

Pathfinder Energy

Survey Report

Rec 11/8/06

Company: XTO Energy Field: Rio Arriba County, New Mexico Site: Valencia Canyon Unit 45 C Well: Valencia Canyon Unit 45C Wellpath: Original Hole <i>30-039-29697</i>		Date: 7/24/2006 Co-ordinate(NE) Reference: Well: Valencia Canyon Unit 45C Vertical (TVD) Reference: System: Mean Sea Level Section (VS) Reference: Well (0.00N,0.00E,303.56Azi) Survey Calculation Method: Minimum Curvature Db: Sybase								
Field: Rio Arriba County, New Mexico 1200' FSL 1925' FEL Sec. 34; T28N; R4W		Map System: US State Plane Coordinate System 1927 Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level								
Map Zone: New Mexico, Central Zone Coordinate System: Well Centre Geomagnetic Model: igrf2005										
Site: Valencia Canyon Unit 45 C Rio Arriba County, New Mexico 1200' FSL 1925' FEL Sec. 34; T28N; R4W										
Site Position: From: Lease Line Position Uncertainty: 0.00 ft Ground Level: 7197.00 ft		Northing: ft Easting: ft Latitude: Longitude: North Reference: True Grid Convergence: -0.59 deg								
Well: Valencia Canyon Unit 45C		Slot Name:								
Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft		Northing: 2043652.37 ft Easting: 210586.60 ft Latitude: 36 36 45.000 N Longitude: 107 14 10.000 W								
Wellpath: Original Hole		Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 10.27 deg Mag Dip Angle: 63.58 deg								
Current Datum: Mean Sea Level Magnetic Data: 5/4/2006 Field Strength: 51308 nT Vertical Section: Depth From (TVD) ft		Height 0.00 ft +N/-S ft +E/-W ft Direction deg								
0.00		0.00								
0.00		303.56								
Survey: Pathfinder MWD Survey Company: Pathfinder Energy Tool:		Start Date: 6/22/2006 Engineer: Midwellplan Tied-to: From Surface								
Survey: Pathfinder MWD Survey										
MD ft	Incl deg	Azlm deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<i>Surface: 1200' 1925' 1/2</i>
364.00	0.00	0.00	364.00	0.00	0.00	0.00	0.00	0.00	0.00	
549.00	1.67	278.40	548.97	0.39	-2.67	2.44	0.90	0.90	0.00	
737.00	1.93	275.33	736.88	1.09	-8.53	7.71	0.15	0.14	-1.63	
980.00	2.20	280.95	979.72	2.35	-17.18	15.62	0.14	0.11	2.31	<i>Top MV 1139' 5219' 1/2</i>
1082.00	2.11	281.57	1081.65	3.10	-20.94	19.17	0.09	-0.09	0.61	<i>BHL 1754' 5222' 1/2</i>
1113.00	2.46	300.55	1112.63	3.56	-22.08	20.36	2.67	1.13	61.23	
1145.00	3.25	318.39	1144.59	4.58	-23.27	21.92	3.69	2.47	55.75	
1176.00	4.75	326.83	1175.51	6.31	-24.56	23.95	5.19	4.84	27.23	
1208.00	5.36	329.03	1207.39	8.70	-26.05	26.52	2.00	1.91	6.87	
1239.00	5.28	327.54	1238.25	11.15	-27.56	29.13	0.51	-0.26	-4.81	
1270.00	5.54	329.47	1269.12	13.64	-29.09	31.78	1.02	0.84	6.23	
1301.00	6.86	333.42	1299.93	16.59	-30.67	34.73	4.47	4.26	12.74	
1333.00	7.74	334.13	1331.67	20.24	-32.47	38.24	2.76	2.75	2.22	
1365.00	8.00	333.95	1363.37	24.17	-34.39	42.02	0.82	0.81	-0.56	
1396.00	7.91	333.34	1394.07	28.02	-36.29	45.73	0.40	-0.29	-1.97	
1428.00	7.91	333.07	1425.77	31.95	-38.28	49.56	0.12	0.00	-0.84	
1489.00	7.65	333.34	1486.21	39.32	-42.00	56.74	0.43	-0.43	0.44	
1550.00	8.35	331.49	1546.61	46.84	-45.94	64.17	1.22	1.15	-3.03	
1645.00	8.09	332.46	1640.64	58.83	-52.32	76.12	0.31	-0.27	1.02	
1739.00	7.83	332.37	1733.73	70.37	-58.35	87.52	0.28	-0.28	-0.10	
1833.00	8.27	332.72	1826.81	82.05	-64.42	99.04	0.47	0.47	0.37	
1959.00	7.74	329.56	1951.58	97.42	-72.87	114.58	0.55	-0.42	-2.51	
2053.00	8.79	329.82	2044.60	109.08	-79.69	126.71	1.12	1.12	0.28	

