

PLEASE KEEP CONFIDENTIAL

RECEIVED

OCT 25 2010

NMOCD ARTESIA

Murchison Oil & Gas

Eddy County (NAD27)

Pequeno Mike "BLU" Federal

#5H

OH

30-015-38038

Survey: MWD #1

Pathfinder X & Y Survey Report

13 September, 2010

PATHFINDER®

A Schlumberger Company

Pathfinder

Pathfinder X & Y Survey Report



Company: Murchison Oil & Gas
 Project: Eddy County (NAD27)
 Site: Pequeno Mike "BLU" Federal
 Well: #5H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference:
 Well #5H
 TVD Reference: WELL @ 3761.00ft (21' KB Correction)
 MD Reference: WELL @ 3761.00ft (21' KB Correction)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Midland Database

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

System Datum: Mean Sea Level

Site: Pequeno Mike "BLU" Federal
 Site Position: Map
 From: Map
 Position Uncertainty: 0.00 ft
 Northing: 709,071.513 ft
 Easting: 627,196.827 ft
 Slot Radius: "
 Latitude: 32° 56' 55.043 N
 Longitude: 103° 55' 7.284 W
 Grid Convergence: 0.23 °

Well: #5H
 Well Position: +N/-S 0.00 ft
 +E/-W 0.00 ft
 Position Uncertainty: 0.00 ft
 Northing: 713,012.700 ft
 Easting: 586,105.700 ft
 Wellhead Elevation: ft
 Latitude: 32° 57' 35.383 N
 Longitude: 104° 3' 9.378 W
 Ground Level: 3,740.00 ft

Wellbore: OH
 Magnetics: Model Name Sample Date Declination (°) Dip Angle (°) Field Strength (nT)
 IGRF200510 07/30/2010 7.96 60.82 49.122

Design: OH
 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 0.00 269.76

Pathfinder Pathfinder X & Y Survey Report



Company: Murchison Oil & Gas
Project: Eddy County (NAD27)
Site: Pequeno Mike "BLU" Federal
Well: #5H
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference: Well #5H
MD Reference: WELL @ 3761.00ft (21' KB Correction)
North Reference: WELL @ 3761.00ft (21' KB Correction)
Survey Calculation Method: Grid
Database: Minimum Curvature
 Midland Database

Survey Program	Date	09/13/2010
From (ft)	To (ft)	Survey (Wellbore)
100.00	6,400.00	GYRO (OH)
6,502.00	12,000.00	MWD #1 (OH)
Tool Name	Description	
CB-GYRO-MS	Camera based gyro multishot	
MWD	MWD - Standard	

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	Dleg (°/100ft)	Northing (ft)	Easting (ft)
6,400.00	0.39	36.53	6,399.64	2,638.64	30.64	-36.03	35.90	0.00	713,043.34	586,069.67
6,502.00	0.62	51.02	6,501.64	2,740.64	31.26	-35.40	35.26	0.26	713,043.96	586,070.30
6,534.00	0.26	84.34	6,533.64	2,772.64	31.38	-35.19	35.06	1.34	713,044.08	586,070.51
6,566.00	1.23	248.73	6,565.64	2,804.64	31.26	-35.44	35.30	4.63	713,043.96	586,070.26
6,597.00	4.57	254.80	6,596.59	2,835.59	30.82	-36.94	36.81	10.80	713,043.52	586,068.76
6,629.00	8.27	261.40	6,628.39	2,867.39	30.14	-40.45	40.32	11.77	713,042.84	586,065.25
6,661.00	11.70	262.25	6,659.90	2,898.90	29.36	-45.94	45.81	10.73	713,042.06	586,059.76
6,693.00	15.12	264.07	6,691.02	2,930.02	28.49	-53.31	53.19	10.77	713,041.19	586,052.39
6,725.00	18.55	262.19	6,721.64	2,960.64	27.36	-62.50	62.39	10.85	713,040.06	586,043.20
6,757.00	22.34	261.27	6,751.62	2,990.62	25.75	-73.56	73.45	11.89	713,038.45	586,032.14
6,788.00	25.94	261.06	6,779.91	3,018.91	23.80	-86.09	85.99	11.62	713,036.50	586,019.61
6,820.00	29.37	261.78	6,808.25	3,047.25	21.59	-100.77	100.68	10.77	713,034.29	586,004.93
6,852.00	33.06	262.93	6,835.61	3,074.61	19.39	-117.21	117.12	11.68	713,032.09	585,988.49
6,884.00	36.84	264.16	6,861.83	3,100.83	17.34	-135.42	135.34	12.02	713,030.04	585,970.28
6,915.00	40.63	265.22	6,886.01	3,125.01	15.56	-154.73	154.66	12.41	713,028.26	585,950.97
6,947.00	44.58	265.89	6,909.56	3,148.56	13.88	-176.32	176.26	12.42	713,026.58	585,929.38
6,979.00	48.36	265.85	6,931.60	3,170.60	12.21	-199.46	199.40	11.81	713,024.91	585,906.24
7,011.00	52.32	265.49	6,952.02	3,191.02	10.35	-224.02	223.97	12.41	713,023.05	585,881.68
7,042.00	56.01	265.46	6,970.16	3,209.16	8.37	-249.07	249.03	11.90	713,021.07	585,856.63
7,074.00	59.88	265.37	6,987.14	3,226.14	6.20	-276.10	276.07	12.10	713,018.90	585,829.60
7,106.00	63.40	265.85	7,002.34	3,241.34	4.04	-304.17	304.15	11.08	713,016.74	585,801.53

