



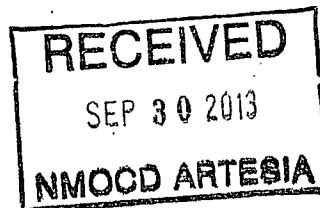
A GYRO TECHNOLOGIES INC. COMPANY

PO Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

30-015-41239

June 7, 2013

Devon Energy Production Co., LP
333 West Sheridan Ave
Oklahoma City, Oklahoma 73102-5010



Attn: Patti Riechers

Re: **Nermal 4 State No 001H**

Please find enclosed a copy of the survey from 0' to 7,450' ran on the above referenced well.

If I can be of any further service, please do not hesitate to call me at 800-606-4976.

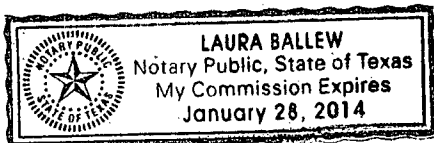
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 7th day of June, A.D., 2013, by Keith Havelka.

Laura Ballew
Notary Public, State of Texas





Company: Devon Energy Production Co., LP

Lease/Well: Nermal 4 State/No 001H

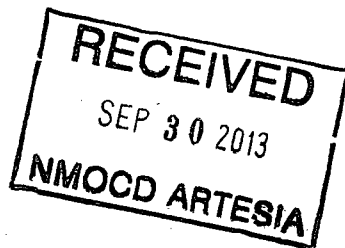
Rig Name: McVay 6

State/County: New Mexico/Eddy

Latitude: 32.17

GRID North is 0.13 Degrees East of True North

VS-Azi: 0.00 Degrees



Depth Reference : RKB = 18 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: nermal 4 state 1h-de_01.ut

