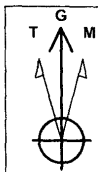


Murchison Oil & Gas

Project: Eddy County (NAD27)
Site: Ogden State
Well: #9H
Wellbore: OH
Plan: Plan #1 (#9H/OH)

30.015.37701



Azimuths to Grid North
True North: -0.04°
Magnetic North: 8.02°
Magnetic Field
Strength: 48627.8snT
Dip Angle: 60.03°
Date: 02/17/2010
Model: IGRF2010

RECEIVED

MAR 17 2010

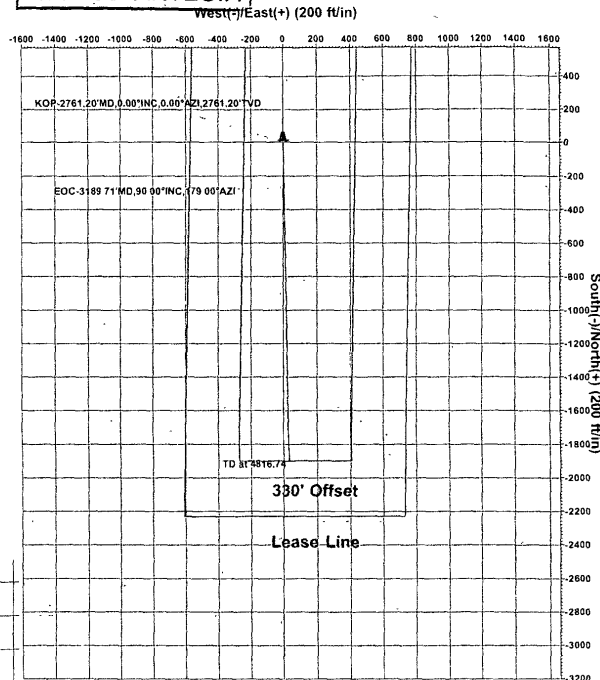
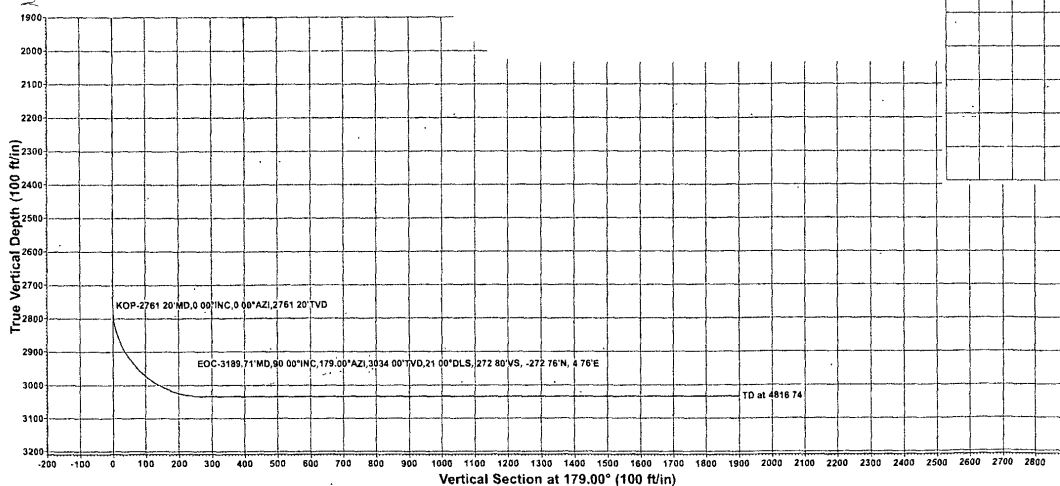
NMOCD ARTESIA

PATHFINDER

WELL DETAILS: #9H							
Ground Elevation		3381.00					
RKB Elevation		WELL @ 3398.00ft (Original Well Elev)					
Rig Name		Original Well Elev					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot	
0.00	0.00	421054.900	520986.700	32° 9' 27.275 N	104° 15' 56.908 W		

SECTION DETAILS									
Sec	MD	Inc	Asl	TVD	+N/-S	+E/-W	DLeg	TFace	VSec Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2761.20	0.00	0.00	2761.20	0.00	0.00	0.00	0.00	0.00
3	3189.71	80.00	179.00	3034.00	-272.76	476.21	0.00	179.00	272.80
4	4816.74	90.00	179.00	3034.00	-1899.54	33.16	0.00	1899.82	PBHL(OS#9)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL(OS#9)	3034.00	-1899.40	40.90	419154.600	520937.600	Point



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 #1 (#9H/OH)
Created By: Nate Bingham Date: 16.43, February 17 2010

MBZ

Murchison Oil & Gas

Eddy County (NAD27)

Ogden State

#9H

OH

Plan: Plan #1

Pathfinder X & Y Planning Report

17 February, 2010

The logo for Pathfinder, featuring the word "PATH" in a bold, sans-serif font, followed by a stylized graphic element consisting of two parallel lines that curve upwards and to the right, and then the word "FINDER" in a bold, sans-serif font.

