

30-015-38272

PathFinder Energy Services, Inc.

Survey Report

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JUL 26 2011

NMOCD ARTESIA

DEVON ENERGY CORPORATION

SLIDER "8" FEDERAL #3H ST1

EDDY COUNTY, NM

Rig:H&P 416

PathFinder Office Supervisor: FRANCISCO SINISTERRA

PathFinder Field Engineers: JOSHUA SNEED

DAVID PHILLIPS

MIKE SWINEY

Survey Calculations by RX5 V6.03D using Minimum Curvature

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:32.830.6175 N LON:104.09.0979 W

GRID Reference:NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 643725.5290 Y: 415493.5700

North Aligned To:GRID NORTH

Total Magnetic Correction: 7.64°EAST TO GRID

Vertical Section Plane: 260.60

Survey Vert. Reference: 19.00' Rotary Table To Ground

Altitude:2991.00' Ground To MSL

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
TIED INTO GYRO DATA SURVEYS AT 506'MD.										
506.00	2.19	283.02	505.91	0.00	5.28	0.52 N	5.44 W	5.46@	275.46	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
638.00	2.81	280.89	637.78	132.00	10.65	1.70 N	11.07 W	11.20@	278.72	0.48
729.00	2.11	268.76	728.70	91.00	14.40	2.08 N	14.94 W	15.08@	277.94	0.96
821.00	2.02	248.64	820.64	92.00	17.66	1.46 N	18.14 W	18.20@	274.59	0.79
912.00	2.90	184.91	911.57	91.00	19.80	1.42 S	19.83 W	19.89@	265.90	2.97
1004.00	4.13	173.31	1003.40	92.00	20.53	7.03 S	19.65 W	20.87@	250.31	1.54
1065.00	4.40	174.54	1064.23	61.00	20.80	11.54 S	19.17 W	22.38@	238.95	0.47
1160.00	4.57	174.81	1158.94	95.00	21.32	18.94 S	18.48 W	26.46@	224.30	0.18
1254.00	4.57	177.27	1252.64	94.00	22.03	26.41 S	17.96 W	31.94@	214.22	0.21
1349.00	4.57	179.82	1347.34	95.00	23.08	33.97 S	17.77 W	38.34@	207.61	0.21
1443.00	4.57	183.68	1441.04	94.00	24.53	41.45 S	18.00 W	45.19@	203.47	0.33
1538.00	4.84	170.24	1535.72	95.00	25.36	49.18 S	17.56 W	52.22@	199.65	1.19
1632.00	4.66	160.83	1629.40	94.00	24.69	56.70 S	15.64 W	58.81@	195.42	0.85
1727.00	4.66	163.65	1724.09	95.00	23.56	64.04 S	13.28 W	65.41@	191.72	0.24
1916.00	5.10	164.17	1912.40	189.00	21.70	79.49 S	8.83 W	79.98@	186.34	0.23
2105.00	6.07	166.11	2100.50	189.00	19.97	97.28 S	4.14 W	97.36@	182.44	0.52
2294.00	7.83	148.97	2288.13	189.00	14.44	118.01 S	4.90 E	118.11@	177.62	1.43
2483.00	8.71	140.09	2475.17	189.00	2.43	140.02 S	20.72 E	141.55@	171.58	0.82
2672.00	7.47	135.43	2662.28	189.00	-11.91	159.75 S	38.52 E	164.33@	166.44	0.74
2767.00	6.33	133.59	2756.59	95.00	-18.62	167.76 S	46.65 E	174.13@	164.46	1.22
2829.00	6.42	132.01	2818.21	62.00	-22.84	172.44 S	51.70 E	180.02@	163.31	0.32
2889.00	6.51	131.21	2877.83	60.00	-27.09	176.93 S	56.75 E	185.80@	162.22	0.21
2984.00	5.01	135.26	2972.35	95.00	-32.91	183.42 S	63.72 E	194.17@	160.84	1.63
3078.00	4.66	153.80	3066.02	94.00	-36.39	189.76 S	68.30 E	201.68@	160.21	1.70