Pathfinder Pathfinder X & Y Survey Report



Company: Murchison Oil & Gas
Project: Eddy County (NAD27)
Site: Pequeno Mike "BLU" Federal
Well: #5H
Wellbore: OH
Design: OH

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

Well #5H
WELL @ 3761.00ft (21' KB Correction)
WELL @ 3761.00ft (21' KB Correction)
Grid
Minimum Curvature
Midland Database

Survey	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	NS (ft)	EW (ft)	V. Sec (ft)	Dleg (°/100ft)	Northing (ft)	Easting (ft)
	7,137.00	66.65	266.25	7,015.43	3,254.43	2.11	-332.20	332.19	10.55	713,014.81	585,773.50
	7,169.00	70.17	266.40	7,027.20	3,266.20	0.20	-361.89	361.88	11.01	713,012.90	585,743.81
	7,201.00	73.16	267.51	7,037.27	3,276.27	-1.41	-392.22	392.22	9.91	713,011.29	585,713.48
	7,233.00	73.34	267.20	7,046.49	3,285.49	-2.82	-422.83	422.84	1.08	713,009.88	585,682.87
	7,264.00	73.07	267.42	7,055.45	3,294.45	-4.21	-452.47	452.49	1.10	713,008.49	585,653.23
	7,296.00	73.07	267.54	7,064.76	3,303.76	-5.56	-483.06	483.07	0.36	713,007.14	585,622.64
	7,328.00	73.34	267.53	7,074.01	3,313.01	-6.88	-513.66	513.69	0.84	713,005.82	585,592.04
	7,360.00	73.16	267.66	7,083.23	3,322.23	-8.16	-544.28	544.31	0.68	713,004.54	585,561.42
	7,392.00	73.34	267.43	7,092.45	3,331.45	-9.48	-574.89	574.93	0.89	713,003.22	585,530.81
	7,423.00	73.34	267.64	7,101.34	3,340.34	-10.75	-604.56	604.60	0.65	713,001.95	585,501.14
	7,455.00	73.51	266.98	7,110.47	3,349.47	-12.19	-635.20	635.25	2.05	713,000.51	585,470.50
	7,487.00	73.60	267.27	7,119.53	3,358.53	-13.73	-665.85	665.90	0.91	712,998.97	585,439.85
	7,518.00	73.51	267.71	7,128.31	3,367.31	-15.03	-695.55	695.61	1.39	712,997.67	585,410.15
	7,550.00	73.51	267.60	7,137.39	3,376.39	-16.29	-726.21	726.28	0.33	712,996.41	585,379.49
	7,580.00	73.60	267.43	7,145.88	3,384.88	-17.54	-754.96	755.03	0.62	712,995.16	585,350.74
	7,612.00	73.69	267.63	7,154.89	3,393.89	-18.86	-785.63	785.71	0.66	712,993.84	585,320.07
	7,644.00	73.95	267.51	7,163.81	3,402.81	-20.16	-816.34	816.42	0.89	712,992.54	585,289.36
	7,675.00	74.13	267.78	7,172.33	3,411.33	-21.39	-846.12	846.20	1.02	712,991.31	585,259.58
	7,707.00	74.57	267.45	7,180.97	3,419.97	-22.67	-876.91	876.99	1.70	712,990.03	585,228.79
	7,739.00	75.53	267.41	7,189.22	3,428.22	-24.06	-907.79	907.89	3.00	712,988.64	585,197.91
	7,771.00	79.49	267.18	7,196.14	3,435.14	-25.53	-938.99	939.09	12.39	712,987.17	585,166.71
	7,800.00	81.24	267.72	7,200.99	3,439.99	-26.80	-967.55	967.66	6.31	712,985.90	585,138.15
	7,832.00	84.06	267.71	7,205.09	3,444.09	-28.07	-999.26	999.37	8.81	712,984.63	585,106.44
	7,864.00	85.74	267.95	7,207.93	3,446.93	-29.27	-1,031.11	1,031.23	5.30	712,983.43	585,074.59
	7,896.00	88.27	268.03	7,209.60	3,448.60	-30.40	-1,063.05	1,063.17	7.91	712,982.30	585,042.65
	7,928.00	89.89	268.01	7,210.12	3,449.12	-31.50	-1,095.02	1,095.15	5.06	712,981.20	585,010.68
	7,959.00	90.34	268.00	7,210.06	3,449.06	-32.58	-1,126.00	1,126.13	1.45	712,980.12	584,979.70

Pathfinder Pathfinder X & Y Survey Report



Company: Murchison Oil & Gas
Project: Eddy County (NAD27)
Site: Pequeno Mike "BLU" Federal
Well: #5H
Wellbore: OH
Design: OH

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

Well #5H
WELL @ 3761.00ft (21 KB Correction)
WELL @ 3761.00ft (21 KB Correction)
Grid
Minimum Curvature
Midland Database