Pathfinder
Pathfinder X & Y Planning Report



Company:	Murchison Oil & Gas	Local Co-ordinate Reference:	Well #9H
Project:	Eddy County (NAD27)	TVD Reference:	WELL @ 3399.00ft (Original Well Elev)
Site:	Ogden State	MD Reference:	WELL @ 3399.00ft (Original Well Elev)
Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	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		Ogden State			
Site Position:		Northing:	421,054.000 ft	Latitude:	32° 9' 27.275 N
From:	Map	Easting:	520,896.700 ft	Longitude:	104° 15' 56.908 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.04 °

Well		#9H				
Well Position	+N/-S	0.00 ft	Northing:	421,054.000 ft	Latitude:	32° 9' 27.275 N
	+E/-W	0.00 ft	Easting:	520,896.700 ft	Longitude:	104° 15' 56.908 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,381.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	02/17/2010	8.06	60.03	48,628

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N-S (ft)	+E/W (ft)	Direction (°)
	0.00	0.00	0.00	179.00

Survey Tool Program		Date 02/17/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	4,816.67	Plan #1 (OH)	MWD	MWD - Standard

Pathfinder
Pathfinder X & Y Planning Report



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Project: Eddy County (NAD27)
Site: Ogden State
Well: #9H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #9H
TVD Reference: WELL @ 3399.00ft (Original Well Elev)
MD Reference: WELL @ 3399.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned 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	-3,399.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
100.00	0.00	0.00	100.00	-3,299.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
200.00	0.00	0.00	200.00	-3,199.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
300.00	0.00	0.00	300.00	-3,099.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
400.00	0.00	0.00	400.00	-2,999.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
500.00	0.00	0.00	500.00	-2,899.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
600.00	0.00	0.00	600.00	-2,799.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
700.00	0.00	0.00	700.00	-2,699.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
800.00	0.00	0.00	800.00	-2,599.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
900.00	0.00	0.00	900.00	-2,499.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
1,000.00	0.00	0.00	1,000.00	-2,399.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
1,100.00	0.00	0.00	1,100.00	-2,299.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
1,200.00	0.00	0.00	1,200.00	-2,199.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
1,300.00	0.00	0.00	1,300.00	-2,099.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
1,400.00	0.00	0.00	1,400.00	-1,999.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
1,500.00	0.00	0.00	1,500.00	-1,899.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
1,600.00	0.00	0.00	1,600.00	-1,799.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
1,700.00	0.00	0.00	1,700.00	-1,699.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
1,800.00	0.00	0.00	1,800.00	-1,599.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
1,900.00	0.00	0.00	1,900.00	-1,499.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
2,000.00	0.00	0.00	2,000.00	-1,399.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
2,100.00	0.00	0.00	2,100.00	-1,299.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
2,200.00	0.00	0.00	2,200.00	-1,199.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
2,300.00	0.00	0.00	2,300.00	-1,099.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
2,400.00	0.00	0.00	2,400.00	-999.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
2,500.00	0.00	0.00	2,500.00	-899.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
2,600.00	0.00	0.00	2,600.00	-799.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70

