



Company/Rig: NOBLE ENERGY / PRODUCTION
WELL/API#: SINJIN E36-08 / 05-123-16468
DECLINATION: 8.3 DEGREES
TD AS DRILLED: 7060 FEET
COUNTY/STATE: WELD/ COLORADO
Latitude: 40.444, Longitude: -104.604
GRID North is 0.580 Degrees East of True North
VS-Azi: 0.000 Degrees



DEPTH REFERENCE : RKB=SURFACE ELEVATION=4647 FEET

DRILLOG GYRO SURVEY CALCULATIONS

Filename: survey.ut
Minimum Curvature Method
Report Date/Time: 1/15/2015 / 13:34

LAT & LONG OBTAINED BY HANDHELD GPS AT WELLHEAD

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

SURVEYOR: NORMAN COWAN

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	0.090	215.241	100.000	-0.064	-0.045	-0.064	0.078	215.241	0.090
200.000	0.230	245.812	200.000	-0.210	-0.273	-0.210	0.345	232.467	0.159
300.000	0.251	320.058	299.999	-0.124	-0.597	-0.124	0.610	258.244	0.291
400.000	0.217	246.673	399.998	-0.031	-0.911	-0.031	0.912	268.038	0.281
500.000	0.846	255.383	499.993	-0.293	-1.800	-0.293	1.823	260.768	0.633
600.000	0.513	228.899	599.987	-0.773	-2.851	-0.773	2.954	254.831	0.450
700.000	0.735	267.959	699.981	-1.090	-3.830	-1.090	3.982	254.112	0.467
800.000	0.857	256.709	799.971	-1.285	-5.199	-1.285	5.355	256.118	0.198
900.000	0.578	254.422	899.963	-1.592	-6.413	-1.592	6.608	256.055	0.280
1000.000	0.629	243.079	999.958	-1.976	-7.388	-1.976	7.648	255.025	0.129
1100.000	0.476	245.869	1099.953	-2.394	-8.256	-2.394	8.597	253.827	0.155
1200.000	0.789	243.225	1199.947	-2.875	-9.251	-2.875	9.687	252.737	0.314
1300.000	0.980	237.340	1299.935	-3.647	-10.586	-3.647	11.196	250.992	0.211
1400.000	1.313	277.594	1399.916	-3.957	-12.441	-3.957	13.055	252.358	0.849
1500.000	0.957	252.617	1499.897	-4.055	-14.374	-4.055	14.935	254.247	0.601
1600.000	0.960	251.559	1599.883	-4.569	-15.966	-4.569	16.607	254.029	0.018
1700.000	0.892	226.620	1699.871	-5.369	-17.326	-5.369	18.139	252.783	0.405
1800.000	0.652	249.056	1799.862	-6.107	-18.423	-6.107	19.409	251.660	0.382
1900.000	0.370	170.249	1899.859	-6.629	-18.900	-6.629	20.029	250.672	0.684