Survey	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
	7,990.00	90.90	267.91	7,209.72	3,446.72	-33.69	-1,156.98	1,157.11	1.83	712,979.01	584,948.72
	8,022.00	90.95	269.18	7,209.20	3,446.20	-34.50	-1,188.97	1,189.10	3.97	712,978.20	584,916.73
	8,054.00	90.50	269.68	7,208.80	3,447.80	-34.82	-1,220.96	1,221.10	2.10	712,977.88	584,884.74
	8,086.00	90.78	269.62	7,208.44	3,447.44	-35.01	-1,252.96	1,253.10	0.89	712,977.69	584,862.74
	8,118.00	90.06	269.95	7,208.21	3,447.21	-35.13	-1,284.96	1,285.10	2.48	712,977.57	584,820.74
	8,149.00	90.06	269.94	7,208.17	3,447.17	-35.16	-1,315.96	1,316.10	0.03	712,977.54	584,789.74
	8,181.00	90.00	270.92	7,208.16	3,447.16	-34.92	-1,347.96	1,348.09	3.07	712,977.78	584,757.74
	8,213.00	90.00	270.92	7,208.16	3,447.16	-34.41	-1,379.95	1,380.09	0.00	712,978.29	584,725.75
	8,244.00	90.62	270.95	7,207.99	3,446.99	-33.90	-1,410.95	1,411.08	2.00	712,978.80	584,694.75
	8,276.00	90.73	271.38	7,207.61	3,446.61	-33.25	-1,442.94	1,443.07	1.39	712,979.45	584,662.76
	8,308.00	90.17	271.56	7,207.36	3,446.36	-32.43	-1,474.93	1,475.05	1.84	712,980.27	584,630.77
	8,340.00	89.27	271.60	7,207.52	3,446.52	-31.55	-1,506.91	1,507.04	2.82	712,981.15	584,598.79
	8,371.00	89.94	272.34	7,207.73	3,446.73	-30.48	-1,537.90	1,538.01	3.22	712,982.22	584,567.80
	8,403.00	90.45	272.43	7,207.62	3,446.62	-29.15	-1,569.87	1,569.98	1.62	712,983.55	584,535.83
	8,435.00	89.89	272.24	7,207.53	3,446.53	-27.85	-1,601.84	1,601.94	1.85	712,984.85	584,503.86
	8,467.00	89.55	271.98	7,207.68	3,446.68	-26.67	-1,633.82	1,633.92	1.34	712,986.03	584,471.88
	8,499.00	89.78	272.02	7,207.87	3,446.87	-25.55	-1,665.80	1,665.89	0.73	712,987.15	584,439.90
	8,530.00	90.39	271.84	7,207.82	3,446.82	-24.51	-1,696.78	1,696.87	2.05	712,988.19	584,408.92
	8,562.00	90.84	272.18	7,207.48	3,446.48	-23.39	-1,728.76	1,728.84	1.76	712,989.31	584,376.94
	8,594.00	91.23	272.05	7,206.90	3,445.90	-22.21	-1,760.73	1,760.81	1.28	712,990.49	584,344.97
	8,626.00	91.62	271.82	7,206.11	3,445.11	-21.13	-1,792.70	1,792.78	1.41	712,991.57	584,313.00
	8,658.00	92.07	271.33	7,205.08	3,444.08	-20.25	-1,824.67	1,824.74	2.08	712,992.45	584,281.03
	8,690.00	92.18	271.05	7,203.89	3,442.89	-19.58	-1,856.65	1,856.71	0.94	712,993.12	584,249.05
	8,722.00	92.52	271.18	7,202.58	3,441.58	-18.96	-1,888.61	1,888.68	1.14	712,993.74	584,217.09
	8,753.00	93.25	271.08	7,201.02	3,440.02	-18.35	-1,919.57	1,919.63	2.38	712,994.35	584,186.13
	8,785.00	93.86	271.47	7,199.03	3,438.03	-17.64	-1,951.50	1,951.55	2.26	712,995.06	584,154.20
	8,817.00	94.31	271.44	7,196.75	3,435.75	-16.83	-1,983.41	1,983.46	1.41	712,995.87	584,122.29

