



Company: Noble Energy
Rig: Production/VES
API # 05-123-25491

Date: 10/29/2013

Surveyor: Nick Kula

VS: 0.000

Lat : 40.499

Long: -104.44

Well: Bashor 9-42

Location: Weld County, Colorado

North Reference: GRID

Convergence: GRID North is 0.680 Degrees East

Declination: 8.38

Depth Reference: Ground Level

Elevation: 4689'

Total Depth as Drilled: 6919'

Lat & Long obtained by handheld GPS at wellhead

HA Gyro Survey Calculations

Depth	Inc	AzG	N/-S	E/-W	TVD	DL	VS	CD	Cbrg
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.000	0.194	193.893	-0.164	-0.041	100.000	0.194	-0.164	0.169	193.893
200.000	0.379	160.642	-0.641	0.028	199.999	0.242	-0.641	0.641	177.457
300.000	0.334	188.815	-1.240	0.094	299.997	0.179	-1.240	1.244	175.688
400.000	0.345	198.146	-1.814	-0.045	399.995	0.056	-1.814	1.815	181.415
500.000	0.345	222.605	-2.322	-0.342	499.993	0.146	-2.322	2.347	188.389
600.000	0.044	190.278	-2.581	-0.553	599.993	0.309	-2.581	2.640	192.094
700.000	0.066	293.096	-2.596	-0.613	699.993	0.087	-2.596	2.667	193.276
800.000	0.404	315.447	-2.322	-0.913	799.992	0.344	-2.322	2.495	201.457
900.000	0.178	324.265	-1.945	-1.251	899.990	0.230	-1.945	2.312	212.746
1000.000	0.181	338.238	-1.672	-1.400	999.990	0.044	-1.672	2.181	219.933
1100.000	0.172	296.166	-1.460	-1.593	1099.989	0.127	-1.460	2.161	227.500
1200.000	0.373	286.006	-1.304	-2.041	1199.988	0.206	-1.304	2.422	237.425
1300.000	0.379	264.135	-1.248	-2.683	1299.986	0.143	-1.248	2.959	245.056
1400.000	0.096	351.949	-1.199	-3.023	1399.985	0.387	-1.199	3.252	248.367
1500.000	0.147	59.816	-1.052	-2.924	1499.985	0.142	-1.052	3.108	250.213
1600.000	0.189	127.553	-1.088	-2.683	1599.985	0.190	-1.088	2.895	247.925
1700.000	0.216	66.515	-1.113	-2.379	1699.984	0.207	-1.113	2.627	244.925
1800.000	0.247	162.523	-1.244	-2.141	1799.984	0.345	-1.244	2.476	239.846
1900.000	0.242	269.924	-1.450	-2.288	1899.983	0.395	-1.450	2.708	237.633
2000.000	0.193	243.355	-1.526	-2.650	1999.982	0.111	-1.526	3.058	240.066
2100.000	0.441	171.631	-1.982	-2.744	2099.981	0.422	-1.982	3.385	234.163
2200.000	0.392	192.019	-2.698	-2.760	2199.979	0.155	-2.698	3.859	225.651
2300.000	0.589	143.883	-3.448	-2.528	2299.975	0.439	-3.448	4.276	216.245
2400.000	0.674	157.538	-4.407	-2.000	2399.969	0.172	-4.407	4.840	204.408
2500.000	0.581	143.275	-5.357	-1.472	2499.963	0.181	-5.357	5.555	195.368
2600.000	0.848	171.318	-6.494	-1.058	2599.956	0.432	-6.494	6.580	189.251
2700.000	0.579	147.634	-7.652	-0.676	2699.948	0.394	-7.652	7.681	185.047
2800.000	0.602	177.305	-8.603	-0.381	2799.943	0.303	-8.603	8.611	182.534
2900.000	0.465	164.932	-9.519	-0.251	2899.939	0.178	-9.519	9.522	181.507
3000.000	0.594	205.368	-10.379	-0.367	2999.935	0.385	-10.379	10.385	182.025
3100.000	0.492	196.265	-11.259	-0.709	3099.930	0.133	-11.259	11.282	183.604
3200.000	0.599	208.772	-12.130	-1.081	3199.926	0.160	-12.130	12.178	185.093
3300.000	0.556	214.017	-12.990	-1.604	3299.921	0.068	-12.990	13.089	187.040
3400.000	0.359	181.433	-13.705	-1.883	3399.918	0.319	-13.705	13.834	187.825
3500.000	0.161	354.020	-13.879	-1.906	3499.917	0.518	-13.879	14.009	187.819

