

Company: Devon Energy Production Co.

Well: Parkway West SWD No. 001

Rig Name: Nabors #730

State/County: New Mexico/Eddy

Latitude: 32.62, Longitude: -104.05

GRID North is 0.15 Degrees East of True North

VS-Azi: 0.00 Degrees



Depth Reference : R.K.B. Height of 23.6 ft.

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: final_int.ut

Minimum Curvature Method

Report Date/Time: 9/27/2013 / 16:06

Vaughn Energy Services

Midland, TX

817-741-3610

Surveyor: Joshua Kirby

Parkway West SWD No. 001 / API 30-015-40835

30-015-40835
NM OIL CONSERVATION
ARTESIA DISTRICT
MAY 15 2015
RECEIVED

Provide signature page for survey

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	****
100.00	2.62	51.15	99.97	1.43	1.78	1.43	2.28	51.15	2.62
200.00	3.17	49.18	199.84	4.67	5.65	4.67	7.33	50.41	0.56
300.00	3.72	47.21	299.66	8.68	10.12	8.68	13.33	49.37	0.56
400.00	3.70	44.43	399.45	13.19	14.75	13.19	19.79	48.21	0.18
500.00	3.69	41.66	499.24	17.90	19.15	17.90	26.21	46.95	0.18
600.00	3.51	45.28	599.04	22.45	23.47	22.45	32.48	46.27	0.29
700.00	3.30	48.91	698.87	26.50	27.81	26.50	38.42	46.38	0.30
800.00	3.08	52.82	798.71	30.01	32.12	30.01	43.96	46.94	0.31
900.00	2.86	56.74	898.58	33.00	36.34	33.00	49.09	47.76	0.30
1000.00	2.68	50.07	998.46	35.87	40.22	35.87	53.90	48.27	0.37
1100.00	2.51	43.40	1098.36	38.96	43.52	38.96	58.41	48.16	0.35
1200.00	2.47	42.00	1198.26	42.15	46.46	42.15	62.74	47.79	0.07
1300.00	2.43	40.60	1298.17	45.36	49.28	45.36	66.98	47.37	0.07
1400.00	2.10	41.24	1398.09	48.34	51.86	48.34	70.90	47.01	0.33
1500.00	1.76	41.88	1498.04	50.86	54.10	50.86	74.25	46.77	0.33
1600.00	1.78	40.06	1597.99	53.20	56.13	53.20	77.33	46.53	0.06
1700.00	1.70	38.25	1697.94	55.55	58.04	55.55	80.34	46.26	0.10
1800.00	1.55	36.78	1797.90	57.80	59.77	57.80	83.14	45.96	0.15