Pathfinder Pathfinder X & Y Survey Report



Company: Murchison Oil & Gas
Project: Eddy County (NAD27)
Site: Pequeno Mike "BLU" Federal
Well: #5H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #5H
TVD Reference: WELL @ 3761.00ft (21' KB Correction)
MD Reference: WELL @ 3761.00ft (21' 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)	D Leg (°/100ft)	Northing (ft)	Easting (ft)
	8,849.00	94.60	271.59	7,194.27	3,433.27	-15.98	-2,015.30	2,015.35	1.02	712,996.72	584,090.40
	8,880.00	95.04	271.43	7,191.66	3,430.66	-15.17	-2,046.18	2,046.22	1.51	712,997.53	584,059.52
	8,912.00	95.27	271.72	7,188.79	3,427.79	-14.29	-2,078.04	2,078.08	1.15	712,998.41	584,027.66
	8,944.00	95.78	271.69	7,185.71	3,424.71	-13.35	-2,109.87	2,109.91	1.60	712,999.35	583,995.83
	8,976.00	96.22	272.13	7,182.36	3,421.36	-12.29	-2,141.68	2,141.71	1.94	713,000.41	583,964.02
	9,007.00	96.67	272.11	7,178.88	3,417.88	-11.15	-2,172.46	2,172.49	1.45	713,001.55	583,933.24
	9,039.00	95.55	272.22	7,175.48	3,414.48	-9.95	-2,204.26	2,204.28	3.52	713,002.75	583,901.44
	9,071.00	95.33	271.82	7,172.44	3,411.44	-8.82	-2,236.09	2,236.11	1.42	713,003.88	583,869.61
	9,102.00	95.77	272.39	7,169.45	3,408.45	-7.69	-2,266.93	2,266.94	2.32	713,005.01	583,838.77
	9,133.00	94.93	271.59	7,166.55	3,405.55	-6.62	-2,297.77	2,297.78	3.73	713,006.08	583,807.93
	9,165.00	93.36	270.92	7,164.24	3,403.24	-5.92	-2,329.68	2,329.68	5.33	713,006.78	583,776.02
	9,197.00	93.64	270.47	7,162.29	3,401.29	-5.53	-2,361.62	2,361.62	1.65	713,007.17	583,744.08
	9,228.00	92.85	269.90	7,160.53	3,399.53	-5.43	-2,392.57	2,392.57	3.14	713,007.27	583,713.13
	9,260.00	91.79	268.95	7,159.24	3,396.24	-5.75	-2,424.54	2,424.54	4.45	713,006.95	583,681.16
	9,291.00	91.79	268.47	7,158.27	3,397.27	-6.45	-2,455.52	2,455.52	1.55	713,006.25	583,650.18
	9,323.00	92.07	268.51	7,157.19	3,396.19	-7.29	-2,487.49	2,487.50	0.88	713,005.41	583,618.21
	9,355.00	92.24	268.77	7,155.99	3,394.99	-8.05	-2,519.46	2,519.47	0.97	713,004.65	583,586.24
	9,387.00	92.86	268.93	7,154.57	3,393.57	-8.69	-2,551.42	2,551.43	2.00	713,004.01	583,554.28
	9,418.00	93.58	268.71	7,152.82	3,391.82	-9.33	-2,582.36	2,582.38	2.43	713,003.37	583,523.34
	9,450.00	92.91	268.82	7,151.01	3,390.01	-10.02	-2,614.30	2,614.32	2.12	713,002.68	583,491.40
	9,482.00	92.35	269.25	7,149.54	3,388.54	-10.56	-2,646.26	2,646.29	2.21	713,002.14	583,459.44
	9,514.00	92.41	269.82	7,148.22	3,387.22	-10.82	-2,678.24	2,678.26	1.79	713,001.88	583,427.46
	9,545.00	92.80	270.06	7,146.81	3,385.81	-10.85	-2,709.20	2,709.23	1.48	713,001.85	583,396.50
	9,577.00	93.19	269.69	7,145.13	3,384.13	-10.92	-2,741.16	2,741.18	1.68	713,001.78	583,364.54
	9,609.00	93.70	269.62	7,143.21	3,382.21	-11.11	-2,773.10	2,773.12	1.61	713,001.59	583,332.60
	9,641.00	93.25	269.43	7,141.27	3,380.27	-11.38	-2,805.04	2,805.06	1.53	713,001.32	583,300.66
	9,673.00	93.25	269.67	7,139.46	3,378.46	-11.63	-2,836.99	2,837.01	0.75	713,001.07	583,268.71

Pathfinder Pathfinder X & Y Survey Report



Company: Murchison Oil & Gas
Project: Eddy County (NAD27)
Site: Pequeno Mike "BLU" Federal
Well: #5H
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference: Well #5H
MD Reference: WELL @ 3761.00ft (21' KB Correction)
North Reference: WELL @ 3761.00ft (21' KB Correction)
Survey Calculation Method: Grid
Database: Minimum Curvature
 Midland Database

