

VES

VAUGHN ENERGY SERVICES

SUR: H-36-19S-29E, 1980/N & 330/E
 BHL: E-36-19S-29E, 2253/N & 404/W
 API # 30-015-38422

Company: Newbourn Oil Company
 Lease/Well: Three Palms 36 State Com/#2H
 Location: Sec. 32, T19S, R26E
 Rig Name: Patterson 47
 State/County: New Mexico/Eddy
 Latitude: 32.62, Longitude: -104.02
 GRID North is 0.17 Degrees East of True North
 VS-Azi: 266.19 Degrees

GTI
 GYRO TECHNOLOGIES INC.

Depth Reference : RKB= 18 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: ... palms 36 state com #2h_ed.ut

Minimum Curvature Method

Report Date/Time: 4/20/2011 / 11:14

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JUN 14 2011

NMOC D ARTESIA

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	0.71	257.85	100.00	-0.13	-0.60	0.61	0.62	257.85	0.71
200.00	0.63	189.50	199.99	-0.80	-1.29	1.35	1.52	238.24	0.75
300.00	0.64	207.04	299.99	-1.84	-1.64	1.76	2.47	221.66	0.19
400.00	0.61	190.97	399.98	-2.87	-2.00	2.18	3.49	214.87	0.18
500.00	0.24	202.02	499.98	-3.58	-2.18	2.41	4.19	211.29	0.38
600.00	0.28	157.22	599.98	-3.99	-2.16	2.42	4.54	208.40	0.20
700.00	0.86	93.81	699.97	-4.27	-1.32	1.60	4.47	197.20	0.77
800.00	1.67	66.59	799.95	-3.73	0.77	-0.52	3.81	168.40	0.99
900.00	2.33	46.44	899.89	-1.76	3.58	-3.45	3.99	116.14	0.95
1000.00	3.21	40.38	999.77	1.77	6.86	-6.96	7.09	75.51	0.93
1100.00	3.93	42.85	1099.58	6.42	11.00	-11.41	12.74	59.75	0.74
1200.00	4.43	52.81	1199.31	11.27	16.41	-17.13	19.91	55.54	0.88
1300.00	4.31	48.82	1299.02	16.07	22.32	-23.34	27.50	54.24	0.33
1400.00	4.02	50.86	1398.76	20.76	27.87	-29.19	34.75	53.31	0.32
1500.00	3.36	42.62	1498.55	25.13	32.57	-34.17	41.14	52.35	0.85
1600.00	3.13	45.63	1598.39	29.19	36.51	-38.36	46.74	51.35	0.28
1700.00	2.47	50.70	1698.27	32.47	40.12	-42.19	51.62	51.02	0.70
1800.00	2.52	48.44	1798.17	35.29	43.44	-45.68	55.96	50.91	0.11
1900.00	2.17	65.83	1898.09	37.52	46.81	-49.20	59.99	51.28	0.79
2000.00	1.83	63.73	1998.03	39.00	49.97	-52.45	63.39	52.03	0.35
2100.00	1.88	48.28	2097.98	40.81	52.63	-55.22	66.60	52.21	0.50
2200.00	1.92	51.48	2197.92	42.94	55.17	-57.90	69.91	52.10	0.11
2300.00	1.64	42.47	2297.87	45.04	57.45	-60.31	73.00	51.90	0.40
2400.00	1.42	46.14	2397.84	46.96	59.31	-62.30	75.65	51.63	0.24
2500.00	0.95	28.53	2497.82	48.54	60.60	-63.69	77.64	51.30	0.59
2600.00	0.98	13.16	2597.80	50.10	61.18	-64.38	79.08	50.69	0.26
2700.00	1.04	5.35	2697.79	51.84	61.46	-64.77	80.40	49.86	0.15
2800.00	0.92	354.74	2797.77	53.54	61.47	-64.90	81.52	48.95	0.22
2900.00	1.39	355.15	2897.75	55.54	61.30	-64.85	82.72	47.82	0.47
3000.00	1.68	0.62	2997.72	58.21	61.21	-64.94	84.47	46.44	0.32
3100.00	1.85	1.63	3097.67	61.29	61.27	-65.21	86.67	44.99	0.18
3200.00	1.95	24.86	3197.62	64.45	62.03	-66.18	89.45	43.91	0.77
3300.00	1.97	12.73	3297.56	67.67	63.13	-67.48	92.54	43.01	0.41
3400.00	1.81	19.17	3397.50	70.84	64.02	-68.59	95.48	42.11	0.27
3500.00	1.64	15.17	3497.46	73.71	64.92	-69.67	98.22	41.37	0.21
3600.00	1.45	29.38	3597.42	76.19	65.91	-70.83	100.75	40.86	0.42
3700.00	1.49	3.73	3697.39	78.60	66.62	-71.70	103.03	40.29	0.65
3800.00	0.90	5.17	3797.37	80.68	66.78	-71.99	104.73	39.61	0.59

