

Results of Directional Survey

API number:	30-025-40630		
OGRID:		Operator:	YATES PETROLEUM CORPORATION
		Property:	BERRY APN STATE # 3H

surface	ULSTR:	R	05	T 21S	R 34E
				2500 FSL	1980 FEL

7894

BH Loc	ULSTR:	B	05	T 21S	R 34E
15541	MD	10784.9	TVD	329 FNL	2014 FEL
				7565 FSL	

Top Perf/OH	ULSTR:	R	05	T 21S	R 34E
10992	MD	10674.2	TVD	3020 FSL	2001 FEL

Bot Perf/OH	ULSTR:	B	05	T 21S	R 34E
15476	MD	10781.7	TVD	393 FNL	2016 FEL
				7501 FSL	

	MD	N/S	E/W	VD
	10918.2	446.40	-22.60	10666.2
TOP PERFS/OH	10992	519.70	-20.61	10674.18
	10933	461.10	-22.20	10667.80
	15383	4907.60	-38.60	10777.70
BOT PERFS/OH	15476	5000.51	-36.06	10781.65
	15482	5006.50	-35.90	10781.90

NEXT TO LAST	15482	5006.50	-35.90	10781.90
LAST READING	15541	5065.40	-34.40	10784.90
TD	15541	5065.40	-34.40	10784.90

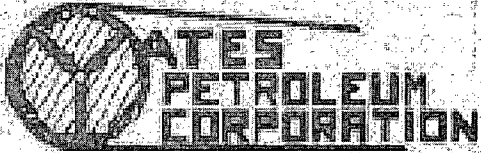
Surface Location	2500	FS	1980	FE
Projected BHL	7565	FS	2014	FE
Location of				
Top Perfs/OH	3020	FS	2001	FE
Bottom Perfs/OH	7501	FS	2016	FE

SUMMARY of Subsurface Locations

Surface Location	R-05-21S-34E	2500	FS	1980	FE	Vert. Depth
Top Perfs/OH	R-05-21S-34E	3020	FS	2001	FE	10674.18
Bottom Perfs/OH	B-05-21S-34E	7501	FS	2016	FE	10781.65
Projected TD	B-05-21S-34E	7565	FS	2014	FE	10784.90

MAR 25 2014

ONG/RODMS TEST 03/26/14



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Yates Petroleum

Lea County, NM (NAD-83)

Berry APN State

#3H

OH

Design: OH

Survey Report - Geographic

12 August, 2013





Survey Report - Geographic



Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD-83)	TVD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Site:	Berry APN State	MD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Well:	#3H	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	Berry APN State		
Site Position:		Northing:	549,391.86 usft
From:	Map	Easting:	801,342.02 usft
Position Uncertainty:	2.0 usft	Slot Radius:	8-3/4 "
		Latitude:	32° 30' 27.041 N
		Longitude:	103° 29' 23.679 W
		Grid Convergence:	0.45 °

Well	#3H		
Well Position	+N/-S	0.0 usft	Northing: 549,391.86 usft
	+E/-W	0.0 usft	Easting: 801,342.02 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Ground Level:	3,714.0 usft
		Latitude:	32° 30' 27.041 N
		Longitude:	103° 29' 23.679 W

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	4/5/2013	7.35
			Dip Angle (°)
			60.42
			Field Strength (nT)
			48,613

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			359.51

Survey Program	Date - 8/12/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
400.0	1,800.0	Survey #1 - MS Gyro1 (OH)	CB-GYRO-MS
1,971.0	15,482.0	Survey #2 - Crescent1 (OH)	MWD
15,541.0	15,541.0	Survey #3 - PTB (OH)	BLIND
			Description
			Camera based gyro multishot
			MWD - Standard
			Blind drilling, where no tool is applied

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.0	0.25	287.82	0.0	0.0	0.0	549,391.86	801,342.02	32° 30' 27.041 N	103° 29' 23.679 W	
400.0	0.13	202.37	400.0	-0.2	-1.0	549,391.71	801,341.02	32° 30' 27.039 N	103° 29' 23.691 W	
600.0	0.07	53.12	600.0	-0.3	-1.0	549,391.57	801,341.03	32° 30' 27.038 N	103° 29' 23.691 W	
800.0	0.26	244.18	800.0	-0.4	-1.3	549,391.45	801,340.72	32° 30' 27.037 N	103° 29' 23.694 W	
1,000.0	0.22	178.41	1,000.0	-1.0	-1.7	549,390.86	801,340.32	32° 30' 27.031 N	103° 29' 23.699 W	
1,200.0	0.35	222.57	1,200.0	-1.8	-2.1	549,390.03	801,339.92	32° 30' 27.023 N	103° 29' 23.704 W	
1,400.0	0.09	244.72	1,400.0	-2.3	-2.7	549,389.51	801,339.37	32° 30' 27.018 N	103° 29' 23.710 W	
1,600.0	0.34	247.36	1,600.0	-2.6	-3.3	549,389.22	801,338.68	32° 30' 27.015 N	103° 29' 23.718 W	
1,800.0	0.17	189.50	1,800.0	-3.2	-3.9	549,388.70	801,338.08	32° 30' 27.010 N	103° 29' 23.725 W	
Tie into Gyro @ 1800' MD										



