

30-015-37003

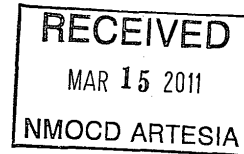
Murchison Oil & Gas

Eddy County (NAD27)

Frosty Fed Com

#1

OH



Survey: MWD #1

Pathfinder X & Y Survey Report

13 December, 2010

PATHFINDER®
A Schlumberger Company

Pathfinder
Pathfinder X & Y Survey Report

PATHFINDER
A Schlumberger Company

Company:	Murchison Oil & Gas	Local Co-ordinate Reference:	Well #1
Project:	Eddy County (NAD27)	TVD Reference:	Well1 @ 3526.00ft (23' KB Depth Correction)
Site:	Frosty Fed Com	MD Reference:	Well1 @ 3526.00ft (23' KB Depth Correction)
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Project	Eddy County (NAD27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Frosty Fed Com			
Site Position:		Northing:	689,077.200 ft	Latitude:	32° 53' 39.550 N
From:	Map	Easting:	528,173.900 ft	Longitude:	104° 14' 29.566 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.05 °

Well	#1					
Well Position	+N/-S	0.00 ft	Northing:	689,077.200 ft	Latitude:	32° 53' 39.550 N
	+E/-W	0.00 ft	Easting:	528,173.900 ft	Longitude:	104° 14' 29.566 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,503.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	11/30/10	8.00	60.72	49,031

Design	OH				
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	273.35	

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

Survey Program		Date 12/13/10			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.00	5,600.00	GYRO (OH)	CB-GYRO-MS	Camera based gyro multishot	
5,619.00	10,634.00	MWD #1 (OH)	MWD	MWD - Standard	

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLog (°/100ft)	Northing (ft)	Easting (ft)
5,600.00	1.21	95.05	5,599.84	2,073.84	1.48	8.89	-8.79	0.00	689,078.68	528,182.79
5,619.00	1.06	93.28	5,618.84	2,092.84	1.45	9.26	-9.16	0.81	689,078.65	528,183.16
5,651.00	1.49	91.16	5,650.83	2,124.83	1.42	9.98	-9.87	1.35	689,078.62	528,183.88
5,682.00	1.58	34.35	5,681.82	2,155.82	1.77	10.62	-10.50	4.72	689,078.97	528,184.52
5,713.00	5.45	1.40	5,712.76	2,186.76	3.59	10.90	-10.67	13.59	689,080.79	528,184.80
5,745.00	10.11	356.56	5,744.46	2,218.46	7.92	10.77	-10.28	14.69	689,085.12	528,184.67
5,777.00	14.77	353.67	5,775.70	2,249.70	14.78	10.15	-9.27	14.69	689,091.98	528,184.05
5,809.00	19.43	351.50	5,806.28	2,280.28	24.10	8.91	-7.49	14.70	689,101.30	528,182.81
5,840.00	22.77	349.24	5,835.19	2,309.19	35.10	7.03	-4.96	11.09	689,112.30	528,180.93
5,872.00	26.20	346.72	5,864.31	2,338.31	48.06	4.25	-1.43	11.20	689,125.26	528,178.15
5,904.00	29.02	344.35	5,892.67	2,366.67	62.41	0.53	3.12	9.46	689,139.61	528,174.43
5,936.00	30.25	339.85	5,920.48	2,394.48	77.46	-4.34	8.86	7.94	689,154.66	528,169.56
5,967.00	33.06	332.50	5,946.88	2,420.88	92.30	-10.94	16.31	15.38	689,169.50	528,162.96
5,999.00	36.67	327.07	5,973.14	2,447.14	108.07	-20.17	26.45	14.87	689,185.27	528,153.73
6,031.00	40.45	322.01	5,998.16	2,472.16	124.28	-31.76	38.97	15.38	689,201.48	528,142.14
6,062.00	43.70	316.07	6,021.18	2,495.18	139.93	-45.39	53.49	16.57	689,217.13	528,128.51
6,094.00	46.34	310.22	6,043.81	2,517.81	155.37	-61.91	70.88	15.33	689,232.57	528,111.99
6,126.00	48.89	304.52	6,065.38	2,539.38	169.69	-80.69	90.47	15.38	689,246.89	528,093.21
6,157.00	52.27	298.74	6,085.08	2,559.08	182.21	-101.08	111.55	18.06	689,259.41	528,072.82
6,189.00	52.85	292.72	6,104.54	2,578.54	193.23	-123.95	135.03	15.04	689,270.43	528,049.95
6,221.00	55.13	289.02	6,123.36	2,597.36	202.43	-148.13	159.71	11.76	689,279.63	528,025.77