Minimum Curvature Method

Report Date/Time: 6/7/2013 / 10:57

Vaughn Energy Services

Ft.Worth, TX

817-741-3610

Surveyor: Kenny Gabel

Nermal 4 State No 001H / API 30-015-41239

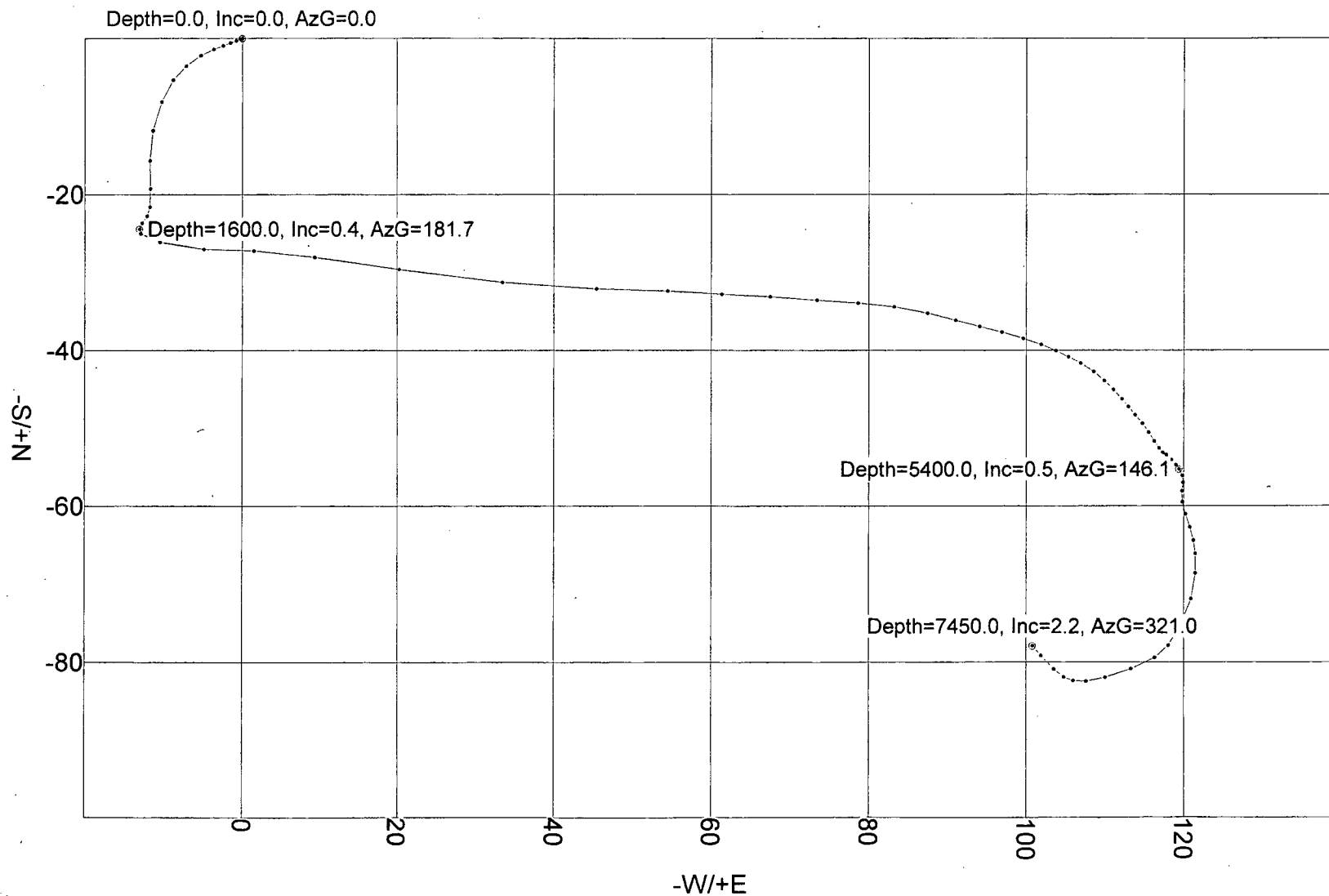
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.31	250.51	100.00	-0.09	-0.26	-0.09	0.27	250.51	0.31
200.00	0.39	248.49	200.00	-0.31	-0.83	-0.31	0.89	249.73	0.08
300.00	0.50	249.35	299.99	-0.59	-1.56	-0.59	1.67	249.38	0.11
400.00	0.63	248.59	399.99	-0.94	-2.48	-0.94	2.66	249.21	0.13
500.00	0.85	250.08	499.98	-1.40	-3.69	-1.40	3.95	249.28	0.22
600.00	1.25	240.11	599.96	-2.19	-5.33	-2.19	5.76	247.66	0.44
700.00	1.39	228.94	699.94	-3.53	-7.19	-3.53	8.01	243.85	0.29
800.00	1.41	215.02	799.91	-5.34	-8.81	-5.34	10.30	238.80	0.34
900.00	2.20	202.46	899.86	-8.12	-10.25	-8.12	13.08	231.63	0.88
1000.00	2.24	190.87	999.78	-11.81	-11.35	-11.81	16.38	223.87	0.45
1100.00	2.21	179.41	1099.71	-15.67	-11.70	-15.67	19.55	216.76	0.45
1200.00	1.91	179.69	1199.64	-19.26	-11.67	-19.26	22.52	211.22	0.31
1300.00	0.75	184.07	1299.62	-21.58	-11.71	-21.58	24.55	208.49	1.16
1400.00	0.68	213.79	1399.61	-22.72	-12.09	-22.72	25.74	208.01	0.37
1500.00	0.60	215.83	1499.60	-23.64	-12.72	-23.64	26.85	208.29	0.09
1600.00	0.40	181.67	1599.60	-24.42	-13.04	-24.42	27.68	208.11	0.35
1700.00	0.34	145.90	1699.60	-25.02	-12.88	-25.02	28.14	207.25	0.24
1800.00	2.78	110.17	1799.55	-26.10	-10.44	-26.10	28.11	201.80	2.51