Survey Report - Geographic



Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD-83)	TVD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Site:	Berry APN State	MD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Well:	#3H	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
1,971.0	0.20	229.90	1,971.0	-3.6	-4.2	549,388.25	801,337.81	32° 30' 27.006 N	103° 29' 23.729 W
2,161.0	0.40	100.10	2,161.0	-3.9	-3.8	549,387.92	801,338.21	32° 30' 27.002 N	103° 29' 23.724 W
2,350.0	0.20	81.70	2,350.0	-4.0	-2.8	549,387.86	801,339.18	32° 30' 27.001 N	103° 29' 23.713 W
2,540.0	0.10	60.30	2,540.0	-3.9	-2.4	549,387.99	801,339.66	32° 30' 27.003 N	103° 29' 23.707 W
2,730.0	0.30	66.50	2,730.0	-3.6	-1.8	549,388.27	801,340.26	32° 30' 27.005 N	103° 29' 23.700 W
2,825.0	0.20	276.20	2,825.0	-3.5	-1.7	549,388.38	801,340.32	32° 30' 27.007 N	103° 29' 23.699 W
2,920.0	0.50	57.10	2,920.0	-3.2	-1.5	549,388.63	801,340.50	32° 30' 27.009 N	103° 29' 23.697 W
3,015.0	0.90	68.10	3,015.0	-2.7	-0.5	549,389.13	801,341.54	32° 30' 27.014 N	103° 29' 23.685 W
3,110.0	1.10	70.40	3,110.0	-2.1	1.1	549,389.72	801,343.09	32° 30' 27.020 N	103° 29' 23.667 W
3,204.0	0.80	111.70	3,203.9	-2.1	2.5	549,389.78	801,344.55	32° 30' 27.020 N	103° 29' 23.650 W
3,299.0	0.40	160.20	3,298.9	-2.6	3.3	549,389.22	801,345.28	32° 30' 27.014 N	103° 29' 23.641 W
3,394.0	0.40	71.60	3,393.9	-2.8	3.7	549,389.01	801,345.71	32° 30' 27.012 N	103° 29' 23.636 W
3,489.0	0.40	128.30	3,488.9	-2.9	4.3	549,388.91	801,346.28	32° 30' 27.011 N	103° 29' 23.630 W
3,584.0	0.70	253.20	3,583.9	-3.3	4.0	549,388.54	801,345.99	32° 30' 27.008 N	103° 29' 23.633 W
3,678.0	0.90	268.00	3,677.9	-3.5	2.7	549,388.34	801,344.70	32° 30' 27.006 N	103° 29' 23.648 W
3,773.0	0.70	258.20	3,772.9	-3.7	1.4	549,388.20	801,343.39	32° 30' 27.005 N	103° 29' 23.663 W
3,867.0	0.40	259.50	3,866.9	-3.8	0.5	549,388.02	801,342.50	32° 30' 27.003 N	103° 29' 23.674 W
3,962.0	0.40	266.20	3,961.9	-3.9	-0.2	549,387.94	801,341.85	32° 30' 27.002 N	103° 29' 23.681 W
4,056.0	0.30	289.40	4,055.9	-3.9	-0.7	549,388.00	801,341.29	32° 30' 27.003 N	103° 29' 23.688 W
4,151.0	0.30	323.60	4,150.9	-3.6	-1.1	549,388.28	801,340.90	32° 30' 27.006 N	103° 29' 23.692 W
4,341.0	0.40	313.80	4,340.9	-2.7	-1.9	549,389.14	801,340.13	32° 30' 27.014 N	103° 29' 23.701 W
4,530.0	1.60	314.00	4,529.9	-0.4	-4.3	549,391.43	801,337.76	32° 30' 27.037 N	103° 29' 23.729 W
4,720.0	3.20	318.80	4,719.7	5.4	-9.7	549,397.27	801,332.36	32° 30' 27.095 N	103° 29' 23.791 W
4,815.0	4.10	318.20	4,814.5	9.9	-13.7	549,401.79	801,328.34	32° 30' 27.140 N	103° 29' 23.838 W
4,908.0	4.30	317.00	4,907.3	15.0	-18.3	549,406.82	801,323.75	32° 30' 27.190 N	103° 29' 23.891 W
5,003.0	3.40	316.00	5,002.0	19.6	-22.7	549,411.45	801,319.37	32° 30' 27.237 N	103° 29' 23.942 W
5,066.0	3.40	315.50	5,064.9	22.3	-25.3	549,414.13	801,316.76	32° 30' 27.263 N	103° 29' 23.972 W
5,256.0	2.60	320.80	5,254.7	29.6	-31.9	549,421.49	801,310.09	32° 30' 27.337 N	103° 29' 24.049 W
5,446.0	1.90	322.90	5,444.5	35.5	-36.6	549,427.34	801,305.46	32° 30' 27.395 N	103° 29' 24.103 W
5,635.0	1.10	321.10	5,633.5	39.4	-39.6	549,431.25	801,302.43	32° 30' 27.434 N	103° 29' 24.138 W
5,824.0	0.80	317.40	5,822.4	41.8	-41.6	549,433.63	801,300.40	32° 30' 27.457 N	103° 29' 24.161 W
6,007.0	0.40	310.30	6,005.4	43.1	-43.0	549,434.99	801,299.05	32° 30' 27.471 N	103° 29' 24.177 W
6,134.0	0.70	136.10	6,132.4	42.9	-42.8	549,434.71	801,299.25	32° 30' 27.468 N	103° 29' 24.175 W
6,228.0	0.70	148.30	6,226.4	42.0	-42.1	549,433.81	801,299.95	32° 30' 27.459 N	103° 29' 24.166 W
6,417.0	1.00	134.30	6,415.4	39.8	-40.3	549,431.68	801,301.73	32° 30' 27.438 N	103° 29' 24.146 W
6,606.0	0.90	143.20	6,604.4	37.5	-38.2	549,429.34	801,303.80	32° 30' 27.415 N	103° 29' 24.122 W
6,796.0	1.10	161.40	6,794.3	34.6	-36.7	549,426.41	801,305.28	32° 30' 27.386 N	103° 29' 24.105 W
6,890.0	1.40	111.00	6,888.3	33.3	-35.4	549,425.15	801,306.64	32° 30' 27.373 N	103° 29' 24.089 W
7,079.0	1.50	126.60	7,077.3	31.0	-31.2	549,422.84	801,310.78	32° 30' 27.350 N	103° 29' 24.041 W
7,270.0	1.80	148.00	7,268.2	27.0	-27.6	549,418.81	801,314.38	32° 30' 27.310 N	103° 29' 23.999 W
7,459.0	0.90	126.70	7,457.1	23.5	-24.9	549,415.41	801,317.14	32° 30' 27.276 N	103° 29' 23.967 W
7,649.0	0.90	135.10	7,647.1	21.6	-22.6	549,413.46	801,319.39	32° 30' 27.256 N	103° 29' 23.941 W
7,838.0	0.80	146.00	7,836.1	19.5	-20.8	549,411.31	801,321.18	32° 30' 27.235 N	103° 29' 23.921 W
8,028.0	1.10	147.90	8,026.1	16.8	-19.1	549,408.67	801,322.89	32° 30' 27.209 N	103° 29' 23.901 W
8,218.0	1.10	153.20	8,216.0	13.6	-17.3	549,405.49	801,324.68	32° 30' 27.177 N	103° 29' 23.880 W
8,407.0	0.70	147.90	8,405.0	11.0	-15.9	549,402.90	801,326.11	32° 30' 27.151 N	103° 29' 23.864 W
8,502.0	0.50	173.00	8,500.0	10.1	-15.6	549,401.99	801,326.47	32° 30' 27.142 N	103° 29' 23.860 W
8,597.0	0.40	170.30	8,595.0	9.4	-15.4	549,401.26	801,326.58	32° 30' 27.135 N	103° 29' 23.859 W
8,692.0	0.50	178.38	8,690.0	8.7	-15.4	549,400.51	801,326.64	32° 30' 27.128 N	103° 29' 23.858 W
8,787.0	1.10	176.10	8,785.0	7.3	-15.3	549,399.19	801,326.72	32° 30' 27.115 N	103° 29' 23.857 W
8,882.0	1.20	215.10	8,880.0	5.6	-15.8	549,397.47	801,326.21	32° 30' 27.098 N	103° 29' 23.863 W
8,976.0	0.80	210.50	8,973.9	4.2	-16.7	549,396.10	801,325.31	32° 30' 27.084 N	103° 29' 23.874 W
9,071.0	0.90	142.90	9,068.9	3.1	-16.6	549,394.93	801,325.42	32° 30' 27.073 N	103° 29' 23.873 W
9,166.0	1.60	149.70	9,163.9	1.3	-15.5	549,393.19	801,326.54	32° 30' 27.055 N	103° 29' 23.860 W
9,261.0	0.50	239.40	9,258.9	0.0	-15.2	549,391.83	801,326.85	32° 30' 27.042 N	103° 29' 23.856 W