Pathfinder
Pathfinder X & Y Survey Report

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Project:	Eddy County (NAD27)	TVD Reference:	Well1 @ 3526.00ft (23' KB Depth Correction)
Site:	Frosty Fed Com	MD Reference:	Well1 @ 3526.00ft (23' KB Depth Correction)
Well:	#1	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)	
6,253.00	57.07	286.69	6,141.21	2,615.21	210.57	-173.41	185.42	8.56	689,287.77	528,000.49	
6,284.00	60.06	282.12	6,157.38	2,631.38	217.13	-199.02	211.37	15.85	689,294.33	527,974.88	
6,316.00	63.05	277.93	6,172.62	2,646.62	222.01	-226.72	239.30	14.83	689,299.21	527,947.18	
6,348.00	65.33	276.63	6,186.56	2,660.56	225.66	-255.29	268.04	8.01	689,302.86	527,918.61	
6,379.00	68.06	275.96	6,198.82	2,672.82	228.78	-283.59	296.47	9.03	689,305.98	527,890.31	
6,411.00	70.17	275.60	6,210.23	2,684.23	231.79	-313.33	326.34	6.68	689,308.99	527,860.57	
6,443.00	72.72	275.06	6,220.41	2,694.41	234.61	-343.53	356.66	8.13	689,311.81	527,830.37	
6,475.00	75.10	274.92	6,229.28	2,703.28	237.28	-374.16	387.39	7.45	689,314.48	527,799.74	
6,506.00	77.38	274.27	6,236.65	2,710.65	239.69	-404.17	417.49	7.63	689,316.89	527,769.73	
6,538.00	80.55	272.86	6,242.77	2,716.77	241.64	-435.52	448.89	10.81	689,318.84	527,738.38	
6,570.00	83.01	271.77	6,247.35	2,721.35	242.92	-467.16	480.56	8.39	689,320.12	527,706.74	
6,601.00	84.86	271.08	6,250.62	2,724.62	243.69	-497.97	511.36	6.36	689,320.89	527,675.93	
6,622.00	85.96	270.32	6,252.31	2,726.31	243.94	-518.90	532.27	6.36	689,321.14	527,655.00	
6,654.00	88.10	270.02	6,253.96	2,727.96	244.04	-550.86	564.18	6.75	689,321.24	527,623.04	
6,686.00	89.16	269.68	6,254.73	2,728.73	243.95	-582.85	596.11	3.48	689,321.15	527,591.05	
6,718.00	90.39	269.31	6,254.85	2,728.85	243.67	-614.85	628.04	4.01	689,320.87	527,559.05	
6,749.00	90.90	269.39	6,254.51	2,728.51	243.32	-645.84	658.96	1.67	689,320.52	527,528.06	
6,781.00	91.23	269.39	6,253.91	2,727.91	242.98	-677.84	690.88	1.03	689,320.18	527,496.06	
6,813.00	91.51	269.65	6,253.15	2,727.15	242.71	-709.83	722.80	1.19	689,319.91	527,464.07	
6,844.00	91.90	269.87	6,252.22	2,726.22	242.58	-740.81	753.72	1.44	689,319.78	527,433.09	
6,875.00	92.30	270.22	6,251.09	2,725.09	242.61	-771.79	784.65	1.71	689,319.81	527,402.11	
6,907.00	92.91	270.03	6,249.63	2,723.63	242.67	-803.76	816.56	2.00	689,319.87	527,370.14	
6,938.00	93.41	270.09	6,247.92	2,721.92	242.71	-834.71	847.47	1.62	689,319.91	527,339.19	
6,970.00	93.64	270.52	6,245.96	2,719.96	242.88	-866.65	879.36	1.52	689,320.08	527,307.25	
7,002.00	93.98	270.71	6,243.83	2,717.83	243.22	-898.58	911.25	1.22	689,320.42	527,275.32	
7,034.00	94.54	270.56	6,241.45	2,715.45	243.57	-930.49	943.13	1.81	689,320.77	527,243.41	
7,065.00	94.82	271.04	6,238.92	2,712.92	244.01	-961.38	974.00	1.79	689,321.21	527,212.52	

