



**YATES
PETROLEUM
CORPORATION**

30-015-41247

Yates Petroleum Corp.

Eddy County, NM (NAD83 NME)

Benson Deep AAS Federal Com

#2H

OH

Design: OH

Standard Survey Report

06 January, 2014



Scientific Drilling

www.scientificdrilling.com



Survey Report



Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB = 18.5 @ 3443.50usft (McVay 8)
Site:	Benson Deep AAS Federal Com	MD Reference:	KB = 18.5 @ 3443.50usft (McVay 8)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

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

Site	Benson Deep AAS Federal Com		
Site Position:	From:	Map	
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 42' 33.814 N
		Longitude:	103° 59' 4.449 W
		Grid Convergence:	0.19 °

Well	#2H		
Well Position	+N-S	0.00 usft	Northing: 621,984.897 usft
	+E-W	0.00 usft	Easting: 648,609.851 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Ground Level:	3,425.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	BGGM2012	11/5/2013	7.63
			60.46
			48,581

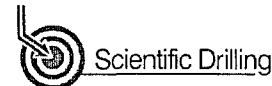
Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			93.33

Survey Program	Date 1/6/2014		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
80.14	5,022.00	SDI Gyro #1 (OH)	Keeper
5,119.00	12,748.00	SDI MWD #1 (OH)	SDI MWD
			Standard Wireline Keeper ver 1.0.2
			SDI MWD - Standard ver 1.0.1

Survey										
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(bearing)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate	
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
80.14	0.30	337.65	80.14	0.19	-0.08	-0.09	0.37	0.37	-0.00	
164.51	0.24	105.75	164.51	0.35	0.01	-0.01	0.58	-0.07	151.83	
255.15	0.50	121.51	255.15	0.09	0.53	0.52	0.31	0.29	17.39	
341.93	0.39	88.28	341.92	-0.10	1.14	1.15	0.32	-0.13	-38.29	
427.17	0.50	29.64	427.16	0.24	1.62	1.60	0.52	0.13	-68.79	
509.94	0.47	39.21	509.93	0.81	2.01	1.96	0.10	-0.04	11.56	
597.75	0.43	43.89	597.74	1.33	2.47	2.39	0.06	-0.05	5.33	
691.82	0.35	34.58	691.80	1.82	2.88	2.76	0.11	-0.09	-9.90	