Survey Report - Geographic

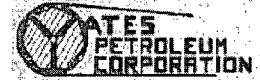


Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD-83)	TVD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Site:	Berry APN State	MD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	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
9,356.0	0.70	96.80	9,353.9	-0.3	-15.0	549,391.55	801,327.07	32° 30' 27.039 N	103° 29' 23.854 W
9,451.0	0.60	171.40	9,448.9	-0.9	-14.3	549,390.99	801,327.72	32° 30' 27.033 N	103° 29' 23.846 W
9,546.0	1.20	93.70	9,543.9	-1.4	-13.2	549,390.44	801,328.79	32° 30' 27.028 N	103° 29' 23.834 W
9,641.0	1.10	96.40	9,638.9	-1.6	-11.3	549,390.27	801,330.69	32° 30' 27.026 N	103° 29' 23.812 W
9,736.0	1.10	82.20	9,733.8	-1.6	-9.5	549,390.29	801,332.50	32° 30' 27.026 N	103° 29' 23.790 W
9,831.0	1.20	120.10	9,828.8	-1.9	-7.8	549,389.92	801,334.26	32° 30' 27.022 N	103° 29' 23.770 W
9,926.0	0.60	191.10	9,923.8	-2.9	-7.0	549,388.93	801,335.03	32° 30' 27.012 N	103° 29' 23.761 W
10,021.0	0.70	191.20	10,018.8	-4.0	-7.2	549,387.87	801,334.82	32° 30' 27.002 N	103° 29' 23.764 W
10,116.0	0.70	196.50	10,113.8	-5.1	-7.5	549,386.75	801,334.54	32° 30' 26.991 N	103° 29' 23.767 W
10,179.0	0.70	214.90	10,176.8	-5.8	-7.8	549,386.06	801,334.21	32° 30' 26.984 N	103° 29' 23.771 W
KOP - 10179.0' MD, 10176.8' TVD, 0.70° INC, -5.7' VS									
10,211.0	1.90	342.70	10,208.8	-5.5	-8.1	549,386.41	801,333.94	32° 30' 26.988 N	103° 29' 23.774 W
10,242.0	6.20	351.70	10,239.7	-3.3	-8.5	549,388.56	801,333.55	32° 30' 27.009 N	103° 29' 23.778 W
10,274.0	10.50	354.60	10,271.4	1.3	-9.0	549,393.17	801,333.02	32° 30' 27.055 N	103° 29' 23.784 W
10,306.0	14.50	354.90	10,302.6	8.2	-9.6	549,400.07	801,332.39	32° 30' 27.123 N	103° 29' 23.791 W
10,338.0	18.10	356.10	10,333.3	17.2	-10.3	549,409.02	801,331.70	32° 30' 27.211 N	103° 29' 23.798 W
10,369.0	21.50	355.70	10,362.5	27.6	-11.1	549,419.49	801,330.94	32° 30' 27.315 N	103° 29' 23.806 W
10,401.0	24.90	356.00	10,391.9	40.2	-12.0	549,432.06	801,330.03	32° 30' 27.440 N	103° 29' 23.815 W
10,432.0	28.50	357.90	10,419.6	54.1	-12.7	549,445.97	801,329.31	32° 30' 27.577 N	103° 29' 23.823 W
10,464.0	32.40	359.50	10,447.1	70.3	-13.1	549,462.18	801,328.95	32° 30' 27.738 N	103° 29' 23.825 W
10,495.0	36.40	0.10	10,472.7	87.8	-13.1	549,479.69	801,328.90	32° 30' 27.911 N	103° 29' 23.824 W
10,527.0	40.10	0.40	10,497.8	107.6	-13.0	549,499.50	801,328.99	32° 30' 28.107 N	103° 29' 23.821 W
10,540.6	41.28	0.13	10,508.2	116.5	-13.0	549,508.36	801,329.03	32° 30' 28.195 N	103° 29' 23.820 W
Cross into Lease - 10540.6' MD, 10508.2' TVD, 41.28° INC, 116.6' VS									
10,558.0	42.80	359.80	10,521.1	128.2	-13.0	549,520.02	801,329.02	32° 30' 28.310 N	103° 29' 23.819 W
10,589.0	44.80	357.90	10,543.5	149.6	-13.4	549,541.46	801,328.58	32° 30' 28.522 N	103° 29' 23.822 W
10,621.0	48.20	357.40	10,565.5	172.8	-14.4	549,564.65	801,327.63	32° 30' 28.752 N	103° 29' 23.831 W
10,652.0	52.30	356.50	10,585.3	196.6	-15.7	549,588.45	801,326.35	32° 30' 28.987 N	103° 29' 23.844 W
10,684.0	58.80	356.50	10,603.4	222.9	-17.3	549,614.77	801,324.74	32° 30' 29.248 N	103° 29' 23.860 W
10,712.0	64.30	356.80	10,616.7	247.5	-18.7	549,639.34	801,323.31	32° 30' 29.491 N	103° 29' 23.875 W
10,744.0	68.90	357.00	10,629.4	276.8	-20.3	549,668.66	801,321.72	32° 30' 29.781 N	103° 29' 23.891 W
10,775.0	72.50	357.30	10,639.7	306.0	-21.8	549,697.87	801,320.27	32° 30' 30.070 N	103° 29' 23.905 W
10,807.0	75.70	358.00	10,648.4	336.8	-23.0	549,728.62	801,319.01	32° 30' 30.375 N	103° 29' 23.917 W
10,839.0	79.40	359.40	10,655.3	368.0	-23.7	549,759.85	801,318.30	32° 30' 30.684 N	103° 29' 23.922 W
10,870.0	82.40	1.10	10,660.2	398.6	-23.6	549,790.46	801,318.44	32° 30' 30.987 N	103° 29' 23.918 W
10,902.0	82.90	1.20	10,664.3	430.3	-23.0	549,822.19	801,319.07	32° 30' 31.301 N	103° 29' 23.907 W
10,918.2	83.53	1.36	10,666.2	446.4	-22.6	549,838.27	801,319.43	32° 30' 31.460 N	103° 29' 23.902 W
Cross into 330' Lease - 10918.2' MD, 10666.2' TVD, 83.53° INC, 446.6' VS									
10,933.0	84.10	1.50	10,667.8	461.1	-22.2	549,852.98	801,319.80	32° 30' 31.605 N	103° 29' 23.896 W
10,997.0	88.50	1.50	10,672.0	524.9	-20.6	549,916.81	801,321.47	32° 30' 32.237 N	103° 29' 23.871 W
11,028.0	88.80	1.10	10,672.7	555.9	-19.9	549,947.79	801,322.17	32° 30' 32.543 N	103° 29' 23.859 W
EOC - 11028.0' MD, 10672.7' TVD, 88.80° INC, 556.1' VS									
11,123.0	89.70	1.80	10,673.9	650.9	-17.4	550,042.75	801,324.58	32° 30' 33.483 N	103° 29' 23.823 W
11,218.0	88.60	2.20	10,675.4	745.8	-14.1	550,137.68	801,327.89	32° 30' 34.422 N	103° 29' 23.775 W
11,311.0	88.20	0.40	10,678.0	838.8	-12.0	550,230.62	801,330.00	32° 30' 35.341 N	103° 29' 23.742 W
11,406.0	88.40	0.20	10,680.8	933.7	-11.5	550,325.57	801,330.50	32° 30' 36.280 N	103° 29' 23.727 W
11,470.0	88.00	359.90	10,682.8	997.7	-11.5	550,389.54	801,330.55	32° 30' 36.913 N	103° 29' 23.721 W
11,502.0	87.90	0.00	10,683.9	1,029.7	-11.5	550,421.52	801,330.53	32° 30' 37.230 N	103° 29' 23.718 W
11,612.0	88.30	0.50	10,687.6	1,139.6	-11.0	550,531.46	801,331.01	32° 30' 38.318 N	103° 29' 23.702 W
11,691.0	89.50	0.80	10,689.1	1,218.6	-10.1	550,610.44	801,331.90	32° 30' 39.099 N	103° 29' 23.685 W
11,785.0	88.50	1.80	10,690.7	1,312.5	-8.0	550,704.40	801,334.03	32° 30' 40.028 N	103° 29' 23.651 W
11,880.0	89.00	2.50	10,692.8	1,407.4	-4.4	550,799.31	801,337.60	32° 30' 40.967 N	103° 29' 23.601 W
11,975.0	90.20	0.70	10,693.5	1,502.4	-1.8	550,894.26	801,340.25	32° 30' 41.907 N	103° 29' 23.561 W
12,070.0	90.60	0.40	10,692.8	1,597.4	-0.9	550,989.25	801,341.16	32° 30' 42.846 N	103° 29' 23.542 W