Pathfinder
Pathfinder X & Y Survey Report

PATHFINDER
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Company: Murchison Oil & Gas
Project: Eddy County (NAD27)
Site: Frosty Fed Com
Well: #1
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #1
Well1 @ 3526.00ft (23' KB Depth Correction)
Well1 @ 3526.00ft (23' KB Depth Correction)
Grid
Minimum Curvature
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)
7,097.00	93.70	271.62	6,236.55	2,710.55	244.75	-993.28	1,005.89	3.94	689,321.95	527,180.62
7,129.00	92.46	271.92	6,234.83	2,708.83	245.73	-1,025.22	1,037.83	3.99	689,322.93	527,148.68
7,160.00	92.41	272.05	6,233.51	2,707.51	246.81	-1,056.17	1,068.79	0.45	689,324.01	527,117.73
7,191.00	92.13	272.28	6,232.28	2,706.28	247.98	-1,087.13	1,099.76	1.17	689,325.18	527,086.77
7,223.00	92.18	272.83	6,231.08	2,705.08	249.40	-1,119.07	1,131.73	1.72	689,326.60	527,054.83
7,255.00	90.78	272.70	6,230.25	2,704.25	250.94	-1,151.02	1,163.72	4.39	689,328.14	527,022.88
7,287.00	91.23	273.04	6,229.69	2,703.69	252.55	-1,182.98	1,195.71	1.76	689,329.75	526,990.92
7,318.00	91.51	273.42	6,228.95	2,702.95	254.29	-1,213.92	1,226.71	1.52	689,331.49	526,959.98
7,350.00	91.85	273.07	6,228.01	2,702.01	256.10	-1,245.85	1,258.69	1.52	689,333.30	526,928.05
7,382.00	91.96	271.62	6,226.95	2,700.95	257.41	-1,277.81	1,290.67	4.54	689,334.61	526,896.09
7,414.00	91.68	270.42	6,225.93	2,699.93	257.98	-1,309.79	1,322.62	3.85	689,335.18	526,864.11
7,445.00	92.13	270.00	6,224.90	2,698.90	258.09	-1,340.77	1,353.56	1.99	689,335.29	526,833.13
7,477.00	91.79	270.95	6,223.81	2,697.81	258.36	-1,372.75	1,385.50	3.15	689,335.56	526,801.15
7,509.00	92.01	270.45	6,222.75	2,696.75	258.75	-1,404.73	1,417.45	1.71	689,335.95	526,769.17
7,541.00	90.73	270.57	6,221.98	2,695.98	259.04	-1,436.72	1,449.40	4.02	689,336.24	526,737.18
7,572.00	90.84	270.55	6,221.56	2,695.56	259.34	-1,467.71	1,480.36	0.36	689,336.54	526,706.19
7,604.00	91.18	270.26	6,220.99	2,694.99	259.56	-1,499.71	1,512.31	1.40	689,336.76	526,674.19
7,636.00	91.52	270.82	6,220.24	2,694.24	259.87	-1,531.70	1,544.27	2.05	689,337.07	526,642.20
7,668.00	91.01	270.29	6,219.53	2,693.53	260.18	-1,563.69	1,576.22	2.30	689,337.38	526,610.21
7,700.00	91.85	270.56	6,218.73	2,692.73	260.41	-1,595.68	1,608.17	2.76	689,337.61	526,578.22
7,731.00	92.35	270.21	6,217.60	2,691.60	260.62	-1,626.66	1,639.11	1.97	689,337.82	526,547.24
7,763.00	93.19	269.59	6,216.05	2,690.05	260.57	-1,658.62	1,671.01	3.26	689,337.77	526,515.28
7,794.00	93.53	269.27	6,214.23	2,688.23	260.26	-1,689.56	1,701.88	1.50	689,337.46	526,484.34
7,826.00	93.64	269.99	6,212.23	2,686.23	260.05	-1,721.50	1,733.75	2.27	689,337.25	526,452.40
7,858.00	93.75	269.96	6,210.17	2,684.17	260.04	-1,753.43	1,765.63	0.36	689,337.24	526,420.47
7,890.00	93.98	269.46	6,208.01	2,682.01	259.88	-1,785.36	1,797.49	1.72	689,337.08	526,388.54
7,922.00	94.09	269.86	6,205.76	2,679.76	259.69	-1,817.28	1,829.35	1.29	689,336.89	526,356.62

