



Company: Anadarko Petroleum Corp.
 Well/API: Anschutz 1/05-123-07811
 Tool Type: North Seeking Rate Gyro
 Rig Name: Production/Coretech
 County/State: Weld/Colorado
 Latitude: 40.064, Longitude: -104.694
 Directions are relative to True North
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB=GL Elevation=4960 Feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: survey_7650-de_01.ut

Minimum Curvature Method

Report Date/Time: 7/29/2014 / 12:16

Lat/Long & Elevation Obtained By Handheld GPS At Wellhead

Handheld GPS Reference: NAD83/Device Error: ±9 Feet

VES Survey International - Henderson CO

Randy Holcomb

303-853-4976

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	0.622	18.262	99.998	0.515	0.170	0.515	0.542	18.262	0.622
200.000	0.497	34.369	199.993	1.388	0.585	1.388	1.506	22.843	0.199
300.000	0.467	27.237	299.990	2.108	1.016	2.108	2.340	25.730	0.067
400.000	0.450	18.001	399.987	2.845	1.324	2.845	3.138	24.960	0.076
500.000	0.269	31.777	499.985	3.418	1.569	3.418	3.761	24.659	0.200
600.000	0.290	36.980	599.983	3.819	1.845	3.819	4.242	25.780	0.033
700.000	0.238	78.768	699.982	4.062	2.201	4.062	4.620	28.450	0.194
800.000	0.191	88.705	799.982	4.106	2.572	4.106	4.845	32.059	0.060
900.000	0.218	98.035	899.981	4.083	2.927	4.083	5.024	35.636	0.043
1000.000	0.241	122.139	999.980	3.945	3.294	3.945	5.139	39.863	0.099
1100.000	0.321	149.541	1099.979	3.591	3.614	3.591	5.095	45.181	0.154
1200.000	0.181	161.992	1199.978	3.200	3.805	3.200	4.972	49.937	0.150
1300.000	0.233	157.567	1299.978	2.862	3.931	2.862	4.863	53.944	0.054
1400.000	0.199	170.503	1399.977	2.503	4.037	2.503	4.750	58.202	0.059
1500.000	0.137	136.833	1499.976	2.245	4.148	2.245	4.716	61.578	0.114
1600.000	0.114	157.576	1599.976	2.066	4.267	2.066	4.741	64.169	0.051
1700.000	0.184	144.414	1699.976	1.843	4.399	1.843	4.769	67.264	0.078
1800.000	0.210	168.101	1799.975	1.534	4.530	1.534	4.783	71.295	0.085
1900.000	0.204	172.907	1899.975	1.178	4.590	1.178	4.738	75.600	0.018
2000.000	0.154	185.791	1999.974	0.869	4.598	0.869	4.679	79.304	0.064
2100.000	0.200	195.124	2099.974	0.566	4.539	0.566	4.574	82.891	0.055
2200.000	0.247	166.614	2199.973	0.187	4.543	0.187	4.547	87.642	0.119
2300.000	0.400	193.475	2299.971	-0.362	4.512	-0.362	4.526	94.593	0.211
2400.000	0.376	214.203	2399.969	-0.973	4.246	-0.973	4.356	102.909	0.142
2500.000	0.349	208.331	2499.967	-1.512	3.917	-1.512	4.199	111.111	0.046
2600.000	0.386	215.443	2599.965	-2.055	3.577	-2.055	4.126	119.873	0.059
2700.000	0.340	194.702	2699.963	-2.616	3.307	-2.616	4.216	128.348	0.138
2800.000	0.382	203.963	2799.961	-3.207	3.096	-3.207	4.458	136.011	0.072
2900.000	0.354	227.253	2899.959	-3.722	2.734	-3.722	4.618	143.701	0.151
3000.000	0.330	255.618	2999.957	-4.003	2.228	-4.003	4.581	150.900	0.169
3100.000	0.380	253.904	3099.955	-4.167	1.630	-4.167	4.474	158.631	0.052
3200.000	0.274	253.745	3199.954	-4.326	1.082	-4.326	4.459	165.956	0.107
3300.000	0.326	258.244	3299.952	-4.450	0.574	-4.450	4.487	172.650	0.057
3400.000	0.263	257.392	3399.951	-4.558	0.072	-4.558	4.559	179.097	0.064