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3173.00	4.57	153.28	3160.71	95.00	-38.63	196.61 S	71.70 E	209.27@	159.96	0.10
3267.00	4.40	153.63	3254.42	94.00	-40.80	203.18 S	74.99 E	216.58@	159.74	0.18
3362.00	4.40	149.93	3349.14	95.00	-43.15	209.60 S	78.43 E	223.79@	159.48	0.30
3456.00	4.22	150.73	3442.88	94.00	-45.59	215.74 S	81.93 E	230.77@	159.20	0.20
3551.00	3.69	150.99	3537.65	95.00	-47.81	221.46 S	85.12 E	237.26@	158.98	0.56
3645.00	3.78	129.90	3631.45	94.00	-50.84	226.09 S	88.97 E	242.97@	158.52	1.46
3740.00	3.25	132.27	3726.28	95.00	-54.56	229.91 S	93.36 E	248.15@	157.90	0.58
3834.00	2.81	131.04	3820.14	94.00	-57.68	233.22 S	97.07 E	252.61@	157.40	0.47
3929.00	3.61	131.39	3914.99	95.00	-61.05	236.72 S	101.07 E	257.40@	156.88	0.84
4023.00	3.43	130.33	4008.82	94.00	-64.74	240.50 S	105.43 E	262.60@	156.33	0.20
4118.00	3.25	131.04	4103.66	95.00	-68.29	244.11 S	109.63 E	267.60@	155.81	0.19
4212.00	3.08	131.65	4197.51	94.00	-71.57	247.54 S	113.53 E	272.33@	155.36	0.19
4307.00	3.08	131.74	4292.37	95.00	-74.78	250.93 S	117.34 E	277.01@	154.94	0.01
4402.00	2.90	130.95	4387.25	95.00	-77.92	254.21 S	121.06 E	281.56@	154.53	0.19
4496.00	2.90	131.65	4481.12	94.00	-80.93	257.34 S	124.63 E	285.94@	154.16	0.04
4591.00	2.73	136.14	4576.01	95.00	-83.72	260.57 S	128.00 E	290.31@	153.84	0.29
4686.00	3.69	138.16	4670.86	95.00	-86.64	264.48 S	131.60 E	295.41@	153.55	1.02
4780.00	3.69	140.27	4764.67	94.00	-89.79	269.06 S	135.55 E	301.28@	153.26	0.14
4875.00	3.69	138.68	4859.47	95.00	-92.95	273.71 S	139.53 E	307.22@	152.99	0.11
4969.00	3.52	140.00	4953.28	94.00	-96.02	278.19 S	143.38 E	312.97@	152.73	0.20
5064.00	3.34	140.36	5048.11	95.00	-98.90	282.56 S	147.02 E	318.52@	152.51	0.19
5158.00	2.99	143.34	5141.97	94.00	-101.40	286.63 S	150.23 E	323.61@	152.34	0.41
5253.00	2.90	144.57	5236.84	95.00	-103.59	290.58 S	153.10 E	328.44@	152.22	0.12
5347.00	2.73	148.27	5330.73	94.00	-105.48	294.42 S	155.66 E	333.03@	152.13	0.27
5442.00	2.73	151.96	5425.62	95.00	-107.06	298.34 S	157.91 E	337.55@	152.11	0.19
5537.00	2.37	154.15	5520.53	95.00	-108.34	302.10 S	159.83 E	341.78@	152.12	0.39
5631.00	2.55	151.96	5614.44	94.00	-109.56	305.70 S	161.66 E	345.81@	152.13	0.22
5725.00	2.46	149.85	5708.35	94.00	-110.94	309.29 S	163.66 E	349.92@	152.11	0.14