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Pathfinder Energy

Survey Report

Company: XTO Energy	Date: 7/24/2006	Time: 16:18:15	Page: 2
Field: Rio Arriba County, New Mexico	Co-ordinate(NE) Reference: Well: Valencia Canyon Unit 45C		
Site: Valencia Canyon Unit 45 C	Vertical (TVD) Reference: System: Mean Sea Level		
Well: Valencia Canyon Unit 45C	Section (VS) Reference: Well (0.00N,0.00E,303.56Azi)		
Wellpath: Original Hole	Survey Calculation Method: Minimum Curvature		Db: Sybase

Survey: Pathfinder MWD Survey

MD ft	Incl deg	Azlm deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
2147.00	8.97	335.18	2137.48	121.94	-86.37	139.39	0.90	0.19	5.70	
2240.00	8.62	332.55	2229.38	134.71	-92.63	151.66	0.57	-0.38	-2.83	
2334.00	8.27	332.81	2322.36	146.97	-98.97	163.72	0.37	-0.37	0.28	
2427.00	7.21	332.81	2414.51	158.12	-104.69	174.65	1.14	-1.14	0.00	
2495.00	7.74	332.19	2481.94	165.96	-108.77	182.39	0.79	0.78	-0.91	
2589.00	7.03	331.58	2575.16	176.62	-114.47	193.02	0.76	-0.76	-0.65	
2680.00	7.21	332.28	2665.45	186.57	-119.77	202.95	0.22	0.20	0.77	
2744.00	7.39	331.93	2728.94	193.76	-123.58	210.09	0.29	0.28	-0.55	
2806.00	6.86	330.44	2790.46	200.50	-127.28	216.90	0.91	-0.85	-2.40	
2870.00	7.21	331.84	2853.97	207.36	-131.06	223.85	0.61	0.55	2.19	
2931.00	7.03	333.16	2914.50	214.07	-134.55	230.46	0.40	-0.30	2.16	
2994.00	6.86	333.60	2977.04	220.88	-137.97	237.07	0.28	-0.27	0.70	
3055.00	6.77	332.63	3037.61	227.34	-141.24	243.37	0.24	-0.15	-1.59	
3117.00	7.39	329.82	3099.14	234.03	-144.92	250.14	1.15	1.00	-4.53	
3180.00	7.12	327.71	3161.63	240.83	-149.05	257.33	0.60	-0.43	-3.35	
3242.00	6.86	327.71	3223.17	247.21	-153.08	264.22	0.42	-0.42	0.00	
3305.00	6.77	329.03	3285.73	253.57	-157.00	271.01	0.29	-0.14	2.10	
3365.00	6.16	323.84	3345.35	259.21	-160.72	277.22	1.41	-1.02	-8.65	
3428.00	6.86	326.83	3407.94	265.08	-164.77	283.85	1.23	1.11	4.75	
3492.00	6.86	329.03	3471.48	271.56	-168.83	290.81	0.41	0.00	3.44	
3555.00	6.68	328.77	3534.04	277.92	-172.66	297.52	0.29	-0.29	-0.41	
3616.00	7.03	330.35	3594.61	284.20	-176.35	304.06	0.65	0.57	2.59	
3679.00	7.83	333.69	3657.08	291.39	-180.16	311.21	1.44	1.27	5.30	
3741.00	7.74	335.27	3718.51	298.97	-183.78	318.42	0.37	-0.15	2.55	
