452.86	764,287.12	32° 10' 52.823 N	103° 36' 45.719 W	
10,965.0	47.50	357.60	10,906.3	164.3	-28.2	430,475.30	764,286.01	32° 10' 53.045 N	103° 36' 45.730 W	
10,977.0	48.62	357.87	10,914.3	173.2	-28.5	430,484.22	764,285.65	32° 10' 53.134 N	103° 36' 45.733 W	
Cross Lease Line at 10977.0' MD, 48.62° INC, 357.87° AZ										
10,997.0	50.50	358.30	10,927.3	188.4	-29.1	430,499.43	764,285.14	32° 10' 53.284 N	103° 36' 45.738 W	
11,028.0	52.60	358.80	10,946.6	212.7	-29.7	430,523.70	764,284.53	32° 10' 53.524 N	103° 36' 45.743 W	
11,060.0	54.90	358.80	10,965.5	238.5	-30.2	430,549.50	764,283.99	32° 10' 53.780 N	103° 36' 45.748 W	
11,091.0	57.90	358.10	10,982.7	264.3	-30.9	430,575.30	764,283.29	32° 10' 54.035 N	103° 36' 45.754 W	
11,122.0	60.70	357.70	10,998.5	290.9	-31.9	430,601.94	764,282.31	32° 10' 54.299 N	103° 36' 45.763 W	
11,153.0	63.30	357.70	11,013.0	318.3	-33.0	430,629.29	764,281.21	32° 10' 54.569 N	103° 36' 45.774 W	
11,184.0	66.30	357.90	11,026.2	346.3	-34.1	430,657.31	764,280.14	32° 10' 54.847 N	103° 36' 45.784 W	
11,215.0	68.60	357.90	11,038.1	374.9	-35.1	430,685.92	764,279.09	32° 10' 55.130 N	103° 36' 45.794 W	
11,246.0	70.60	358.10	11,048.9	404.0	-36.1	430,714.96	764,278.08	32° 10' 55.417 N	103° 36' 45.804 W	
11,277.0	73.40	357.60	11,058.5	433.4	-37.2	430,744.42	764,276.97	32° 10' 55.709 N	103° 36' 45.814 W	
11,308.0	75.70	357.60	11,066.8	463.3	-38.5	430,774.27	764,275.72	32° 10' 56.004 N	103° 36' 45.826 W	
11,339.0	77.20	357.40	11,074.0	493.4	-39.8	430,804.37	764,274.40	32° 10' 56.302 N	103° 36' 45.839 W	
11,351.0	77.90	357.21	11,076.6	505.1	-40.3	430,816.08	764,273.85	32° 10' 56.418 N	103° 36' 45.845 W	
Cross 330' Hardline at 11351.0' MD, 77.90° INC, 357.21° AZ										
11,370.0	79.00	356.90	11,080.4	523.7	-41.3	430,834.67	764,272.89	32° 10' 56.602 N	103° 36' 45.855 W	
11,401.0	82.20	356.50	11,085.5	554.2	-43.1	430,865.20	764,271.13	32° 10' 56.904 N	103° 36' 45.873 W	
11,432.0	84.50	356.30	11,089.1	584.9	-45.0	430,895.93	764,269.20	32° 10' 57.209 N	103° 36' 45.893 W	
11,463.0	84.80	356.20	11,092.0	615.7	-47.0	430,926.73	764,267.18	32° 10' 57.514 N	103° 36' 45.914 W	
11,494.0	85.50	356.30	11,094.6	646.5	-49.0	430,957.55	764,265.16	32° 10' 57.819 N	103° 36' 45.935 W	
11,525.0	86.90	357.00	11,096.6	677.4	-50.8	430,988.43	764,263.35	32° 10' 58.124 N	103° 36' 45.954 W	
11,556.0	88.20	357.60	11,098.0	708.4	-52.3	431,019.36	764,261.89	32° 10' 58.431 N	103° 36' 45.968 W	
11,587.0	89.70	358.30	11,098.5	739.3	-53.4	431,050.34	764,260.79	32° 10' 58.737 N	103° 36' 45.979 W	
11,650.0	90.40	358.10	11,098.5	802.3	-55.4	431,113.31	764,258.81	32° 10' 59.360 N	103° 36' 45.997 W	
EOC: 11650.0' MD, 11098.5' TVD, 90.40° INC, 358.10° AZ, 804.2' VS										
11,743.0	90.30	358.30	11,097.9	895.3	-58.3	431,206.26	764,255.89	32° 11' 0.280 N	103° 36' 46.023 W	
11,836.0	90.40	357.70	11,097.3	988.2	-61.6	431,299.20	764,252.64	32° 11' 1.200 N	103° 36' 46.054 W	
11,929.0	90.10	358.10	11,096.9	1,081.1	-65.0	431,392.13	764,249.23	32° 11' 2.120 N	103° 36' 46.086 W	
12,022.0	89.70	358.50	11,097.1	1,174.1	-67.7	431,485.09	764,246.47	32° 11' 3.040 N	103° 36' 46.111 W	
12,116.0	90.40	357.90	11,097.0	1,268.0	-70.7	431,579.05	764,243.52	32° 11' 3.970 N	103° 36' 46.138 W	
12,209.0	91.10	357.40	11,095.8	1,361.0	-74.5	431,671.96	764,239.71	32° 11' 4.890 N	103° 36' 46.175 W	
12,303.0	90.80	357.70	11,094.2	1,454.9	-78.5	431,765.86	764,235.69	32° 11' 5.819 N	103° 36' 46.215 W	
12,396.0	90.40	357.90	11,093.3	1,547.8	-82.1	431,858.79	764,232.12	32° 11' 6.739 N	103° 36' 46.249 W	
12,489.0	91.10	357.90	11,092.0	1,640.7	-85.5	431,951.72	764,228.71	32° 11' 7.659 N	103° 36' 46.282 W	
12,583.0	90.80	357.90	11,090.5	1,734.6	-88.9	432,045.64	764,225.27	32° 11' 8.588 N	103° 36' 46.314 W	
12,676.0	90.30	358.10	11,089.6	1,827.6	-92.2	432,138.58	764,222.02	32° 11' 9.508 N	103° 36' 46.345 W	
12,771.0	89.40	358.10	11,089.8	1,922.5	-95.3	432,233.52	764,218.87	32° 11' 10.448 N	103° 36' 46.374 W	
12,864.0	89.70	357.40	11,090.6	2,015.4	-99.0	432,326.45	764,215.22	32° 11' 11.368 N	103° 36' 46.409 W	
12,956.0	90.40	356.30	11,090.5	2,107.3	-104.0	432,418.31	764,210.17	32° 11' 12.277 N	103° 36' 46.461 W	
13,050.0	90.60	356.30	11,089.7	2,201.1	-110.1	432,512.11	764,204.10	32° 11' 13.206 N	103° 36' 46.524 W	

