

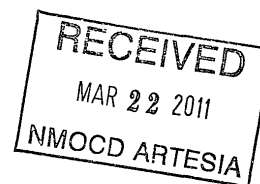


Yates Petroleum Corp.

Eddy County
Cassiopeia "BQD" State Com
#1H
OH

30-015-38082

Survey: MWD #1



Pathfinder X & Y Survey Report

13 December, 2010

PATHFINDER[®]

A Schlumberger Company



Pathfinder
Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	Patriot #5 @ 3121.50ft (26.5' KB Correction)
Site:	Cassiopeia "BQD" State Com	MD Reference:	Patriot #5 @ 3121.50ft (26.5' KB Correction)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

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

Site	Cassiopeia "BQD" State Com				
Site Position:		Northing:	371,035.375 ft	Latitude:	32° 1' 11.683 N
From:	Map	Easting:	600,627.308 ft	Longitude:	104° 8' 31.298 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.10 °

Well	#1H					
Well Position	+N/-S	0.00 ft	Northing:	371,035.375 ft	Latitude:	32° 1' 11.683 N
	+E/-W	0.00 ft	Easting:	600,627.308 ft	Longitude:	104° 8' 31.298 W
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,095.00 ft	

Wellbore	OH
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/22/10	7.90	59.91	48,486

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

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	359.69

Survey Program		Date 12/13/10		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
200.00	11,340.00	MWD #1 (OH)	MWD	MWD - Standard

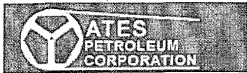


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Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

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	0.00	-3,121.50	0.00	0.00	0.00	0.00	371,035.38	600,627.31
200.00	0.50	359.65	200.00	-2,921.50	0.87	-0.01	0.87	0.25	371,036.25	600,627.30	
400.00	0.25	47.57	399.99	-2,721.51	2.04	0.31	2.04	0.19	371,037.41	600,627.62	
475.00	0.53	128.98	474.99	-2,646.51	1.93	0.70	1.93	0.73	371,037.31	600,628.01	
566.00	1.06	125.73	565.98	-2,555.52	1.18	1.71	1.17	0.58	371,036.55	600,629.02	
665.00	0.97	110.51	664.97	-2,456.53	0.35	3.24	0.33	0.29	371,035.72	600,630.55	
760.00	0.88	108.40	759.96	-2,361.54	-0.16	4.69	-0.19	0.10	371,035.21	600,631.99	
854.00	0.62	108.00	853.95	-2,267.55	-0.55	5.85	-0.58	0.28	371,034.83	600,633.16	
948.00	0.26	226.12	947.95	-2,173.55	-0.85	6.18	-0.89	0.83	371,034.52	600,633.49	
1,043.00	0.79	242.90	1,042.94	-2,078.56	-1.30	5.45	-1.33	0.58	371,034.07	600,632.75	
1,137.00	1.32	227.18	1,136.92	-1,984.58	-2.33	4.08	-2.36	0.64	371,033.04	600,631.38	
1,231.00	0.70	122.23	1,230.92	-1,890.58	-3.38	3.77	-3.40	1.75	371,032.00	600,631.07	
1,325.00	0.79	144.32	1,324.91	-1,796.59	-4.21	4.63	-4.23	0.32	371,031.17	600,631.94	
1,420.00	1.14	126.37	1,419.89	-1,701.61	-5.30	5.77	-5.33	0.48	371,030.07	600,633.08	
1,513.00	0.26	63.98	1,512.89	-1,608.61	-5.76	6.71	-5.79	1.12	371,029.62	600,634.02	
1,607.00	1.06	98.08	1,606.88	-1,514.62	-5.79	7.76	-5.83	0.91	371,029.59	600,635.07	
1,701.00	0.35	110.59	1,700.87	-1,420.63	-6.01	8.89	-6.06	0.77	371,029.37	600,636.20	
1,796.00	0.44	88.39	1,795.87	-1,325.63	-6.10	9.53	-6.15	0.19	371,029.27	600,636.83	
1,890.00	1.32	94.51	1,889.86	-1,231.64	-6.18	10.97	-6.23	0.94	371,029.20	600,638.27	
1,984.00	1.67	89.35	1,983.83	-1,137.67	-6.25	13.42	-6.32	0.40	371,029.13	600,640.72	
2,078.00	0.62	76.55	2,077.81	-1,043.69	-6.11	15.28	-6.19	1.14	371,029.26	600,642.59	
2,172.00	0.26	296.51	2,171.80	-949.70	-5.90	15.58	-5.98	0.89	371,029.48	600,642.89	
2,267.00	0.97	288.23	2,266.80	-854.70	-5.55	14.63	-5.63	0.75	371,029.82	600,641.93	
2,361.00	1.14	286.89	2,360.78	-760.72	-5.03	12.98	-5.10	0.18	371,030.35	600,640.28	
2,456.00	1.06	284.57	2,455.77	-665.73	-4.53	11.22	-4.59	0.10	371,030.84	600,638.53	
2,644.00	1.32	295.22	2,643.72	-477.78	-3.17	7.58	-3.21	0.18	371,032.20	600,634.89	
2,807.00	1.23	295.71	2,806.68	-314.82	-1.61	4.30	-1.64	0.06	371,033.76	600,631.61	