Pathfinder
Pathfinder X & Y Survey Report



Company: Murchison Oil & Gas
Project: Eddy County (NAD27)
Site: Frosty Fed Com
Well: #1
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #1
Well1 @ 3526.00ft (23' KB Depth Correction)
Well1 @ 3526.00ft (23' KB Depth Correction)
Grid
Minimum Curvature
Midland Database

Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLog (°/100ft)	Northing (ft)	Easting (ft)
7,953.00	94.42	269.33	6,203.46	2,677.46	259.47	-1,848.19	1,860.20	2.01	689,336.67	526,325.71
7,985.00	94.93	269.49	6,200.85	2,674.85	259.14	-1,880.09	1,892.02	1.67	689,336.34	526,293.81
8,017.00	94.03	270.60	6,198.35	2,672.35	259.16	-1,911.99	1,923.86	4.46	689,336.36	526,261.91
8,049.00	94.03	271.28	6,196.11	2,670.11	259.69	-1,943.90	1,955.76	2.12	689,336.89	526,230.00
8,080.00	93.86	271.12	6,193.97	2,667.97	260.34	-1,974.82	1,986.66	0.75	689,337.54	526,199.08
8,112.00	92.68	269.99	6,192.15	2,666.15	260.65	-2,006.77	2,018.57	5.10	689,337.85	526,167.13
8,144.00	92.86	270.51	6,190.60	2,664.60	260.78	-2,038.73	2,050.49	1.72	689,337.98	526,135.17
8,176.00	93.08	270.53	6,188.94	2,662.94	261.07	-2,070.69	2,082.40	0.69	689,338.27	526,103.21
8,208.00	93.36	270.04	6,187.14	2,661.14	261.23	-2,102.63	2,114.31	1.76	689,338.43	526,071.27
8,239.00	93.58	270.55	6,185.27	2,659.27	261.39	-2,133.58	2,145.21	1.79	689,338.59	526,040.32
8,271.00	93.75	271.56	6,183.22	2,657.22	261.98	-2,165.51	2,177.11	3.19	689,339.18	526,008.39
8,303.00	94.09	271.19	6,181.04	2,655.04	262.75	-2,197.42	2,209.02	1.57	689,339.95	525,976.48
8,335.00	92.35	271.47	6,179.24	2,653.24	263.49	-2,229.36	2,240.95	5.51	689,340.69	525,944.54
8,367.00	92.74	271.47	6,177.82	2,651.82	264.31	-2,261.32	2,272.90	1.22	689,341.51	525,912.58
8,398.00	93.13	271.26	6,176.23	2,650.23	265.05	-2,292.27	2,303.84	1.43	689,342.25	525,881.63
8,430.00	93.36	271.17	6,174.42	2,648.42	265.72	-2,324.21	2,335.77	0.77	689,342.92	525,849.69
8,462.00	93.75	271.77	6,172.43	2,646.43	266.54	-2,356.14	2,367.69	2.23	689,343.74	525,817.76
8,494.00	93.97	271.45	6,170.28	2,644.28	267.44	-2,388.05	2,399.60	1.21	689,344.64	525,785.85
8,526.00	94.20	271.72	6,168.00	2,642.00	268.32	-2,419.96	2,431.50	1.11	689,345.52	525,753.94
8,557.00	94.48	271.60	6,165.65	2,639.65	269.22	-2,450.86	2,462.40	0.98	689,346.42	525,723.04
8,589.00	94.48	270.77	6,163.15	2,637.15	269.88	-2,482.75	2,494.28	2.59	689,347.08	525,691.15
8,621.00	94.76	270.29	6,160.58	2,634.58	270.17	-2,514.65	2,526.14	1.73	689,347.37	525,659.25
8,653.00	94.99	270.19	6,157.86	2,631.86	270.31	-2,546.53	2,557.98	0.78	689,347.51	525,627.37
8,684.00	94.60	269.85	6,155.27	2,629.27	270.32	-2,577.42	2,588.82	1.67	689,347.52	525,596.48
8,716.00	93.64	269.17	6,152.97	2,626.97	270.04	-2,609.34	2,620.66	3.67	689,347.24	525,564.56
8,748.00	93.25	269.53	6,151.04	2,625.04	269.68	-2,641.28	2,652.52	1.66	689,346.88	525,532.62
8,780.00	93.70	269.43	6,149.11	2,623.11	269.39	-2,673.22	2,684.39	1.44	689,346.59	525,500.68

