

30-015-37615



Yates Petroleum Corp.

Eddy County
Culebra "BLV" Federal
#1H
OH

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DEC 08 2010
HOBBSOCD

Survey: MWD #1

Pathfinder X & Y Survey Report

20 April, 2010

PATHFINDER

30-015-37615



Pathfinder
Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	Well1 @ 2970.50ft (26.5' KB ELEVATION)
Site:	Culebra "BLV" Federal	MD Reference:	Well1 @ 2970.50ft (26.5' KB ELEVATION)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Project:	Eddy County
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Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	Culebra "BLV" Federal
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Site Position:		Northing:	482,336.487 ft	Latitude:	32° 19' 32.350 N
From:	Map	Easting:	634,746.806 ft	Longitude:	104° 1' 51.342 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.16 °

Well:	#1H
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Well Position	+N/-S	0.00 ft	Northing:	482,336.487 ft	Latitude:	32° 19' 32.350 N
	+E/-W	0.00 ft	Easting:	634,746.806 ft	Longitude:	104° 1' 51.342 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	2,944.00 ft

Wellbore:	OH
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	03/12/2010	7.96	60.23	48,755

Design:	OH
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	92.11

Survey Program	Date	04/20/2010
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From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
200.00	7,850.00	Pilot Hole (OH)	MWD	MWD - Standard



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

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
0.00	0.00	0.00	0.00	-2,970.50	0.00	0.00	0.00	0.00	482,336.49	634,746.81	
200.00	1.25	348.71	199.98	-2,770.52	2.14	-0.43	-0.51	0.62	482,338.63	634,746.38	
400.00	1.00	223.17	399.97	-2,570.53	3.01	-2.05	-2.16	1.00	482,339.49	634,744.76	
481.00	1.06	192.89	480.95	-2,489.55	1.76	-2.70	-2.76	0.67	482,338.25	634,744.11	
572.00	1.06	187.09	571.94	-2,398.56	0.10	-2.99	-2.99	0.12	482,336.59	634,743.82	
693.00	0.70	163.71	692.92	-2,277.58	-1.72	-2.92	-2.86	0.41	482,334.77	634,743.88	
881.00	1.14	202.73	880.90	-2,089.60	-4.54	-3.32	-3.15	0.39	482,331.94	634,743.48	
975.00	1.67	211.61	974.87	-1,995.63	-6.57	-4.40	-4.16	0.61	482,329.91	634,742.40	
1,069.00	0.44	220.22	1,068.85	-1,901.65	-8.01	-5.35	-5.05	1.32	482,328.47	634,741.45	
1,164.00	0.88	247.47	1,163.85	-1,806.65	-8.57	-6.26	-5.94	0.56	482,327.91	634,740.54	
1,258.00	1.76	237.27	1,257.82	-1,712.68	-9.63	-8.14	-7.78	0.97	482,326.86	634,738.66	
1,352.00	1.06	252.21	1,351.79	-1,618.71	-10.68	-10.19	-9.79	0.84	482,325.81	634,736.62	
1,446.00	1.32	240.79	1,445.77	-1,524.73	-11.47	-11.96	-11.53	0.37	482,325.02	634,734.85	
1,540.00	0.18	34.33	1,539.77	-1,430.73	-11.88	-12.82	-12.37	1.58	482,324.61	634,733.99	
1,635.00	0.44	6.82	1,634.76	-1,335.74	-11.39	-12.69	-12.26	0.31	482,325.10	634,734.11	
1,729.00	0.53	325.25	1,728.76	-1,241.74	-10.68	-12.90	-12.50	0.38	482,325.81	634,733.91	
1,823.00	0.53	325.87	1,822.76	-1,147.74	-9.96	-13.39	-13.01	0.01	482,326.53	634,733.42	
1,917.00	0.35	58.50	1,916.76	-1,053.74	-9.45	-13.39	-13.03	0.69	482,327.04	634,733.42	
2,012.00	0.79	112.91	2,011.75	-958.75	-9.55	-12.54	-12.18	0.69	482,326.94	634,734.27	
2,106.00	1.41	113.26	2,105.73	-864.77	-10.26	-10.88	-10.49	0.66	482,326.23	634,735.93	
2,200.00	0.26	342.30	2,199.72	-770.78	-10.51	-9.88	-9.49	1.69	482,325.97	634,736.93	
2,294.00	0.53	130.66	2,293.72	-676.78	-10.59	-9.62	-9.22	0.81	482,325.89	634,737.19	
2,389.00	1.14	120.47	2,388.71	-581.79	-11.36	-8.47	-8.04	0.66	482,325.13	634,738.34	
2,483.00	0.70	153.60	2,482.70	-487.80	-12.35	-7.41	-6.95	0.72	482,324.14	634,739.40	
2,589.00	0.97	135.60	2,588.69	-381.81	-13.57	-6.49	-5.99	0.35	482,322.92	634,740.32	
2,732.00	0.97	136.29	2,731.67	-238.83	-15.31	-4.81	-4.24	0.01	482,321.18	634,742.00	
2,920.00	1.06	134.09	2,919.64	-50.86	-17.67	-2.46	-1.81	0.05	482,318.82	634,744.35	



