



Company: Devon Energy
Lease/Well: Burton Flat Deep Unit SWD/#1

Rig Name: Nabors 730
State/County: New Mexico/Eddy
Latitude: 32.52, Longitude: -104.16
GRID North is 0.09 Degrees East of True North
VS-Azi: 0.00 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB = 21.5

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: final.ut

Minimum Curvature Method

Report Date/Time: 7/20/2013 / 07:58

Vaughn Energy Services
Fort Worth, Texas
817-741-3610
Jay Carroll

15- 40987

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
89.84	0.79	251.29	89.84	-0.20	-0.59	-0.20	0.62	251.29	0.88
185.55	1.21	297.71	185.53	0.06	-2.10	0.06	2.10	271.58	0.91
281.26	2.45	302.65	281.19	1.63	-4.72	1.63	4.99	289.06	1.31
376.97	4.64	311.40	376.72	5.29	-9.34	5.29	10.74	299.54	2.36
472.68	5.42	317.18	472.06	11.17	-15.32	11.17	18.96	306.10	0.97
568.39	5.25	323.81	567.35	18.02	-20.98	18.02	27.66	310.66	0.67
664.10	5.07	315.22	662.68	24.55	-26.54	24.55	36.16	312.77	0.83
759.81	4.73	309.23	758.04	30.05	-32.57	30.05	44.32	312.69	0.64
855.52	4.48	299.75	853.44	34.40	-38.87	34.40	51.91	311.50	0.84
951.23	4.37	291.93	948.87	37.61	-45.50	37.61	59.03	309.58	0.64
1046.94	4.08	289.50	1044.32	40.11	-52.09	40.11	65.75	307.60	0.35
1142.65	3.55	280.54	1139.81	41.79	-58.22	41.79	71.67	305.67	0.83
1238.36	3.41	278.94	1235.35	42.78	-63.95	42.78	76.93	303.78	0.18
1334.07	3.30	289.25	1330.89	44.13	-69.35	44.13	82.20	302.47	0.64
1429.78	3.29	296.93	1426.45	46.28	-74.40	46.28	87.61	301.88	0.46
1525.49	3.28	309.05	1522.00	49.24	-78.97	49.24	93.07	301.95	0.72
1621.20	3.12	293.02	1617.56	51.99	-83.50	51.99	98.36	301.91	0.95
1716.91	2.88	279.84	1713.14	53.42	-88.26	53.42	103.17	301.18	0.76
1812.62	2.70	276.81	1808.74	54.09	-92.87	54.09	107.47	300.22	0.24
1908.33	2.39	289.47	1904.36	55.03	-96.99	55.03	111.51	299.57	0.67
2004.04	2.30	312.02	1999.99	56.98	-100.30	56.98	115.35	299.60	0.96
2099.75	2.10	324.99	2095.63	59.70	-102.73	59.70	118.82	300.16	0.56
2195.46	1.94	298.13	2191.28	61.90	-105.16	61.90	122.03	300.48	0.99
2291.17	1.73	313.73	2286.94	63.67	-107.64	63.67	125.06	300.60	0.56
2386.88	1.42	339.34	2382.62	65.78	-109.10	65.78	127.40	301.08	0.80
2482.59	0.95	301.23	2478.31	67.30	-110.20	67.30	129.13	301.41	0.93
2578.30	0.66	286.34	2574.01	67.87	-111.41	67.87	130.46	301.35	0.37
2674.01	0.72	332.31	2669.71	68.56	-112.23	68.56	131.51	301.42	0.57
2769.72	0.61	348.79	2765.42	69.59	-112.61	69.59	132.38	301.72	0.23
2865.43	0.71	351.69	2861.12	70.69	-112.79	70.69	133.11	302.07	0.11
2961.14	0.70	357.63	2956.82	71.86	-112.90	71.86	133.83	302.48	0.08
3056.85	0.82	345.73	3052.52	73.11	-113.10	73.11	134.67	302.88	0.20
3152.56	0.84	343.45	3148.22	74.45	-113.47	74.45	135.71	303.27	0.04
3248.27	0.85	353.98	3243.92	75.83	-113.74	75.83	136.70	303.69	0.16