Pathfinder
Pathfinder X & Y Planning Report



Company: Murchison Oil & Gas
Project: Eddy County (NAD27)
Site: Ogden State
Well: #9H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #9H
TVD Reference: WELL @ 3399.00ft (Original Well Elev)
MD Reference: WELL @ 3399.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
2,700.00	0.00	0.00	2,700.00	-699.00	0.00	0.00	0.00	0.00	421,054.00	520,896.70
2,761.20	0.00	0.00	2,761.20	-637.80	0.00	0.00	0.00	0.00	421,054.00	520,896.70
KOP-2761.20°MD,0.00°INC,0.00°AZI,2761.20°TVD										
2,775.00	2.90	179.00	2,774.99	-624.01	-0.35	0.01	0.35	21.00	421,053.65	520,896.71
2,800.00	8.15	179.00	2,799.87	-599.13	-2.75	0.05	2.75	21.00	421,051.25	520,896.75
2,825.00	13.40	179.00	2,824.42	-574.58	-7.43	0.13	7.43	21.00	421,046.57	520,896.83
2,850.00	18.65	179.00	2,848.44	-550.56	-14.32	0.25	14.33	21.00	421,039.68	520,896.95
2,875.00	23.90	179.00	2,871.73	-527.27	-23.39	0.41	23.39	21.00	421,030.61	520,897.11
2,900.00	29.15	179.00	2,894.09	-504.91	-34.55	0.60	34.56	21.00	421,019.45	520,897.30
2,925.00	34.40	179.00	2,915.33	-483.67	-47.71	0.83	47.72	21.00	421,006.29	520,897.53
2,950.00	39.65	179.00	2,935.29	-463.71	-62.76	1.10	62.77	21.00	420,991.24	520,897.80
2,975.00	44.90	179.00	2,953.78	-445.22	-79.57	1.39	79.58	21.00	420,974.43	520,898.09
3,000.00	50.15	179.00	2,970.65	-428.35	-98.00	1.71	98.01	21.00	420,956.00	520,898.41
3,025.00	55.41	179.00	2,985.77	-413.23	-117.90	2.06	117.91	21.00	420,936.10	520,898.76
3,050.00	60.66	179.00	2,999.00	-400.00	-139.09	2.43	139.11	21.00	420,914.91	520,899.13
3,075.00	65.91	179.00	3,010.23	-388.77	-161.41	2.82	161.44	21.00	420,892.59	520,899.52
3,100.00	71.16	179.00	3,019.38	-379.62	-184.67	3.22	184.70	21.00	420,869.33	520,899.92
3,125.00	76.41	179.00	3,026.36	-372.64	-208.66	3.64	208.69	21.00	420,845.34	520,900.34
3,150.00	81.66	179.00	3,031.11	-367.89	-233.19	4.07	233.23	21.00	420,820.81	520,900.77
3,175.00	86.91	179.00	3,033.60	-365.40	-258.05	4.50	258.09	21.00	420,795.95	520,901.20
3,189.71	90.00	179.00	3,034.00	-365.00	-272.76	4.76	272.80	21.00	420,781.24	520,901.46
EOC-3189.71°MD,90.00°INC,179.00°AZI,3034.00°TVD,21.00°DLS, 272.80°VS, -272.76°N, 4.76°E										
3,200.00	90.00	179.00	3,034.00	-365.00	-283.04	4.94	283.09	0.00	420,770.96	520,901.64
3,300.00	90.00	179.00	3,034.00	-365.00	-383.03	6.69	383.09	0.00	420,670.97	520,903.39
3,400.00	90.00	179.00	3,034.00	-365.00	-483.01	8.43	483.09	0.00	420,570.99	520,905.13
3,500.00	90.00	179.00	3,034.00	-365.00	-583.00	10.18	583.09	0.00	420,471.00	520,906.88
3,600.00	90.00	179.00	3,034.00	-365.00	-682.98	11.92	683.09	0.00	420,371.02	520,908.62

Pathfinder
Pathfinder X & Y Planning Report



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Project: Eddy County (NAD27)
Site: Ogden State
Well: #9H
Wellbore: OH
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Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
3,700.00	90.00	179.00	3,034.00	-365.00	-782.97	13.67	783.09	0.00	420,271.03	520,910.37
3,800.00	90.00	179.00	3,034.00	-365.00	-882.95	15.41	883.09	0.00	420,171.05	520,912.11
3,900.00	90.00	179.00	3,034.00	-365.00	-982.94	17.16	983.09	0.00	420,071.06	520,913.86
4,000.00	90.00	179.00	3,034.00	-365.00	-1,082.92	18.90	1,083.09	0.00	419,971.08	520,915.60
4,100.00	90.00	179.00	3,034.00	-365.00	-1,182.91	20.65	1,183.09	0.00	419,871.09	520,917.35
4,200.00	90.00	179.00	3,034.00	-365.00	-1,282.89	22.39	1,283.09	0.00	419,771.11	520,919.09
4,300.00	90.00	179.00	3,034.00	-365.00	-1,382.88	24.14	1,383.09	0.00	419,671.12	520,920.84
4,400.00	90.00	179.00	3,034.00	-365.00	-1,482.86	25.88	1,483.09	0.00	419,571.14	520,922.58
4,500.00	90.00	179.00	3,034.00	-365.00	-1,582.85	27.63	1,583.09	0.00	419,471.15	520,924.33
4,600.00	90.00	179.00	3,034.00	-365.00	-1,682.83	29.37	1,683.09	0.00	419,371.17	520,926.07
4,700.00	90.00	179.00	3,034.00	-365.00	-1,782.82	31.12	1,783.09	0.00	419,271.18	520,927.82
4,800.00	90.00	179.00	3,034.00	-365.00	-1,882.80	32.86	1,883.09	0.00	419,171.20	520,929.56
4,816.74	90.00	179.00	3,034.00	-365.00	-1,899.54	33.16	1,899.82	0.00	419,154.46	520,929.86

TD at 4816.74

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL(OS#9) - plan misses target center by 7.74ft at 4816.74ft MD (3034.00 TVD, -1899.54 N, 33.16 E) - Point	0.00	0.00	3,034.00	-1,899.40	40.90	419,154.600	520,937.600	32° 9' 8.477 N	104° 15' 56.446 W

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Survey Calculation Method: Minimum Curvature
Database: Midland Database

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,761.20	2,761.20	0.00	0.00	KOP-2761.20°MD,0.00°INC,0.00°AZI,2761.20°TVD
3,189.71	3,034.00	-272.76	4.76	EOC-3189.71°MD,90.00°INC,179.00°AZI,3034.00°TVD,21.00°DLS, 272
4,816.74	3,034.00	-1,899.54	33.16	TD at 4816.74

Checked By: _____ Approved By: _____ Date: _____