Pathfinder
Pathfinder X & Y Survey Report



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Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V: Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
3,108.00	0.97	189.46	3,107.61	137.11	-20.45	-1.47	-0.72	0.50	482,316.04	634,745.33
3,297.00	1.14	22.47	3,296.60	326.10	-20.29	-1.02	-0.27	1.11	482,316.20	634,745.79
3,484.00	1.23	24.67	3,483.56	513.06	-16.75	0.53	1.15	0.05	482,319.74	634,747.34
3,673.00	1.23	23.52	3,672.52	702.02	-13.04	2.19	2.67	0.01	482,323.44	634,749.00
3,861.00	1.32	21.94	3,860.47	889.97	-9.18	3.80	4.14	0.05	482,327.30	634,750.61
4,049.00	1.23	20.18	4,048.43	1,077.93	-5.28	5.31	5.50	0.05	482,331.21	634,752.11
4,237.00	1.06	14.21	4,236.39	1,265.89	-1.70	6.43	6.49	0.11	482,334.78	634,753.24
4,425.00	0.97	10.43	4,424.36	1,453.86	1.55	7.15	7.08	0.06	482,338.04	634,753.95
4,613.00	0.88	11.31	4,612.34	1,641.84	4.53	7.72	7.55	0.05	482,341.02	634,754.52
4,800.00	0.70	15.35	4,799.32	1,828.82	7.04	8.30	8.04	0.10	482,343.53	634,755.11
4,988.00	0.44	36.53	4,987.31	2,016.81	8.73	9.04	8.71	0.18	482,345.21	634,755.84
5,177.00	0.53	32.84	5,176.30	2,205.80	10.04	9.94	9.57	0.05	482,346.53	634,756.75
5,364.00	0.44	327.10	5,363.30	2,392.80	11.37	10.02	9.60	0.28	482,347.86	634,756.83
5,422.00	0.44	338.64	5,421.29	2,450.79	11.77	9.82	9.38	0.15	482,348.25	634,756.62
5,453.00	0.88	52.91	5,452.29	2,481.79	12.02	9.97	9.52	2.81	482,348.51	634,756.77
5,485.00	2.99	73.06	5,484.27	2,513.77	12.41	10.96	10.50	6.83	482,348.90	634,757.77
5,516.00	7.21	76.13	5,515.14	2,544.64	13.12	13.62	13.13	13.64	482,349.60	634,760.43
5,547.00	11.87	77.00	5,545.71	2,575.21	14.30	18.62	18.08	15.04	482,350.79	634,765.43
5,579.00	16.00	78.29	5,576.76	2,606.26	15.94	26.15	25.54	12.94	482,352.42	634,772.96
5,610.00	19.08	81.31	5,606.31	2,635.81	17.57	35.34	34.67	10.36	482,354.06	634,782.15
5,641.00	22.25	84.79	5,635.32	2,664.82	18.87	46.20	45.47	10.96	482,355.36	634,793.01
5,673.00	25.24	85.88	5,664.60	2,694.10	19.91	59.04	58.27	9.44	482,356.40	634,805.85
5,704.00	27.79	86.38	5,692.34	2,721.84	20.84	72.85	72.03	8.26	482,357.33	634,819.65
5,736.00	29.81	87.77	5,720.38	2,749.88	21.62	88.24	87.39	6.65	482,358.11	634,835.05
5,767.00	32.10	90.34	5,746.97	2,776.47	21.87	104.18	103.31	8.53	482,358.36	634,850.99
5,799.00	34.29	93.09	5,773.74	2,803.24	21.34	121.69	120.82	8.30	482,357.82	634,868.49
5,830.00	35.96	94.81	5,799.10	2,828.60	20.10	139.48	138.64	6.26	482,356.59	634,886.29