3804.00	7.47	334.74	3780.95	306.53	-187.30	325.53	0.44	-0.43	-0.84	
3866.00	7.21	334.65	3842.44	313.69	-190.69	332.31	0.42	-0.42	-0.15	
3928.00	7.03	335.97	3903.97	320.67	-193.90	338.85	0.39	-0.29	2.13	
3990.00	6.51	337.73	3965.53	327.39	-196.77	344.96	0.90	-0.84	2.84	
4053.00	6.60	334.92	4028.12	333.97	-199.66	351.00	0.53	0.14	-4.46	
4117.00	7.03	332.28	4091.67	340.77	-203.04	357.58	0.83	0.67	-4.12	
4180.00	6.86	332.72	4154.21	347.53	-206.56	364.25	0.28	-0.27	0.70	
4243.00	7.30	333.95	4216.73	354.47	-210.04	370.98	0.74	0.70	1.95	
4304.00	7.03	335.80	4277.25	361.36	-213.27	377.48	0.58	-0.44	3.03	
4366.00	7.56	334.57	4338.75	368.50	-216.58	384.19	0.89	0.85	-1.98	
4427.00	6.95	334.48	4399.26	375.45	-219.89	390.79	1.00	-1.00	-0.15	
4488.00	7.30	336.68	4459.79	382.34	-223.02	397.21	0.73	0.57	3.61	
4552.00	6.51	336.76	4523.32	389.41	-226.06	403.65	1.23	-1.23	0.12	
4615.00	6.60	334.48	4585.91	395.96	-229.03	409.74	0.44	0.14	-3.62	
4677.00	7.39	338.35	4647.45	402.88	-232.04	416.07	1.48	1.27	6.24	
4740.00	7.03	331.05	4709.95	410.02	-235.40	422.82	1.56	-0.57	-11.59	
4803.00	6.60	329.65	4772.51	416.52	-239.09	429.49	0.73	-0.68	-2.22	
4865.00	7.47	334.30	4834.04	423.23	-242.64	436.16	1.68	1.40	7.50	
4928.00	8.18	334.74	4896.45	430.97	-246.33	443.51	1.13	1.13	0.70	
4992.00	7.30	335.36	4959.87	438.78	-249.97	450.86	1.38	-1.37	0.97	
5056.00	7.56	334.39	5023.33	446.28	-253.48	457.93	0.45	0.41	-1.52	
5119.00	8.27	334.13	5085.73	454.09	-257.25	465.39	1.13	1.13	-0.41	
5180.00	8.00	333.07	5146.12	461.82	-261.09	472.86	0.51	-0.44	-1.74	
5242.00	7.12	332.11	5207.58	469.06	-264.84	479.99	1.43	-1.42	-1.55	
5305.00	8.00	338.52	5270.03	476.59	-268.27	487.02	1.93	1.40	10.17	
5369.00	9.23	337.20	5333.31	485.47	-271.89	494.94	1.95	1.92	-2.06	
5431.00	8.44	337.64	5394.57	494.26	-275.55	502.85	1.28	-1.27	0.71	
5492.00	8.18	339.49	5454.93	502.47	-278.77	510.07	0.61	-0.43	3.03	
5586.00	8.44	334.65	5547.95	514.96	-284.07	521.39	0.79	0.28	-5.15	

MV

Pathfinder Energy

Survey Report

Company: XTO Energy	Date: 7/24/2006	Time: 16:18:15	Page: 3
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Wellpath: Original Hole	Survey Calculation Method: Minimum Curvature		Db: Sybase