Pathfinder
Pathfinder X & Y Survey Report

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Company:	Murchison Oil & Gas	Local Co-ordinate Reference:	Well #1
Project:	Eddy County (NAD27)	TVD Reference:	Well1 @ 3526.00ft (23' KB Depth Correction)
Site:	Frosty Fed Com	MD Reference:	Well1 @ 3526.00ft (23' KB Depth Correction)
Well:	#1	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)	DLog (°/100ft)	Northing (ft)	Easting (ft)	
8,811.00	93.52	269.35	6,147.15	2,621.15	269.06	-2,704.16	2,715.26	0.64	689,346.26	525,469.74	
8,843.00	93.70	269.43	6,145.14	2,619.14	268.72	-2,736.09	2,747.12	0.62	689,345.92	525,437.81	
8,875.00	93.53	269.97	6,143.12	2,617.12	268.56	-2,768.03	2,778.99	1.77	689,345.76	525,405.87	
8,906.00	93.52	269.46	6,141.21	2,615.21	268.40	-2,798.97	2,809.87	1.64	689,345.60	525,374.93	
8,938.00	93.81	269.73	6,139.17	2,613.17	268.18	-2,830.90	2,841.73	1.24	689,345.38	525,343.00	
8,970.00	94.31	270.01	6,136.90	2,610.90	268.10	-2,862.82	2,873.59	1.79	689,345.30	525,311.08	
9,001.00	93.47	270.29	6,134.80	2,608.80	268.18	-2,893.75	2,904.47	2.86	689,345.38	525,280.15	
9,033.00	92.69	269.50	6,133.08	2,607.08	268.13	-2,925.70	2,936.37	3.47	689,345.33	525,248.20	
9,065.00	93.08	269.29	6,131.47	2,605.47	267.79	-2,957.66	2,968.25	1.38	689,344.99	525,216.24	
9,097.00	93.53	269.88	6,129.63	2,603.63	267.56	-2,989.60	3,000.13	2.32	689,344.76	525,184.30	
9,128.00	92.74	269.27	6,127.93	2,601.93	267.33	-3,020.56	3,031.02	3.22	689,344.53	525,153.34	
9,160.00	92.74	269.45	6,126.40	2,600.40	266.97	-3,052.52	3,062.90	0.56	689,344.17	525,121.38	
9,191.00	91.90	269.52	6,125.15	2,599.15	266.69	-3,083.49	3,093.81	2.72	689,343.89	525,090.41	
9,223.00	91.96	269.37	6,124.07	2,598.07	266.38	-3,115.47	3,125.71	0.50	689,343.58	525,058.43	
9,255.00	92.13	269.56	6,122.93	2,596.93	266.08	-3,147.45	3,157.62	0.80	689,343.28	525,026.45	
9,287.00	92.30	269.84	6,121.69	2,595.69	265.92	-3,179.43	3,189.53	1.02	689,343.12	524,994.47	
9,318.00	91.46	269.64	6,120.67	2,594.67	265.78	-3,210.41	3,220.45	2.79	689,342.98	524,963.49	
9,350.00	91.40	269.11	6,119.87	2,593.87	265.43	-3,242.40	3,252.37	1.67	689,342.63	524,931.50	
9,382.00	90.62	269.78	6,119.31	2,593.31	265.12	-3,274.39	3,284.29	3.21	689,342.32	524,899.51	
9,413.00	90.45	269.71	6,119.02	2,593.02	264.98	-3,305.39	3,315.22	0.59	689,342.18	524,868.51	
9,445.00	89.33	269.39	6,119.08	2,593.08	264.73	-3,337.39	3,347.15	3.64	689,341.93	524,836.51	
9,477.00	89.27	269.37	6,119.47	2,593.47	264.38	-3,369.38	3,379.07	0.20	689,341.58	524,804.52	
9,509.00	89.55	269.40	6,119.80	2,593.80	264.04	-3,401.38	3,411.00	0.88	689,341.24	524,772.52	
9,540.00	89.72	269.48	6,120.00	2,594.00	263.73	-3,432.38	3,441.92	0.61	689,340.93	524,741.52	
9,572.00	89.89	268.97	6,120.11	2,594.11	263.30	-3,464.37	3,473.84	1.68	689,340.50	524,709.53	
9,604.00	88.99	268.97	6,120.42	2,594.42	262.73	-3,496.37	3,505.74	2.81	689,339.93	524,677.53	
9,636.00	88.88	269.01	6,121.02	2,595.02	262.16	-3,528.36	3,537.65	0.37	689,339.36	524,645.54	