Pathfinder
Pathfinder X & Y Survey Report



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Project:	Eddy County	TVD Reference:	Patriot #5 @ 3121.50ft (26.5' KB Correction)
Site:	Cassiopeia "BQD" State Com	MD Reference:	Patriot #5 @ 3121.50ft (26.5' KB Correction)
Well:	#1H	North Reference:	Grid
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)	
2,920.00	0.97	275.52	2,919.66	-201.84	-1.00	2.26	-1.01	0.41	371,034.38	600,629.57	
3,108.00	0.88	270.69	3,107.64	-13.86	-0.83	-0.77	-0.82	0.06	371,034.55	600,626.54	
3,296.00	0.88	269.04	3,295.62	174.12	-0.83	-3.65	-0.81	0.01	371,034.54	600,623.65	
3,484.00	0.97	271.29	3,483.59	362.09	-0.82	-6.69	-0.79	0.05	371,034.55	600,620.62	
3,672.00	0.88	289.62	3,671.57	550.07	-0.30	-9.64	-0.25	0.16	371,035.07	600,617.67	
3,767.00	0.97	224.35	3,766.56	645.06	-0.63	-10.89	-0.57	1.05	371,034.74	600,616.42	
3,954.00	0.97	212.81	3,953.53	832.03	-3.09	-12.85	-3.02	0.10	371,032.28	600,614.45	
4,142.00	0.97	218.79	4,141.51	1,020.01	-5.67	-14.71	-5.59	0.05	371,029.70	600,612.60	
4,331.00	1.41	111.83	4,330.48	1,208.98	-7.78	-13.56	-7.71	1.02	371,027.59	600,613.75	
4,519.00	1.06	132.32	4,518.44	1,396.94	-9.81	-10.12	-9.76	0.30	371,025.56	600,617.19	
4,707.00	0.79	134.32	4,706.41	1,584.91	-11.89	-7.91	-11.85	0.14	371,023.49	600,619.40	
4,896.00	0.62	154.53	4,895.40	1,773.90	-13.72	-6.54	-13.69	0.16	371,021.65	600,620.77	
5,084.00	1.49	79.70	5,083.37	1,961.87	-14.20	-3.70	-14.18	0.77	371,021.17	600,623.61	
5,272.00	1.32	94.10	5,271.32	2,149.82	-13.92	0.87	-13.93	0.21	371,021.45	600,628.18	
5,367.00	1.32	82.16	5,366.29	2,244.79	-13.85	3.04	-13.87	0.29	371,021.52	600,630.35	
5,462.00	1.41	92.82	5,461.26	2,339.76	-13.76	5.30	-13.79	0.28	371,021.62	600,632.60	
5,555.00	0.62	84.86	5,554.25	2,432.75	-13.77	6.94	-13.81	0.86	371,021.60	600,634.25	
5,650.00	1.14	6.06	5,649.24	2,527.74	-12.79	7.55	-12.83	1.25	371,022.59	600,634.86	
5,744.00	1.58	353.58	5,743.21	2,621.71	-10.57	7.51	-10.61	0.56	371,024.81	600,634.81	
5,806.00	1.32	354.01	5,805.19	2,683.69	-9.01	7.34	-9.05	0.42	371,026.37	600,634.64	
KOP-5806.00°MD,1.32°INC,354.01°AZI,5805.19°TVD											
5,871.00	3.96	0.20	5,870.12	2,748.62	-6.02	7.27	-6.06	4.08	371,029.36	600,634.57	
5,902.00	9.06	4.65	5,900.91	2,779.41	-2.51	7.47	-2.55	16.52	371,032.86	600,634.77	
5,934.00	13.81	3.17	5,932.26	2,810.76	3.82	7.88	3.77	14.87	371,039.19	600,635.19	
5,965.00	16.53	3.59	5,962.18	2,840.68	11.91	8.36	11.87	8.78	371,047.29	600,635.67	
5,996.00	19.17	2.82	5,991.69	2,870.19	21.40	8.89	21.35	8.55	371,056.77	600,636.20	
6,059.00	25.15	1.22	6,050.01	2,928.51	45.14	9.68	45.08	9.54	371,080.51	600,636.99	