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
3343.98	0.97	355.72	3339.62	77.35	-113.88	77.35	137.66	304.19	0.13
3439.69	1.04	340.85	3435.32	78.98	-114.22	78.98	138.87	304.66	0.28
3535.40	1.02	347.97	3531.01	80.63	-114.68	80.63	140.19	305.11	0.14
3631.11	1.01	352.36	3626.71	82.30	-114.97	82.30	141.39	305.59	0.08
3726.82	1.17	349.92	3722.40	84.09	-115.26	84.09	142.67	306.12	0.18
3822.53	1.26	340.50	3818.09	86.05	-115.78	86.05	144.26	306.62	0.23
3918.24	1.36	345.69	3913.77	88.14	-116.41	88.14	146.02	307.13	0.16
4013.95	1.37	343.27	4009.45	90.34	-117.02	90.34	147.84	307.67	0.06
4109.66	1.31	343.23	4105.14	92.48	-117.67	92.48	149.66	308.17	0.07
4205.37	1.48	348.91	4200.82	94.74	-118.22	94.74	151.50	308.71	0.23
4301.08	1.50	344.36	4296.50	97.16	-118.80	97.16	153.47	309.28	0.13
4396.79	1.46	358.48	4392.18	99.59	-119.17	99.59	155.30	309.89	0.38
4492.50	1.47	352.96	4487.85	102.03	-119.35	102.03	157.01	310.53	0.15
4588.21	1.48	1.26	4583.53	104.49	-119.47	104.49	158.72	311.17	0.22
4683.92	1.44	352.84	4679.21	106.92	-119.59	106.92	160.42	311.80	0.23
4779.63	1.46	327.07	4774.89	109.13	-120.41	109.13	162.51	312.19	0.68
4875.34	1.49	299.85	4870.57	110.78	-122.15	110.78	164.90	312.20	0.73
4971.05	1.44	262.78	4966.25	111.25	-124.43	111.25	166.91	311.80	0.98
5066.76	1.55	226.49	5061.93	110.20	-126.57	110.20	167.82	311.05	0.98
5162.47	1.46	190.80	5157.61	108.11	-127.73	108.11	167.34	310.24	0.97
5258.18	1.47	153.19	5253.29	105.82	-127.41	105.82	165.63	309.71	0.98
5353.89	1.52	123.14	5348.97	104.04	-125.80	104.04	163.24	309.59	0.81
5449.60	1.46	88.79	5444.65	103.37	-123.51	103.37	161.06	309.93	0.92
5545.31	1.49	55.68	5540.33	104.10	-121.26	104.10	159.81	310.65	0.88
5641.02	1.63	20.69	5636.01	106.08	-119.75	106.08	159.97	311.54	0.99
5736.73	1.74	5.38	5731.68	108.80	-119.13	108.80	161.34	312.40	0.48
5832.44	1.89	358.06	5827.34	111.83	-119.05	111.83	163.33	313.21	0.29
5928.15	2.36	19.12	5922.98	115.27	-118.46	115.27	165.28	314.22	0.94
6023.86	2.64	39.39	6018.60	118.84	-116.41	118.84	166.35	315.59	0.96
6119.57	3.01	46.32	6114.20	122.27	-113.19	122.27	166.62	317.21	0.52
6215.28	3.29	34.95	6209.76	126.26	-109.81	126.26	167.33	318.99	0.71
6310.99	3.41	23.85	6305.31	131.11	-107.08	131.11	169.28	320.76	0.69
6406.70	3.47	10.59	6400.85	136.56	-105.40	136.56	172.51	322.34	0.83
6502.41	3.54	355.98	6496.38	142.36	-105.08	142.36	176.94	323.57	0.93
6598.12	3.66	352.74	6591.90	148.34	-105.67	148.34	182.13	324.54	0.25
6693.83	3.51	4.94	6687.43	154.30	-105.80	154.30	187.09	325.56	0.81
6789.54	3.36	350.64	6782.97	159.99	-106.01	159.99	191.92	326.47	0.91
6885.25	3.26	335.82	6878.52	165.24	-107.58	165.24	197.17	326.93	0.90
6980.96	3.19	319.81	6974.08	169.75	-110.41	169.75	202.50	326.96	0.94
7076.67	2.79	335.34	7069.66	173.90	-113.10	173.90	207.45	326.96	0.94
7172.38	3.06	350.55	7165.25	178.54	-114.49	178.54	212.10	327.33	0.85
7268.09	3.04	4.15	7260.82	183.60	-114.73	183.60	216.49	328.00	0.75
7363.80	3.11	357.18	7356.40	188.72	-114.67	188.72	220.83	328.72	0.40
7459.51	3.12	347.06	7451.97	193.85	-115.38	193.85	225.59	329.24	0.57
7555.22	3.02	333.49	7547.54	198.65	-117.09	198.65	230.59	329.48	0.76
7650.93	2.98	335.27	7643.12	203.17	-119.26	203.17	235.59	329.59	0.11
7746.64	3.14	340.45	7738.69	207.90	-121.18	207.90	240.64	329.76	0.33
7842.35	3.28	347.00	7834.25	213.04	-122.67	213.04	245.83	330.07	0.41
7938.06	3.72	356.18	7929.78	218.81	-123.50	218.81	251.26	330.56	0.74
8033.77	4.16	5.49	8025.27	225.37	-123.37	225.37	256.93	331.30	0.81
8129.48	3.95	16.97	8120.74	231.98	-122.08	231.98	262.14	332.25	0.87
8225.19	3.86	9.56	8216.23	238.31	-120.58	238.31	267.08	333.16	0.54
8320.90	3.90	355.94	8311.72	244.74	-120.27	244.74	272.69	333.83	0.96
8416.61	3.84	342.94	8407.21	251.05	-121.44	251.05	278.88	334.18	0.92
8512.32	3.85	351.84	8502.71	257.29	-122.84	257.29	285.11	334.48	0.62

