

30-015-36445

OGX Resources

Eddy County
Higgins 33 #1H
Higgins 33 #1H
OH

Survey: MWD

Patfinder X & Y Survey Report

16 December, 2008

Pathfinder Energy Services Pathfinder X & Y Survey Report

Company:	OGX Resources	Local Co-ordinate Reference:	Well Higgins 33 #1H
Project:	Eddy County	TVD Reference:	WELL @ 3066.00ft (Original Well Elev)
Site:	Higgins 33 #1H	MD Reference:	WELL @ 3066.00ft (Original Well Elev)
Well:	Higgins 33 #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 2003.16 Single User Db

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

Site:	Higgins 33 #1H		
Site Position:		Northing:	458,596.130 ft
From:	Map	Easting:	576,454.520 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	32° 15' 38.000 N
		Longitude:	104° 5' 9.600 W
		Grid Convergence:	0.13 °

Well		Higgins 33 #1H				
Well Position	+N/-S	0.00 ft	Northing:	458,596.130 ft	Latitude:	32° 15' 38.000 N
	+E/-W	0.00 ft	Easting:	576,454.520 ft	Longitude:	104° 5' 9.600 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,066.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	11/14/2008	7.24	61.08	49,454

Design:	OH			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	263.31

Pathfinder Energy Services

Pathfinder X & Y Survey Report

Company: OGX Resources
Project: Eddy County
Site: Higgins 33 #1H
Well: Higgins 33 #1H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Higgins 33 #1H
TVD Reference: WELL @ 3066.00ft (Original Well Elev)
MD Reference: WELL @ 3066.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Survey Program: Date 12/16/2008

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.00	6,600.00	GYRO (OH)	MWD	MWD - Standard
6,672.00	10,916.00	MWD (OH)	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)
6,600.00	0.96	84.86	6,598.72	3,532.72	-29.63	47.20	-43.42	0.00	458,566.50	576,501.72
6,672.00	0.53	116.14	6,670.71	3,604.71	-29.72	48.10	-44.31	0.80	458,566.41	576,502.62
6,734.00	4.22	263.79	6,732.66	3,666.66	-30.10	46.09	-42.27	7.54	458,566.03	576,500.61
6,765.00	4.92	260.82	6,763.56	3,697.56	-30.43	43.64	-39.80	2.38	458,565.70	576,498.16
6,797.00	4.84	265.59	6,795.45	3,729.45	-30.76	40.94	-37.08	1.29	458,565.37	576,495.46
6,829.00	4.48	263.04	6,827.34	3,761.34	-31.01	38.35	-34.48	1.30	458,565.12	576,492.87
6,860.00	6.07	266.83	6,858.21	3,792.21	-31.25	35.51	-31.63	5.25	458,564.88	576,490.03
6,892.00	8.27	264.97	6,889.96	3,823.96	-31.54	31.53	-27.64	6.91	458,564.59	576,486.05
6,923.00	11.34	263.68	6,920.50	3,854.50	-32.08	26.28	-22.36	9.93	458,564.05	576,480.80
6,955.00	14.33	263.75	6,951.70	3,885.70	-32.85	19.22	-15.26	9.34	458,563.28	576,473.74
6,987.00	17.15	262.86	6,982.49	3,916.49	-33.87	10.60	-6.58	8.84	458,562.26	576,465.12
7,018.00	20.05	261.58	7,011.87	3,945.87	-35.22	0.80	3.31	9.45	458,560.91	576,455.32
7,050.00	22.07	260.44	7,041.73	3,975.73	-37.02	-10.55	14.80	6.44	458,559.11	576,443.97
7,082.00	24.18	262.33	7,071.16	4,005.16	-38.89	-22.98	27.35	6.99	458,557.24	576,431.54
7,114.00	26.64	265.04	7,100.06	4,034.06	-40.39	-36.62	41.08	8.50	458,555.74	576,417.90
7,146.00	30.34	266.66	7,128.18	4,062.18	-41.48	-51.85	56.32	11.81	458,554.65	576,402.67
7,177.00	33.77	267.85	7,154.45	4,088.45	-42.26	-68.28	72.73	11.25	458,553.87	576,386.24
7,209.00	36.58	267.54	7,180.61	4,114.61	-43.00	-86.69	91.11	8.80	458,553.13	576,367.83
7,240.00	39.75	267.62	7,204.98	4,138.98	-43.81	-105.83	110.21	10.23	458,552.32	576,348.69
7,273.00	43.97	266.89	7,229.55	4,163.55	-44.87	-127.82	132.18	12.87	458,551.26	576,326.70
7,304.00	48.54	266.18	7,250.98	4,184.98	-46.23	-150.17	154.53	14.83	458,549.90	576,304.35