Pathfinder
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Company: Yates Petroleum Corp.
Project: Eddy County
Site: Cassiopeia "BQD" State Com
Well: #1H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #1H
TVD Reference: Patriot #5 @ 3121.50ft (26.5' KB Correction)
MD Reference: Patriot #5 @ 3121.50ft (26.5' KB Correction)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)	
6,091.00	27.70	1.45	6,078.66	2,957.16	59.37	10.02	59.32	7.98	371,094.75	600,637.33	
6,122.00	29.63	0.14	6,105.86	2,984.36	74.24	10.22	74.18	6.55	371,109.61	600,637.53	
6,153.00	31.83	359.56	6,132.51	3,011.01	90.08	10.17	90.02	7.16	371,125.45	600,637.48	
6,185.00	34.29	358.50	6,159.32	3,037.82	107.53	9.87	107.48	7.90	371,142.91	600,637.18	
6,216.00	37.28	357.78	6,184.47	3,062.97	125.65	9.28	125.59	9.74	371,161.02	600,636.59	
6,248.00	40.10	358.29	6,209.44	3,087.94	145.64	8.60	145.59	8.87	371,181.01	600,635.91	
6,279.00	43.09	359.02	6,232.63	3,111.13	166.21	8.12	166.16	9.77	371,201.58	600,635.43	
6,310.00	45.81	359.45	6,254.75	3,133.25	187.91	7.83	187.87	8.83	371,223.29	600,635.14	
6,342.00	48.92	357.99	6,276.43	3,154.93	211.44	7.30	211.40	10.28	371,246.82	600,634.61	
6,374.00	51.70	356.70	6,296.86	3,175.36	236.04	6.15	236.00	9.22	371,271.41	600,633.46	
6,405.00	54.52	356.41	6,315.47	3,193.97	260.78	4.66	260.76	9.13	371,296.16	600,631.97	
6,437.00	57.33	356.96	6,333.39	3,211.89	287.24	3.13	287.22	8.90	371,322.62	600,630.44	
6,468.00	60.41	358.09	6,349.42	3,227.92	313.75	1.99	313.74	10.41	371,349.13	600,629.30	
6,499.00	63.83	359.25	6,363.91	3,242.41	341.14	1.36	341.13	11.52	371,376.52	600,628.67	
6,531.00	66.65	359.25	6,377.31	3,255.81	370.19	0.98	370.18	8.81	371,405.57	600,628.29	
6,562.00	69.62	358.87	6,388.86	3,267.36	398.96	0.50	398.95	9.65	371,434.33	600,627.81	
6,594.00	72.72	358.37	6,399.19	3,277.69	429.23	-0.23	429.23	9.80	371,464.61	600,627.08	
6,625.00	75.80	358.10	6,407.59	3,286.09	459.05	-1.15	459.05	9.97	371,494.43	600,626.16	
6,657.00	78.00	358.90	6,414.85	3,293.35	490.20	-1.96	490.21	7.29	371,525.58	600,625.35	
6,688.00	81.07	359.79	6,420.48	3,298.98	520.68	-2.31	520.69	10.30	371,556.06	600,625.00	
6,720.00	84.93	1.28	6,424.38	3,302.88	552.44	-2.01	552.44	12.92	371,587.81	600,625.30	
6,778.00	90.66	2.10	6,426.61	3,305.11	610.34	-0.30	610.34	9.98	371,645.72	600,627.01	
EOC-6778.00°MD,90.66°INC,2.10°AZI,6426.61°TVD											
6,810.00	90.75	1.71	6,426.21	3,304.71	642.32	0.76	642.31	1.25	371,677.70	600,628.07	
6,904.00	90.66	0.26	6,425.06	3,303.56	736.30	2.38	736.28	1.55	371,771.67	600,629.69	
6,998.00	90.31	0.07	6,424.26	3,302.76	830.30	2.65	830.27	0.42	371,865.67	600,629.96	
7,092.00	88.90	358.52	6,424.91	3,303.41	924.28	1.49	924.26	2.23	371,959.66	600,628.80	