Pathfinder
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Site:	Culebra "BLV" Federal	MD Reference:	Well1 @ 2970.50ft (26.5' KB ELEVATION)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec. (ft)	DLeg (2/100ft)	Northing (ft)	Easting (ft)
5,862.00	39.04	95.31	5,824.48	2,853.98	18.38	158.88	158.10	9.67	482,354.87	634,905.69
5,893.00	41.77	94.61	5,848.09	2,877.59	16.65	178.90	178.16	8.93	482,353.13	634,925.70
5,925.00	45.29	93.66	5,871.28	2,900.78	15.06	200.88	200.19	11.19	482,351.55	634,947.68
5,956.00	48.36	93.01	5,892.49	2,921.99	13.75	223.44	222.78	10.02	482,350.24	634,970.25
5,987.00	51.53	92.55	5,912.44	2,941.94	12.60	247.14	246.51	10.29	482,349.09	634,993.95
6,019.00	54.52	92.60	5,931.68	2,961.18	11.45	272.68	272.07	9.34	482,347.94	635,019.48
6,050.00	57.24	93.27	5,949.07	2,978.57	10.14	298.30	297.73	8.95	482,346.63	635,045.11
6,081.00	59.09	93.77	5,965.42	2,994.92	8.52	324.59	324.06	6.12	482,345.01	635,071.40
6,113.00	61.99	93.71	5,981.16	3,010.66	6.70	352.39	351.90	9.06	482,343.19	635,099.20
6,144.00	64.63	93.43	5,995.08	3,024.58	4.98	380.03	379.59	8.55	482,341.47	635,126.84
6,175.00	68.24	93.09	6,007.47	3,036.97	3.37	408.39	407.99	11.69	482,339.85	635,155.20
6,207.00	70.43	93.35	6,018.77	3,048.27	1.68	438.29	437.93	6.89	482,338.17	635,185.09
6,238.00	72.81	93.36	6,028.54	3,058.04	-0.04	467.65	467.34	7.68	482,336.45	635,214.46
6,270.00	74.74	93.02	6,037.48	3,066.98	-1.75	498.33	498.05	6.12	482,334.74	635,245.13
6,301.00	77.21	91.61	6,044.99	3,074.49	-2.96	528.38	528.13	9.11	482,333.53	635,275.18
6,331.00	79.49	90.41	6,051.05	3,080.55	-3.48	557.75	557.50	8.55	482,333.01	635,304.56
6,363.00	82.75	89.44	6,055.99	3,085.49	-3.43	589.36	589.09	10.62	482,333.05	635,336.17
6,394.00	86.70	89.72	6,058.84	3,088.34	-3.21	620.23	619.92	12.77	482,333.28	635,367.03
6,425.00	87.85	89.73	6,060.31	3,089.81	-3.06	651.19	650.86	3.71	482,333.43	635,398.00
6,456.00	88.81	89.94	6,061.22	3,090.72	-2.97	682.18	681.82	3.17	482,333.52	635,428.98
6,486.00	89.25	89.55	6,061.72	3,091.22	-2.84	712.17	711.79	1.96	482,333.65	635,458.98
6,561.00	89.96	90.29	6,062.24	3,091.74	-2.73	787.17	786.73	1.37	482,333.75	635,533.97
6,656.00	90.31	91.75	6,062.02	3,091.52	-4.42	882.15	881.71	1.58	482,332.06	635,628.96
6,750.00	89.60	90.13	6,062.09	3,091.59	-5.97	976.13	975.69	1.88	482,330.52	635,722.94
6,844.00	88.72	90.68	6,063.47	3,092.97	-6.63	1,070.12	1,069.64	1.10	482,329.86	635,816.93
6,938.00	88.46	91.47	6,065.78	3,095.28	-8.39	1,164.07	1,163.59	0.88	482,328.09	635,910.88
7,033.00	89.43	90.88	6,067.53	3,097.03	-10.34	1,259.04	1,258.56	1.20	482,326.15	636,005.84