Pathfinder Energy Services
Pathfinder X & Y Survey Report

Company: OGX Resources
Project: Eddy County
Site: Higgins 33 #1H
Well: Higgins 33 #1H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Higgins 33 #1H
TVD Reference: WELL @ 3066.00ft (Original Well Elev)
MD Reference: WELL @ 3066.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
7,336.00	53.02	267.48	7,271.21	4,205.21	-47.59	-174.91	179.27	14.35	458,548.54	576,279.61
7,368.00	56.98	266.56	7,289.56	4,223.56	-48.96	-201.09	205.42	12.60	458,547.17	576,253.43
7,400.00	60.32	266.25	7,306.21	4,240.21	-50.67	-228.36	232.71	10.47	458,545.46	576,226.16
7,432.00	63.40	265.44	7,321.30	4,255.30	-52.72	-256.50	260.89	9.88	458,543.41	576,198.02
7,463.00	66.48	264.37	7,334.43	4,268.43	-55.22	-284.46	288.96	10.42	458,540.91	576,170.06
7,494.00	70.52	264.09	7,345.79	4,279.79	-58.12	-313.15	317.79	13.06	458,538.01	576,141.37
7,527.00	74.22	263.54	7,355.78	4,289.78	-61.51	-344.41	349.23	11.32	458,534.62	576,110.11
7,559.00	77.91	262.77	7,363.48	4,297.48	-65.21	-375.25	380.29	11.77	458,530.92	576,079.27
7,591.00	80.37	262.29	7,369.51	4,303.51	-69.29	-406.40	411.71	7.83	458,526.84	576,048.12
7,623.00	83.71	262.32	7,373.94	4,307.94	-73.54	-437.81	443.39	10.44	458,522.59	576,016.71
7,686.00	90.13	262.81	7,377.33	4,311.33	-81.67	-500.15	506.26	10.22	458,514.46	575,954.37
7,782.00	89.96	262.36	7,377.25	4,311.25	-94.06	-595.35	602.25	0.50	458,502.07	575,859.17
7,878.00	90.92	262.32	7,376.51	4,310.51	-106.86	-690.49	698.24	1.00	458,489.27	575,764.03
7,973.00	90.66	262.06	7,375.20	4,309.20	-119.77	-784.60	793.21	0.39	458,476.36	575,669.92
8,068.00	89.34	262.38	7,375.20	4,309.20	-132.63	-878.72	888.19	1.43	458,463.50	575,575.80
8,164.00	93.65	263.81	7,372.70	4,306.70	-144.16	-973.97	984.13	4.73	458,451.97	575,480.55
8,259.00	92.59	263.47	7,367.53	4,301.53	-154.67	-1,068.24	1,078.99	1.17	458,441.46	575,386.28
8,354.00	90.92	264.12	7,364.62	4,298.62	-164.93	-1,162.64	1,173.94	1.89	458,431.20	575,291.88
8,448.00	90.31	263.13	7,363.61	4,297.61	-175.37	-1,256.05	1,267.93	1.24	458,420.76	575,198.47
8,543.00	90.31	263.36	7,363.10	4,297.10	-186.54	-1,350.39	1,362.93	0.24	458,409.59	575,104.13
8,639.00	90.84	264.09	7,362.13	4,296.13	-197.04	-1,445.81	1,458.92	0.94	458,399.09	575,008.71
8,733.00	91.28	264.38	7,360.39	4,294.39	-206.48	-1,539.32	1,552.89	0.56	458,389.65	574,915.20
8,828.00	90.57	263.98	7,358.86	4,292.86	-216.11	-1,633.81	1,647.86	0.86	458,380.02	574,820.71
8,924.00	91.36	263.83	7,357.24	4,291.24	-226.30	-1,729.26	1,743.84	0.84	458,369.83	574,725.26
9,017.00	91.54	264.29	7,354.89	4,288.89	-235.92	-1,821.73	1,836.81	0.53	458,360.21	574,632.79
9,112.00	92.24	263.92	7,351.76	4,285.76	-245.67	-1,916.17	1,931.74	0.83	458,350.46	574,538.35
9,206.00	93.83	264.92	7,346.78	4,280.78	-254.80	-2,009.59	2,025.59	2.00	458,341.33	574,444.93