Pathfinder
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Project: Eddy County
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Well: #1H
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Design: OH

Local Co-ordinate Reference: Well #1H
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Survey Calculation Method: Minimum Curvature
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Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
7,186.00	87.93	357.42	6,427.51	3,306.01	1,018.18	-1.83	1,018.18	1.56	372,053.56	600,625.47	
7,280.00	91.19	358.58	6,428.23	3,306.73	1,112.11	-5.11	1,112.12	3.68	372,147.48	600,622.19	
7,374.00	91.19	358.64	6,426.28	3,304.78	1,206.06	-7.39	1,206.08	0.06	372,241.44	600,619.91	
7,468.00	91.36	358.76	6,424.19	3,302.69	1,300.01	-9.53	1,300.05	0.22	372,335.39	600,617.78	
7,562.00	91.19	358.78	6,422.09	3,300.59	1,393.97	-11.54	1,394.01	0.18	372,429.34	600,615.76	
7,657.00	91.19	358.93	6,420.12	3,298.62	1,488.93	-13.44	1,488.98	0.16	372,524.30	600,613.87	
7,751.00	90.66	358.84	6,418.60	3,297.10	1,582.90	-15.27	1,582.96	0.57	372,618.27	600,612.04	
7,845.00	90.04	359.02	6,418.03	3,296.53	1,676.88	-17.03	1,676.95	0.69	372,712.26	600,610.28	
7,939.00	91.54	1.21	6,416.73	3,295.23	1,770.86	-16.84	1,770.93	2.82	372,806.24	600,610.47	
8,033.00	92.12	2.12	6,413.73	3,292.23	1,864.77	-14.11	1,864.82	1.15	372,900.15	600,613.20	
8,128.00	91.80	1.39	6,410.48	3,288.98	1,959.67	-11.20	1,959.70	0.84	372,995.05	600,616.11	
8,222.00	90.84	1.43	6,408.32	3,286.82	2,053.62	-8.89	2,053.64	1.02	373,088.99	600,618.42	
8,315.00	90.66	1.22	6,407.10	3,285.60	2,146.59	-6.74	2,146.59	0.30	373,181.96	600,620.57	
8,410.00	89.78	3.02	6,406.74	3,285.24	2,241.52	-3.22	2,241.50	2.11	373,276.89	600,624.08	
8,505.00	89.52	1.62	6,407.32	3,285.82	2,336.43	0.62	2,336.40	1.50	373,371.81	600,627.93	
8,599.00	88.20	359.13	6,409.19	3,287.69	2,430.40	1.24	2,430.36	3.00	373,465.78	600,628.55	
8,693.00	90.04	358.46	6,410.63	3,289.13	2,524.37	-0.74	2,524.33	2.08	373,559.74	600,626.57	
8,787.00	89.96	357.95	6,410.63	3,289.13	2,618.32	-3.68	2,618.30	0.55	373,653.70	600,623.62	
8,882.00	90.04	357.92	6,410.63	3,289.13	2,713.26	-7.11	2,713.26	0.09	373,748.63	600,620.20	
8,976.00	90.13	357.87	6,410.49	3,288.99	2,807.19	-10.56	2,807.21	0.11	373,842.57	600,616.75	
9,070.00	89.78	358.89	6,410.56	3,289.06	2,901.16	-13.22	2,901.19	1.15	373,936.53	600,614.09	
9,163.00	89.96	358.11	6,410.78	3,289.28	2,994.12	-15.65	2,994.16	0.86	374,029.50	600,611.66	