Survey Report - Geographic

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM (NAD-83)	TVD Reference:	RKB @ 3558.5usft (Nomac22 KB=21.5')
Site:	Mamba BQN State Com	MD Reference:	RKB @ 3558.5usft (Nomac22 KB=21.5')
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,143.0	90.30	356.20	11,088.9	2,293.9	-116.2	432,604.91	764,198.02	32° 11' 14.124 N	103° 36' 46.588 W
13,236.0	90.10	355.80	11,088.6	2,386.7	-122.7	432,697.68	764,191.53	32° 11' 15.043 N	103° 36' 46.656 W
13,329.0	90.80	356.00	11,087.9	2,479.4	-129.3	432,790.44	764,184.88	32° 11' 15.961 N	103° 36' 46.726 W
13,423.0	90.30	356.00	11,087.0	2,573.2	-135.9	432,884.20	764,178.33	32° 11' 16.889 N	103° 36' 46.795 W
13,517.0	90.80	356.70	11,086.1	2,667.0	-141.9	432,978.01	764,172.34	32° 11' 17.818 N	103° 36' 46.857 W
13,610.0	90.10	356.70	11,085.4	2,759.9	-147.2	433,070.85	764,166.99	32° 11' 18.737 N	103° 36' 46.913 W
13,703.0	91.10	356.30	11,084.4	2,852.7	-152.9	433,163.67	764,161.31	32° 11' 19.656 N	103° 36' 46.971 W
13,797.0	90.60	356.20	11,083.0	2,946.5	-159.0	433,257.46	764,155.17	32° 11' 20.584 N	103° 36' 47.036 W
13,891.0	89.90	356.20	11,082.6	3,040.3	-165.3	433,351.25	764,148.94	32° 11' 21.513 N	103° 36' 47.101 W
13,984.0	90.30	356.70	11,082.4	3,133.1	-171.0	433,444.07	764,143.18	32° 11' 22.432 N	103° 36' 47.161 W
14,077.0	91.00	357.20	11,081.4	3,225.9	-176.0	433,536.93	764,138.23	32° 11' 23.351 N	103° 36' 47.211 W
14,171.0	90.60	357.20	11,080.0	3,319.8	-180.6	433,630.81	764,133.64	32° 11' 24.280 N	103° 36' 47.257 W
14,264.0	90.10	357.20	11,079.5	3,412.7	-185.1	433,723.70	764,129.09	32° 11' 25.200 N	103° 36' 47.303 W
14,357.0	90.30	356.90	11,079.2	3,505.6	-189.9	433,816.57	764,124.31	32° 11' 26.119 N	103° 36' 47.351 W
14,450.0	90.60	357.20	11,078.4	3,598.4	-194.7	433,909.45	764,119.52	32° 11' 27.038 N	103° 36' 47.400 W
14,543.0	90.10	357.40	11,077.9	3,691.3	-199.1	434,002.34	764,115.14	32° 11' 27.958 N	103° 36' 47.443 W
14,637.0	91.00	357.40	11,077.0	3,785.2	-203.3	434,096.24	764,110.88	32° 11' 28.887 N	103° 36' 47.486 W
14,730.0	90.60	357.70	11,075.7	3,878.1	-207.3	434,189.15	764,106.90	32° 11' 29.807 N	103° 36' 47.525 W
14,824.0	90.30	358.10	11,074.9	3,972.1	-210.7	434,283.08	764,103.46	32° 11' 30.737 N	103° 36' 47.557 W