Survey	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
	9,704.00	93.59	269.78	7,137.61	3,376.61	-11.78	-2,867.93	2,867.96	1.15	713,000.92	583,237.77
	9,736.00	94.03	269.98	7,135.48	3,374.48	-11.84	-2,899.86	2,899.89	1.51	713,000.86	583,205.84
	9,767.00	94.32	270.38	7,133.23	3,372.23	-11.75	-2,930.78	2,930.80	1.59	713,000.95	583,174.92
	9,799.00	93.98	270.96	7,130.91	3,369.91	-11.37	-2,962.69	2,962.71	2.10	713,001.33	583,143.01
	9,831.00	92.29	270.55	7,129.16	3,368.16	-10.95	-2,994.64	2,994.66	5.43	713,001.75	583,111.06
	9,863.00	91.90	270.33	7,127.99	3,366.99	-10.71	-3,026.62	3,026.64	1.40	713,001.99	583,079.08
	9,895.00	92.24	270.33	7,126.83	3,365.83	-10.52	-3,058.60	3,058.61	1.06	713,002.18	583,047.10
	9,927.00	92.80	270.52	7,125.43	3,364.43	-10.28	-3,090.57	3,090.58	1.85	713,002.42	583,015.13
	9,959.00	93.19	270.76	7,123.75	3,362.75	-9.93	-3,122.52	3,122.53	1.43	713,002.77	582,983.18
	9,990.00	93.58	271.11	7,121.92	3,360.92	-9.42	-3,153.46	3,153.47	1.69	713,003.28	582,952.24
	10,022.00	92.69	270.31	7,120.17	3,359.17	-9.03	-3,185.41	3,185.42	3.74	713,003.67	582,920.29
	10,054.00	92.52	270.01	7,118.72	3,357.72	-8.94	-3,217.38	3,217.39	1.08	713,003.76	582,888.32
	10,086.00	92.97	270.21	7,117.19	3,356.19	-8.88	-3,249.34	3,249.35	1.54	713,003.82	582,856.36
	10,117.00	91.96	269.95	7,115.85	3,354.85	-8.83	-3,280.31	3,280.32	3.36	713,003.87	582,825.39
	10,149.00	91.06	270.01	7,115.01	3,354.01	-8.84	-3,312.30	3,312.31	2.82	713,003.86	582,793.40
	10,181.00	91.40	269.77	7,114.32	3,353.32	-8.91	-3,344.29	3,344.30	1.30	713,003.79	582,761.41
	10,212.00	91.06	269.41	7,113.66	3,352.66	-9.13	-3,375.28	3,375.29	1.60	713,003.57	582,730.42
	10,243.00	89.66	268.89	7,113.46	3,352.46	-9.59	-3,406.28	3,406.29	4.82	713,003.11	582,699.42
	10,275.00	89.37	268.44	7,113.73	3,352.73	-10.33	-3,438.27	3,438.28	1.67	713,002.37	582,667.43
	10,306.00	89.61	269.40	7,114.01	3,353.01	-10.92	-3,469.26	3,469.28	3.19	713,001.78	582,636.44
	10,338.00	90.28	269.55	7,114.04	3,353.04	-11.21	-3,501.26	3,501.28	2.15	713,001.49	582,604.44
	10,369.00	89.55	269.40	7,114.09	3,353.09	-11.49	-3,532.26	3,532.28	2.40	713,001.21	582,573.44
	10,401.00	89.83	269.21	7,114.26	3,353.26	-11.88	-3,564.26	3,564.27	1.06	713,000.82	582,541.44
	10,433.00	88.77	269.06	7,114.65	3,353.65	-12.37	-3,596.25	3,596.27	3.35	713,000.33	582,509.45
	10,454.00	88.46	269.72	7,115.16	3,354.16	-12.59	-3,617.24	3,617.26	3.47	713,000.11	582,488.46
	10,485.00	88.29	269.67	7,116.04	3,355.04	-12.75	-3,648.23	3,648.25	0.57	712,999.95	582,457.47
	10,517.00	88.20	269.67	7,117.02	3,356.02	-12.94	-3,680.21	3,680.24	0.28	712,999.76	582,425.49

Pathfinder Pathfinder X & Y Survey Report



Company: Murchison Oil & Gas
Project: Eddy County (NAD27)
Site: Pequeno Mike "BLU" Federal
Well: #5H
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference: Well #5H
MD Reference: WELL @ 3761.00ft (21' KB Correction)
North Reference: WELL @ 3761.00ft (21' KB Correction)
Survey Calculation Method: Grid
Database: Minimum Curvature
Midland Database

Survey	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	D Leg (°/100ft)	Northing (ft)	Easting (ft)
	10,549.00	88.55	269.52	7,117.93	3,356.93	-13.16	-3,712.20	3,712.22	1.19	712,999.54	582,393.50
	10,580.00	87.93	269.86	7,118.88	3,357.88	-13.33	-3,743.18	3,743.21	2.28	712,999.37	582,362.52
	10,611.00	87.05	269.49	7,120.24	3,359.24	-13.51	-3,774.15	3,774.18	3.08	712,999.19	582,331.55
	10,643.00	87.23	269.77	7,121.83	3,360.83	-13.71	-3,806.11	3,806.14	1.04	712,998.99	582,299.59
	10,674.00	87.41	269.87	7,123.28	3,362.28	-13.81	-3,837.08	3,837.10	0.66	712,998.89	582,268.62
	10,706.00	87.23	269.83	7,124.78	3,363.78	-13.89	-3,869.04	3,869.07	0.58	712,998.81	582,236.66
	10,737.00	87.49	269.70	7,126.21	3,365.21	-14.02	-3,900.01	3,900.04	0.94	712,998.68	582,205.69
	10,769.00	87.58	270.23	7,127.58	3,366.58	-14.04	-3,931.98	3,932.01	1.68	712,998.66	582,173.72
	10,801.00	87.93	270.13	7,128.84	3,367.84	-13.94	-3,963.96	3,963.98	1.14	712,998.76	582,141.74
	10,833.00	88.46	270.01	7,129.84	3,368.84	-13.90	-3,995.94	3,995.96	1.70	712,998.80	582,109.76
	10,865.00	88.64	270.13	7,130.65	3,369.65	-13.86	-4,027.93	4,027.95	0.68	712,998.84	582,077.77
	10,896.00	89.16	269.85	7,131.25	3,370.25	-13.87	-4,058.92	4,058.95	1.91	712,998.83	582,046.78
	10,928.00	89.52	269.56	7,131.62	3,370.62	-14.03	-4,090.92	4,090.94	1.44	712,998.67	582,014.78
	10,959.00	89.69	269.50	7,131.83	3,370.83	-14.29	-4,121.92	4,121.94	0.58	712,998.41	581,983.78
	10,991.00	90.04	269.37	7,131.91	3,370.91	-14.60	-4,153.92	4,153.94	1.17	712,998.10	581,951.78
	11,023.00	90.13	269.56	7,131.86	3,370.86	-14.90	-4,185.92	4,185.94	0.66	712,997.80	581,919.78
	11,055.00	90.48	269.57	7,131.69	3,370.69	-15.14	-4,217.92	4,217.94	1.09	712,997.56	581,887.78
	11,087.00	90.84	269.76	7,131.32	3,370.32	-15.33	-4,249.91	4,249.94	1.27	712,997.37	581,855.79
	11,118.00	90.13	269.04	7,131.06	3,370.06	-15.66	-4,280.91	4,280.94	3.26	712,997.04	581,824.79
	11,150.00	89.96	268.96	7,131.03	3,370.03	-16.21	-4,312.90	4,312.93	0.59	712,996.49	581,792.80
	11,182.00	90.22	269.07	7,130.98	3,369.98	-16.76	-4,344.90	4,344.93	0.88	712,995.94	581,760.80
	11,213.00	90.57	268.90	7,130.77	3,369.77	-17.31	-4,375.89	4,375.93	1.26	712,995.39	581,728.81
	11,245.00	90.75	269.41	7,130.40	3,369.40	-17.79	-4,407.89	4,407.92	1.69	712,994.91	581,697.81
	11,277.00	91.10	269.45	7,129.88	3,368.88	-18.10	-4,439.88	4,439.92	1.10	712,994.60	581,665.82
	11,307.00	91.19	269.75	7,129.28	3,368.28	-18.31	-4,469.88	4,469.91	1.04	712,994.39	581,633.82
	11,341.00	91.36	269.83	7,128.53	3,367.53	-18.44	-4,503.87	4,503.91	0.55	712,994.26	581,601.83
	11,372.00	90.84	269.85	7,127.93	3,366.93	-18.52	-4,534.86	4,534.90	1.68	712,994.18	581,570.84