9,256.00	89.87	358.73	6,410.91	3,289.41	3,087.09	-18.21	3,087.14	0.67	374,122.46	600,609.09	
9,349.00	91.01	2.07	6,410.20	3,288.70	3,180.07	-17.57	3,180.12	3.79	374,215.44	600,609.74	
9,443.00	90.48	2.68	6,408.98	3,287.48	3,273.98	-13.67	3,274.00	0.86	374,309.35	600,613.64	
9,632.00	88.90	358.36	6,410.00	3,288.50	3,462.92	-11.96	3,462.93	2.43	374,498.29	600,615.35	
9,726.00	90.57	357.90	6,410.43	3,288.93	3,556.86	-15.02	3,556.89	1.84	374,592.24	600,612.28	



Pathfinder
Pathfinder X & Y Survey Report



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Project: Eddy County
Site: Cassiopeia "BQD" State Com
Well: #1H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #1H
TVD Reference: Patriot #5 @ 3121.50ft (26.5' KB Correction)
MD Reference: Patriot #5 @ 3121.50ft (26.5' KB Correction)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
9,820.00	89.52	357.97	6,410.36	3,288.86	3,650.80	-18.41	3,650.85	1.12	374,686.17	600,608.90
9,915.00	90.75	359.04	6,410.14	3,288.64	3,745.76	-20.89	3,745.82	1.72	374,781.14	600,606.42
10,009.00	90.04	359.34	6,409.49	3,287.99	3,839.75	-22.22	3,839.82	0.82	374,875.13	600,605.09
10,103.00	90.57	359.06	6,408.99	3,287.49	3,933.74	-23.53	3,933.81	0.64	374,969.12	600,603.78
10,197.00	91.80	358.33	6,407.04	3,285.54	4,027.69	-25.67	4,027.77	1.52	375,063.07	600,601.64
10,291.00	90.66	356.90	6,405.03	3,283.53	4,121.59	-29.58	4,121.69	1.95	375,156.96	600,597.73
10,385.00	91.36	357.94	6,403.37	3,281.87	4,215.47	-33.81	4,215.60	1.33	375,250.85	600,593.50
10,479.00	91.80	358.52	6,400.78	3,279.28	4,309.39	-36.71	4,309.53	0.77	375,344.77	600,590.59
10,573.00	90.22	1.62	6,399.12	3,277.62	4,403.36	-36.60	4,403.50	3.70	375,438.74	600,590.71
10,667.00	90.04	3.22	6,398.91	3,277.41	4,497.28	-32.63	4,497.39	1.71	375,532.65	600,594.68
10,761.00	91.19	1.35	6,397.90	3,276.40	4,591.19	-28.88	4,591.28	2.34	375,626.57	600,598.43
10,855.00	90.92	359.92	6,396.17	3,274.67	4,685.17	-27.84	4,685.25	1.55	375,720.54	600,599.47
10,949.00	90.84	359.03	6,394.72	3,273.22	4,779.15	-28.70	4,779.24	0.95	375,814.53	600,598.61
11,043.00	90.13	357.63	6,393.93	3,272.43	4,873.10	-31.44	4,873.20	1.67	375,908.48	600,595.87
11,137.00	90.13	358.32	6,393.71	3,272.21	4,967.05	-34.76	4,967.16	0.73	376,002.42	600,592.55
11,232.00	89.34	359.28	6,394.15	3,272.65	5,062.02	-36.75	5,062.15	1.31	376,097.40	600,590.56
11,284.00	89.34	358.55	6,394.75	3,273.25	5,114.01	-37.74	5,114.14	1.40	376,149.38	600,589.57
11,340.00	89.34	358.55	6,395.40	3,273.90	5,169.99	-39.15	5,170.12	0.00	376,205.36	600,588.15