Survey Report - Geographic



Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD-83)	TVD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Site:	Berry APN, State	MD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Well:	#3H	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
12,164.0	89.30	359.50	10,692.9	1,691.4	-0.9	551,083.25	801,341.08	32° 30' 43.776 N	103° 29' 23.534 W
12,258.0	89.90	359.50	10,693.5	1,785.4	-1.8	551,177.25	801,340.26	32° 30' 44.707 N	103° 29' 23.535 W
12,353.0	89.10	358.70	10,694.4	1,880.4	-3.3	551,272.23	801,338.77	32° 30' 45.647 N	103° 29' 23.543 W
12,447.0	88.20	358.40	10,696.6	1,974.3	-5.6	551,366.17	801,336.39	32° 30' 46.576 N	103° 29' 23.562 W
12,542.0	88.40	357.70	10,699.4	2,069.2	-8.9	551,461.07	801,333.16	32° 30' 47.515 N	103° 29' 23.591 W
12,637.0	89.20	358.50	10,701.4	2,164.1	-12.0	551,556.00	801,330.01	32° 30' 48.455 N	103° 29' 23.619 W
12,700.0	88.10	358.40	10,702.9	2,227.1	-13.7	551,618.96	801,328.31	32° 30' 49.078 N	103° 29' 23.633 W
12,732.0	87.40	358.20	10,704.1	2,259.1	-14.7	551,650.92	801,327.36	32° 30' 49.394 N	103° 29' 23.642 W
12,827.0	86.50	358.40	10,709.2	2,353.9	-17.5	551,745.74	801,324.54	32° 30' 50.333 N	103° 29' 23.666 W
12,921.0	86.40	359.10	10,715.0	2,447.7	-19.5	551,839.54	801,322.50	32° 30' 51.261 N	103° 29' 23.681 W
13,015.0	87.00	0.10	10,720.4	2,541.5	-20.2	551,933.38	801,321.84	32° 30' 52.190 N	103° 29' 23.680 W
13,109.0	87.50	359.20	10,724.9	2,635.4	-20.8	552,027.27	801,321.27	32° 30' 53.119 N	103° 29' 23.678 W
13,203.0	89.30	358.60	10,727.6	2,729.3	-22.6	552,121.21	801,319.46	32° 30' 54.048 N	103° 29' 23.690 W
13,298.0	88.50	358.90	10,729.4	2,824.3	-24.6	552,216.17	801,317.39	32° 30' 54.988 N	103° 29' 23.706 W
13,392.0	88.50	358.60	10,731.8	2,918.3	-26.7	552,310.11	801,315.34	32° 30' 55.918 N	103° 29' 23.721 W
13,487.0	88.80	358.30	10,734.1	3,013.2	-29.3	552,405.05	801,312.77	32° 30' 56.857 N	103° 29' 23.742 W
13,580.0	87.80	359.00	10,736.8	3,106.1	-31.4	552,497.98	801,310.58	32° 30' 57.777 N	103° 29' 23.759 W
13,675.0	89.30	358.80	10,739.2	3,201.1	-33.3	552,592.93	801,308.76	32° 30' 58.717 N	103° 29' 23.772 W
13,769.0	89.20	356.90	10,740.5	3,295.0	-36.8	552,686.85	801,305.23	32° 30' 59.646 N	103° 29' 23.804 W
13,863.0	89.50	355.50	10,741.5	3,388.8	-43.0	552,780.64	801,299.00	32° 31' 0.575 N	103° 29' 23.868 W
13,958.0	88.00	357.00	10,743.6	3,483.5	-49.2	552,875.41	801,292.79	32° 31' 1.513 N	103° 29' 23.932 W
14,053.0	87.80	359.90	10,747.1	3,578.4	-51.8	552,970.30	801,290.22	32° 31' 2.452 N	103° 29' 23.953 W
14,147.0	88.80	0.60	10,749.9	3,672.4	-51.4	553,064.25	801,290.63	32° 31' 3.382 N	103° 29' 23.940 W
14,241.0	89.30	1.50	10,751.4	3,766.4	-49.7	553,158.22	801,292.36	32° 31' 4.311 N	103° 29' 23.911 W
14,337.0	90.70	1.20	10,751.4	3,862.3	-47.4	553,254.20	801,294.62	32° 31' 5.261 N	103° 29' 23.876 W
14,432.0	90.50	1.00	10,750.4	3,957.3	-45.6	553,349.17	801,296.44	32° 31' 6.200 N	103° 29' 23.846 W
14,527.0	90.00	0.90	10,750.0	4,052.3	-44.0	553,444.16	801,298.02	32° 31' 7.140 N	103° 29' 23.818 W
14,622.0	91.10	0.40	10,749.1	4,147.3	-42.9	553,539.15	801,299.09	32° 31' 8.080 N	103° 29' 23.797 W
14,722.0	88.40	0.50	10,749.6	4,247.3	-42.1	553,639.13	801,299.88	32° 31' 9.069 N	103° 29' 23.779 W
14,817.0	87.80	0.80	10,752.7	4,342.2	-41.1	553,734.07	801,300.96	32° 31' 10.008 N	103° 29' 23.757 W
14,911.0	86.80	0.00	10,757.1	4,436.1	-40.4	553,827.97	801,301.61	32° 31' 10.937 N	103° 29' 23.741 W
15,006.0	88.00	359.60	10,761.4	4,531.0	-40.7	553,922.87	801,301.28	32° 31' 11.876 N	103° 29' 23.736 W
15,100.0	87.50	359.40	10,765.1	4,624.9	-41.6	554,016.79	801,300.46	32° 31' 12.806 N	103° 29' 23.737 W
15,193.0	87.10	0.20	10,769.5	4,717.8	-41.9	554,109.68	801,300.14	32° 31' 13.725 N	103° 29' 23.732 W
15,288.0	87.50	1.10	10,774.0	4,812.7	-40.8	554,204.57	801,301.21	32° 31' 14.664 N	103° 29' 23.711 W
15,383.0	88.00	1.60	10,777.7	4,907.6	-38.6	554,299.47	801,303.45	32° 31' 15.602 N	103° 29' 23.676 W
15,482.0	87.10	1.50	10,781.9	5,006.5	-35.9	554,398.34	801,306.13	32° 31' 16.581 N	103° 29' 23.636 W
15,541.0	87.10	1.50	10,784.9	5,065.4	-34.4	554,457.25	801,307.67	32° 31' 17.163 N	103° 29' 23.612 W

BHL - 15541.0' MD, 10784.9' TVD, 87.10° INC, 1.50° AZI, 5065.4' N, -34.4' E, 5065.5' VS

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
1,800.0	1,800.0	-3.2	-3.9	Tie into Gyro @ 1800' MD
10,179.0	10,176.8	-5.8	-7.8	KOP - 10179.0' MD, 10176.8' TVD, 0.70° INC, -5.7' VS
10,540.6	10,508.2	116.5	-13.0	Cross into Lease - 10540.6' MD, 10508.2' TVD, 41.28° INC, 116.6' VS
10,918.2	10,666.2	446.4	-22.6	Cross into 330' Lease - 10918.2' MD, 10666.2' TVD, 83.53° INC, 446.6' VS
11,028.0	10,672.7	555.9	-19.9	EOC - 11028.0' MD, 10672.7' TVD, 88.80° INC, 556.1' VS
15,541.0	10,784.9	5,065.4	-34.4	BHL - 15541.0' MD, 10784.9' TVD, 87.10° INC, 1.50° AZI, 5065.4' N, -34.4' E, 5



Survey Report - Geographic



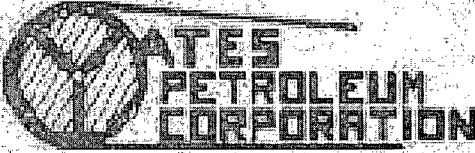
Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD-83)	TVD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Site:	Berry APN/State	MD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Checked By: _____ Approved By: _____ Date: _____

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Yates Petroleum

Lea County, NM (NAD-83)

Berry APN State

#3H

OH

Design: OH

Standard Survey Report

12 August, 2013





Survey Report



Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD-83)	TVD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Site:	Berry APN State	MD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Well:	#3H	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	Berry APN State		
Site Position:		Northing:	549,391.86 usft
From:	Map	Easting:	801,342.02 usft
Position Uncertainty:	2.0 usft	Slot Radius:	8-3/4 "
		Latitude:	32° 30' 27.041 N
		Longitude:	103° 29' 23.679 W
		Grid Convergence:	0.45 °