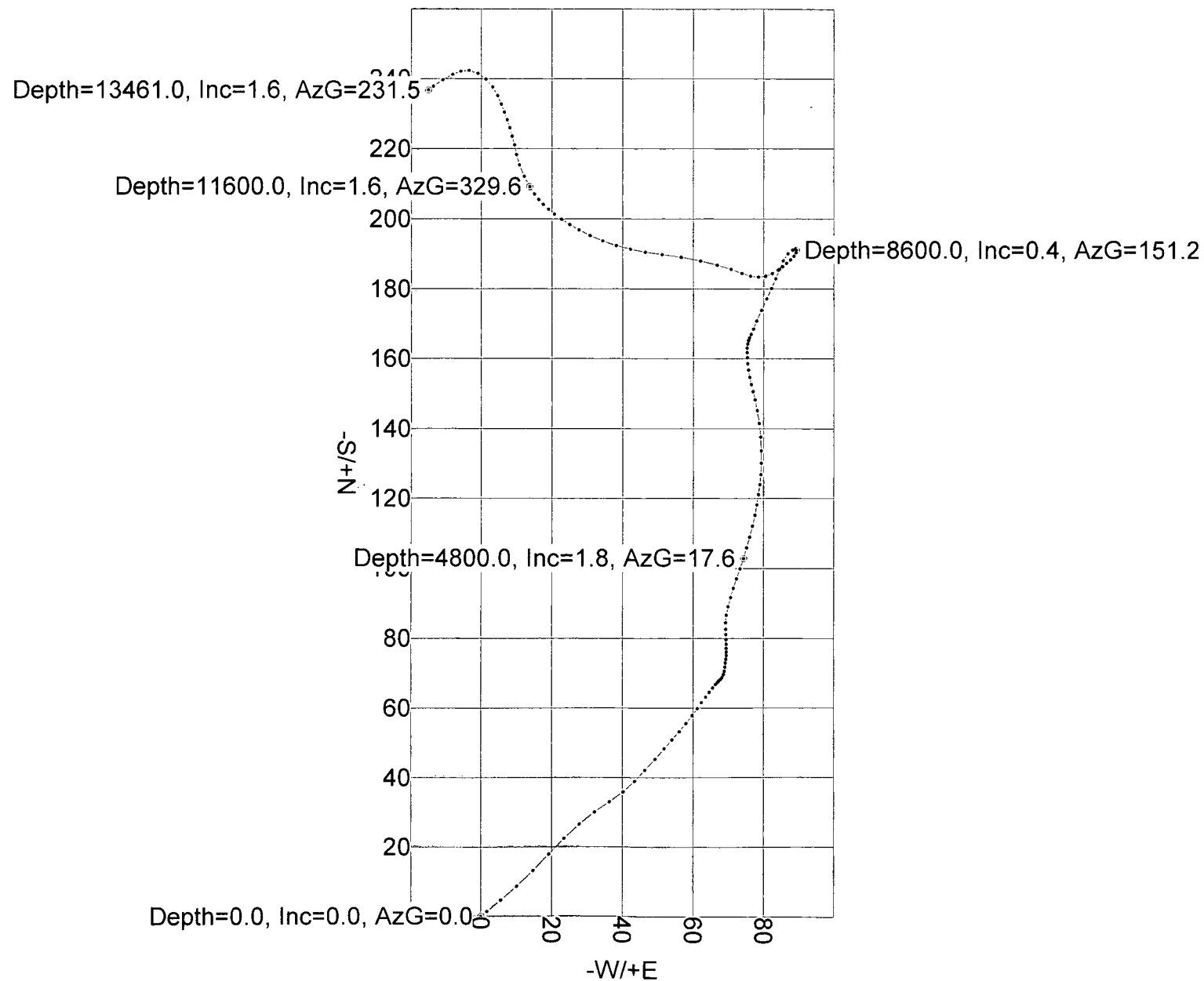
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg - Severity Deg/100
1900.00	1.31	35.31	1897.87	59.81	61.24	59.81	85.60	45.67	0.25
2000.00	1.18	35.87	1997.85	61.58	62.50	61.58	87.74	45.43	0.13
2100.00	1.05	36.44	2097.83	63.15	63.65	63.15	89.66	45.23	0.13
2200.00	0.94	37.15	2197.81	64.54	64.69	64.54	91.38	45.07	0.10
2300.00	0.84	38.87	2297.80	65.77	65.65	65.77	92.92	44.95	0.11
2400.00	0.59	39.91	2397.79	66.73	66.44	66.73	94.17	44.87	0.25
2500.00	0.34	41.95	2497.79	67.34	66.96	67.34	94.97	44.84	0.25
2600.00	0.36	44.41	2597.79	67.79	67.38	67.79	95.58	44.83	0.03
2700.00	0.40	46.87	2697.79	68.25	67.85	68.25	96.24	44.83	0.04
2800.00	0.47	32.50	2797.78	68.84	68.33	68.84	96.99	44.79	0.13
2900.00	0.55	18.13	2897.78	69.64	68.70	69.64	97.82	44.61	0.15
3000.00	0.62	11.58	2997.78	70.63	68.96	70.63	98.71	44.31	0.10
3100.00	0.70	5.02	3097.77	71.77	69.12	71.77	99.64	43.92	0.11
3200.00	0.66	6.64	3197.76	72.95	69.24	72.95	100.58	43.51	0.04
3300.00	0.60	8.26	3297.76	74.04	69.38	74.04	101.47	43.14	0.06
3400.00	0.59	3.07	3397.75	75.08	69.49	75.08	102.30	42.78	0.05
3500.00	0.56	357.88	3497.74	76.09	69.50	76.09	103.05	42.41	0.06
3600.00	0.66	1.51	3597.74	77.15	69.49	77.15	103.84	42.01	0.10
3700.00	0.75	359.15	3697.73	78.38	69.50	78.38	104.75	41.56	0.10
3800.00	0.78	357.91	3797.72	79.71	69.46	79.71	105.73	41.07	0.03
3900.00	0.80	356.67	3897.71	81.08	69.40	81.08	106.73	40.56	0.03
4000.00	0.98	357.41	3997.70	82.64	69.32	82.64	107.86	39.99	0.17
4100.00	1.15	3.15	4097.68	84.48	69.34	84.48	109.29	39.38	0.20
4200.00	1.34	6.79	4197.66	86.64	69.53	86.64	111.09	38.75	0.21
4300.00	1.53	15.44	4297.63	89.09	70.02	89.09	113.31	38.17	0.29
4400.00	1.56	14.24	4397.59	91.69	70.71	91.69	115.79	37.64	0.04
4500.00	1.59	17.03	4497.56	94.34	71.45	94.34	118.34	37.14	0.08
4600.00	1.69	20.03	4597.51	97.05	72.37	97.05	121.06	36.71	0.13
4700.00	1.80	19.02	4697.47	99.92	73.38	99.92	123.97	36.29	0.11
4800.00	1.80	17.57	4797.42	102.90	74.37	102.90	126.96	35.86	0.05
4900.00	1.81	15.12	4897.37	105.93	75.26	105.93	129.94	35.39	0.08
5000.00	1.83	14.99	4997.32	109.00	76.08	109.00	132.93	34.91	0.02
5100.00	1.85	13.85	5097.27	112.12	76.88	112.12	135.94	34.44	0.04
5200.00	1.78	11.41	5197.22	115.20	77.57	115.20	138.89	33.96	0.11
5300.00	1.70	8.96	5297.17	118.19	78.11	118.19	141.67	33.46	0.10
5400.00	1.67	6.83	5397.13	121.11	78.52	121.11	144.34	32.96	0.07
5500.00	1.64	8.71	5497.09	123.97	78.91	123.97	146.95	32.48	0.06
5600.00	1.78	3.01	5597.04	126.93	79.21	126.93	149.61	31.96	0.22
5700.00	1.92	1.31	5696.99	130.15	79.33	130.15	152.42	31.36	0.15