Pathfinder
Pathfinder X & Y Survey Report



Company:	Murchison Oil & Gas	Local Co-ordinate Reference:	Well #1
Project:	Eddy County (NAD27)	TVD Reference:	Well1 @ 3526.00ft (23' KB Depth Correction)
Site:	Frosty Fed Com	MD Reference:	Well1 @ 3526.00ft (23' KB Depth Correction)
Well:	#1	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)	
9,667.00	89.33	268.78	6,121.50	2,595.50	261.57	-3,559.35	3,568.55	1.63	689,338.77	524,614.55	
9,699.00	89.61	268.36	6,121.80	2,595.80	260.77	-3,591.33	3,600.44	1.58	689,337.97	524,582.57	
9,731.00	88.82	268.84	6,122.23	2,596.23	259.98	-3,623.32	3,632.32	2.89	689,337.18	524,550.58	
9,762.00	88.99	268.54	6,122.83	2,596.83	259.28	-3,654.31	3,663.21	1.11	689,336.48	524,519.59	
9,794.00	89.44	268.89	6,123.27	2,597.27	258.56	-3,686.30	3,695.11	1.78	689,335.76	524,487.60	
9,826.00	89.44	269.44	6,123.58	2,597.58	258.09	-3,718.29	3,727.02	1.72	689,335.29	524,455.61	
9,858.00	88.94	269.12	6,124.03	2,598.03	257.69	-3,750.29	3,758.94	1.86	689,334.89	524,423.61	
9,889.00	88.82	269.44	6,124.64	2,598.64	257.30	-3,781.28	3,789.85	1.10	689,334.50	524,392.62	
9,921.00	88.88	269.88	6,125.28	2,599.28	257.11	-3,813.27	3,821.78	1.39	689,334.31	524,360.63	
9,953.00	89.27	269.57	6,125.80	2,599.80	256.96	-3,845.27	3,853.71	1.56	689,334.16	524,328.63	
9,984.00	89.78	270.19	6,126.05	2,600.05	256.89	-3,876.26	3,884.65	2.59	689,334.09	524,297.64	
10,015.00	90.06	270.47	6,126.10	2,600.10	257.07	-3,907.26	3,915.61	1.28	689,334.27	524,266.64	
10,047.00	90.17	271.00	6,126.03	2,600.03	257.48	-3,939.26	3,947.58	1.69	689,334.68	524,234.64	
10,079.00	90.45	270.80	6,125.86	2,599.86	257.98	-3,971.26	3,979.55	1.08	689,335.18	524,202.64	
10,111.00	90.62	270.98	6,125.56	2,599.56	258.48	-4,003.25	4,011.51	0.77	689,335.68	524,170.65	
10,142.00	91.06	271.18	6,125.11	2,599.11	259.07	-4,034.24	4,042.49	1.56	689,336.27	524,139.66	
10,174.00	90.34	271.65	6,124.71	2,598.71	259.86	-4,066.23	4,074.47	2.69	689,337.06	524,107.67	
10,206.00	90.22	271.20	6,124.56	2,598.56	260.65	-4,098.22	4,106.45	1.46	689,337.85	524,075.68	
10,237.00	90.67	270.50	6,124.32	2,598.32	261.11	-4,129.21	4,137.42	2.68	689,338.31	524,044.69	
10,268.00	91.06	270.60	6,123.85	2,597.85	261.41	-4,160.21	4,168.38	1.30	689,338.61	524,013.69	
10,300.00	91.29	270.52	6,123.19	2,597.19	261.72	-4,192.20	4,200.33	0.76	689,338.92	523,981.70	
10,332.00	91.40	270.18	6,122.44	2,596.44	261.92	-4,224.19	4,232.28	1.12	689,339.12	523,949.71	
10,363.00	92.02	270.29	6,121.52	2,595.52	262.04	-4,255.18	4,263.22	2.03	689,339.24	523,918.72	
10,394.00	92.52	270.04	6,120.29	2,594.29	262.13	-4,286.15	4,294.15	1.80	689,339.33	523,887.75	
10,426.00	93.02	270.65	6,118.74	2,592.74	262.33	-4,318.11	4,326.06	2.46	689,339.53	523,855.79	
10,458.00	93.36	270.71	6,116.96	2,590.96	262.70	-4,350.06	4,357.98	1.08	689,339.90	523,823.84	
10,490.00	93.64	270.93	6,115.01	2,589.01	263.16	-4,382.00	4,389.89	1.11	689,340.36	523,791.90	