Well	#3H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 30' 27.041 N
		Longitude:	103° 29' 23.679 W
		Ground Level:	3,714.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/5/2013	7.35	60.42	48,613

Design	OH			
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	359.51

Survey Program	Date: 8/12/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
400.0	1,800.0	Survey #1 - MS Gyro1 (OH)	CB-GYRO-MS	Camera based gyro multishot
1,971.0	15,482.0	Survey #2 - Crescent1 (OH)	MWD	MWD - Standard
15,541.0	15,541.0	Survey #3 - PTB (OH)	BLIND	Blind drilling, where no tool is applied

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)	
0.0	0.25	287.82	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
400.0	0.13	202.37	400.0	-0.2	-1.0	-0.1	0.07	-0.03	-21.36	
600.0	0.07	53.12	600.0	-0.3	-1.0	-0.3	0.10	-0.03	-74.63	
800.0	0.26	244.18	800.0	-0.4	-1.3	-0.4	0.16	0.10	-84.47	
1,000.0	0.22	178.41	1,000.0	-1.0	-1.7	-1.0	0.13	-0.02	-32.89	
1,200.0	0.35	222.57	1,200.0	-1.8	-2.1	-1.8	0.12	0.07	22.08	
1,400.0	0.09	244.72	1,400.0	-2.3	-2.7	-2.3	0.13	-0.13	11.08	
1,600.0	0.34	247.36	1,600.0	-2.6	-3.3	-2.6	0.13	0.13	1.32	
1,800.0	0.17	189.50	1,800.0	-3.2	-3.9	-3.1	0.14	-0.09	-28.93	



Survey Report



Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD-83)	TVD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Site:	Berry APN State	MD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Well:	#3H	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)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Tie into Gyro @ 1800' MD									
1,971.0	0.20	229.90	1,971.0	-3.6	-4.2	-3.6	0.08	0.02	23.63
2,161.0	0.40	100.10	2,161.0	-3.9	-3.8	-3.9	0.29	0.11	-68.32
2,350.0	0.20	81.70	2,350.0	-4.0	-2.8	-4.0	0.12	-0.11	-9.74
2,540.0	0.10	60.30	2,540.0	-3.9	-2.4	-3.9	0.06	-0.05	-11.26
2,730.0	0.30	66.50	2,730.0	-3.6	-1.8	-3.6	0.11	0.11	3.26
2,825.0	0.20	276.20	2,825.0	-3.5	-1.7	-3.5	0.51	-0.11	-158.21
2,920.0	0.50	57.10	2,920.0	-3.2	-1.5	-3.2	0.70	0.32	148.32
3,015.0	0.90	68.10	3,015.0	-2.7	-0.5	-2.7	0.44	0.42	11.58
3,110.0	1.10	70.40	3,110.0	-2.1	1.1	-2.2	0.21	0.21	2.42
3,204.0	0.80	111.70	3,203.9	-2.1	2.5	-2.1	0.77	-0.32	43.94
3,299.0	0.40	160.20	3,298.9	-2.6	3.3	-2.7	0.65	-0.42	51.05
3,394.0	0.40	71.60	3,393.9	-2.8	3.7	-2.9	0.59	0.00	-93.26
3,489.0	0.40	128.30	3,488.9	-2.9	4.3	-3.0	0.40	0.00	59.68
3,584.0	0.70	253.20	3,583.9	-3.3	4.0	-3.4	1.04	0.32	131.47
3,678.0	0.90	268.00	3,677.9	-3.5	2.7	-3.5	0.30	0.21	15.74
3,773.0	0.70	258.20	3,772.9	-3.7	1.4	-3.7	0.25	-0.21	-10.32
3,867.0	0.40	259.50	3,866.9	-3.8	0.5	-3.8	0.32	-0.32	1.38
3,962.0	0.40	266.20	3,961.9	-3.9	-0.2	-3.9	0.05	0.00	7.05
4,056.0	0.30	289.40	4,055.9	-3.9	-0.7	-3.9	0.18	-0.11	24.68
4,151.0	0.30	323.60	4,150.9	-3.6	-1.1	-3.6	0.19	0.00	36.00
4,341.0	0.40	313.80	4,340.9	-2.7	-1.9	-2.7	0.06	0.05	-5.16
4,530.0	1.60	314.00	4,529.9	-0.4	-4.3	-0.4	0.63	0.63	0.11
4,720.0	3.20	318.80	4,719.7	5.4	-9.7	5.5	0.85	0.84	2.53
4,815.0	4.10	318.20	4,814.5	9.9	-13.7	10.0	0.95	0.95	-0.63
4,908.0	4.30	317.00	4,907.3	15.0	-18.3	15.1	0.23	0.22	-1.29
5,003.0	3.40	316.00	5,002.0	19.6	-22.7	19.8	0.95	-0.95	-1.05
5,066.0	3.40	315.50	5,064.9	22.3	-25.3	22.5	0.05	0.00	-0.79
5,256.0	2.60	320.80	5,254.7	29.6	-31.9	29.9	0.45	-0.42	2.79
5,446.0	1.90	322.90	5,444.5	35.5	-36.6	35.8	0.37	-0.37	1.11
5,635.0	1.10	321.10	5,633.5	39.4	-39.6	39.7	0.42	-0.42	-0.95
5,824.0	0.80	317.40	5,822.4	41.8	-41.6	42.1	0.16	-0.16	-1.96
6,007.0	0.40	310.30	6,005.4	43.1	-43.0	43.5	0.22	-0.22	-3.88
6,134.0	0.70	136.10	6,132.4	42.9	-42.8	43.2	0.87	0.24	-137.17
6,228.0	0.70	148.30	6,226.4	42.0	-42.1	42.3	0.16	0.00	12.98
6,417.0	1.00	134.30	6,415.4	39.8	-40.3	40.2	0.19	0.16	-7.41
6,606.0	0.90	143.20	6,604.4	37.5	-38.2	37.8	0.09	-0.05	4.71
6,796.0	1.10	161.40	6,794.3	34.6	-36.7	34.9	0.20	0.11	9.58
6,890.0	1.40	111.00	6,888.3	33.3	-35.4	33.6	1.17	0.32	-53.62
7,079.0	1.50	126.60	7,077.3	31.0	-31.2	31.3	0.21	0.05	8.25
7,270.0	1.80	148.00	7,268.2	27.0	-27.6	27.2	0.36	0.16	11.20
7,459.0	0.90	126.70	7,457.1	23.5	-24.9	23.8	0.54	-0.48	-11.27
7,649.0	0.90	135.10	7,647.1	21.6	-22.6	21.8	0.07	0.00	4.42