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	0.230	256.839	3499.950	-4.654	-0.347	-4.654	4.667	184.263	0.033
3600.000	0.258	277.418	3599.949	-4.671	-0.765	-4.671	4.733	189.305	0.091
3700.000	0.383	310.463	3699.948	-4.425	-1.242	-4.425	4.596	195.683	0.218
3800.000	0.436	332.231	3799.945	-3.871	-1.674	-3.871	4.218	203.383	0.163
3900.000	0.588	341.889	3899.941	-3.046	-2.011	-3.046	3.650	213.427	0.174
4000.000	0.587	341.375	3999.936	-2.073	-2.334	-2.073	3.122	228.387	0.005
4100.000	0.593	352.199	4099.931	-1.075	-2.568	-1.075	2.784	247.281	0.111
4200.000	0.652	340.921	4199.925	-0.025	-2.824	-0.025	2.824	269.492	0.136
4300.000	0.566	342.944	4299.919	0.985	-3.155	0.985	3.305	287.332	0.089
4400.000	0.569	359.252	4399.914	1.953	-3.306	1.953	3.840	300.573	0.161
4500.000	0.566	349.993	4499.910	2.936	-3.398	2.936	4.491	310.827	0.092
4600.000	0.575	331.872	4599.905	3.865	-3.721	3.865	5.365	316.092	0.180
4700.000	0.562	323.460	4699.900	4.702	-4.249	4.702	6.338	317.895	0.084
4800.000	0.572	314.666	4799.895	5.447	-4.896	5.447	7.324	318.047	0.087
4900.000	0.611	304.797	4899.890	6.102	-5.689	6.102	8.342	317.005	0.109
5000.000	0.746	297.589	4999.883	6.708	-6.704	6.708	9.483	315.016	0.159
5100.000	0.840	281.023	5099.873	7.149	-8.000	7.149	10.729	311.786	0.247
5200.000	1.248	277.616	5199.856	7.434	-9.799	7.434	12.299	307.185	0.413
5300.000	1.119	274.868	5299.835	7.661	-11.851	7.661	14.112	302.879	0.141
5400.000	0.951	293.935	5399.819	8.080	-13.582	8.080	15.804	300.749	0.381
5500.000	0.651	342.285	5499.810	8.958	-14.514	8.958	17.056	301.684	0.711
5600.000	0.772	18.976	5599.803	10.137	-14.468	10.137	17.666	305.018	0.463
5700.000	0.858	37.494	5699.793	11.368	-13.793	11.368	17.874	309.495	0.275
5800.000	0.945	39.545	5799.780	12.598	-12.812	12.598	17.968	314.516	0.093
5900.000	0.823	41.522	5899.769	13.771	-11.811	13.771	18.143	319.382	0.126
6000.000	0.414	42.327	5999.763	14.576	-11.092	14.576	18.317	322.731	0.409
6100.000	0.305	29.650	6099.761	15.075	-10.717	15.075	18.496	324.592	0.134
6200.000	0.465	36.641	6199.758	15.632	-10.343	15.632	18.744	326.510	0.166
6300.000	0.450	38.118	6299.755	16.266	-9.858	16.266	19.021	328.782	0.019
6400.000	0.768	64.924	6399.750	16.859	-9.009	16.859	19.115	331.881	0.419
6500.000	0.612	156.416	6499.745	16.654	-8.189	16.654	18.558	333.816	0.994
6600.000	1.441	186.000	6599.728	14.914	-8.106	14.914	16.974	331.474	0.957
6700.000	2.011	189.094	6699.683	11.931	-8.515	11.931	14.658	324.486	0.577
6800.000	2.771	190.311	6799.595	7.821	-9.225	7.821	12.094	310.291	0.762
6900.000	3.571	196.710	6899.441	2.459	-10.553	2.459	10.836	283.119	0.874
7000.000	3.866	193.793	6999.231	-3.798	-12.252	-3.798	12.828	252.779	0.350
7100.000	4.082	199.214	7098.990	-10.433	-14.228	-10.433	17.643	233.749	0.433
7200.000	4.367	194.450	7198.719	-17.480	-16.349	-17.480	23.934	223.084	0.452
7300.000	3.792	198.165	7298.465	-24.309	-18.330	-24.309	30.445	217.018	0.633
7400.000	3.214	203.617	7398.278	-30.019	-20.484	-30.019	36.342	214.308	0.667
7500.000	2.337	212.965	7498.161	-34.298	-22.716	-34.298	41.138	213.517	0.984
7600.000	1.569	232.167	7598.103	-36.848	-24.906	-36.848	44.476	214.056	0.999
7650.000	1.426	242.402	7648.086	-37.556	-25.998	-37.556	45.676	214.693	0.605

HORIZONTAL DISPLACEMENT IS

45.676 FEET AT 214.693 DEGREES