Pathfinder
Pathfinder X & Y Survey Report

PATHFINDER
A Schlumberger Company

Company:	Murchison Oil & Gas	Local Co-ordinate Reference:	Well #1
Project:	Eddy County (NAD27)	TVD Reference:	Well1 @ 3526.00ft (23' KB Depth Correction)
Site:	Frosty Fed Com	MD Reference:	Well1 @ 3526.00ft (23' KB Depth Correction)
Well:	#1	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)	DLog (°/100ft)	Northing (ft)	Easting (ft)	
10,521.00	94.03	270.48	6,112.93	2,586.93	263.54	-4,412.93	4,420.79	1.92	689,340.74	523,760.97	
10,553.00	94.15	271.12	6,110.65	2,584.65	263.99	-4,444.84	4,452.67	2.03	689,341.19	523,729.06	
10,578.00	94.26	271.05	6,108.82	2,582.82	264.46	-4,469.77	4,477.59	0.52	689,341.66	523,704.13	
10,634.00	94.26	271.05	6,104.66	2,578.66	265.48	-4,525.61	4,533.39	0.00	689,342.68	523,648.29	
BHL-10634.00°MD,94.26°INC,271.05°AZI, 6104.66°TVD, 4533.39°VS, 265.48°N, -4525.61°E											

Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	
PBHL(Frosty #1)		0.00	0.00	6,257.50	272.20	-4,594.80	689,349.400	523,579.100	32° 53' 42.280 N 104° 15' 23.453 W
- survey misses target center by 167.91ft at 10634.00ft MD (6104.66 TVD, 265.48 N, -4525.61 E)									
- Point									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
10,634.00	6,104.66	265.48	-4,525.61	BHL-10634.00°MD,94.26°INC,271.05°AZI, 6104.66°TVD, 4533.39°VS, 2

Checked By: _____	Approved By: _____	Date: _____
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Murchison Oil & Gas



Azimuths to Grid North
True North: -0.05°
Magnetic North: 7.95°

Magnetic Field
Strength: 49031.0nT
Dip Angle: 60.72°
Date: 11/30/2010
Model: IGRF200510

Project: Eddy County (NAD27)
Site: Frosty Fed Com
Well: #1
Wellbore: OH
Plan: Plan #3 (#1/OH)