Survey Report



Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD-83)	TVD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Site:	Berry APN State	MD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Well:	#3H	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)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,838.0	0.80	146.00	7,836.1	19.5	-20.8	19.6	0.10	-0.05	5.77
8,028.0	1.10	147.90	8,026.1	16.8	-19.1	17.0	0.16	0.16	1.00
8,218.0	1.10	153.20	8,216.0	13.6	-17.3	13.8	0.05	0.00	2.79
8,407.0	0.70	147.90	8,405.0	11.0	-15.9	11.2	0.22	-0.21	-2.80
8,502.0	0.50	173.00	8,500.0	10.1	-15.6	10.3	0.34	-0.21	26.42
8,597.0	0.40	170.30	8,595.0	9.4	-15.4	9.5	0.11	-0.11	-2.84
8,692.0	0.50	178.38	8,690.0	8.7	-15.4	8.8	0.12	0.11	8.51
8,787.0	1.10	176.10	8,785.0	7.3	-15.3	7.5	0.63	0.63	-2.40
8,882.0	1.20	215.10	8,880.0	5.6	-15.8	5.7	0.81	0.11	41.05
8,976.0	0.80	210.50	8,973.9	4.2	-16.7	4.4	0.43	-0.43	-4.89
9,071.0	0.90	142.90	9,068.9	3.1	-16.6	3.2	1.00	0.11	-71.16
9,166.0	1.60	149.70	9,163.9	1.3	-15.5	1.5	0.75	0.74	7.16
9,261.0	0.50	239.40	9,258.9	0.0	-15.2	0.1	1.76	-1.16	94.42
9,356.0	0.70	96.80	9,353.9	-0.3	-15.0	-0.2	1.20	0.21	-150.11
9,451.0	0.60	171.40	9,448.9	-0.9	-14.3	-0.7	0.83	-0.11	78.53
9,546.0	1.20	93.70	9,543.9	-1.4	-13.2	-1.3	1.29	0.63	-81.79
9,641.0	1.10	96.40	9,638.9	-1.6	-11.3	-1.5	0.12	-0.11	2.84
9,736.0	1.10	82.20	9,733.8	-1.6	-9.5	-1.5	0.29	0.00	-14.95
9,831.0	1.20	120.10	9,828.8	-1.9	-7.8	-1.9	0.79	0.11	39.89
9,926.0	0.60	191.10	9,923.8	-2.9	-7.0	-2.9	1.21	-0.63	74.74
10,021.0	0.70	191.20	10,018.8	-4.0	-7.2	-3.9	0.11	0.11	0.11
10,116.0	0.70	196.50	10,113.8	-5.1	-7.5	-5.0	0.07	0.00	5.58
10,179.0	0.70	214.90	10,176.8	-5.8	-7.8	-5.7	0.36	0.00	29.21
KOP - 10179.0' MD, 10176.8' TVD, 0.70° INC, -5.7° VS									
10,211.0	1.90	342.70	10,208.8	-5.5	-8.1	-5.4	7.48	3.75	399.38
10,242.0	6.20	351.70	10,239.7	-3.3	-8.5	-3.2	13.98	13.87	29.03
10,274.0	10.50	354.60	10,271.4	1.3	-9.0	1.4	13.50	13.44	9.06
10,306.0	14.50	354.90	10,302.6	8.2	-9.6	8.3	12.50	12.50	0.94
10,338.0	18.10	356.10	10,333.3	17.2	-10.3	17.2	11.30	11.25	3.75
10,369.0	21.50	355.70	10,362.5	27.6	-11.1	27.7	10.98	10.97	-1.29
10,401.0	24.90	356.00	10,391.9	40.2	-12.0	40.3	10.63	10.63	0.94
10,432.0	28.50	357.90	10,419.6	54.1	-12.7	54.2	11.93	11.61	6.13
10,464.0	32.40	359.50	10,447.1	70.3	-13.1	70.4	12.45	12.19	5.00
10,495.0	36.40	0.10	10,472.7	87.8	-13.1	87.9	12.95	12.90	1.94
10,527.0	40.10	0.40	10,497.8	107.6	-13.0	107.7	11.58	11.56	0.94
10,540.6	41.28	0.13	10,508.2	116.5	-13.0	116.6	8.80	8.71	-1.99
Cross into Lease - 10540.6' MD, 10508.2' TVD, 41.28° INC, 116.6° VS									
10,558.0	42.80	359.80	10,521.1	128.2	-13.0	128.3	8.80	8.71	-1.89
10,589.0	44.80	357.90	10,543.5	149.6	-13.4	149.7	7.72	6.45	-6.13
10,621.0	48.20	357.40	10,565.5	172.8	-14.4	172.9	10.69	10.63	-1.56
10,652.0	52.30	356.50	10,585.3	196.6	-15.7	196.7	13.41	13.23	-2.90
10,684.0	58.80	356.50	10,603.4	222.9	-17.3	223.1	20.31	20.31	0.00
10,712.0	64.30	356.80	10,616.7	247.5	-18.7	247.6	19.67	19.64	1.07
10,744.0	68.90	357.00	10,629.4	276.8	-20.3	277.0	14.39	14.38	0.63



Survey Report



Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD-83)	TVD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Site:	Berry APN, State	MD Reference:	WELL @ 3739.0usft (Cactus #124 - 25' KB)
Well:	#3H	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)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,775.0	72.50	357.30	10,639.7	306.0	-21.8	306.2	11.65	11.61	0.97
10,807.0	75.70	358.00	10,648.4	336.8	-23.0	336.9	10.22	10.00	2.19
10,839.0	79.40	359.40	10,655.3	368.0	-23.7	368.2	12.33	11.56	4.38
10,870.0	82.40	1.10	10,660.2	398.6	-23.6	398.8	11.09	9.68	5.48
10,902.0	82.90	1.20	10,664.3	430.3	-23.0	430.5	1.59	1.56	0.31
10,918.2	83.53	1.36	10,666.2	446.4	-22.6	446.6	3.99	3.87	0.97
Cross into 330' Lease - 10918.2' MD, 10666.2' TVD, 83.53° INC, 446.6' VS									
10,933.0	84.10	1.50	10,667.8	461.1	-22.2	461.3	3.99	3.87	0.97
10,997.0	88.50	1.50	10,672.0	524.9	-20.6	525.1	6.88	6.88	0.00
11,028.0	88.80	1.10	10,672.7	555.9	-19.9	556.1	1.61	0.97	-1.29
EOC - 11028.0' MD, 10672.7' TVD, 88.80° INC, 556.1' VS									
11,123.0	89.70	1.80	10,673.9	650.9	-17.4	651.0	1.20	0.95	0.74
11,218.0	88.60	2.20	10,675.4	745.8	-14.1	745.9	1.23	-1.16	0.42
11,311.0	88.20	0.40	10,678.0	838.8	-12.0	838.8	1.98	-0.43	-1.94
11,406.0	88.40	0.20	10,680.8	933.7	-11.5	933.8	0.30	0.21	-0.21
11,470.0	88.00	359.90	10,682.8	997.7	-11.5	997.7	0.78	-0.63	-0.47
11,502.0	87.90	0.00	10,683.9	1,029.7	-11.5	1,029.7	0.44	-0.31	0.31
11,612.0	88.30	0.50	10,687.6	1,139.6	-11.0	1,139.7	0.58	0.36	0.45
11,691.0	89.50	0.80	10,689.1	1,218.6	-10.1	1,218.6	1.57	1.52	0.38
11,785.0	88.50	1.80	10,690.7	1,312.5	-8.0	1,312.6	1.50	-1.06	1.06
11,880.0	89.00	2.50	10,692.8	1,407.4	-4.4	1,407.4	0.91	0.53	0.74
11,975.0	90.20	0.70	10,693.5	1,502.4	-1.8	1,502.4	2.28	1.26	-1.89
12,070.0	90.60	0.40	10,692.8	1,597.4	-0.9	1,597.3	0.53	0.42	-0.32
12,164.0	89.30	359.50	10,692.9	1,691.4	-0.9	1,691.3	1.68	-1.38	-0.96
12,258.0	89.90	359.50	10,693.5	1,785.4	-1.8	1,785.3	0.64	0.64	0.00
12,353.0	89.10	358.70	10,694.4	1,880.4	-3.3	1,880.3	1.19	-0.84	-0.84
12,447.0	88.20	358.40	10,696.6	1,974.3	-5.6	1,974.3	1.01	-0.96	-0.32
12,542.0	88.40	357.70	10,699.4	2,069.2	-8.9	2,069.2	0.77	0.21	-0.74
12,637.0	89.20	358.50	10,701.4	2,164.1	-12.0	2,164.2	1.19	0.84	0.84
12,700.0	88.10	358.40	10,702.9	2,227.1	-13.7	2,227.1	1.75	-1.75	-0.16
12,732.0	87.40	358.20	10,704.1	2,259.1	-14.7	2,259.1	2.27	-2.19	-0.63
12,827.0	86.50	358.40	10,709.2	2,353.9	-17.5	2,353.9	0.97	-0.95	0.21
12,921.0	86.40	359.10	10,715.0	2,447.7	-19.5	2,447.8	0.75	-0.11	0.74
13,015.0	87.00	0.10	10,720.4	2,541.5	-20.2	2,541.6	1.24	0.64	1.06
13,109.0	87.50	359.20	10,724.9	2,635.4	-20.8	2,635.5	1.09	0.53	-0.96
13,203.0	89.30	358.60	10,727.6	2,729.3	-22.6	2,729.4	2.02	1.91	-0.64
13,298.0	88.50	358.90	10,729.4	2,824.3	-24.6	2,824.4	0.90	-0.84	0.32
13,392.0	88.50	358.60	10,731.8	2,918.3	-26.7	2,918.4	0.32	0.00	-0.32
13,487.0	88.80	358.30	10,734.1	3,013.2	-29.3	3,013.3	0.45	0.32	-0.32
13,580.0	87.80	359.00	10,736.8	3,106.1	-31.4	3,106.3	1.31	-1.08	0.75
13,675.0	89.30	358.80	10,739.2	3,201.1	-33.3	3,201.2	1.59	1.58	-0.21
13,769.0	89.20	356.90	10,740.5	3,295.0	-36.8	3,295.2	2.02	-0.11	-2.02
13,863.0	89.50	355.50	10,741.5	3,388.8	-43.0	3,389.0	1.52	0.32	-1.49
13,958.0	88.00	357.00	10,743.6	3,483.5	-49.2	3,483.8	2.23	-1.58	1.58