Pathfinder
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Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
7,127.00	88.02	92.92	6,069.62	3,099.12	-13.46	1,352.95	1,352.53	2.64	482,323.03	636,099.76
7,221.00	88.99	92.52	6,072.08	3,101.58	-17.91	1,446.81	1,446.49	1.12	482,318.57	636,193.62
7,315.00	88.81	92.69	6,073.88	3,103.38	-22.19	1,540.70	1,540.47	0.26	482,314.30	636,287.51
7,409.00	88.99	93.42	6,075.68	3,105.18	-27.20	1,634.55	1,634.44	0.80	482,309.29	636,381.35
7,504.00	89.25	93.35	6,077.14	3,106.64	-32.80	1,729.37	1,729.41	0.28	482,303.68	636,476.18
7,598.00	88.29	93.66	6,079.16	3,108.66	-38.55	1,823.17	1,823.36	1.07	482,297.94	636,569.98
7,692.00	89.34	91.53	6,081.11	3,110.61	-42.80	1,917.05	1,917.33	2.53	482,293.68	636,663.86
7,787.00	88.37	91.84	6,083.00	3,112.50	-45.60	2,011.99	2,012.30	1.07	482,290.89	636,758.79
7,882.00	89.08	89.94	6,085.12	3,114.62	-47.07	2,106.95	2,107.25	2.13	482,289.42	636,853.75
7,975.00	90.66	90.65	6,085.33	3,114.83	-47.55	2,199.94	2,200.20	1.86	482,288.94	636,946.75
8,069.00	91.63	89.45	6,083.45	3,112.95	-47.63	2,293.92	2,294.12	1.64	482,288.85	637,040.73
8,163.00	90.84	90.06	6,081.42	3,110.92	-47.23	2,387.90	2,388.02	1.06	482,289.26	637,134.70
8,258.00	91.10	88.12	6,079.82	3,109.32	-45.72	2,482.87	2,482.87	2.06	482,290.76	637,229.67
8,352.00	90.40	89.26	6,078.59	3,108.09	-43.57	2,576.83	2,576.69	1.42	482,292.91	637,323.64
8,446.00	91.10	88.12	6,077.36	3,106.86	-41.42	2,670.80	2,670.51	1.42	482,295.06	637,417.60
8,540.00	90.40	88.97	6,076.12	3,105.62	-39.04	2,764.76	2,764.32	1.17	482,297.45	637,511.56
8,609.00	90.84	88.25	6,075.38	3,104.88	-37.36	2,833.73	2,833.19	1.22	482,299.12	637,580.54
8,703.00	90.22	88.56	6,074.51	3,104.01	-34.75	2,927.69	2,926.99	0.74	482,301.74	637,674.50
8,797.00	90.48	89.30	6,073.93	3,103.43	-32.99	3,021.67	3,020.84	0.83	482,303.49	637,768.48
8,891.00	90.31	89.11	6,073.29	3,102.79	-31.69	3,115.66	3,114.72	0.27	482,304.80	637,862.47
8,984.00	90.48	88.90	6,072.65	3,102.15	-30.07	3,208.65	3,207.58	0.29	482,306.41	637,955.45
9,078.00	90.48	91.22	6,071.86	3,101.36	-30.17	3,302.64	3,301.51	2.47	482,306.31	638,049.44
9,172.00	90.31	91.22	6,071.21	3,100.71	-32.17	3,396.61	3,395.49	0.18	482,304.31	638,143.42
9,266.00	90.13	91.73	6,070.85	3,100.35	-34.59	3,490.58	3,489.49	0.58	482,301.89	638,237.39
9,361.00	90.57	92.30	6,070.27	3,099.77	-37.93	3,585.52	3,584.49	0.76	482,298.55	638,332.33
9,455.00	91.01	92.47	6,068.97	3,098.47	-41.84	3,679.43	3,678.47	0.50	482,294.64	638,426.23
9,549.00	90.13	92.99	6,068.04	3,097.54	-46.32	3,773.32	3,772.46	1.09	482,290.17	638,520.12