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Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
787.19	0.35	44.60	787.17	2.27	3.25	3.11	0.06	0.00	10.51	
881.17	0.34	357.33	881.15	2.75	3.43	3.27	0.29	-0.01	-50.30	
975.15	0.33	27.83	975.13	3.27	3.55	3.35	0.19	-0.01	32.45	
1,069.13	0.36	53.90	1,069.11	3.68	3.91	3.69	0.17	0.03	27.74	
1,163.11	0.45	53.65	1,163.09	4.07	4.45	4.20	0.10	0.10	-0.27	
1,257.09	0.75	61.38	1,257.06	4.59	5.28	5.01	0.33	0.32	8.23	
1,351.07	0.96	41.91	1,351.03	5.47	6.35	6.02	0.38	0.22	-20.72	
1,445.05	0.95	43.19	1,445.00	6.62	7.41	7.01	0.03	-0.01	1.36	
1,539.03	1.02	31.05	1,538.96	7.91	8.37	7.90	0.23	0.07	-12.92	
1,633.01	1.06	24.56	1,632.93	9.41	9.17	8.61	0.13	0.04	-6.91	
1,726.99	1.15	22.76	1,726.89	11.07	9.89	9.23	0.10	0.10	-1.92	
1,816.23	1.14	23.97	1,816.11	12.71	10.60	9.84	0.03	-0.01	1.36	
1,914.52	1.04	39.68	1,914.39	14.29	11.57	10.72	0.32	-0.10	15.98	
2,012.81	1.02	42.44	2,012.66	15.62	12.73	11.80	0.05	-0.02	2.81	
2,104.69	0.97	47.50	2,104.53	16.75	13.85	12.86	0.11	-0.05	5.51	
2,196.57	0.95	58.72	2,196.39	17.67	15.08	14.03	0.21	-0.02	12.21	
2,288.46	0.84	64.78	2,288.27	18.35	16.34	15.24	0.16	-0.12	6.59	
2,383.46	0.67	54.40	2,383.26	18.97	17.42	16.29	0.23	-0.18	-10.93	
2,478.47	0.56	38.36	2,478.27	19.66	18.16	16.99	0.21	-0.12	-16.88	
2,573.48	0.42	23.23	2,573.27	20.35	18.58	17.37	0.20	-0.15	-15.92	
2,666.79	0.28	20.32	2,666.58	20.87	18.80	17.55	0.15	-0.15	-3.12	
2,760.10	0.33	2.15	2,759.89	21.36	18.89	17.62	0.12	0.05	-19.47	
2,853.41	0.48	352.83	2,853.20	22.01	18.85	17.54	0.18	0.16	-9.99	
2,947.98	0.52	350.77	2,947.77	22.83	18.73	17.37	0.05	0.04	-2.18	
3,042.55	0.44	350.01	3,042.33	23.61	18.60	17.20	0.08	-0.08	-0.80	
3,137.12	0.45	354.62	3,136.90	24.34	18.50	17.06	0.04	0.01	4.87	
3,231.09	0.46	358.55	3,230.87	25.08	18.46	16.97	0.03	0.01	4.18	
3,325.06	0.41	351.57	3,324.83	25.79	18.40	16.87	0.08	-0.05	-7.43	
3,419.03	0.33	346.38	3,418.80	26.39	18.28	16.72	0.09	-0.09	-5.52	
3,513.00	0.41	346.36	3,512.77	26.98	18.14	16.54	0.09	0.09	-0.02	
3,607.10	0.34	344.86	3,606.87	27.57	17.99	16.36	0.08	-0.07	-1.59	
3,701.20	0.33	348.51	3,700.97	28.11	17.86	16.20	0.03	-0.01	3.88	
3,794.85	0.26	7.44	3,794.61	28.58	17.84	16.15	0.13	-0.07	20.21	
3,889.50	0.46	20.47	3,889.26	29.15	18.00	16.27	0.23	0.21	13.77	
3,984.15	0.63	29.25	3,983.91	29.96	18.38	16.61	0.20	0.18	9.28	
4,072.80	0.72	38.59	4,072.55	30.82	18.97	17.15	0.16	0.10	10.54	
4,167.72	0.67	30.12	4,167.47	31.77	19.62	17.74	0.12	-0.05	-8.92	
4,262.64	0.85	13.54	4,262.38	32.93	20.06	18.12	0.30	0.19	-17.47	
4,357.56	1.00	17.95	4,357.28	34.41	20.48	18.45	0.17	0.16	4.65	
4,452.48	1.21	12.83	4,452.19	36.17	20.96	18.83	0.24	0.22	-5.39	