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5820.00	2.29	145.28	5803.27	95.00	-112.48	312.61 S	165.76 E	353.84@	152.07	0.27
5915.00	2.46	144.05	5898.19	95.00	-114.20	315.82 S	168.04 E	357.74@	151.98	0.19
6009.00	2.29	146.42	5992.11	94.00	-115.87	319.02 S	170.26 E	361.61@	151.91	0.21
6104.00	2.37	141.85	6087.03	95.00	-117.59	322.15 S	172.53 E	365.44@	151.83	0.21
6198.00	2.55	150.73	6180.94	94.00	-119.24	325.50 S	174.75 E	369.44@	151.77	0.45
6344.00	2.55	148.70	6326.80	146.00	-121.56	331.11 S	178.02 E	375.93@	151.73	0.06
6438.00	12.57	251.18	6420.05	94.00	-112.20	336.22 S	169.39 E	376.48@	153.26	14.20
6470.00	18.82	252.85	6450.84	32.00	-103.64	338.86 S	161.15 E	375.23@	154.57	19.58
6501.00	25.32	252.75	6479.55	31.00	-92.11	342.31 S	150.03 E	373.74@	156.33	20.97
6533.00	29.63	255.03	6507.94	32.00	-77.45	346.38 S	135.85 E	372.07@	158.59	13.86
6564.00	32.27	257.72	6534.52	31.00	-61.56	350.12 S	120.36 E	370.23@	161.03	9.61
6596.00	34.56	259.17	6561.23	32.00	-43.95	353.65 S	103.09 E	368.37@	163.75	7.58
6627.00	37.72	259.35	6586.26	31.00	-25.67	357.05 S	85.13 E	367.06@	166.59	10.20
6659.00	40.10	258.16	6611.16	32.00	-5.59	360.98 S	65.42 E	366.86@	169.73	7.80
6691.00	41.68	257.90	6635.35	32.00	15.34	365.32 S	44.93 E	368.07@	172.99	4.97
6722.00	43.00	260.18	6658.27	31.00	36.21	369.28 S	24.43 E	370.09@	176.21	6.53
6753.00	43.35	261.82	6680.88	31.00	57.42	372.60 S	3.49 E	372.62@	179.46	3.79
6785.00	44.32	263.85	6703.96	32.00	79.56	375.36 S	18.50 W	375.82@	182.82	5.34
6816.00	46.69	265.95	6725.69	31.00	101.61	377.32 S	40.52 W	379.49@	186.13	9.04
6848.00	50.03	266.99	6746.94	32.00	125.39	378.79 S	64.39 W	384.22@	189.65	10.72
6880.00	51.53	266.98	6767.18	32.00	150.03	380.09 S	89.15 W	390.40@	193.20	4.69
6911.00	51.97	267.15	6786.37	31.00	174.22	381.34 S	113.46 W	397.86@	196.57	1.48
6942.00	52.32	267.10	6805.39	31.00	198.54	382.56 S	137.90 W	406.66@	199.82	1.14
6974.00	54.08	267.18	6824.56	32.00	223.99	383.84 S	163.49 W	417.21@	203.07	5.50
7005.00	56.54	266.77	6842.20	31.00	249.32	385.19 S	188.95 W	429.04@	206.13	8.01
7038.00	57.42	266.42	6860.19	33.00	276.84	386.83 S	216.57 W	443.33@	209.24	2.81
7069.00	56.54	266.43	6877.08	31.00	302.70	388.45 S	242.51 W	457.94@	211.98	2.84
7101.00	58.83	266.96	6894.18	32.00	329.59	390.01 S	269.51 W	474.07@	214.65	7.29

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7132.00	61.47	267.73	6909.61	31.00	356.28	391.25 S	296.36 W	490.83@	217.14	8.78
7164.00	62.87	267.72	6924.55	32.00	384.36	392.38 S	324.64 W	509.26@	219.60	4.37
7195.00	62.52	267.46	6938.77	31.00	411.70	393.54 S	352.16 W	528.10@	221.82	1.35
7227.00	62.78	267.17	6953.47	32.00	439.93	394.87 S	380.55 W	548.40@	223.94	1.14
7258.00	63.84	267.26	6967.40	31.00	467.44	396.21 S	408.21 W	568.88@	225.85	3.43
7290.00	65.51	266.90	6981.08	32.00	496.18	397.69 S	437.10 W	590.94@	227.70	5.32
7321.00	67.62	266.67	6993.41	31.00	524.46	399.28 S	465.50 W	613.28@	229.38	6.84
7353.00	68.50	266.31	7005.37	32.00	553.99	401.10 S	495.12 W	637.20@	230.99	2.94
7384.00	68.59	266.15	7016.71	31.00	582.70	403.00 S	523.91 W	660.98@	232.43	0.56
7415.00	70.26	266.03	7027.60	31.00	611.59	404.98 S	552.87 W	685.32@	233.78	5.40
7447.00	71.49	266.21	7038.09	32.00	641.68	407.02 S	583.03 W	711.05@	235.08	3.88
7479.00	73.42	266.18	7047.73	32.00	672.04	409.05 S	613.47 W	737.34@	236.31	6.03
7510.00	74.57	266.54	7056.28	31.00	701.69	410.94 S	643.21 W	763.28@	237.43	3.87
7541.00	75.80	266.69	7064.21	31.00	731.50	412.71 S	673.13 W	789.57@	238.49	4.00
7573.00	76.33	266.63	7071.91	32.00	762.38	414.52 S	704.13 W	817.09@	239.52	1.67
7604.00	78.52	266.86	7078.66	31.00	792.46	416.23 S	734.34 W	844.10@	240.45	7.10
7636.00	81.43	266.88	7084.23	32.00	823.78	417.95 S	765.80 W	872.43@	241.38	9.09
7667.00	85.47	267.21	7087.77	31.00	854.38	419.54 S	796.55 W	900.28@	242.22	13.08
7699.00	87.41	266.64	7089.75	32.00	886.12	421.25 S	828.44 W	929.39@	243.05	6.32
7730.00	87.32	266.11	7091.18	31.00	916.93	423.21 S	859.35 W	957.91@	243.78	1.73
7762.00	87.76	266.29	7092.55	32.00	948.75	425.33 S	891.25 W	987.54@	244.49	1.49
7793.00	90.66	266.56	7092.98	31.00	979.58	427.26 S	922.18 W	1016.35@	245.14	9.40
7825.00	92.68	267.06	7092.05	32.00	1011.38	429.04 S	954.11 W	1046.14@	245.79	6.50
7920.00	93.12	266.94	7087.24	95.00	1105.66	434.01 S	1048.86 W	1135.11@	247.52	0.48
8014.00	93.65	267.26	7081.69	94.00	1198.90	438.76 S	1142.58 W	1223.93@	248.99	0.66
8109.00	93.21	267.36	7076.01	95.00	1293.08	443.21 S	1237.30 W	1314.29@	250.29	0.48
8204.00	91.71	266.67	7071.93	95.00	1387.39	448.15 S	1332.08 W	1405.45@	251.41	1.74
8298.00	91.54	265.92	7069.26	94.00	1480.89	454.22 S	1425.85 W	1496.45@	252.33	0.82