Survey Report



Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD-83)	TVD Reference:	WELL @ 3739.0usft (Cactus #124 -25' KB)
Site:	Berry APN/State	MD Reference:	WELL @ 3739.0usft (Cactus #124 -25' KB)
Well:	#3H	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)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,053.0	87.80	359.90	10,747.1	3,578.4	-51.8	3,578.8	3.06	-0.21	3.05
14,147.0	88.80	0.60	10,749.9	3,672.4	-51.4	3,672.7	1.30	1.06	0.74
14,241.0	89.30	1.50	10,751.4	3,766.4	-49.7	3,766.7	1.10	0.53	0.96
14,337.0	90.70	1.20	10,751.4	3,862.3	-47.4	3,862.6	1.49	1.46	-0.31
14,432.0	90.50	1.00	10,750.4	3,957.3	-45.6	3,957.6	0.30	-0.21	-0.21
14,527.0	90.00	0.90	10,750.0	4,052.3	-44.0	4,052.5	0.54	-0.53	-0.11
14,622.0	91.10	0.40	10,749.1	4,147.3	-42.9	4,147.5	1.27	1.16	-0.53
14,722.0	88.40	0.50	10,749.6	4,247.3	-42.1	4,247.5	2.70	-2.70	0.10
14,817.0	87.80	0.80	10,752.7	4,342.2	-41.1	4,342.4	0.71	-0.63	0.32
14,911.0	86.80	0.00	10,757.1	4,436.1	-40.4	4,436.3	1.36	-1.06	-0.85
15,006.0	88.00	359.60	10,761.4	4,531.0	-40.7	4,531.2	1.33	1.26	-0.42
15,100.0	87.50	359.40	10,765.1	4,624.9	-41.6	4,625.1	0.57	-0.53	-0.21
15,193.0	87.10	0.20	10,769.5	4,717.8	-41.9	4,718.0	0.96	-0.43	0.86
15,288.0	87.50	1.10	10,774.0	4,812.7	-40.8	4,812.9	1.04	0.42	0.95
15,383.0	88.00	1.60	10,777.7	4,907.6	-38.6	4,907.8	0.74	0.53	0.53
15,482.0	87.10	1.50	10,781.9	5,006.5	-35.9	5,006.6	0.91	-0.91	-0.10
15,541.0	87.10	1.50	10,784.9	5,065.4	-34.4	5,065.5	0.00	0.00	0.00
BHL - 15541.0' MD, 10784.9' TVD, 87.10° INC, 1.50° AZI, 5065.4' N, -34.4' E, 5065.5' VS									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,800.0	1,800.0	-3.2	-3.9	Tie into Gyro @ 1800' MD
10,179.0	10,176.8	-5.8	-7.8	KOP - 10179.0' MD, 10176.8' TVD, 0.70° INC, -5.7' VS
10,540.6	10,508.2	116.5	-13.0	Cross into Lease - 10540.6' MD, 10508.2' TVD, 41.28° INC, 116.6' VS
10,918.2	10,666.2	446.4	-22.6	Cross into 330' Lease - 10918.2' MD, 10666.2' TVD, 83.53° INC, 446.6' VS
11,028.0	10,672.7	555.9	-19.9	EOC - 11028.0' MD, 10672.7' TVD, 88.80° INC, 556.1' VS
15,541.0	10,784.9	5,065.4	-34.4	BHL - 15541.0' MD, 10784.9' TVD, 87.10° INC, 1.50° AZI, 5065.4' N, -34.4' E, 5

Checked By: _____ Approved By: _____ Date: _____



Yates Petroleum
Project: Lea County, NM (NAD-83)
Site: Berry APN State
Well: #3H
Wellbore: OH
Plan: Plan #2 (#3H/OH)

WELL DETAILS: #3H

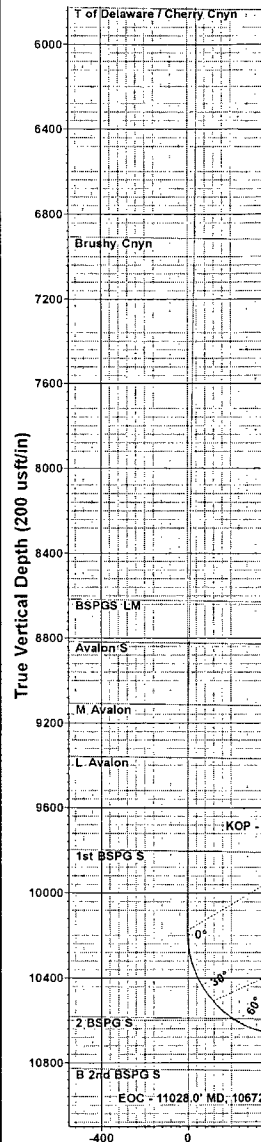
Ground Elevation:: 3714.0
RKB Elevation: WELL @ 3739.0usft (Cactus #124 - 25' KB)
Rig Name: Cactus #124 - 25' KB

Northings	Easting	Latitude	Longitude
549391.86	801342.03	32° 30' 27.041 N	103° 29' 23.679 W