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
5800.00	2.14	359.30	5796.93	133.70	79.34	133.70	155.47	30.69	0.23
5900.00	2.36	355.29	5896.85	137.62	79.15	137.62	158.76	29.90	0.27
6000.00	2.19	353.22	5996.77	141.57	78.75	141.57	162.00	29.09	0.19
6100.00	2.01	349.16	6096.70	145.20	78.20	145.20	164.92	28.31	0.23
6200.00	1.60	347.50	6196.65	148.29	77.56	148.29	167.35	27.61	0.42
6300.00	1.19	345.85	6296.62	150.66	77.01	150.66	169.20	27.07	0.41
6400.00	1.20	346.70	6396.60	152.69	76.51	152.69	170.78	26.62	0.02
6500.00	1.21	349.55	6496.58	154.74	76.08	154.74	172.43	26.18	0.06
6600.00	1.13	351.09	6596.56	156.75	75.74	156.75	174.09	25.79	0.08
6700.00	1.06	354.63	6696.54	158.64	75.50	158.64	175.69	25.45	0.10
6800.00	0.91	358.39	6796.52	160.35	75.39	160.35	177.19	25.18	0.16
6900.00	0.76	359.16	6896.51	161.81	75.36	161.81	178.49	24.97	0.15
7000.00	0.69	1.62	6996.51	163.07	75.37	163.07	179.65	24.80	0.07
7100.00	0.63	11.08	7096.50	164.21	75.49	164.21	180.73	24.69	0.13
7200.00	0.53	14.14	7196.49	165.20	75.71	165.20	181.72	24.62	0.10
7300.00	0.44	27.20	7296.49	166.00	76.00	166.00	182.57	24.60	0.14
7400.00	0.79	24.54	7396.49	166.96	76.46	166.96	183.64	24.60	0.35
7500.00	1.13	21.87	7496.47	168.50	77.11	168.50	185.31	24.59	0.35
7600.00	1.66	22.15	7596.44	170.77	78.03	170.77	187.75	24.56	0.53
7700.00	2.20	24.43	7696.38	173.85	79.37	173.85	191.11	24.54	0.54
7800.00	1.98	25.12	7796.32	177.16	80.89	177.16	194.75	24.54	0.22
7900.00	1.76	23.81	7896.26	180.12	82.24	180.12	198.01	24.54	0.22
8000.00	1.69	22.70	7996.22	182.88	83.43	182.88	201.01	24.52	0.08
8100.00	1.62	19.58	8096.18	185.57	84.47	185.57	203.89	24.47	0.11
8200.00	1.45	29.26	8196.14	188.01	85.56	188.01	206.56	24.47	0.31
8300.00	1.28	38.94	8296.11	189.98	86.88	189.98	208.90	24.58	0.29
8400.00	0.74	66.21	8396.10	191.11	88.18	191.11	210.47	24.77	0.70
8500.00	0.21	93.48	8496.09	191.36	88.95	191.36	211.02	24.93	0.57
8600.00	0.40	151.23	8596.09	191.04	89.31	191.04	210.88	25.05	0.34
8700.00	0.59	208.98	8696.09	190.28	89.22	190.28	210.16	25.12	0.51
8800.00	0.73	218.38	8796.08	189.33	88.58	189.33	209.03	25.07	0.18
8900.00	0.87	227.79	8896.07	188.32	87.62	188.32	207.71	24.95	0.19
9000.00	0.85	227.78	8996.06	187.31	86.51	187.31	206.32	24.79	0.02
9100.00	0.82	229.77	9096.05	186.35	85.41	186.35	204.99	24.62	0.04
9200.00	1.01	234.78	9196.04	185.38	84.14	185.38	203.58	24.41	0.21
9300.00	1.21	241.79	9296.02	184.37	82.49	184.37	201.98	24.10	0.23
9400.00	1.19	255.41	9396.00	183.61	80.56	183.61	200.50	23.69	0.28
9500.00	1.17	272.02	9495.98	183.38	78.53	183.38	199.49	23.18	0.34
9600.00	1.39	281.20	9595.95	183.66	76.32	183.66	198.88	22.57	0.29