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Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,547.40	1.66	9.93	4,547.08	38.50	21.42	19.15	0.48	0.47	-3.06
4,642.32	2.10	18.00	4,641.95	41.51	22.20	19.75	0.54	0.46	8.50
4,737.24	2.03	14.69	4,736.80	44.79	23.16	20.52	0.15	-0.07	-3.49
4,832.16	2.16	16.86	4,831.66	48.13	24.10	21.27	0.16	0.14	2.29
4,927.08	2.08	18.64	4,926.52	51.47	25.17	22.14	0.11	-0.08	1.88
5,022.00	2.07	25.94	5,021.37	54.65	26.47	23.26	0.28	-0.01	7.69
5,119.00	2.55	15.69	5,118.30	58.30	27.82	24.39	0.65	0.49	-10.57
5,370.00	2.02	20.97	5,369.10	67.81	30.92	26.93	0.23	-0.21	2.10
5,433.00	2.11	29.23	5,432.05	69.86	31.88	27.77	0.49	0.14	13.11
5,590.00	0.70	142.52	5,589.02	71.62	33.88	29.66	1.57	-0.90	72.16
5,840.00	0.88	33.45	5,839.01	72.01	35.86	31.62	0.52	0.07	-43.63
6,097.00	0.53	333.42	6,095.99	74.72	36.42	32.02	0.30	-0.14	-23.36
6,345.00	0.79	334.30	6,343.97	77.28	35.17	30.62	0.10	0.10	0.35
6,597.00	1.06	21.94	6,595.94	81.01	35.28	30.52	0.31	0.11	18.90
6,848.00	0.62	359.35	6,846.92	84.52	36.13	31.17	0.22	-0.18	-9.00
7,099.00	0.97	55.69	7,097.89	87.08	37.87	32.75	0.32	0.14	22.45
7,350.00	0.62	6.47	7,348.87	89.63	39.78	34.51	0.29	-0.14	-19.61
7,601.00	0.79	352.05	7,599.85	92.69	39.70	34.25	0.10	0.07	-5.75
7,765.00	1.13	319.65	7,763.83	95.04	38.49	32.91	0.38	0.21	-19.76
7,801.00	0.88	293.87	7,799.83	95.42	38.01	32.41	1.42	-0.69	-71.61
7,833.00	0.70	136.90	7,831.83	95.38	37.92	32.32	4.84	-0.56	-490.53
7,864.00	2.78	114.76	7,862.81	94.93	38.73	33.15	6.93	6.71	-71.42
7,896.00	5.45	100.60	7,894.73	94.32	40.93	35.38	8.87	8.34	-44.25
7,927.00	8.62	94.88	7,925.49	93.85	44.69	39.17	10.46	10.23	-18.45
7,959.00	11.96	94.09	7,956.97	93.41	50.39	44.88	10.45	10.44	-2.47
7,992.00	14.25	98.22	7,989.11	92.59	57.82	52.35	7.49	6.94	12.52
8,023.00	17.32	101.65	8,018.94	91.11	66.12	60.72	10.35	9.90	11.06
8,055.00	21.72	99.19	8,049.09	89.20	76.64	71.33	13.98	13.75	-7.69
8,086.00	26.88	96.96	8,077.33	87.44	89.26	84.04	16.90	16.65	-7.19
8,117.00	31.57	94.18	8,104.38	85.99	104.32	99.15	15.75	15.13	-8.97
8,149.00	36.40	92.51	8,130.91	84.97	122.17	117.03	15.37	15.09	-5.22
8,180.00	41.24	93.65	8,155.05	83.91	141.57	136.46	15.78	15.61	3.68
8,211.00	46.25	97.08	8,177.45	81.88	162.90	157.87	17.88	16.16	11.06
8,243.00	50.73	101.07	8,198.65	78.07	186.54	181.69	16.82	14.00	12.47
8,274.00	54.69	104.11	8,217.43	72.68	210.60	206.02	14.97	12.77	9.81
8,306.00	58.30	106.05	8,235.10	65.73	236.35	232.14	12.36	11.28	6.06
8,337.00	63.04	106.83	8,250.28	58.08	262.26	258.45	15.45	15.29	2.52
8,368.00	68.76	107.54	8,262.93	49.72	289.29	285.91	18.57	18.45	2.29
8,400.00	74.74	107.80	8,272.95	40.50	318.23	315.34	18.70	18.69	0.81
8,431.00	79.23	108.77	8,279.93	31.03	346.90	344.51	14.80	14.48	3.13