BHL-11340.00' MD, 89.34° INC, 358.55° AZI, 6395.40' TVD, 5170.12' VS, 5169.99' N, -39.15° E

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL(Cas#1H)	0.00	0.00	6,400.00	5,186.84	-16.98	376,222.218	600,610.323	32° 2' 3.014 N	104° 8' 31.389 W
- survey misses target center by 28.23ft at 11340.00ft MD (6395.40 TVD, 5169.99 N, -39.15 E)									
- Point									



Pathfinder
Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	Patriot #5 @ 3121.50ft (26.5' KB Correction)
Site:	Cassiopeia "BQD" State Com	MD Reference:	Patriot #5 @ 3121.50ft (26.5' KB Correction)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
5,806.00	5,805.19	-9.01	7.34	KOP-5806.00°MD,1.32°INC,354.01°AZI,5805.19°TVD
6,778.00	6,426.61	610.34	-0.30	EOC-6778.00°MD,90.66°INC,2.10°AZI,6426.61°TVD
11,340.00	6,395.40	5,169.99	-39.15	BHL-11340.00°MD,89.34°INC,358.55°AZI, 6395.40°TVD, 5170.12°VS, 5

Checked By: _____	Approved By: _____	Date: _____
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Project: Eddy County
Site: Cassiopeia "BQD" Stati
Well: #1H
Wellbore: OH
Plan: Plan #1 (#1H/OH)



Azimuths to Grid North
True North: -0.10°
Magnetic North: 7.80°

Magnetic Field
Strength: 48486.5snT
Dip Angle: 59.91°
Date: 11/22/2010
Model: IGRF2010



A Schlumberger Company
West(-)/East(+) (200 ft/in)

PROJECT DETAILS: Eddy County
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

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5860.00	0.00	0.00	5860.00	0.00	0.00	0.00	0.00	0.00
3	6759.35	90.36	359.81	6400.00	573.59	-1.90	10.05	359.81	573.59
4	11372.32	90.36	359.81	6401.01	5186.84	-17.20	0.00	0.00	5186.87
									PBHL(Cas#1H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL(Cas#1H)	6400.00	5186.84	-16.98	376222.218	600610.323	Point

WELL DETAILS: #1H

Ground Elevation: 3095.00
RKB Elevation: Patriot #5 @ 3121.50ft (26.5' KB Correction)
Rig Name: 26.5' KB Correction

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	371035.375	600627.308	32° 1' 11.683 N	104° 8' 31.298 W	