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
9700.00	1.60	293.39	9695.92	184.44	73.85	184.44	198.68	21.82	0.38
9800.00	2.11	289.27	9795.87	185.60	70.84	185.60	198.66	20.89	0.53
9900.00	2.62	285.15	9895.78	186.81	66.89	186.81	198.42	19.70	0.54
10000.00	3.01	282.38	9995.66	187.97	62.12	187.97	197.97	18.29	0.41
10100.00	3.40	279.61	10095.50	189.03	56.62	189.03	197.33	16.68	0.42
10200.00	2.95	276.93	10195.35	189.84	51.15	189.84	196.60	15.08	0.48
10300.00	2.49	279.25	10295.24	190.49	46.45	190.49	196.08	13.70	0.47
10400.00	2.43	282.57	10395.14	191.31	42.24	191.31	195.91	12.45	0.15
10500.00	2.38	286.88	10495.06	192.37	38.18	192.37	196.12	11.23	0.19
10600.00	2.27	291.70	10594.97	193.70	34.36	193.70	196.73	10.06	0.22
10700.00	2.16	294.52	10694.90	195.22	30.80	195.22	197.63	8.97	0.15
10800.00	1.90	299.19	10794.84	196.81	27.64	196.81	198.74	8.00	0.31
10900.00	1.64	301.87	10894.79	198.37	24.98	198.37	199.94	7.18	0.27
11000.00	1.50	303.30	10994.75	199.85	22.67	199.85	201.13	6.47	0.15
11100.00	1.35	308.73	11094.72	201.30	20.66	201.30	202.36	5.86	0.20
11200.00	1.19	311.60	11194.70	202.73	18.97	202.73	203.61	5.34	0.17
11300.00	1.09	314.47	11294.68	204.08	17.51	204.08	204.83	4.90	0.12
11400.00	1.05	319.99	11394.66	205.45	16.24	205.45	206.09	4.52	0.11
11500.00	1.25	325.51	11494.64	207.05	15.04	207.05	207.60	4.15	0.23
11600.00	1.61	329.63	11594.61	209.17	13.71	209.17	209.62	3.75	0.37
11700.00	2.17	333.74	11694.55	212.08	12.16	212.08	212.43	3.28	0.57
11800.00	1.91	341.35	11794.49	215.35	10.79	215.35	215.62	2.87	0.38
11900.00	1.64	348.96	11894.44	218.33	9.98	218.33	218.56	2.62	0.35
12000.00	1.56	347.04	11994.40	221.06	9.40	221.06	221.26	2.44	0.10
12100.00	1.47	344.12	12094.37	223.62	8.75	223.62	223.79	2.24	0.12
12200.00	1.38	343.08	12194.34	226.00	8.05	226.00	226.15	2.04	0.10
12300.00	1.32	341.03	12294.31	228.24	7.32	228.24	228.36	1.84	0.07
12400.00	1.36	340.11	12394.28	230.45	6.54	230.45	230.54	1.63	0.05
12500.00	1.44	339.20	12494.25	232.75	5.69	232.75	232.82	1.40	0.09
12600.00	1.57	333.37	12594.22	235.15	4.63	235.15	235.20	1.13	0.20
12700.00	1.70	327.54	12694.18	237.63	3.21	237.63	237.65	0.78	0.21
12800.00	1.69	312.77	12794.13	239.89	1.34	239.89	239.89	0.32	0.44
12900.00	1.64	298.00	12894.09	241.56	-1.01	241.56	241.56	359.76	0.43
13000.00	1.46	275.06	12994.06	242.34	-3.53	242.34	242.37	359.16	0.64
13100.00	1.28	252.13	13094.03	242.11	-5.87	242.11	242.18	358.61	0.57
13200.00	1.64	245.04	13194.00	241.16	-8.23	241.16	241.30	358.04	0.40
13300.00	2.01	237.96	13293.94	239.63	-11.02	239.63	239.88	357.37	0.43
13400.00	1.75	233.93	13393.89	237.80	-13.74	237.80	238.19	356.69	0.29
13461.00	1.59	231.47	13454.86	236.72	-15.15	236.72	237.21	356.34	0.28



Vaughn Energy Services
Midland, TX
817-741-3610
Surveyor: Joshua Kirby
Parkway West SWD No. 001 / API 30-015-40835



VES Survey Date: 09/18/2013