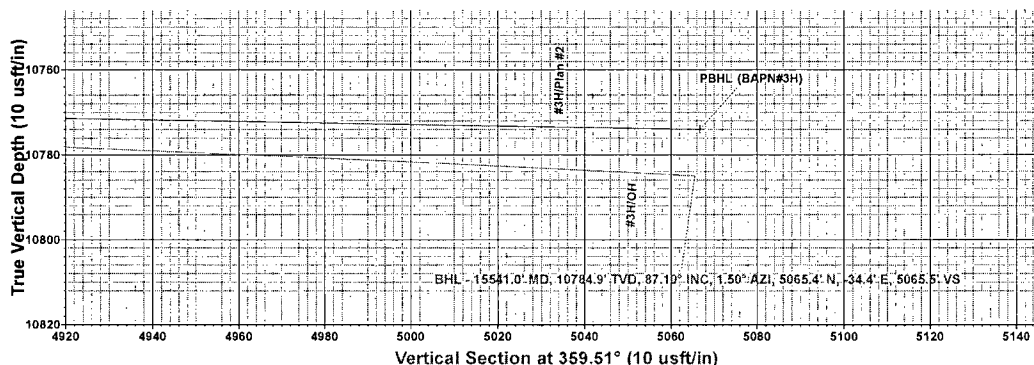
Surface Hole Location

Section Details

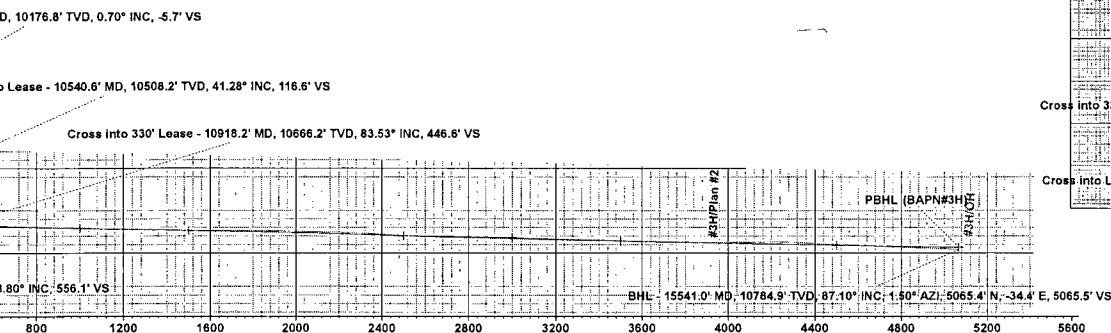
	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	10195.5	0.00	0.00	10195.5	0.0	0.0	0.00	0.00	0.0	
3	10935.6	88.81	359.51	10672.9	467.6	-4.0	12.00	359.51	467.6	
4	11468.2	88.81	359.51	10684.0	1000.0	-8.6	0.00	0.00	1000.0	T2 - 1000' VS
5	11470.3	88.85	359.51	10684.0	1002.1	-8.6	2.00	0.00	1002.1	
6	12468.4	88.85	359.51	10704.0	1999.9	-17.1	0.00	0.00	2000.0	T4 - 2000' VS
7	12497.8	88.26	359.51	10704.7	2029.3	-17.4	2.00	180.00	2029.4	
8	12968.6	88.26	359.51	10719.0	2499.9	-21.4	0.00	0.00	2500.0	T5 - 2500' VS
9	12999.0	88.87	359.51	10719.8	2530.3	-21.6	2.00	0.00	2530.4	
10	13468.7	88.87	359.51	10729.0	2999.9	-25.7	0.00	0.00	3000.0	T6 - 3000' VS
11	13499.2	88.26	359.51	10729.8	3030.4	-25.9	2.00	180.00	3030.5	
12	13968.9	88.26	359.51	10744.0	3499.9	-29.9	0.00	0.00	3500.0	T7 - 3500' VS
13	13999.3	88.87	359.51	10744.8	3530.2	-30.2	2.00	0.00	3530.3	
14	14469.0	88.87	359.51	10754.0	3999.9	-34.2	0.00	0.00	4000.0	T8 - 4000' VS
15	14470.4	88.85	359.49	10754.1	4001.3	-34.2	2.00	-135.01	4001.4	
16	14969.1	88.85	359.49	10764.1	4499.8	-38.7	0.00	0.00	4500.0	T9 - 4500' VS
17	14976.4	89.00	359.49	10764.2	4507.1	-38.7	2.00	0.77	4507.3	
18	15535.9	89.00	359.49	10774.0	5066.5	-43.7	0.00	0.00	5066.7	PBHL (BAPN#3H)



True Vertical Depth (10 usft/in)



Vertical Section at 359.51° (10 usft/in)



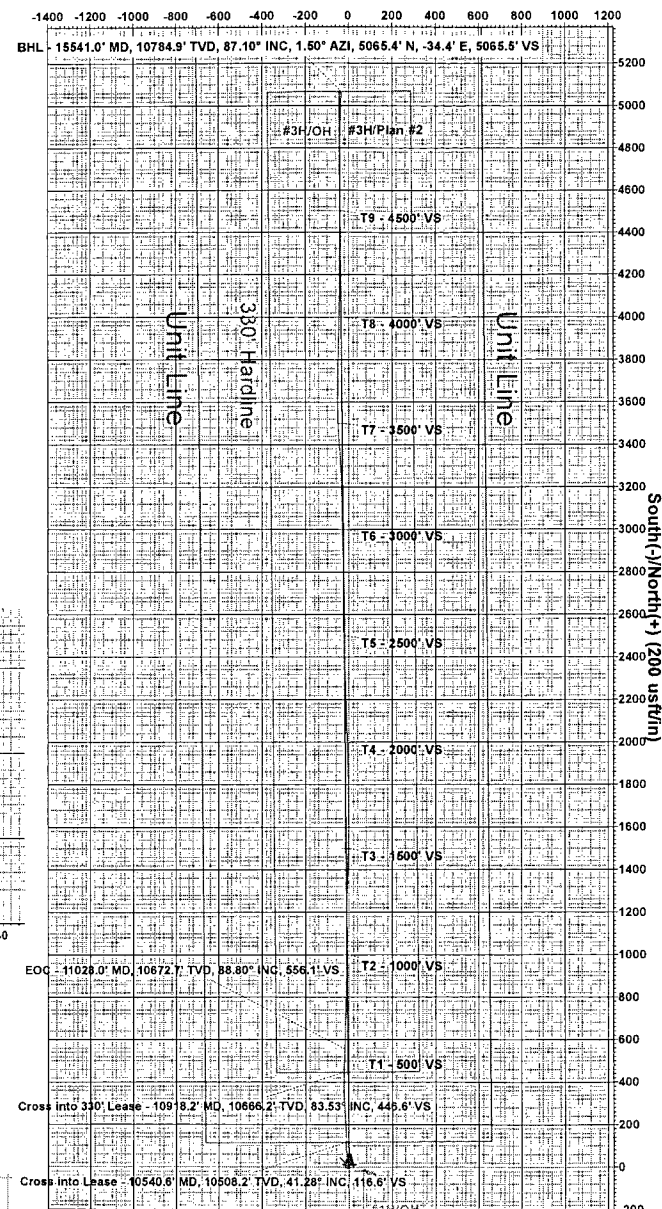
Vertical Section at 359.51° (200 usft/in)



Azimuths to Grid North
True North: -0.45°
Magnetic North: 6.89°

Magnetic Field
Strength: 48613.0snT
Dip Angle: 60.42°
Date: 4/5/2013
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



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

Plan: Plan #2 (#3H/OH)
Created By: Matt Higgins Date: 15:19, August 12 2013



Job Number: SVMO-130497

Company: Yates Petroleum Corporation

Lease/Well: Berry APN State 3H

Location: Lea County, NM

Rig Name: Cactus #124

RKB: 25.5'

G.L. or M.S.L.: GL

State/Country: New Mexico/USA

Declination: 7.35°

Grid: East To Grid North

File name: F:\SURVEY\2013SU~1\YATES\MO\BERRYA~1\3H.SVY

Date/Time: 18-Jul-13 / 14:25

Curve Name: Surface - 1800' M.D. (Rate Gyro)

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 359.51
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
200.00	.25	287.82	200.00	.13	-.42	.14	.44	287.82	.12
400.00	.13	202.37	400.00	.06	-.92	.07	.92	273.57	.14
600.00	.07	53.12	600.00	-.08	-.91	-.07	.91	265.00	.10
800.00	.26	244.18	800.00	-.20	-1.22	-.19	1.23	260.50	.16
1000.00	.22	178.41	1000.00	-.79	-1.61	-.77	1.80	244.07	.13
1200.00	.35	222.57	1199.99	-1.62	-2.02	-1.60	2.59	231.25	.12
1400.00	.09	244.72	1399.99	-2.14	-2.57	-2.11	3.34	230.30	.13
1600.00	.34	247.36	1599.99	-2.43	-3.26	-2.40	4.07	233.30	.13
Last Survey Depth Recorded									
1800.00	.17	189.50	1799.99	-2.95	-3.86	-2.92	4.86	232.58	.14