Pathfinder

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Project	Eddy County	TVD Reference	Well1 @ 2970.50ft (26.5' KB ELEVATION)
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Well	#1H	North Reference	Grid
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Design	OH	Database	Midland Database

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
9,644.00	90.31	92.82	6,067.67	3,097.17	-51.14	3,868.19	3,867.45	0.26	482,285.35	638,615.00
9,738.00	90.57	93.15	6,066.95	3,096.45	-56.03	3,962.06	3,961.44	0.45	482,280.46	638,708.87
9,832.00	90.57	93.25	6,066.02	3,095.52	-61.28	4,055.91	4,055.42	0.11	482,275.21	638,802.72
9,926.00	90.66	93.21	6,065.01	3,094.51	-66.57	4,149.76	4,149.39	0.10	482,269.91	638,896.56
10,020.00	90.75	93.41	6,063.85	3,093.35	-72.00	4,243.59	4,243.37	0.23	482,264.49	638,990.40
10,115.00	90.13	93.58	6,063.12	3,092.62	-77.79	4,338.41	4,338.34	0.68	482,258.69	639,085.22
10,209.00	90.04	93.08	6,062.98	3,092.48	-83.25	4,432.25	4,432.31	0.54	482,253.23	639,179.06
10,303.00	90.13	91.99	6,062.84	3,092.34	-87.41	4,526.16	4,526.31	1.16	482,249.08	639,272.97
10,398.00	90.13	92.11	6,062.63	3,092.13	-90.81	4,621.10	4,621.31	0.13	482,245.68	639,367.91
10,493.00	89.96	92.71	6,062.55	3,092.05	-94.80	4,716.01	4,716.31	0.66	482,241.68	639,462.82
10,541.00	90.04	92.55	6,062.55	3,092.05	-97.01	4,763.96	4,764.31	0.37	482,239.48	639,510.77
10,636.00	90.66	92.56	6,061.97	3,091.47	-101.24	4,858.87	4,859.30	0.65	482,235.25	639,605.67
10,730.00	88.90	91.42	6,062.33	3,091.83	-104.50	4,952.80	4,953.29	2.23	482,231.98	639,699.61
10,824.00	89.60	92.25	6,063.56	3,093.06	-107.51	5,046.75	5,047.28	1.16	482,228.97	639,793.55
10,918.00	90.57	91.98	6,063.42	3,092.92	-110.98	5,140.68	5,141.28	1.07	482,225.50	639,887.49
11,013.00	90.66	92.55	6,062.40	3,091.90	-114.74	5,235.60	5,236.28	0.61	482,221.75	639,982.41
11,107.00	91.28	92.99	6,060.81	3,090.31	-119.28	5,329.48	5,330.26	0.81	482,217.21	640,076.28
11,201.00	90.48	92.65	6,059.37	3,088.87	-123.90	5,423.35	5,424.24	0.92	482,212.58	640,170.16
11,295.00	89.87	92.78	6,059.08	3,088.58	-128.36	5,517.25	5,518.23	0.66	482,208.13	640,264.05
11,390.00	89.34	92.18	6,059.74	3,089.24	-132.47	5,612.15	5,613.23	0.84	482,204.02	640,358.96
11,485.00	89.16	91.31	6,060.98	3,090.48	-135.36	5,707.10	5,708.21	0.94	482,201.13	640,453.91
11,579.00	89.78	91.14	6,061.85	3,091.35	-137.37	5,801.07	5,802.20	0.68	482,199.12	640,547.88
11,609.00	88.90	91.55	6,062.19	3,091.69	-138.07	5,831.06	5,832.19	3.24	482,198.41	640,577.87
11,642.00	87.41	90.94	6,063.26	3,092.76	-138.79	5,864.04	5,865.17	4.88	482,197.70	640,610.84
11,673.00	86.17	90.05	6,064.99	3,094.49	-139.06	5,894.99	5,896.11	4.92	482,197.43	640,641.79
11,701.00	86.70	90.26	6,066.73	3,096.23	-139.13	5,922.93	5,924.04	2.04	482,197.35	640,669.74
11,736.00	87.76	89.88	6,068.43	3,097.93	-139.18	5,957.89	5,958.98	3.22	482,197.31	640,704.70