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
3900.00	0.74	3.54	3897.36	82.11	66.89	-72.20	105.90	39.17	0.16
4000.00	0.64	8.03	3997.35	83.30	67.00	-72.39	106.91	38.81	0.12
4100.00	0.72	353.56	4097.34	84.48	67.01	-72.48	107.83	38.42	0.19
4200.00	0.70	346.79	4197.34	85.70	66.80	-72.35	108.66	37.94	0.09
4300.00	0.96	322.55	4297.33	86.96	66.15	-71.78	109.26	37.26	0.43
4400.00	0.72	305.37	4397.32	87.99	65.13	-70.83	109.47	36.51	0.35
4500.00	0.57	280.93	4497.31	88.44	64.13	-69.87	109.25	35.95	0.31
4600.00	0.91	287.26	4597.30	88.77	62.89	-68.65	108.79	35.32	0.34
4700.00	0.94	273.86	4697.29	89.06	61.32	-67.10	108.13	34.55	0.22
4800.00	0.96	269.57	4797.27	89.11	59.66	-65.45	107.24	33.80	0.07
4900.00	0.61	275.27	4897.26	89.15	58.29	-64.08	106.52	33.18	0.36
5000.00	0.59	261.91	4997.26	89.13	57.25	-63.05	105.93	32.71	0.14
5100.00	0.58	269.94	5097.25	89.05	56.23	-62.02	105.32	32.27	0.08
5200.00	0.91	268.22	5197.24	89.03	54.93	-60.72	104.61	31.67	0.33
5300.00	0.70	278.64	5297.24	89.10	53.53	-59.33	103.94	31.00	0.26
5400.00	0.79	282.23	5397.23	89.33	52.25	-58.07	103.49	30.32	0.10
5500.00	0.91	266.46	5497.22	89.43	50.78	-56.61	102.85	29.59	0.26
5600.00	1.06	291.00	5597.20	89.72	49.13	-54.98	102.29	28.70	0.44
5700.00	1.61	254.98	5697.18	89.68	46.90	-52.76	101.21	27.61	0.98
5800.00	2.10	253.11	5797.12	88.79	43.79	-49.59	99.00	26.25	0.50
5900.00	2.14	255.59	5897.05	87.79	40.23	-45.97	96.57	24.62	0.10
6000.00	2.15	264.84	5996.98	87.16	36.56	-42.27	94.51	22.76	0.35
6100.00	2.17	252.75	6096.91	86.43	32.88	-38.55	92.47	20.83	0.46
6200.00	1.86	276.78	6196.85	86.06	29.46	-35.12	90.96	18.90	0.89
6300.00	1.68	257.06	6296.81	85.92	26.42	-32.07	89.89	17.09	0.63
6400.00	1.84	249.75	6396.76	85.03	23.49	-29.09	88.22	15.44	0.28
6500.00	2.30	228.06	6496.70	83.14	20.48	-25.96	85.62	13.84	0.90
6600.00	2.28	232.48	6596.62	80.58	17.42	-22.73	82.45	12.19	0.18
6700.00	1.75	226.46	6696.55	78.32	14.73	-19.90	79.69	10.65	0.56
6800.00	1.33	218.04	6796.52	76.35	12.91	-17.95	77.44	9.59	0.48
6900.00	1.43	208.20	6896.49	74.34	11.60	-16.52	75.24	8.87	0.26
7000.00	0.75	238.37	6996.47	72.89	10.45	-15.27	73.64	8.16	0.87
7100.00	0.82	269.38	7096.46	72.54	9.18	-13.98	73.12	7.21	0.43
7200.00	0.69	292.10	7196.45	72.76	7.90	-12.72	73.19	6.20	0.32
7300.00	0.61	345.21	7296.45	73.50	7.20	-12.07	73.86	5.60	0.59
7400.00	0.66	347.04	7396.44	74.58	6.94	-11.88	74.90	5.31	0.06
7500.00	0.69	328.82	7496.43	75.66	6.49	-11.51	75.94	4.91	0.22
7600.00	0.72	342.12	7596.43	76.78	5.99	-11.08	77.01	4.46	0.17
7680.00	1.21	320.39	7676.42	77.91	5.30	-10.46	78.09	3.89	0.75

HORIZONTAL DISPLACEMENT IS
78.09 FEET AT 3.89 DEGREES