



Company/Rig: NOBLE ENERGY/CORETECH  
WELL/API#: PETRIKIN A34-9/05-123-13529  
DECLINATION: 8.22 Degrees  
TD AS DRILLED: 6935'  
COUNTY/STATE: WELD/COLORADO  
VS-Azi: 0.000 Degrees  
Latitude: 40.44132, Longitude: -104.52863  
Grid North = True North -0.63 degs (NAD 83)  
Grid Correction Applied = -0.63 degs



DEPTH REFERENCE : RKB=SURFACE ELEVATION=4669'

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: run2-01-de\_01.ut

Minimum Curvature Method

Report Date/Time: 2/4/2016 / 15:09

LAT & LONG OBTAINED BY HANDHELD GPS AT WELLHEAD

NORTH REFERENCE: GRID

HENDERSON, COLORADO

303-853-4976

SURVEYOR: JAY HINMAN / Petrikin A34-9

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	0.943	279.910	99.995	0.142	-0.810	0.142	0.823	279.910	0.943
200.000	0.413	215.463	199.989	-0.010	-1.830	-0.010	1.830	269.678	0.850
300.000	0.520	314.654	299.987	0.015	-2.361	0.015	2.361	270.368	0.714
400.000	0.538	213.025	399.985	-0.060	-2.940	-0.060	2.940	268.838	0.820
500.000	0.626	312.547	499.981	-0.084	-3.598	-0.084	3.599	268.668	0.891
600.000	0.101	64.044	599.980	0.325	-3.921	0.325	3.935	274.731	0.670
700.000	0.381	4.306	699.979	0.695	-3.817	0.695	3.880	280.320	0.342
800.000	0.378	187.498	799.978	0.700	-3.835	0.700	3.898	280.343	0.759
900.000	0.505	339.733	899.977	0.786	-4.031	0.786	4.107	281.039	0.857
1000.000	0.589	325.875	999.972	1.625	-4.471	1.625	4.758	289.970	0.156
1100.000	0.238	12.458	1099.970	2.253	-4.715	2.253	5.225	295.541	0.459
1200.000	0.261	268.761	1199.969	2.451	-4.898	2.451	5.477	296.583	0.393
1300.000	0.275	276.646	1299.968	2.474	-5.365	2.474	5.907	294.756	0.039
1400.000	0.172	269.965	1399.967	2.501	-5.753	2.501	6.273	293.501	0.106
1500.000	0.286	288.081	1499.966	2.579	-6.140	2.579	6.659	292.783	0.133
1600.000	0.295	272.672	1599.965	2.668	-6.634	2.668	7.150	291.910	0.078
1700.000	0.280	280.985	1699.964	2.727	-7.131	2.727	7.634	290.926	0.044
1800.000	0.116	335.286	1799.963	2.865	-7.414	2.865	7.948	291.132	0.233