Survey Report



Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB = -18.5 @ 3443.50usft (McVay 8)
Site:	Benson Deep AAS Federal Com	MD Reference:	KB = -18.5 @ 3443.50usft (McVay 8)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,463.00	82.66	107.28	8,284.96	21.25	376.94	375.07	11.66	10.72	-4.66	
8,494.00	85.56	107.01	8,288.14	12.16	406.41	405.02	9.39	9.35	-0.87	
8,525.00	88.81	107.98	8,289.67	2.86	435.93	435.03	10.94	10.48	3.13	
8,557.00	90.04	107.28	8,289.99	-6.84	466.43	466.04	4.42	3.84	-2.19	
8,601.28	89.79	105.13	8,290.05	-19.19	508.94	509.20	4.89	-0.55	-4.86	
500										
8,651.00	89.52	102.71	8,290.35	-31.15	557.20	558.07	4.89	-0.55	-4.86	
8,745.00	88.64	100.07	8,291.86	-49.71	649.33	651.12	2.96	-0.94	-2.81	
8,839.00	88.20	96.82	8,294.45	-63.51	742.26	744.70	3.49	-0.47	-3.46	
8,933.00	87.85	92.95	8,297.69	-71.51	835.85	838.59	4.13	-0.37	-4.12	
9,027.00	88.02	90.75	8,301.08	-74.54	929.73	932.49	2.35	0.18	-2.34	
9,092.70	89.42	90.63	8,302.55	-75.33	995.41	998.11	2.13	2.13	-0.18	
1000										
9,122.00	90.04	90.58	8,302.69	-75.64	1,024.71	1,027.37	2.13	2.13	-0.18	
9,216.00	90.66	90.67	8,302.11	-76.67	1,118.70	1,121.26	0.67	0.66	0.10	
9,310.00	89.43	92.18	8,302.04	-79.00	1,212.66	1,215.21	2.07	-1.31	1.61	
9,404.00	89.97	93.03	8,302.53	-83.28	1,306.57	1,309.20	1.07	0.57	0.90	
9,498.00	90.10	92.98	8,302.47	-88.20	1,400.44	1,403.19	0.15	0.14	-0.05	
9,593.00	90.40	95.94	8,302.06	-95.59	1,495.14	1,498.16	3.13	0.32	3.12	
9,595.62	90.36	95.95	8,302.04	-95.86	1,497.74	1,500.78	1.73	-1.71	0.28	
1500										
9,686.00	88.81	96.20	8,302.70	-105.42	1,587.61	1,591.05	1.73	-1.71	0.28	
9,781.00	88.90	96.64	8,304.60	-116.04	1,682.00	1,685.90	0.47	0.09	0.46	
9,875.00	89.69	94.18	8,305.75	-124.91	1,775.56	1,779.82	2.75	0.84	-2.62	
9,969.00	89.80	92.43	8,306.17	-130.32	1,869.40	1,873.81	1.87	0.12	-1.86	
10,063.00	91.01	91.63	8,305.51	-133.65	1,963.34	1,967.78	1.54	1.29	-0.85	
10,094.95	90.47	92.44	8,305.10	-134.79	1,995.26	1,999.72	3.04	-1.68	2.53	
2000										
10,157.00	89.43	94.01	8,305.15	-138.28	2,057.21	2,061.77	3.04	-1.68	2.53	
10,251.00	88.02	91.28	8,307.24	-142.62	2,151.08	2,155.73	3.27	-1.50	-2.90	
10,345.00	89.78	93.13	8,309.04	-146.23	2,244.98	2,249.69	2.72	1.87	1.97	
10,439.00	89.69	92.34	8,309.48	-150.72	2,338.87	2,343.68	0.85	-0.10	-0.84	
10,533.00	89.52	93.21	8,310.13	-155.27	2,432.76	2,437.67	0.94	-0.18	0.93	
10,595.17	89.46	92.58	8,310.68	-158.41	2,494.85	2,499.84	1.01	-0.09	-1.01	
2500										
10,628.00	89.43	92.25	8,311.00	-159.79	2,527.65	2,532.66	1.01	-0.09	-1.01	
10,722.00	87.82	93.31	8,313.25	-164.35	2,621.51	2,626.63	2.05	-1.71	1.13	
10,816.00	89.16	92.95	8,315.73	-169.48	2,715.33	2,720.59	1.48	1.43	-0.38	
10,910.00	88.90	93.30	8,317.32	-174.60	2,809.18	2,814.58	0.46	-0.28	0.37	
11,004.00	89.13	92.72	8,318.94	-179.54	2,903.03	2,908.56	0.66	0.24	-0.62	
11,095.34	89.08	92.26	8,320.36	-183.51	2,994.27	2,999.87	0.50	-0.05	-0.50	