3600.000	0.390	335.048	-13.430	-2.064	3599.916	0.244	-13.430	13.588	188.737
3700.000	0.613	324.616	-12.686	-2.517	3699.912	0.239	-12.686	12.933	191.224
3800.000	0.644	304.938	-11.928	-3.288	3799.906	0.217	-11.928	12.373	195.409
3900.000	0.609	308.937	-11.272	-4.162	3899.900	0.056	-11.272	12.016	200.264
4000.000	0.796	316.110	-10.437	-5.057	3999.893	0.206	-10.437	11.598	205.849
4100.000	1.215	291.670	-9.545	-6.523	4099.877	0.591	-9.545	11.562	214.349
4200.000	1.712	277.454	-8.960	-8.990	4199.845	0.612	-8.960	12.693	225.095
4300.000	1.614	272.176	-8.713	-11.878	4299.803	0.182	-8.713	14.731	233.739
4400.000	2.042	263.832	-8.851	-15.057	4399.752	0.504	-8.851	17.466	239.552
4500.000	2.180	267.950	-9.110	-18.729	4499.684	0.205	-9.110	20.828	244.061
4600.000	2.287	265.851	-9.323	-22.621	4599.608	0.135	-9.323	24.466	247.601
4700.000	2.459	254.046	-10.057	-26.673	4699.523	0.517	-10.057	28.506	249.342
4800.000	2.463	251.166	-11.340	-30.769	4799.431	0.124	-11.340	32.792	249.769
4900.000	2.881	251.289	-12.840	-35.183	4899.322	0.418	-12.840	37.452	249.951
5000.000	2.522	249.723	-14.408	-39.627	4999.210	0.366	-14.408	42.165	250.019
5100.000	1.766	244.523	-15.834	-43.082	5099.140	0.780	-15.834	45.899	249.820
5200.000	1.435	220.593	-17.447	-45.288	5199.102	0.738	-17.447	48.532	248.930
5300.000	1.071	230.278	-18.995	-46.821	5299.078	0.420	-18.995	50.528	247.917
5400.000	1.000	226.363	-20.195	-48.171	5399.061	0.100	-20.195	52.233	247.255
5500.000	1.233	206.263	-21.762	-49.279	5499.043	0.452	-21.762	53.870	246.174
5600.000	1.269	204.975	-23.730	-50.222	5599.019	0.045	-23.730	55.546	244.709
5700.000	1.279	200.418	-25.779	-51.079	5698.994	0.102	-25.779	57.215	243.220
5800.000	1.550	192.111	-28.146	-51.752	5798.964	0.339	-28.146	58.911	241.459
5900.000	1.787	169.792	-31.004	-51.759	5898.922	0.687	-31.004	60.334	239.078
6000.000	1.543	173.396	-33.876	-51.328	5998.880	0.266	-33.876	61.499	236.576
6100.000	1.926	173.378	-36.883	-50.979	6098.834	0.383	-36.883	62.922	234.115
6200.000	2.143	173.212	-40.409	-50.564	6198.771	0.217	-40.409	64.728	231.369
6300.000	2.198	164.383	-44.113	-49.827	6298.699	0.338	-44.113	66.548	228.481
6400.000	2.652	157.744	-48.101	-48.435	6398.610	0.534	-48.101	68.261	225.198
6500.000	3.167	156.880	-52.783	-46.473	6498.481	0.517	-52.783	70.327	221.363
6600.000	3.275	157.614	-57.965	-44.301	6598.323	0.115	-57.965	72.955	217.390
6700.000	3.356	161.082	-63.374	-42.264	6698.155	0.216	-63.374	76.175	213.699

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