



Company: ENCANA OIL & GAS
 Lease/Well: WOOLEY/ #12-7
 A.P.I.#: 05-123-22988
 Rig Name: PRODUCTION/ V.E.S.
 State/County: COLORADO/WELD
 Latitude: 40.067, Longitude: -105.054
 Directions are relative to True North
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : KB= GROUND LEVEL

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: wooley12-7-de_01.ut
 Minimum Curvature Method
 Report Date/Time: 6/13/2013 / 13:47

Vaughn Energy Services
 Pinedale, Wyoming
 866-835-8333
 Jay Hinman
 Wooley 12-7

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
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	****
100.000	0.724	41.518	99.997	0.473	0.419	0.473	0.632	41.518	0.724
200.000	0.354	81.320	199.993	0.993	1.143	0.993	1.514	49.016	0.506
300.000	0.204	236.191	299.993	0.940	1.300	0.940	1.605	54.118	0.546
400.000	0.467	313.326	399.991	1.121	0.855	1.121	1.410	37.348	0.466
500.000	0.601	316.079	499.987	1.778	0.195	1.778	1.789	6.270	0.136
600.000	0.763	317.138	599.980	2.644	-0.621	2.644	2.716	346.777	0.163
700.000	0.622	340.313	699.972	3.643	-1.257	3.643	3.854	340.962	0.311
800.000	0.832	337.339	799.964	4.824	-1.720	4.824	5.122	340.379	0.213
900.000	1.061	321.733	899.951	6.221	-2.573	6.221	6.733	337.531	0.343
1000.000	1.106	315.044	999.933	7.632	-3.829	7.632	8.538	333.358	0.134
1100.000	0.875	311.598	1099.918	8.822	-5.082	8.822	10.181	330.055	0.239
1200.000	0.964	309.814	1199.905	9.868	-6.299	9.868	11.707	327.447	0.093
1300.000	1.232	306.871	1299.887	11.051	-7.805	11.051	13.529	324.767	0.274
1400.000	1.511	285.162	1399.859	12.040	-9.937	12.040	15.611	320.467	0.585
1500.000	1.539	290.792	1499.823	12.862	-12.465	12.862	17.911	315.898	0.152
1600.000	1.954	276.872	1599.777	13.543	-15.413	13.543	20.518	311.303	0.591
1700.000	1.620	271.404	1699.728	13.781	-18.519	13.781	23.084	306.655	0.375
1800.000	1.875	291.678	1799.683	14.420	-21.453	14.420	25.849	303.909	0.664
1900.000	1.381	280.061	1899.642	15.235	-24.160	15.235	28.562	302.236	0.592
2000.000	1.611	282.882	1999.608	15.759	-26.717	15.759	31.018	300.535	0.242
2100.000	1.937	285.753	2099.560	16.532	-29.714	16.532	34.003	299.089	0.338
2200.000	1.816	291.087	2199.506	17.561	-32.820	17.561	37.222	298.150	0.213
2300.000	1.330	299.159	2299.469	18.696	-35.312	18.696	39.956	297.900	0.533
2400.000	0.933	322.839	2399.449	19.911	-36.817	19.911	41.856	298.404	0.606
2500.000	1.406	341.246	2499.429	21.721	-37.703	21.721	43.512	299.946	0.598
2600.000	1.080	320.859	2599.405	23.613	-38.692	23.613	45.329	301.395	0.544
2700.000	0.794	311.420	2699.392	24.802	-39.806	24.802	46.901	301.926	0.324
2800.000	1.282	265.954	2799.377	25.181	-41.442	25.181	48.492	301.284	0.920
2900.000	1.630	265.962	2899.344	25.002	-43.976	25.002	50.587	299.620	0.348
3000.000	1.603	276.175	2999.305	25.053	-46.786	25.053	53.071	298.168	0.289
3100.000	1.728	265.232	3099.263	25.078	-49.679	25.078	55.650	296.784	0.341
3200.000	1.806	270.673	3199.215	24.971	-52.757	24.971	58.368	295.329	0.185
3300.000	1.718	276.422	3299.168	25.157	-55.821	25.157	61.228	294.260	0.197
3400.000	1.909	292.042	3399.119	25.950	-58.854	25.950	64.321	293.793	0.528