14,917.0	90.40	358.30	11,074.3	4,065.0	-213.7	434,376.03	764,100.54	32° 11' 31.657 N	103° 36' 47.584 W
15,010.0	91.00	357.70	11,073.2	4,158.0	-216.9	434,468.97	764,097.29	32° 11' 32.576 N	103° 36' 47.615 W
15,104.0	90.80	356.30	11,071.7	4,251.8	-221.8	434,562.82	764,092.37	32° 11' 33.506 N	103° 36' 47.665 W
15,196.0	90.40	356.50	11,070.8	4,343.6	-227.6	434,654.64	764,086.60	32° 11' 34.414 N	103° 36' 47.725 W
15,290.0	90.10	356.70	11,070.4	4,437.5	-233.2	434,748.47	764,081.02	32° 11' 35.343 N	103° 36' 47.782 W
15,383.0	90.40	355.80	11,070.0	4,530.3	-239.3	434,841.27	764,074.94	32° 11' 36.262 N	103° 36' 47.846 W
15,476.0	90.30	356.20	11,069.4	4,623.0	-245.7	434,934.04	764,068.45	32° 11' 37.180 N	103° 36' 47.914 W
15,569.0	89.90	356.20	11,069.2	4,715.8	-251.9	435,026.84	764,062.29	32° 11' 38.099 N	103° 36' 47.978 W
15,663.0	90.60	356.20	11,068.8	4,809.6	-258.1	435,120.63	764,056.06	32° 11' 39.028 N	103° 36' 48.044 W
15,756.0	90.30	356.20	11,068.1	4,902.4	-264.3	435,213.42	764,049.90	32° 11' 39.946 N	103° 36' 48.108 W
15,849.0	91.00	356.20	11,067.0	4,995.2	-270.5	435,306.21	764,043.73	32° 11' 40.865 N	103° 36' 48.173 W
15,942.0	92.20	356.50	11,064.4	5,088.0	-276.4	435,398.98	764,037.81	32° 11' 41.783 N	103° 36' 48.234 W
15,955.0	92.20	356.30	11,063.9	5,100.9	-277.2	435,411.95	764,037.00	32° 11' 41.912 N	103° 36' 48.243 W
15,977.0	92.20	356.30	11,063.1	5,122.9	-278.6	435,433.89	764,035.58	32° 11' 42.129 N	103° 36' 48.258 W
Cross 330' Hardline at 15977.0' MD, 92.20° INC, 356.30° AZ									
16,010.1	92.20	356.30	11,061.8	5,155.9	-280.8	435,466.89	764,033.45	32° 11' 42.456 N	103° 36' 48.280 W
TD: 16010.1' MD, 11061.8' TVD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,498.0	10,496.2	-31.9	-14.1	KOP: 10498.0' MD, 10496.2' TVD
10,977.0	10,914.3	173.2	-28.5	Cross Lease Line at 10977.0' MD, 48.62° INC, 357.87° AZ
11,351.0	11,076.6	505.1	-40.3	Cross 330' Hardline at 11351.0' MD, 77.90° INC, 357.21° AZ
11,650.0	11,098.5	802.3	-55.4	EOC: 11650.0' MD, 11098.5' TVD, 90.40° INC, 358.10° AZ, 804.2' VS
15,977.0	11,063.1	5,122.9	-278.6	Cross 330' Hardline at 15977.0' MD, 92.20° INC, 356.30° AZ
16,010.1	11,061.8	5,155.9	-280.8	TD: 16010.1' MD, 11061.8' TVD