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
8608.03	3.54	5.18	8598.22	263.42	-123.03	263.42	290.73	334.97	0.95
8703.74	3.47	4.58	8693.75	269.25	-122.53	269.25	295.82	335.53	0.08
8799.45	3.52	8.15	8789.28	275.05	-121.88	275.05	300.84	336.10	0.23
8895.16	3.18	353.21	8884.83	280.60	-121.78	280.60	305.88	336.54	0.98
8990.87	3.08	338.50	8980.40	285.63	-123.04	285.63	311.00	336.70	0.84
9086.58	2.85	346.21	9075.98	290.34	-124.55	290.34	315.93	336.78	0.48
9182.29	2.77	3.19	9171.58	294.96	-124.99	294.96	320.35	337.04	0.87
9278.00	3.33	11.48	9267.15	299.99	-124.30	299.99	324.73	337.49	0.75
9373.71	3.55	23.29	9362.69	305.44	-122.58	305.44	329.12	338.13	0.77
9469.42	3.66	16.23	9458.21	311.09	-120.55	311.09	333.64	338.82	0.48
9565.13	3.53	29.15	9553.74	316.60	-118.27	316.60	337.97	339.52	0.86
9660.84	3.01	40.86	9649.29	321.07	-115.19	321.07	341.11	340.26	0.88
9756.55	2.29	46.40	9744.90	324.29	-112.16	324.29	343.14	340.92	0.79
9852.26	1.99	48.25	9840.54	326.72	-109.54	326.72	344.59	341.47	0.32
9947.97	1.95	52.05	9936.20	328.83	-107.01	328.83	345.80	341.97	0.14
10043.68	2.03	48.28	10031.85	330.95	-104.46	330.95	347.05	342.48	0.16
10139.39	1.98	63.25	10127.50	332.82	-101.72	332.82	348.02	343.01	0.55
10235.10	2.11	79.24	10223.15	333.90	-98.51	333.90	348.13	343.56	0.61
10330.81	2.47	88.57	10318.78	334.28	-94.72	334.28	347.44	344.18	0.54
10426.52	2.41	95.54	10414.41	334.13	-90.65	334.13	346.21	344.82	0.32
10522.23	2.41	89.27	10510.03	333.97	-86.63	333.97	345.02	345.46	0.28
10617.94	2.70	68.92	10605.65	334.80	-82.51	334.80	344.82	346.16	0.99
10713.65	2.73	74.77	10701.25	336.21	-78.20	336.21	345.19	346.91	0.29
10809.36	2.91	75.69	10796.84	337.41	-73.64	337.41	345.36	347.69	0.19
10905.07	2.94	79.84	10892.43	338.45	-68.88	338.45	345.38	348.50	0.22
11000.78	2.82	81.66	10988.02	339.22	-64.14	339.22	345.23	349.29	0.15
11096.49	3.26	96.97	11083.60	339.23	-59.10	339.23	344.34	350.12	0.96
11192.20	3.53	82.64	11179.14	339.28	-53.48	339.28	343.47	351.04	0.93
11287.91	3.54	75.73	11274.67	340.38	-47.70	340.38	343.71	352.02	0.44
11383.62	3.72	62.59	11370.19	342.54	-42.08	342.54	345.12	353.00	0.89
11479.33	3.33	74.73	11465.72	344.70	-36.64	344.70	346.65	353.93	0.88
11575.04	3.43	82.79	11561.26	345.79	-31.12	345.79	347.19	354.86	0.51
11670.75	3.72	74.20	11656.79	347.00	-25.29	347.00	347.92	355.83	0.64
11766.46	3.99	86.94	11752.28	348.02	-18.98	348.02	348.54	356.88	0.94
11862.17	4.37	98.36	11847.74	347.67	-12.05	347.67	347.88	358.01	0.95
11957.88	4.84	88.05	11943.14	347.28	-4.42	347.28	347.31	359.27	0.99
12053.59	4.90	81.68	12038.51	348.01	3.66	348.01	348.03	0.60	0.57
12149.30	5.36	86.19	12133.83	348.89	12.16	348.89	349.11	2.00	0.64
12245.01	5.20	87.59	12229.14	349.37	20.95	349.37	350.00	3.43	0.22
12340.72	4.95	93.07	12324.47	349.33	29.41	349.33	350.57	4.81	0.57
12436.43	4.77	84.57	12419.84	349.49	37.50	349.49	351.50	6.12	0.78
12532.14	4.52	73.82	12515.24	350.92	45.08	350.92	353.80	7.32	0.94

HORIZONTAL DISPLACEMENT IS
353.80 FEET AT 7.32 DEGREES