Survey: Pathfinder MWD Survey

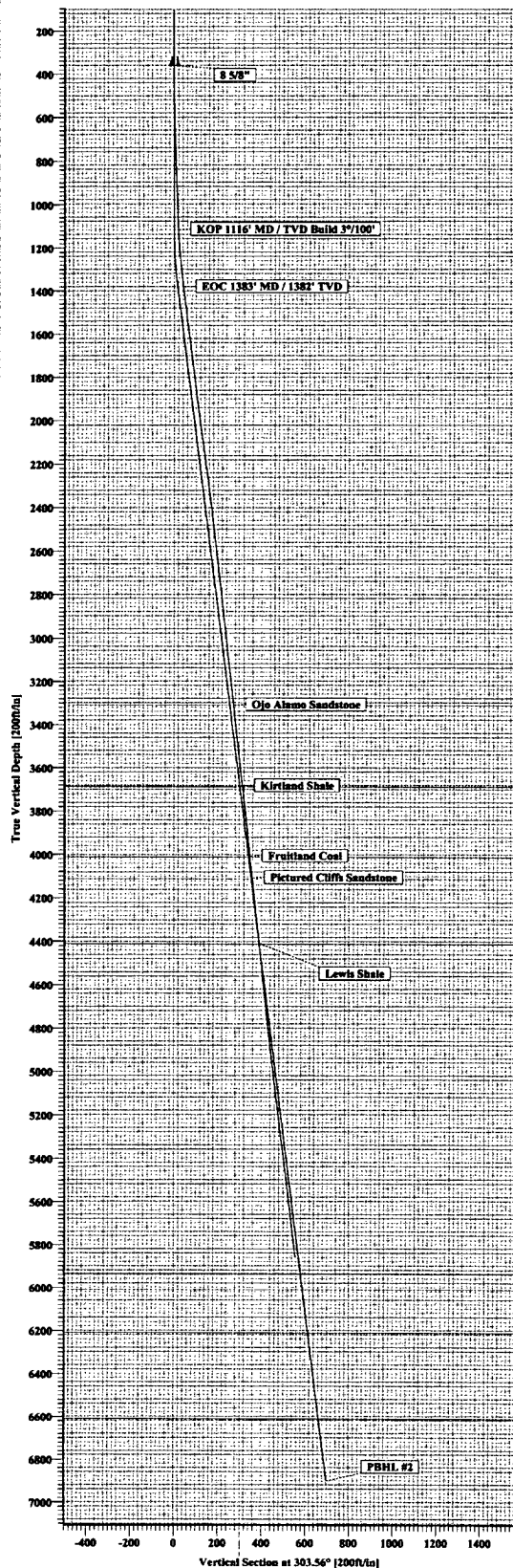
MD ft	Incl deg	Azlm deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
5648.00	7.65	336.59	5609.34	522.86	-287.66	528.75	1.35	-1.27	3.13	
5708.00	7.74	337.03	5668.80	530.25	-290.82	535.47	0.18	0.15	0.73	
5772.00	8.27	337.29	5732.17	538.46	-294.28	542.89	0.83	0.83	0.41	
5835.00	7.83	337.55	5794.55	546.61	-297.67	550.22	0.70	-0.70	0.41	
5896.00	7.91	335.27	5854.98	554.26	-301.01	557.23	0.53	0.13	-3.74	

TD 5896'



Field: Rio Arriba County, New Mexico
Site: Valencia Canyon Unit 45 C
Well: Valencia Canyon Unit 45C
Wellpath: Original Hole
Survey: Pathfinder MWD Survey

PATHFINDER



FIELD DETAILS

Rio Arriba County, New Mexico
1200' FSL 1925' FEL Sec. 34; T28N; R4W

Geodetic System: US State Plane Coordinate System 1927
Ellipsoid: NAD27 (Clarke 1866)
Zone: New Mexico, Central Zone
Magnetic Model: igr2005

System Datum: Mean Sea Level
Local North: True North



Azimuths to True North
Magnetic North: 10.27°

Magnetic Field
Strength: 51308nT
Dip Angle: 63.58°
Date: 5/4/2006
Model: igr2005

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Valencia Canyon Unit 45C	0.00	0.00	2043652.37	210586.60	36°36'45.000N	107°14'10.000W	N/A