Checked By: _____

Approved By: _____

Date: _____

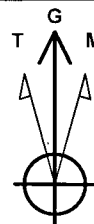


WELL DETAILS: #2H

Ground Elevation:: 3537.0
 RKB Elevation: RKB @ 3558.5usft (Nomac22 KB=21.5')
 Rig Name: Nomac22 KB=21.5'

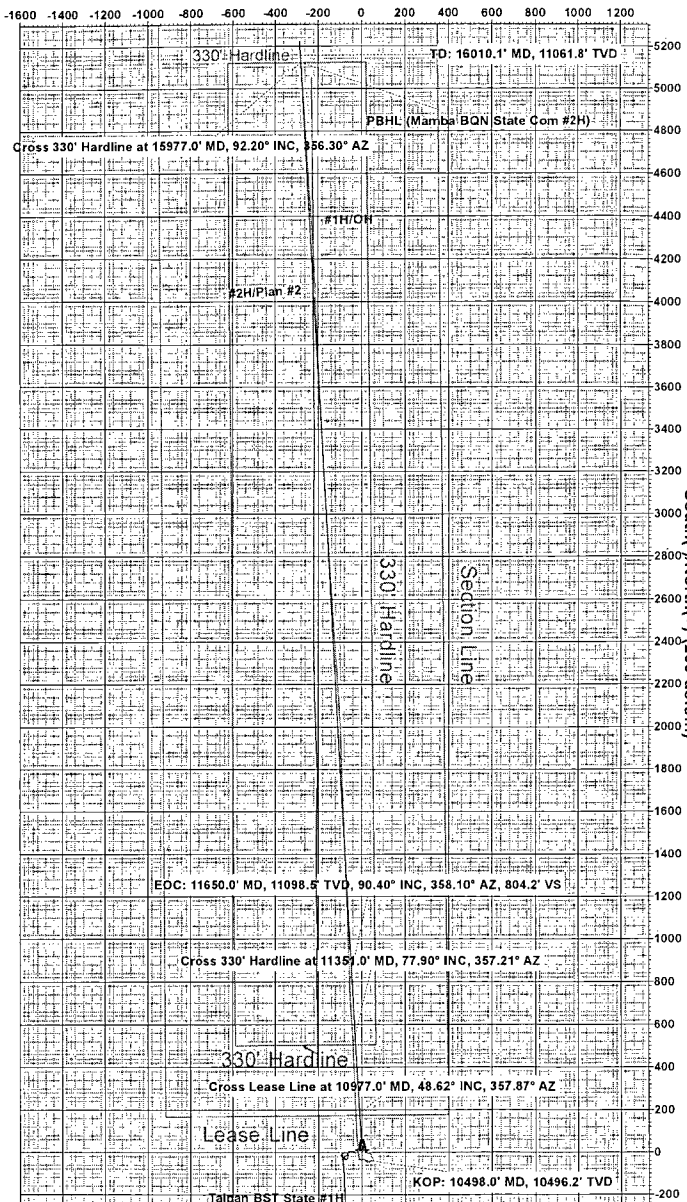
Yates Petroleum
 Project: Lea County, NM (NAD-83)
 Site: Mamba BQN State Com
 Well: #2H
 Wellbore: OH
 Plan: Plan #2 (#2H/OH)

Surface Hole Location
 Northing: 430311.00
 Easting: 764314.20
 Latitude: 32° 10' 51.418 N
 Longitude: 103° 36' 45.415 W