Pathfinder Pathfinder X & Y Survey Report



Company: Murchison Oil & Gas
Project: Eddy County (NAD27)
Site: Pequeno Mike "BLU" Federal
Well: #5H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #5H
TVD Reference: WELL @ 3761.00ft (21' KB Correction)
MD Reference: WELL @ 3761.00ft (21' 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)	D Leg (°/100ft)	Northing (ft)	Easting (ft)
	11,403.00	90.31	270.49	7,127.62	3,366.62	-18.43	-4,565.86	4,565.90	2.68	712,994.27	581,539.84
	11,435.00	90.48	270.89	7,127.40	3,366.40	-18.05	-4,597.86	4,597.89	1.36	712,994.65	581,507.84
	11,467.00	90.40	270.93	7,127.15	3,366.15	-17.54	-4,629.85	4,629.88	0.28	712,995.16	581,475.85
	11,499.00	90.31	271.16	7,126.96	3,365.96	-16.96	-4,661.85	4,661.88	0.77	712,995.74	581,443.85
	11,530.00	90.66	271.20	7,126.69	3,365.69	-16.32	-4,692.84	4,692.86	1.14	712,996.38	581,412.86
	11,562.00	90.84	271.15	7,126.27	3,365.27	-15.66	-4,724.83	4,724.85	0.58	712,997.04	581,380.87
	11,594.00	90.84	271.06	7,125.81	3,364.81	-15.04	-4,756.82	4,756.84	0.28	712,997.66	581,348.88
	11,626.00	90.84	270.70	7,125.34	3,364.34	-14.55	-4,788.81	4,788.83	1.12	712,998.15	581,316.89
	11,657.00	91.45	270.97	7,124.72	3,363.72	-14.10	-4,819.80	4,819.82	2.15	712,998.60	581,285.90
	11,689.00	91.98	270.36	7,123.76	3,362.76	-13.73	-4,851.79	4,851.80	2.52	712,998.97	581,253.91
	11,721.00	92.24	270.15	7,122.58	3,361.58	-13.59	-4,883.76	4,883.78	1.04	712,999.11	581,221.94
	11,753.00	92.07	270.22	7,121.38	3,360.38	-13.48	-4,915.74	4,915.75	0.57	712,999.22	581,189.96
	11,785.00	92.33	270.34	7,120.15	3,359.15	-13.33	-4,947.72	4,947.73	0.89	712,999.37	581,157.98
	11,817.00	92.68	270.35	7,118.75	3,357.75	-13.14	-4,979.68	4,979.70	1.09	712,999.56	581,126.02
	11,848.00	92.95	269.93	7,117.23	3,356.23	-13.06	-5,010.65	5,010.66	1.61	712,999.64	581,095.05
	11,880.00	93.12	269.54	7,115.53	3,354.53	-13.21	-5,042.60	5,042.61	1.33	712,999.49	581,063.10
	11,912.00	93.39	269.69	7,113.72	3,352.72	-13.42	-5,074.55	5,074.56	0.96	712,999.28	581,031.15
	11,937.00	93.47	269.36	7,112.22	3,351.22	-13.63	-5,099.50	5,099.52	1.36	712,999.07	581,000.20
	12,000.00	93.47	269.36	7,108.41	3,347.41	-14.33	-5,162.38	5,162.40	0.00	712,998.37	580,943.32

