



Company/Rig: NOBLE ENERGY/VESI
 WELL/API#: UPV 5-6H3/05-123-18861
 DECLINATION: 8.26 DEGREES
 TD AS DRILLED: 6974 FEET
 COUNTY/STATE: WELD/COLORADO
 VS-Azi: 0.000 Degrees
 Latitude: 40.43000, Longitude: -104.46300
 Grid Convergence Applied = -0.67 degs
 Grid North = True North -0.67 degs



DEPTH REFERENCE : RKB=SURFACE ELEVATION= 4692 FEET

DRILLOG GYRO SURVEY CALCULATIONS

Filename: survey.ut
 Minimum Curvature Method
 Report Date/Time: 6/8/2015 / 15:31

LAT & LONG OBTAINED BY HANDHELD GPS AT WELLHEAD

NORTH REFERENCE: GRID
 HENDERSON, COLORADO
 303-853-4976

SURVEYOR: KEVIN MCDOWELL

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	0.480	234.711	99.999	-0.242	-0.342	-0.242	0.419	234.711	0.480
200.000	0.110	347.675	199.998	-0.391	-0.704	-0.391	0.805	240.993	0.533
300.000	0.195	166.587	299.998	-0.463	-0.685	-0.463	0.827	235.983	0.305
400.000	0.427	222.449	399.996	-0.903	-0.897	-0.903	1.273	224.820	0.356
500.000	0.274	220.756	499.994	-1.359	-1.305	-1.359	1.884	223.835	0.153
600.000	0.345	326.958	599.993	-1.288	-1.626	-1.288	2.074	231.613	0.497
700.000	0.365	338.651	699.992	-0.738	-1.906	-0.738	2.044	248.821	0.075
800.000	0.518	250.794	799.989	-0.590	-2.449	-0.590	2.519	256.445	0.622
900.000	0.369	338.357	899.987	-0.440	-2.994	-0.440	3.026	261.641	0.623
1000.000	0.144	250.523	999.987	-0.183	-3.231	-0.183	3.236	266.764	0.391
1100.000	0.393	320.993	1099.986	0.042	-3.565	0.042	3.565	270.677	0.371
1200.000	0.113	159.028	1199.985	0.217	-3.746	0.217	3.752	273.311	0.502
1300.000	0.277	83.409	1299.984	0.152	-3.470	0.152	3.474	272.515	0.272
1400.000	0.283	206.075	1399.984	-0.042	-3.339	-0.042	3.339	269.281	0.492
1500.000	0.259	65.639	1499.983	-0.171	-3.241	-0.171	3.246	266.985	0.511
1600.000	0.277	221.136	1599.983	-0.260	-3.194	-0.260	3.205	265.354	0.524
1700.000	0.414	131.748	1699.982	-0.683	-3.084	-0.683	3.158	257.519	0.496
1800.000	0.015	263.266	1799.981	-0.925	-2.827	-0.925	2.974	251.884	0.424