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8393.00	92.51	266.52	7065.91	95.00	1575.37	460.48 S	1520.58 W	1588.78@	253.15	1.20
8487.00	90.66	265.28	7063.31	94.00	1668.93	467.20 S	1614.30 W	1680.55@	253.86	2.37
8582.00	91.89	265.69	7061.19	95.00	1763.56	474.68 S	1708.98 W	1773.68@	254.48	1.36
8676.00	91.89	265.44	7058.09	94.00	1857.15	481.94 S	1802.65 W	1865.96@	255.03	0.27
8771.00	91.19	266.60	7055.54	95.00	1951.69	488.53 S	1897.38 W	1959.26@	255.56	1.43
8865.00	91.98	266.93	7052.94	94.00	2045.11	493.83 S	1991.19 W	2051.52@	256.07	0.91
8960.00	90.84	266.38	7050.60	95.00	2139.55	499.38 S	2086.00 W	2144.94@	256.54	1.33
9054.00	91.71	266.09	7048.51	94.00	2233.07	505.55 S	2179.77 W	2237.63@	256.94	0.98
9149.00	91.19	266.16	7046.11	95.00	2327.60	511.96 S	2274.53 W	2331.43@	257.31	0.55
9243.00	91.36	266.34	7044.01	94.00	2421.12	518.11 S	2368.30 W	2424.31@	257.66	0.26
9338.00	90.84	266.38	7042.19	95.00	2515.62	524.14 S	2463.09 W	2518.24@	257.99	0.55
9433.00	90.48	266.05	7041.10	95.00	2610.16	530.41 S	2557.88 W	2612.29@	258.28	0.51
9527.00	90.66	266.80	7040.16	94.00	2703.67	536.27 S	2651.69 W	2705.37@	258.57	0.82
9622.00	91.54	266.76	7038.34	95.00	2798.10	541.61 S	2746.52 W	2799.41@	258.84	0.93
9716.00	91.28	266.95	7036.02	94.00	2891.51	546.76 S	2840.35 W	2892.50@	259.10	0.34
9811.00	90.13	266.53	7034.86	95.00	2985.96	552.17 S	2935.19 W	2986.67@	259.35	1.29
9905.00	91.36	266.25	7033.63	94.00	3079.47	558.08 S	3028.99 W	3079.98@	259.56	1.34
10000.00	91.54	266.77	7031.23	95.00	3173.93	563.86 S	3123.79 W	3174.27@	259.77	0.58
10095.00	91.63	266.61	7028.60	95.00	3268.36	569.35 S	3218.59 W	3268.56@	259.97	0.19
10189.00	90.84	266.61	7026.58	94.00	3361.82	574.90 S	3312.40 W	3361.92@	260.15	0.84
10284.00	91.63	266.62	7024.53	95.00	3456.28	580.51 S	3407.22 W	3456.32@	260.33	0.83
10378.00	92.42	266.81	7021.21	94.00	3549.68	585.90 S	3501.00 W	3549.69@	260.50	0.86
10400.00	92.42	266.82	7020.28	22.00	3571.53	587.12 S	3522.95 W	3571.54@	260.54	0.05
PROJECTION TO BIT @ 10475' MD										
10475.00	92.42	266.82	7017.11	75.00	3646.03	591.27 S	3597.77 W	3646.03@	260.67	0.00