BHL-12000.00MD,93.47°INC,269.36°AZI,7108.41°TVD,5162.40°VS,-14.33°N,-5162.38°E

Pathfinder Pathfinder X & Y Survey Report



Company: Murchison Oil & Gas
Project: Eddy County (NAD27)
Site: Pequeno Mike "BLU" Federal
Well: #5H
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference: Well #5H
MD Reference: WELL @ 3761.00ft (21' KB Correction)
North Reference: WELL @ 3761.00ft (21' KB Correction)
Survey Calculation Method: Grid
Database: Minimum Curvature
Midland Database

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
PBHL(PM#5H)	0.00	0.00	7,160.39	-15.20	-5,230.40	712,997.500	580,875.300	32° 57' 35.367 N	104° 4' 10.767 W
- survey misses target center by 85.61ft at 12000.00ft MD (7108.41 TVD, -14.33 N, -5162.38 E)									
- Point									
Ohodox PT	0.00	0.00	7,150.00	-2.09	-705.00	713,010.610	585,400.700	32° 57' 35.381 N	104° 3' 17.653 W
- survey misses target center by 22.61ft at 7532.70ft MD (7132.48 TVD, -15.60 N, -709.64 E)									
- Point									

Survey Annotations				
Measured	Vertical	Local Coordinates		Comment
Depth	Depth	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	
12,000.00	7,108.41	-14.33	-5,162.38	BHL-12000.00MD,93.47°INC,269.36°AZI, 7108.41 TVD, 5162.40 VS, -

Checked By: _____ Approved By: _____ Date: _____

Murchison Oil & Gas

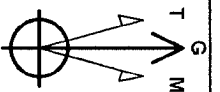
Project: Eddy County (NAD27)

Site: Pequeno Mike "BLU" Federal

Well: #5H

Wellbore: OH

Plan: Plan #4 (#5H/OH)



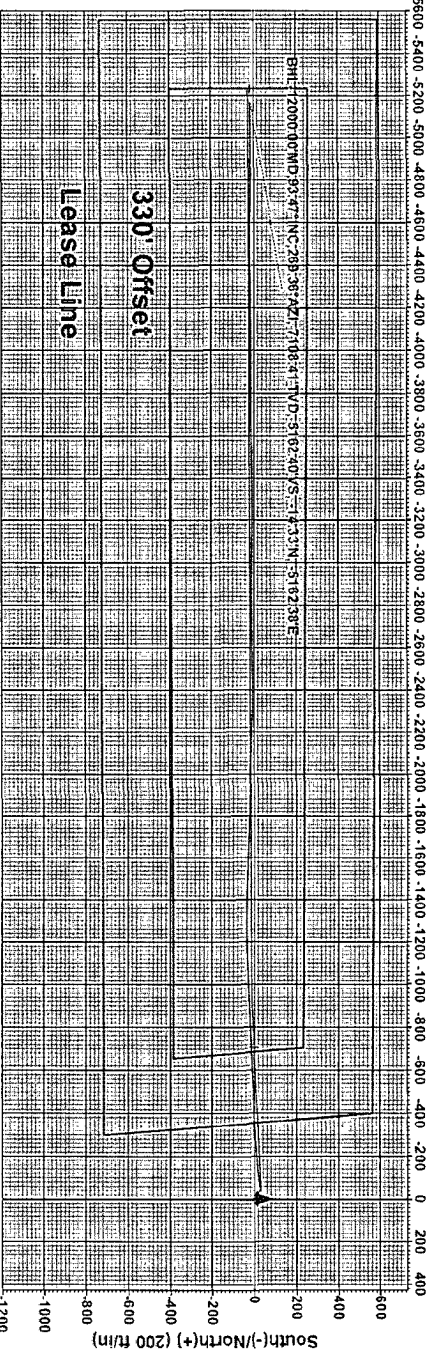
Azimuths to Grid North
True North: -0.15°
Magnetic North: 7.80°
Magnetic Field
Strength: 49122.45nT
Dip Angle: 60.82°
Date: 07/30/2010
Model: IGRF200510