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
1900.000	0.250	96.422	1899.981	-0.951	-2.623	-0.951	2.790	250.078	0.264
2000.000	0.355	312.127	1999.980	-0.767	-2.637	-0.767	2.746	253.779	0.577
2100.000	0.190	101.184	2099.979	-0.591	-2.704	-0.591	2.768	257.668	0.528
2200.000	0.197	179.722	2199.979	-0.795	-2.540	-0.795	2.662	252.620	0.245
2300.000	0.695	251.744	2299.976	-1.157	-3.115	-1.157	3.323	249.627	0.661
2400.000	0.962	226.554	2399.966	-1.924	-4.301	-1.924	4.711	245.896	0.446
2500.000	0.653	241.893	2499.956	-2.770	-5.413	-2.770	6.080	242.899	0.375
2600.000	0.835	239.782	2599.948	-3.405	-6.545	-3.405	7.378	242.514	0.184
2700.000	0.971	231.493	2699.935	-4.300	-7.838	-4.300	8.940	241.253	0.188
2800.000	0.443	238.606	2799.927	-5.028	-8.831	-5.028	10.162	240.343	0.534
2900.000	0.510	213.432	2899.924	-5.601	-9.406	-5.601	10.947	239.227	0.218
3000.000	0.516	247.330	2999.920	-6.146	-10.067	-6.146	11.794	238.595	0.299
3100.000	0.404	247.497	3099.917	-6.454	-10.808	-6.454	12.588	239.155	0.112
3200.000	0.357	7.651	3199.916	-6.280	-11.092	-6.280	12.746	240.482	0.660
3300.000	0.544	59.749	3299.913	-5.732	-10.641	-5.732	12.086	241.688	0.430
3400.000	1.050	115.349	3399.904	-5.886	-9.402	-5.886	11.093	237.955	0.868
3500.000	1.106	131.501	3499.887	-6.917	-7.851	-6.917	10.464	228.618	0.308
3600.000	1.206	97.063	3599.868	-7.686	-6.084	-7.686	9.803	218.364	0.691
3700.000	0.929	145.602	3699.852	-8.484	-4.582	-8.484	9.643	208.373	0.913
3800.000	1.521	108.971	3799.830	-9.584	-2.869	-9.584	10.005	196.665	0.954
3900.000	1.230	95.432	3899.802	-10.118	-0.545	-10.118	10.132	183.083	0.434
4000.000	1.050	99.999	3999.782	-10.378	1.426	-10.378	10.476	172.177	0.202
4100.000	1.006	156.312	4099.768	-11.341	2.681	-11.341	11.654	166.701	0.971
4200.000	0.301	231.416	4199.762	-12.309	2.828	-12.309	12.630	167.060	0.973
4300.000	0.653	20.082	4299.760	-11.938	2.819	-11.938	12.266	166.714	0.923
4400.000	0.935	35.221	4399.751	-10.736	3.485	-10.736	11.288	162.016	0.349
4500.000	0.560	35.133	4499.742	-9.670	4.237	-9.670	10.557	156.339	0.374
4600.000	0.721	36.242	4599.736	-8.763	4.890	-8.763	10.035	150.835	0.161
4700.000	0.761	161.734	4699.732	-8.885	5.470	-8.885	10.434	148.383	1.317
4800.000	0.787	111.959	4799.724	-9.772	6.315	-9.772	11.635	147.130	0.652
4900.000	0.588	165.641	4899.717	-10.526	7.079	-10.526	12.685	146.079	0.646
5000.000	1.300	131.630	4999.704	-11.777	8.054	-11.777	14.267	145.632	0.877
5100.000	1.429	118.563	5099.676	-13.126	9.997	-13.126	16.500	142.707	0.336
5200.000	1.017	128.265	5199.653	-14.272	11.789	-14.272	18.511	140.443	0.460
5300.000	1.121	122.512	5299.635	-15.347	13.310	-15.347	20.315	139.065	0.149
5400.000	1.536	129.757	5399.608	-16.730	15.166	-16.730	22.581	137.808	0.446
5500.000	1.500	124.710	5499.573	-18.332	17.271	-18.332	25.187	136.707	0.138
5600.000	1.323	102.549	5599.544	-19.328	19.474	-19.328	27.437	134.785	0.570
5700.000	0.777	107.624	5699.527	-19.784	21.247	-19.784	29.032	132.959	0.553
5800.000	0.890	76.394	5799.516	-19.807	22.648	-19.807	30.087	131.171	0.462

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
5900.000	1.067	86.311	5899.502	-19.564	24.333	-19.564	31.222	128.800	0.244
6000.000	1.348	109.500	5999.480	-19.897	26.371	-19.897	33.035	127.034	0.558
6100.000	0.933	91.220	6099.460	-20.307	28.294	-20.307	34.827	125.667	0.547
6200.000	1.509	87.919	6199.437	-20.276	30.424	-20.276	36.561	123.682	0.580
6300.000	1.973	96.058	6299.391	-20.410	33.452	-20.410	39.187	121.389	0.525
6400.000	1.993	8.549	6399.350	-18.872	35.423	-18.872	40.136	118.047	2.743
6450.000	2.566	10.114	6449.310	-16.910	35.749	-16.910	39.546	115.316	1.152