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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3000									
11,098.00	89.08	92.25	8,320.41	-183.61	2,996.93	3,002.54	0.50	-0.05	-0.50
11,192.00	88.55	91.90	8,322.35	-187.02	3,090.85	3,096.50	0.68	-0.56	-0.37
11,286.00	88.81	94.18	8,324.52	-192.00	3,184.69	3,190.46	2.44	0.28	2.43
11,380.00	88.64	93.57	8,326.61	-198.35	3,278.45	3,284.43	0.67	-0.18	-0.65
11,474.00	88.46	93.30	8,328.99	-203.98	3,372.25	3,378.40	0.35	-0.19	-0.29
11,568.00	88.90	94.01	8,331.15	-209.97	3,466.03	3,472.38	0.89	0.47	0.76
11,595.59	88.82	93.62	8,331.70	-211.81	3,493.56	3,499.96	1.44	-0.30	-1.40
3500									
11,662.00	88.62	92.69	8,333.19	-215.46	3,559.85	3,566.35	1.44	-0.30	-1.40
11,757.00	89.80	92.41	8,334.50	-219.69	3,654.74	3,661.33	1.28	1.24	-0.29
11,850.00	89.69	91.90	8,334.91	-223.19	3,747.68	3,754.31	0.56	-0.12	-0.55
11,944.00	89.69	91.28	8,335.42	-225.80	3,841.64	3,848.27	0.66	0.00	-0.66
12,038.00	89.25	92.07	8,336.29	-228.54	3,935.59	3,942.22	0.96	-0.47	0.84
12,095.73	88.88	92.82	8,337.23	-231.00	3,993.26	3,999.94	1.45	-0.64	1.29
4000									
12,133.00	88.64	93.30	8,338.04	-232.99	4,030.47	4,037.20	1.45	-0.64	1.29
12,227.00	88.46	92.86	8,340.42	-238.04	4,124.30	4,131.17	0.51	-0.19	-0.47
12,321.00	88.37	94.09	8,343.02	-243.74	4,218.09	4,225.13	1.31	-0.10	1.31
12,415.00	88.64	93.74	8,345.47	-250.15	4,311.84	4,319.09	0.47	0.29	-0.37
12,509.00	88.90	93.39	8,347.49	-256.00	4,405.64	4,413.07	0.46	0.28	-0.37
12,595.90	88.73	93.39	8,349.28	-261.13	4,492.37	4,499.95	0.19	-0.19	0.00
4500									
12,603.00	88.72	93.39	8,349.44	-261.55	4,499.45	4,507.05	0.19	-0.19	0.00
12,698.00	88.55	93.04	8,351.70	-266.88	4,594.28	4,602.02	0.41	-0.18	-0.37
MWD Survey									
12,748.00	88.55	93.04	8,352.97	-269.53	4,644.19	4,652.01	0.00	0.00	0.00
Projection to Bit - TD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,698.00	8,351.70	-266.88	4,594.28	MWD Survey
12,748.00	8,352.97	-269.53	4,644.19	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____

**McVAY DRILLING COMPANY**

P.O. Box 2450
Hobbs, New Mexico 88241
(575) 397-3311
FAX: 39-DRILL

Well Name and Num: Benson Deep AAS Fed Com #2H
Location: Sec 33, T18S, R30E
Operator: Yates Petroleum
Drilling Contractor: McVay Drilling Company

The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>
0.64	150	2.55	5117	89.69	10439
0.64	340	2.11	5433	89.43	10628
0.96	578	0.88	5842	88.90	10910
0.60	883	0.53	6093	88.64	11380
0.58	1142	0.79	6345	89.80	11757
1.11	1392	1.06	6597	89.69	11850
0.90	1642	0.62	6848	89.69	11894
0.82	2146	0.97	7099	88.64	12133
1.03	2396	0.62	7350	88.64	12415
0.90	2865	0.88	7770	88.55	12698
0.57	3116	14.25	7992		
0.61	3361	26.88	8086		
0.46	3460	74.74	8400		
0.74	3714	89.52	8616		
0.50	3966	88.02	9027		
1.08	4406	89.97	9404		
2.57	4940	91.01	10063		

By: Hulio Crane

Subscribed and sworn to before me this 9th day of January, 2014

Tina FLEMENS
Notary Public, Lea County, New Mexico