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	0.262	77.291	1899.963	3.008	-7.233	3.008	7.834	292.579	0.308
2000.000	0.459	84.250	1999.961	3.098	-6.612	3.098	7.302	295.106	0.202
2100.000	0.729	93.307	2099.956	3.102	-5.578	3.102	6.383	299.074	0.285
2200.000	0.848	90.816	2199.946	3.054	-4.203	3.054	5.196	306.004	0.123
2300.000	0.748	85.786	2299.936	3.092	-2.813	3.092	4.180	317.708	0.122
2400.000	0.911	98.454	2399.926	3.023	-1.375	3.023	3.321	335.535	0.244
2500.000	0.634	76.574	2499.917	3.035	-0.051	3.035	3.035	359.033	0.400
2600.000	0.156	107.693	2599.914	3.122	0.616	3.122	3.182	11.168	0.507
2700.000	0.284	146.628	2699.914	2.874	0.882	2.874	3.006	17.062	0.190
2800.000	0.852	112.681	2799.909	2.380	1.704	2.380	2.927	35.605	0.637
2900.000	0.344	151.570	2899.903	1.829	2.533	1.829	3.125	54.173	0.623
3000.000	0.775	124.042	2999.898	1.186	3.237	1.186	3.447	69.877	0.496
3100.000	0.626	182.265	3099.892	0.262	3.776	0.262	3.785	86.037	0.694
3200.000	0.688	204.935	3199.885	-0.829	3.501	-0.829	3.598	103.319	0.265
3300.000	1.087	202.269	3299.873	-2.252	2.888	-2.252	3.662	127.938	0.401
3400.000	1.592	206.657	3399.846	-4.371	1.905	-4.371	4.769	156.448	0.515
3500.000	2.143	209.963	3499.792	-7.233	0.348	-7.233	7.241	177.243	0.561
3600.000	2.189	209.177	3599.721	-10.520	-1.517	-10.520	10.629	188.203	0.055
3700.000	2.253	210.177	3699.646	-13.887	-3.436	-13.887	14.306	193.896	0.075
3800.000	2.175	209.136	3799.571	-17.244	-5.348	-17.244	18.054	197.230	0.088
3900.000	1.934	206.987	3899.507	-20.405	-7.038	-20.405	21.585	199.029	0.253
4000.000	1.714	209.104	3999.456	-23.216	-8.531	-23.216	24.734	200.176	0.231
4100.000	1.276	212.034	4099.422	-25.467	-9.849	-25.467	27.305	201.143	0.444
4200.000	1.593	197.414	4199.390	-27.737	-10.856	-27.737	29.786	201.374	0.482
4300.000	1.293	235.308	4299.361	-29.706	-12.200	-29.706	32.114	202.327	0.979
4400.000	1.124	244.915	4399.339	-30.764	-14.016	-30.764	33.807	204.493	0.263
4500.000	0.898	266.246	4499.323	-31.232	-15.686	-31.232	34.949	206.668	0.435
4600.000	1.207	287.155	4599.307	-30.972	-17.474	-30.972	35.561	209.431	0.488
4700.000	1.109	326.417	4699.288	-29.855	-19.015	-29.855	35.397	212.494	0.783
4800.000	0.888	283.511	4799.274	-28.868	-20.304	-28.868	35.293	215.121	0.759
4900.000	1.211	301.548	4899.257	-28.134	-21.957	-28.134	35.688	217.971	0.458
5000.000	0.393	279.352	4999.247	-27.526	-23.196	-27.526	35.996	220.121	0.860
5100.000	0.589	320.927	5099.243	-27.071	-23.858	-27.071	36.084	221.390	0.394
5200.000	0.282	285.891	5199.241	-26.604	-24.419	-26.604	36.112	222.548	0.393
5300.000	0.249	211.577	5299.240	-26.722	-24.770	-26.722	36.436	222.828	0.322
5400.000	0.516	185.753	5399.237	-27.355	-24.929	-27.355	37.010	222.343	0.311
5500.000	0.605	161.735	5499.233	-28.305	-24.808	-28.305	37.638	221.234	0.249
5600.000	0.744	151.396	5599.226	-29.376	-24.332	-29.376	38.145	219.634	0.184
5700.000	0.932	169.103	5699.215	-30.745	-23.867	-30.745	38.922	217.822	0.318
5800.000	0.949	172.307	5799.202	-32.365	-23.603	-32.365	40.057	216.102	0.055

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	1.159	177.419	5899.185	-34.195	-23.446	-34.195	41.461	214.437	0.230
6000.000	1.351	178.151	5999.161	-36.384	-23.363	-36.384	43.239	212.705	0.193
6100.000	1.849	176.550	6099.122	-39.172	-23.228	-39.172	45.541	210.666	0.500
6200.000	1.932	186.793	6199.067	-42.456	-23.330	-42.456	48.443	208.789	0.347
6300.000	1.652	174.978	6299.019	-45.565	-23.403	-45.565	51.223	207.186	0.462
6400.000	2.245	180.068	6398.961	-48.959	-23.279	-48.959	54.212	205.430	0.618
6500.000	2.146	194.494	6498.888	-52.731	-23.750	-52.731	57.833	204.247	0.560
6600.000	2.619	189.499	6598.801	-56.797	-24.596	-56.797	61.894	203.415	0.516
6700.000	2.822	200.920	6698.689	-61.349	-25.852	-61.349	66.574	202.850	0.578
6800.000	2.061	212.287	6798.598	-65.169	-27.691	-65.169	70.808	203.021	0.898