PATHFINDER®

A Schlumberger Company

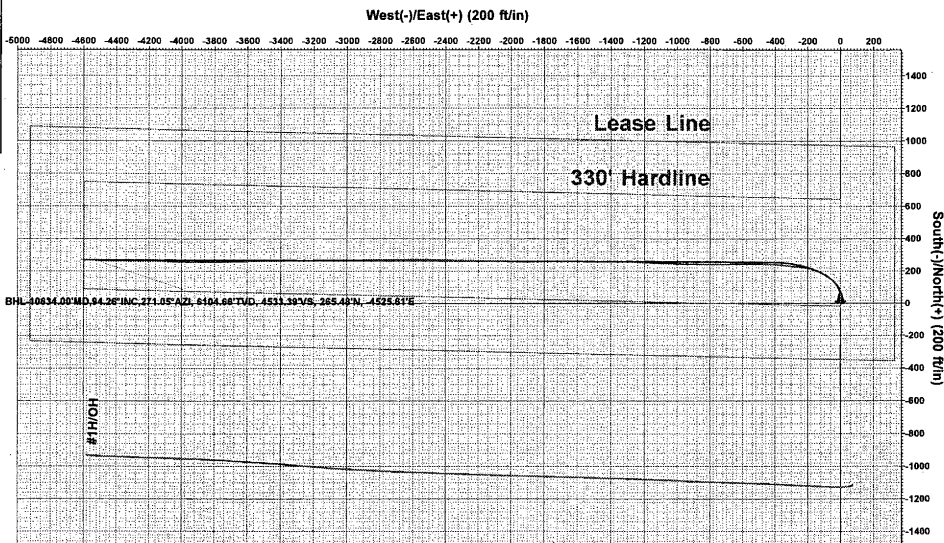
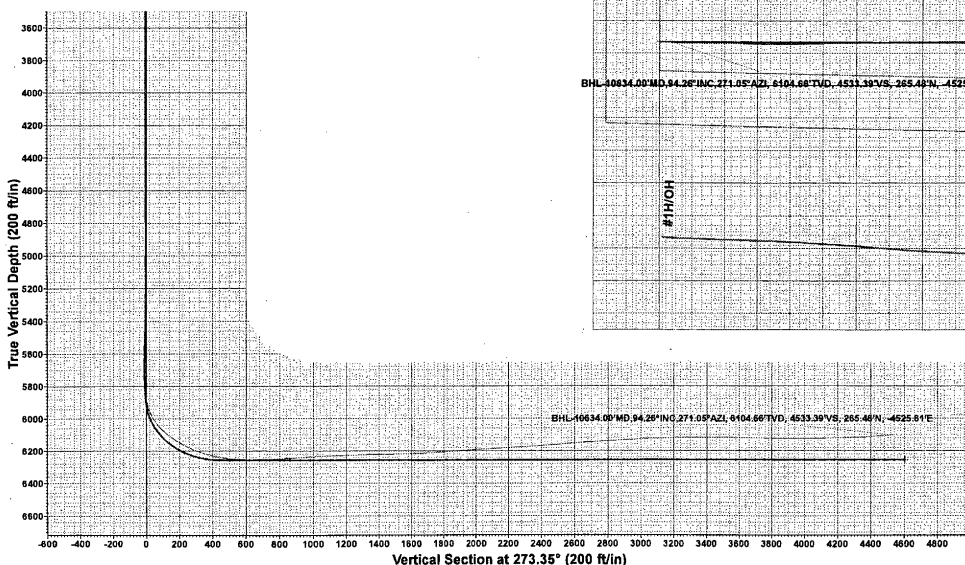
WELL DETAILS: #1

Ground Elevation: 3503.00
RKB Elevation: WELL1 @ 3524.50ft (21.5' KB Correction)
Rig Name: 21.5' KB Correction

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Spot
0.00	0.00	689077.200	528173.900	32° 53' 39.550 N	104° 14' 29.566 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	5695.00	-1.61	90.05	5694.82	1.38	11.26	0.00	0.00	-11.15	
2	5925.51	30.00	350.00	5915.00	59.50	4.31	13.15	-102.75	-0.83	
3	6563.28	90.00	270.20	6256.00	254.76	-423.62	13.32	-81.14	437.80	
4	10734.66	90.00	270.20	6256.00	269.32	-4594.97	0.00	0.00	4602.85	PBHL(Frosty #1)



PROJECT DETAILS: Eddy County (NAD27)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

Plan: Plan #3 (#1/OH)

Created By: Nate Bingham Date: 10:36, December 13 2010
Checked: _____ Date: _____