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
2000.000	0.394	70.366	1999.857	-6.832	-18.522	-6.832	19.742	249.752	0.585
2100.000	0.452	328.015	2099.856	-6.383	-18.407	-6.383	19.482	250.876	0.659
2200.000	0.560	331.066	2199.852	-5.620	-18.852	-5.620	19.672	253.399	0.112
2300.000	0.951	1.708	2299.843	-4.364	-19.064	-4.364	19.557	257.108	0.549
2400.000	0.287	311.922	2399.837	-3.367	-19.226	-3.367	19.518	260.066	0.796
2500.000	0.329	267.541	2499.836	-3.212	-19.699	-3.212	19.960	260.739	0.236
2600.000	0.156	204.567	2599.835	-3.348	-20.043	-3.348	20.321	260.517	0.293
2700.000	0.220	220.403	2699.835	-3.617	-20.224	-3.617	20.545	259.859	0.082
2800.000	0.228	271.901	2799.834	-3.757	-20.547	-3.757	20.887	259.638	0.195
2900.000	0.145	235.032	2899.833	-3.823	-20.849	-3.823	21.197	259.610	0.141
3000.000	0.427	220.066	2999.832	-4.181	-21.193	-4.181	21.601	258.841	0.289
3100.000	0.517	193.817	3099.829	-4.904	-21.540	-4.904	22.091	257.175	0.231
3200.000	0.513	214.906	3199.825	-5.708	-21.904	-5.708	22.636	255.393	0.188
3300.000	0.335	157.760	3299.823	-6.346	-22.050	-6.346	22.945	253.944	0.435
3400.000	0.704	187.603	3399.818	-7.225	-22.020	-7.225	23.175	251.835	0.446
3500.000	0.939	182.285	3499.808	-8.652	-22.134	-8.652	23.765	248.649	0.247
3600.000	1.037	162.616	3599.793	-10.335	-21.896	-10.335	24.213	244.734	0.351
3700.000	0.910	212.198	3699.781	-11.870	-22.049	-11.870	25.041	241.704	0.824
3800.000	0.830	219.499	3799.769	-13.101	-22.933	-13.101	26.411	240.262	0.137
3900.000	1.100	231.935	3899.755	-14.251	-24.149	-14.251	28.040	239.453	0.340
4000.000	1.226	185.211	3999.737	-15.908	-25.001	-15.908	29.633	237.532	0.929
4100.000	1.951	162.237	4099.698	-18.594	-24.579	-18.594	30.820	232.892	0.952
4200.000	2.704	156.437	4199.615	-22.378	-23.116	-22.378	32.174	225.930	0.788
4300.000	3.482	145.553	4299.470	-27.045	-20.456	-27.045	33.909	217.102	0.971
4400.000	3.654	136.360	4399.277	-31.855	-16.538	-31.855	35.893	207.437	0.597
4500.000	3.904	133.422	4499.059	-36.502	-11.866	-36.502	38.382	198.009	0.316
4600.000	4.158	144.599	4598.813	-41.797	-7.293	-41.797	42.429	189.898	0.824
4700.000	4.227	155.715	4698.547	-48.112	-3.677	-48.112	48.252	184.371	0.814
4800.000	3.528	158.281	4798.318	-54.330	-1.023	-54.330	54.340	181.078	0.720
4900.000	2.601	162.172	4898.174	-59.349	0.811	-59.349	59.354	179.217	0.950
5000.000	2.110	164.908	4998.089	-63.286	1.985	-63.286	63.317	178.204	0.503
5100.000	1.389	168.996	5098.042	-66.253	2.695	-66.253	66.308	177.670	0.732
5200.000	0.677	172.001	5198.025	-68.027	3.009	-68.027	68.093	177.468	0.714
5300.000	1.364	207.109	5298.009	-69.672	2.548	-69.672	69.718	177.905	0.899
5400.000	0.927	252.330	5397.991	-70.977	1.235	-70.977	70.988	179.003	0.969
5500.000	0.478	264.740	5497.983	-71.261	0.049	-71.261	71.261	179.961	0.472
5600.000	1.099	248.078	5597.973	-71.657	-1.256	-71.657	71.668	181.004	0.656
5700.000	0.659	208.670	5697.962	-72.519	-2.422	-72.519	72.560	181.912	0.723
5800.000	0.313	181.324	5797.959	-73.297	-2.704	-73.297	73.346	182.112	0.407
5900.000	0.226	188.124	5897.958	-73.764	-2.738	-73.764	73.815	182.125	0.093

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
6000.000	0.277	158.896	5997.957	-74.184	-2.679	-74.184	74.233	182.068	0.136
6100.000	0.666	192.556	6097.953	-74.977	-2.718	-74.977	75.026	182.076	0.462
6200.000	0.690	184.186	6197.946	-76.144	-2.888	-76.144	76.199	182.172	0.102
6300.000	0.388	135.128	6297.942	-76.985	-2.693	-76.985	77.032	182.004	0.525
6400.000	0.204	201.121	6397.941	-77.391	-2.518	-77.391	77.432	181.864	0.358
6500.000	0.961	157.130	6497.935	-78.329	-2.256	-78.329	78.362	181.650	0.826
6600.000	0.208	154.975	6597.930	-79.266	-1.854	-79.266	79.288	181.340	0.753
6700.000	0.500	147.079	6697.928	-79.797	-1.539	-79.797	79.812	181.105	0.296
6800.000	0.683	204.953	6797.923	-80.705	-1.554	-80.705	80.720	181.103	0.595