Pathfinder Energy Services

Pathfinder X & Y Survey Report

Company: OGX Resources
Project: Eddy County
Site: Higgins 33 #1H
Well: Higgins 33 #1H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Higgins 33 #1H
TVD Reference: WELL @ 3066.00ft (Original Well Elev)
MD Reference: WELL @ 3066.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
9,302.00	92.07	264.79	7,341.84	4,275.84	-263.40	-2,105.07	2,121.43	1.84	458,332.73	574,349.45
9,397.00	90.92	264.67	7,339.36	4,273.36	-272.12	-2,199.64	2,216.36	1.22	458,324.01	574,254.88
9,492.00	88.72	263.76	7,339.66	4,273.66	-281.69	-2,294.15	2,311.34	2.51	458,314.44	574,160.37
9,587.00	89.96	263.02	7,340.75	4,274.75	-292.63	-2,388.51	2,406.33	1.52	458,303.50	574,066.01
9,680.00	90.04	263.52	7,340.75	4,274.75	-303.53	-2,480.87	2,499.33	0.54	458,292.60	573,973.65
9,775.00	91.36	264.26	7,339.59	4,273.59	-313.64	-2,575.32	2,594.32	1.59	458,282.49	573,879.20
9,870.00	90.57	263.30	7,337.99	4,271.99	-323.93	-2,669.74	2,689.30	1.31	458,272.20	573,784.78
9,964.00	90.31	263.68	7,337.27	4,271.27	-334.59	-2,763.13	2,783.30	0.49	458,261.54	573,691.39
10,059.00	90.84	263.72	7,336.32	4,270.32	-345.01	-2,857.55	2,878.29	0.56	458,251.12	573,596.97
10,154.00	91.45	263.90	7,334.42	4,268.42	-355.25	-2,951.98	2,973.27	0.67	458,240.88	573,502.54
10,248.00	90.22	262.65	7,333.05	4,267.05	-366.26	-3,045.32	3,067.25	1.87	458,229.87	573,409.20
10,343.00	90.84	262.98	7,332.17	4,266.17	-378.14	-3,139.57	3,162.24	0.74	458,217.99	573,314.95
10,438.00	89.60	262.59	7,331.81	4,265.81	-390.07	-3,233.81	3,257.24	1.37	458,206.06	573,220.71
10,533.00	90.04	263.70	7,332.11	4,266.11	-401.41	-3,328.13	3,352.24	1.26	458,194.72	573,126.39
10,628.00	90.48	263.58	7,331.67	4,265.67	-411.93	-3,422.55	3,447.23	0.48	458,184.20	573,031.97
10,723.00	90.22	262.94	7,331.09	4,265.09	-423.08	-3,516.89	3,542.23	0.73	458,173.05	572,937.63
10,818.00	90.48	262.58	7,330.51	4,264.51	-435.05	-3,611.13	3,637.22	0.47	458,161.08	572,843.39
10,850.00	88.99	261.68	7,330.66	4,264.66	-439.44	-3,642.83	3,669.22	5.44	458,156.69	572,811.69
10,916.00	88.99	261.68	7,331.82	4,265.82	-448.98	-3,708.12	3,735.18	0.00	458,147.15	572,746.40

Straight line projection to Bit @ 10916'MD

Pathfinder Energy Services
Patfinder X & Y Survey Report

Company: OGX Resources
Project: Eddy County
Site: Higgins 33 #1H
Well: Higgins 33 #1H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Higgins 33 #1H
TVD Reference: WELL @ 3066.00ft (Original Well Elev)
MD Reference: WELL @ 3066.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Targets

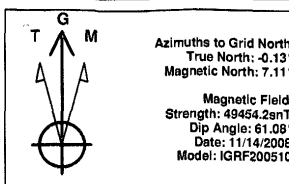
Target Name	Dip Angle	Dip Dir	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
PBHL OH(Higg33)	0.00	357.34	7,329.82	-500.00	-4,265.00	458,096.130	572,189.520	32° 15' 33.146 N	104° 5' 59.283 W
- survey misses by 559.21ft at 10916.00ft MD (7331.82 TVD, -448.98 N, -3708.12 E)									
- Point									

Survey Annotations

Measured Depth	Vertical Depth	Local Coordinates		Comment
		+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	
10,916.00	7,331.82	-448.98	-3,708.12	Straight line projection to Bit @ 10916'MD

Checked By: _____ Approved By: _____ Date: _____

OGX Resources



PATHFINDER ENERGY SERVICES

WELL DETAILS: Higgins 33 #1H

Ground Elevation: 3085.00
RKB Elevation: WELL @ 3085.00ft (Original Well Elev)
Rig Name: Original Well Elev

+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	458598.130	576454.520	32° 19' 36.000 N	104° 6' 9.500 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TPace	VSec	Target
1	6780.00	1.26	80.57	6748.59	-29.71	49.77	0.00	0.00	-45.97	
2	7005.82	12.00	263.78	7005.80	-32.17	25.72	5.12	-177.09	-21.80	
3	7685.66	90.81	263.78	7384.00	-83.61	-445.34	12.00	0.00	452.04	
4	7702.04	90.81	263.78	7383.49	-67.45	-401.50	0.01	-126.03	488.41	
5	11506.34	90.81	263.78	7328.82	-500.00	-4285.00	0.00	0.00	4294.21	PBHL OH(Higg33)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting	Shape
PBHL OH7329.82		-500.00	-4285.00	458598.130	572189.520	Point