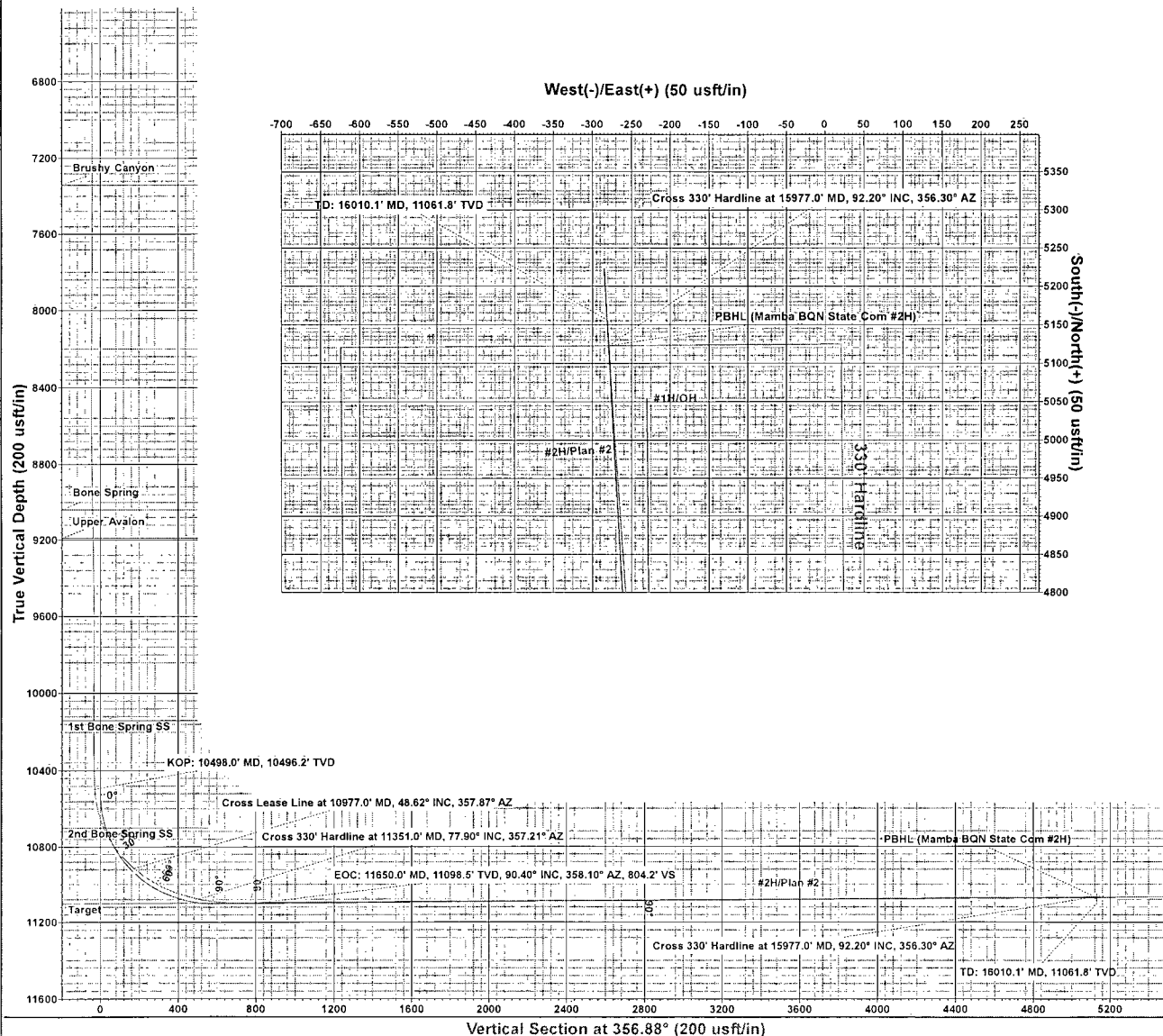


Azimuths to Grid North
 True North: -0.38°
 Magnetic North: 6.89°
 Magnetic Field
 Strength: 48317.3snT
 Dip Angle: 60.07°
 Date: 2/17/2014
 Model: IGRF2010

West(-)/East(+) (200 usft/in)



PROJECT DETAILS: Lea County, NM (NAD-83)
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level
 Local North: Grid



Vertical Section at 356.88° (200 usft/in)



Crescent Directional Drilling
 7715 West Industrial Ave. Midland, Tx 79706
 Phone: 432-618-1135

Plan: Plan #2 (#2H/OH)
 Created By: Adrian Castro Date: 9:10, April 05 2014