Survey: Pathfinder MWD Survey (Valencia Canyon Unit 45C/Original Hole)

No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
45	3555.00	6.68	328.77	3534.04	277.92	-172.66	0.29	-170.47	297.52
46	3616.00	7.03	330.35	3594.61	284.20	-176.35	0.65	29.10	304.06
47	3679.00	7.83	333.69	3657.08	291.39	-180.16	1.44	30.03	311.21
48	3741.00	7.74	335.27	3718.51	298.97	-183.78	0.37	113.59	318.42
49	3804.00	7.47	334.74	3780.95	306.53	-187.30	0.44	-165.70	325.53
50	3866.00	7.21	334.65	3842.44	313.69	-190.69	0.42	-177.51	332.31
51	3928.00	7.03	335.97	3903.97	320.67	-193.90	0.39	138.38	338.85
52	3990.00	6.51	337.73	3965.53	327.39	-196.77	0.90	159.12	344.96
53	4053.00	6.60	334.92	4028.12	333.97	-199.66	0.53	-75.73	351.00
54	4117.00	7.03	332.28	4091.67	340.77	-203.04	0.83	-37.39	357.58
55	4180.00	6.86	332.72	4154.21	347.53	-206.56	0.28	162.84	364.25
56	4243.00	7.30	333.95	4216.73	354.47	-210.04	0.74	19.62	370.98
57	4304.00	7.03	335.80	4277.25	361.36	-213.27	0.58	140.40	377.48
58	4366.00	7.56	334.57	4338.75	368.50	-216.58	0.89	-17.03	384.19
59	4427.00	6.95	334.48	4399.26	375.45	-219.89	1.00	-178.98	390.79
60	4488.00	7.30	336.68	4459.79	382.34	-223.02	0.73	39.04	397.21
61	4552.00	6.51	336.76	4523.32	389.41	-226.06	1.23	179.34	403.65
62	4615.00	6.60	334.48	4585.91	395.96	-229.03	0.44	-72.06	409.74
63	4677.00	7.39	338.35	4647.45	402.88	-232.04	1.48	32.75	416.07
64	4740.00	7.03	331.05	4709.95	410.02	-235.40	1.56	-115.05	422.82
65	4803.00	6.60	329.65	4772.51	416.52	-239.09	0.73	-159.57	429.49
66	4865.00	7.47	334.30	4834.04	423.23	-242.64	1.68	35.53	436.16
67	4928.00	8.18	334.74	4896.45	430.97	-246.33	1.13	-5.04	443.51
68	4992.00	7.30	335.36	4959.87	438.78	-249.97	1.38	174.89	450.86
69	5056.00	7.56	334.39	5023.33	446.28	-253.48	0.45	-26.24	457.93
70	5119.00	8.27	334.13	5085.73	454.09	-257.25	1.13	-3.02	465.39
71	5180.00	8.00	333.07	5146.12	461.82	-261.09	0.51	-151.47	472.86
72	5242.00	7.12	332.11	5207.58	469.06	-264.84	1.43	-172.31	479.99
73	5305.00	8.00	338.52	5270.03	476.59	-268.27	1.93	46.99	487.02
74	5369.00	9.23	337.20	5333.31	485.47	-271.89	1.95	-9.79	494.94
75	5431.00	8.44	337.64	5394.57	494.26	-275.55	1.28	175.33	502.85
76	5492.00	8.18	339.49	5454.93	502.47	-278.77	0.61	135.11	510.07
77	5556.00	8.44	334.65	5517.95	510.96	-284.07	0.79	-72.02	517.39
78	5618.00	7.65	336.59	5580.34	519.86	-287.66	1.35	161.99	525.75
79	5680.00	7.74	337.03	5642.80	530.25	-290.82	0.18	33.43	535.47
80	5742.00	8.27	337.29	5705.17	538.46	-294.28	0.83	4.04	542.89
81	5805.00	7.83	337.55	5767.55	546.61	-297.67	0.70	175.40	550.22
82	5866.00	7.91	335.27	5829.98	554.26	-301.01	0.53	-76.76	557.23