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	3.71	91.38	1899.39	-27.01	-4.93	-27.01	27.46	190.34	1.40
2000.00	3.67	92.15	1999.19	-27.21	1.51	-27.21	27.25	176.82	0.06
2100.00	5.40	98.57	2098.87	-28.03	9.36	-28.03	29.55	161.53	1.80
2200.00	7.34	97.68	2198.25	-29.59	20.35	-29.59	35.91	145.48	1.94
2300.00	7.80	96.90	2297.38	-31.26	33.42	-31.26	45.76	133.09	0.47
2400.00	6.03	90.12	2396.65	-32.08	45.41	-32.08	55.60	125.24	1.95
2500.00	4.36	94.35	2496.23	-32.38	54.45	-32.38	63.35	120.74	1.71
2600.00	3.59	92.12	2595.99	-32.79	61.36	-32.79	69.57	118.12	0.79
2700.00	3.46	94.27	2695.80	-33.13	67.50	-33.13	75.19	116.14	0.19
2800.00	3.35	94.09	2795.63	-33.56	73.42	-33.56	80.73	114.57	0.11
2900.00	2.66	94.09	2895.49	-33.93	78.65	-33.93	85.66	113.34	0.69
3000.00	2.60	97.69	2995.38	-34.40	83.21	-34.40	90.04	112.46	0.18
3100.00	2.37	104.52	3095.29	-35.22	87.45	-35.22	94.28	111.94	0.37
3200.00	1.87	104.82	3195.22	-36.16	91.03	-36.16	97.95	111.66	0.50
3300.00	1.74	103.89	3295.17	-36.94	94.08	-36.94	101.07	111.44	0.14
3400.00	1.60	105.01	3395.13	-37.67	96.90	-37.67	103.96	111.24	0.14
3500.00	1.60	108.37	3495.09	-38.47	99.58	-38.47	106.75	111.12	0.09
3600.00	1.20	109.06	3595.06	-39.25	101.90	-39.25	109.20	111.07	0.40
3700.00	1.17	115.96	3695.04	-40.04	103.81	-40.04	111.26	111.09	0.15
3800.00	0.86	116.50	3795.02	-40.83	105.40	-40.83	113.03	111.17	0.31
3900.00	1.16	118.95	3895.01	-41.65	106.96	-41.65	114.78	111.28	0.30
4000.00	1.10	128.03	3994.99	-42.73	108.59	-42.73	116.70	111.48	0.19
4100.00	0.91	134.90	4094.97	-43.88	109.91	-43.88	118.35	111.76	0.22
4200.00	0.98	135.34	4194.96	-45.05	111.08	-45.05	119.87	112.08	0.07
4300.00	0.88	140.74	4294.94	-46.26	112.17	-46.26	121.33	112.41	0.13
4400.00	0.58	139.99	4394.94	-47.24	112.98	-47.24	122.46	112.69	0.31
4500.00	0.96	140.45	4494.93	-48.27	113.84	-48.27	123.65	112.98	0.39
4600.00	0.70	142.24	4594.92	-49.40	114.74	-49.40	124.93	113.29	0.27
4700.00	0.90	147.84	4694.91	-50.55	115.54	-50.55	126.11	113.63	0.22
4800.00	0.64	146.99	4794.90	-51.68	116.26	-51.68	127.22	113.97	0.26
4900.00	0.60	145.64	4894.89	-52.58	116.85	-52.58	128.14	114.22	0.04
5000.00	0.24	123.88	4994.89	-53.12	117.32	-53.12	128.79	114.36	0.38
5100.00	0.35	126.09	5094.89	-53.42	117.75	-53.42	129.30	114.40	0.11
5200.00	0.70	136.21	5194.88	-54.05	118.42	-54.05	130.17	114.53	0.36
5300.00	0.32	144.17	5294.88	-54.71	119.01	-54.71	130.98	114.69	0.39
5400.00	0.47	146.06	5394.88	-55.28	119.40	-55.28	131.58	114.84	0.15
5500.00	0.61	159.05	5494.87	-56.12	119.82	-56.12	132.31	115.10	0.18
5600.00	0.46	193.16	5594.87	-57.00	119.92	-57.00	132.78	115.42	0.34
5700.00	0.81	184.92	5694.86	-58.10	119.76	-58.10	133.11	115.88	0.36

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	0.81	171.72	5794.85	-59.50	119.81	-59.50	133.77	116.41	0.19
5900.00	1.01	160.06	5894.84	-61.02	120.21	-61.02	134.81	116.91	0.27
6000.00	1.05	161.19	5994.82	-62.71	120.80	-62.71	136.11	117.44	0.04
6100.00	0.94	169.76	6094.81	-64.38	121.24	-64.38	137.28	117.97	0.18
6200.00	1.03	173.63	6194.79	-66.08	121.49	-66.08	138.30	118.54	0.11
6300.00	1.87	183.83	6294.76	-68.60	121.48	-68.60	139.51	119.46	0.88
6400.00	1.99	194.23	6394.70	-71.92	120.94	-71.92	140.71	120.74	0.37
6500.00	2.25	208.37	6494.64	-75.33	119.58	-75.33	141.33	122.21	0.58
6600.00	1.18	218.38	6594.59	-77.87	118.01	-77.87	141.38	123.42	1.11
6700.00	1.52	234.03	6694.56	-79.46	116.30	-79.46	140.85	124.34	0.50
6800.00	2.30	251.16	6794.51	-80.88	113.32	-80.88	139.22	125.52	0.96
6900.00	1.62	251.74	6894.45	-81.98	110.08	-81.98	137.25	126.68	0.69
7000.00	1.22	267.08	6994.42	-82.47	107.67	-82.47	135.63	127.45	0.54
7100.00	0.67	281.99	7094.40	-82.41	106.03	-82.41	134.29	127.85	0.60
7200.00	0.83	298.68	7194.39	-81.93	104.82	-81.93	133.04	128.01	0.27
7300.00	1.04	315.83	7294.38	-80.94	103.55	-80.94	131.43	128.01	0.34
7400.00	1.69	317.11	7394.35	-79.21	101.92	-79.21	129.08	127.85	0.65
7450.00	2.15	320.96	7444.32	-77.94	100.83	-77.94	127.44	127.70	0.96



Vaughn Energy Services
Ft. Worth, TX
817-741-3610
Surveyor: Kenny Gabel
Normal 4 State No 001H / API 30-015-41239



VES Survey Date: 06/05/2013