Pathfinder
Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	Well1 @ 2970.50R (26.5' KB ELEVATION)
Site:	Culebra "BLV" Federal	MD Reference:	Well1 @ 2970.50R (26.5' KB ELEVATION)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
11,767.00	88.72	90.77	6,069.38	3,098.88	-139.35	5,988.88	5,989.95	4.22	482,197.14	640,735.68
11,799.00	89.25	91.34	6,069.94	3,099.44	-139.94	6,020.86	6,021.93	2.43	482,196.55	640,767.67
11,830.00	88.55	91.20	6,070.54	3,100.04	-140.63	6,051.85	6,052.93	2.30	482,195.86	640,798.66
11,861.00	87.14	89.89	6,071.71	3,101.21	-140.92	6,082.83	6,083.89	6.21	482,195.57	640,829.63
11,893.00	87.23	89.60	6,073.28	3,102.78	-140.78	6,114.79	6,115.82	0.95	482,195.71	640,861.59
11,925.00	87.76	89.54	6,074.68	3,104.18	-140.54	6,146.76	6,147.76	1.67	482,195.95	640,893.56
11,956.00	87.67	88.71	6,075.91	3,105.41	-140.07	6,177.73	6,178.70	2.69	482,196.42	640,924.53
11,988.00	87.49	88.30	6,077.26	3,106.76	-139.23	6,209.69	6,210.60	1.40	482,197.25	640,956.49
12,019.00	89.08	89.21	6,078.19	3,107.69	-138.56	6,240.67	6,241.54	5.91	482,197.93	640,987.47
12,051.00	89.52	89.84	6,078.58	3,108.08	-138.29	6,272.66	6,273.50	2.40	482,198.19	641,019.47
12,082.00	87.58	88.59	6,079.37	3,108.87	-137.87	6,303.65	6,304.45	7.44	482,198.62	641,050.45
12,113.00	88.55	88.19	6,080.41	3,109.91	-137.00	6,334.62	6,335.37	3.38	482,199.49	641,081.42
12,145.00	89.78	87.84	6,080.88	3,110.38	-135.89	6,366.59	6,367.28	4.00	482,200.60	641,113.40
12,176.00	88.11	87.90	6,081.45	3,110.95	-134.74	6,397.57	6,398.19	5.39	482,201.75	641,144.37
12,208.00	88.55	87.36	6,082.38	3,111.88	-133.42	6,429.52	6,430.08	2.18	482,203.07	641,176.33
12,239.00	89.60	88.14	6,082.88	3,112.38	-132.20	6,460.50	6,460.98	4.22	482,204.29	641,207.30
12,270.00	87.32	87.75	6,083.72	3,113.22	-131.09	6,491.46	6,491.89	7.46	482,205.40	641,238.27
12,301.00	86.70	87.70	6,085.33	3,114.83	-129.86	6,522.40	6,522.75	2.01	482,206.63	641,269.20
12,333.00	86.79	87.80	6,087.15	3,116.65	-128.61	6,554.32	6,554.61	0.42	482,207.88	641,301.13
12,364.00	86.53	88.45	6,088.96	3,118.46	-127.59	6,585.25	6,585.48	2.25	482,208.89	641,332.06
12,427.00	87.49	88.49	6,092.24	3,121.74	-125.91	6,648.14	6,648.27	1.53	482,210.57	641,394.95
12,458.00	88.46	89.44	6,093.34	3,122.84	-125.35	6,679.12	6,679.20	4.38	482,211.13	641,425.92
12,490.00	88.90	90.10	6,094.07	3,123.57	-125.22	6,711.11	6,711.17	2.48	482,211.26	641,457.91
12,521.00	88.20	90.50	6,094.86	3,124.36	-125.39	6,742.10	6,742.14	2.60	482,211.10	641,488.90
12,615.00	88.72	89.68	6,097.39	3,126.89	-125.53	6,836.06	6,836.05	1.03	482,210.95	641,582.87
12,707.00	89.34	88.56	6,098.94	3,128.44	-124.12	6,928.03	6,927.91	1.39	482,212.37	641,674.84
12,739.00	88.72	89.29	6,099.48	3,128.98	-123.52	6,960.02	6,959.85	2.99	482,212.97	641,706.83