PATHFINDER
A Schlumberger Company

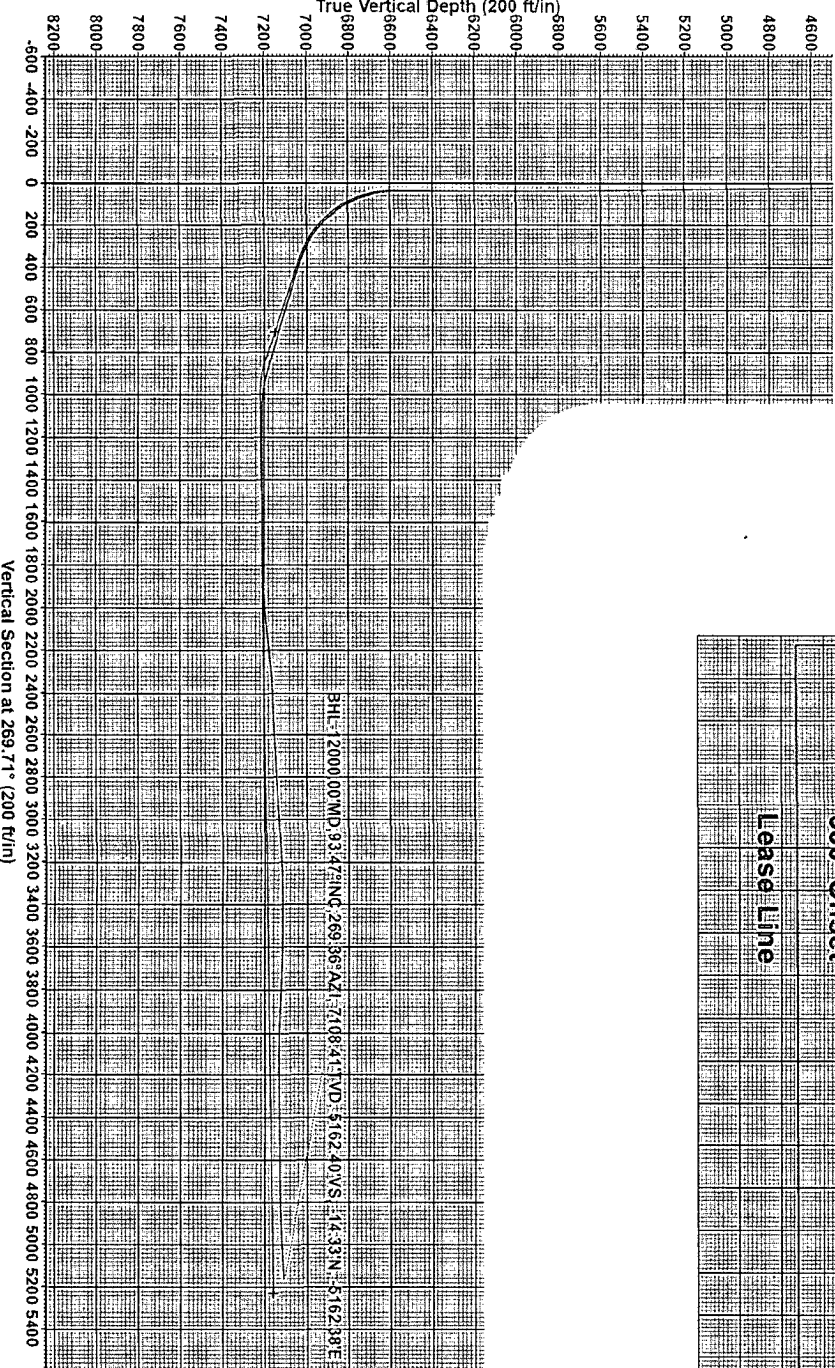
Sec	MD	Inc	AD	TVD	+N/S	+E/W	Dleg	Trce	VSac	Target
1	6576.00	0.32	7110	6576.63	31.47	-34.15	0.00	0.00	34.00	
2	7181.15	7173	287.00	7182.63	13.58	-351.50	12.00	-164.17	781.42	
3	7248.13	7173	287.00	7249.63	13.58	-351.50	12.00	-164.17	781.42	
4	7680.38	7173	287.00	7681.88	-3.33	-444.40	0.00	0.00	844.43	Ohlsen PT
5	7848.52	9080	259.53	7720.00	-13.53	-359.51	12.19	8.59	999.96	
6	12073.38	9080	259.53	7163.53	-26.14	-4230.35	0.00	0.00	5230.41	PBHL (PM55H)

WELLBORE TARGET DETAILS (MAP COORDINATES)

Name	TVD	+N/S	+E/W	Northing	Easting	Shape
Ohlsen PT	7163.53	-15.20	-4230.40	71297.500	590675.300	
PBHL (PM55H)	7163.53	-15.20	-4230.40	71297.500	590675.300	Point



West(-)/East(+) (200 ft/in)



WELL DETAILS: 65H

Ground Elevation:	3740.00
Rkt Elevation:	WELL 2 3751.00m (21 KB Correction)
Rkt Name:	21 KB Correction
+N/S	0.00
+E/W	0.00
Northing	713012.700
Easting	596105.700
Latitude	32° 57' 35.383 N
Longitude	104° 3' 9.518 W
Spot	

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



VIA CERTIFIED MAIL

October 20, 2010

State of New Mexico
Oil Conservation Division – District II
1301 W. Grand Avenue
Artesia, NM 88210

**RE: PEQUENO MIKE BLU FEDERAL #5H
API # 30-015-38038
EDDY COUNTY, NM**

Certified Article Number

7160 3820 3530 0985 9009

SENDER'S RECORD

RECEIVED

OCT 25 2010

NMOCD ARTESIA

Ladies and Gentlemen:

Enclosed please find the following:

- 1) Amended Form C-104 (original & 5 copies)
- 2) Three Detector Litho-Density Compensated Neutron/GR
- 3) Hi-Res Laterolog Array MicroCFL/GR
- 4) Borehole Compensated Sonic/GR
- 5) Amended Form C-102
- 6) Directional Survey

We hereby request that the enclosed logs and directional survey be kept confidential until 1/10/11 (90 days from the completion date of 10/12/10). If you have any questions, please contact me at 972-931-0700 ext. 109 or ccottrell@jdmii.com.

Very truly yours,

MURCHISON OIL & GAS, INC.

Cindy Cottrell
Regulatory Coordinator

Enclosures