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
3500.000	2.120	272.236	3499.058	26.647	-62.247	26.647	67.710	293.175	0.723
3600.000	2.226	273.869	3598.986	26.850	-66.033	26.850	71.283	292.127	0.123
3700.000	2.037	283.015	3698.917	27.381	-69.702	27.381	74.888	291.446	0.389
3800.000	1.885	294.157	3798.859	28.455	-72.935	28.455	78.289	291.313	0.409
3900.000	1.838	320.166	3898.808	30.359	-75.463	30.359	81.341	291.915	0.839
4000.000	1.870	311.683	3998.756	32.676	-77.709	32.676	84.299	292.807	0.276
4100.000	1.460	315.589	4098.713	34.671	-79.819	34.671	87.024	293.479	0.426
4200.000	2.211	315.846	4198.661	36.965	-82.054	36.965	89.996	294.252	0.752
4300.000	3.021	305.583	4298.557	39.883	-85.541	39.883	94.382	294.997	0.932
4400.000	2.970	308.519	4398.420	43.029	-89.711	43.029	99.497	295.624	0.162
4500.000	2.841	303.122	4498.292	45.997	-93.813	45.997	104.483	296.119	0.302
4600.000	2.839	299.956	4598.169	48.588	-98.035	48.588	109.415	296.364	0.157
4700.000	2.268	310.248	4698.070	51.103	-101.691	51.103	113.809	296.681	0.730
4800.000	1.945	312.302	4798.002	53.524	-104.457	53.524	117.371	297.131	0.331
4900.000	2.179	314.917	4897.937	56.008	-107.058	56.008	120.824	297.617	0.252
5000.000	1.880	323.955	4997.875	58.677	-109.369	58.677	124.115	298.214	0.437
5100.000	1.497	330.505	5097.831	61.140	-110.977	61.140	126.705	298.851	0.428
5200.000	1.289	328.444	5197.802	63.236	-112.209	63.236	128.801	299.403	0.215
5300.000	1.189	322.510	5297.778	65.018	-113.430	65.018	130.742	299.821	0.162
5400.000	1.497	321.510	5397.751	66.864	-114.874	66.864	132.917	300.202	0.309
5500.000	1.263	339.965	5497.722	68.922	-116.065	68.922	134.986	300.703	0.499
5600.000	1.182	319.283	5597.700	70.740	-117.116	70.740	136.822	301.133	0.446
5700.000	1.080	340.915	5697.681	72.412	-118.097	72.412	138.529	301.515	0.436
5800.000	1.004	309.790	5797.665	73.863	-119.078	73.863	140.126	301.811	0.564
5900.000	1.022	334.916	5897.650	75.231	-120.130	75.231	141.742	302.057	0.441
6000.000	0.889	296.719	5997.637	76.388	-121.201	76.388	143.265	302.222	0.638
6100.000	0.156	296.040	6097.632	76.797	-122.016	76.797	144.172	302.186	0.733
6200.000	0.581	2.100	6197.630	77.363	-122.120	77.363	144.562	302.354	0.537
6300.000	0.450	307.468	6297.627	78.108	-122.413	78.108	145.209	302.541	0.487
6400.000	0.546	355.526	6397.623	78.822	-122.761	78.822	145.888	302.703	0.415
6500.000	0.603	354.526	6497.618	79.821	-122.849	79.821	146.503	303.014	0.058
6600.000	0.751	356.858	6597.611	80.999	-122.935	80.999	147.220	303.380	0.150
6700.000	1.107	353.703	6697.598	82.613	-123.077	82.613	148.232	303.871	0.360
6800.000	1.290	346.806	6797.576	84.670	-123.440	84.670	149.687	304.447	0.233
6900.000	1.238	340.876	6897.552	86.787	-124.051	86.787	151.395	304.977	0.141
7000.000	1.795	340.845	6997.516	89.288	-124.919	89.288	153.548	305.556	0.557
7100.000	1.593	328.621	7097.473	91.955	-126.157	91.955	156.113	306.088	0.413
7200.000	2.127	331.305	7197.420	94.769	-127.772	94.769	159.081	306.565	0.540
7300.000	2.304	328.430	7297.345	98.110	-129.715	98.110	162.640	307.102	0.209
7400.000	1.711	310.486	7397.284	100.792	-131.903	100.792	166.005	307.385	0.858
7500.000	1.500	294.735	7497.245	102.309	-134.227	102.309	168.773	307.315	0.487
7600.000	1.755	310.648	7597.205	103.854	-136.578	103.854	171.579	307.249	0.516
7700.000	2.095	322.229	7697.149	106.296	-138.859	106.296	174.874	307.434	0.515
7800.000	2.090	318.658	7797.083	109.111	-141.183	109.111	178.432	307.698	0.130
7900.000	1.572	343.671	7897.033	111.796	-142.774	111.796	181.336	308.062	0.941
8000.000	1.875	347.593	7996.987	114.710	-143.511	114.710	183.722	308.636	0.325
8100.000	1.563	346.639	8096.942	117.635	-144.177	117.635	186.078	309.211	0.313
8141.000	1.481	342.054	8137.928	118.683	-144.470	118.683	186.968	309.403	0.358

HORIZONTAL DISPLACEMENT IS
186.968 FEET AT 309.403 DEGREES