Pathfinder
Pathfinder X & Y Survey Report



Company	Yates Petroleum Corp.	Local Co-ordinate Reference	Well #1H
Project	Eddy County	TVD Reference	Well1 @ 2970.50ft (26.5' KB ELEVATION)
Site	Culebra "BLV" Federal	MD Reference	Well1 @ 2970.50ft (26.5' KB ELEVATION)
Well	#1H	North Reference	Grid
Wellbore	OH	Survey Calculation Method	Minimum Curvature
Design	OH	Database	Midland Database

MD	Inc	Azi	TVD	TVDSS	N/S	E/W	V. Sec	DLeg	Northing	Easting
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(ft)	(ft)
12,805.00	88.72	89.29	6,100.96	3,130.46	-122.70	7,026.00	7,025.76	0.00	482,213.78	641,772.81
BHL-12805.00°MD,88.72°INC,89.29°AZI, 6100.96°TVD, 7025.76°VS, -122.70°N; 7026.00°E										

Target Name	Dip Angle	Dip Dir	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude
hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
PBHL(CULBRERA#11	0.00	0.00	6,180.00	-166.58	7,025.47	482,169.908	641,772.272	32° 19' 30.498 N	104° 0' 29.469 W
- survey misses target center by 90.40ft at 12805.00ft MD (6100.96 TVD, -122.70 N, 7026.00 E)									
- Point									

Measured Depth	Vertical Depth	Local Coordinates	Comment
(ft)	(ft)	+N/S (ft) +E/W (ft)	
12,805.00	6,100.96	-122.70 7,026.00	BHL-12805.00°MD,88.72°INC,89.29°AZI, 6100.96°TVD, 7025.76°VS, -1:

Checked By: _____ Approved By: _____ Date: _____