

Company: ANADARKO PETROLEUM CORP
 Lease/Well: GORDON TURKEY FARMS B/UNIT 1
 A.P.I.#: 05-123-07801
 Rig Name: PRODUCTION/ CORETECH
 State/County: COLORADO/WELD
 Latitude: 40.149, Longitude: -104.882
 Directions are relative to True North
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : KB= GROUND LEVEL

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: run2-01-de_01.ut
 Minimum Curvature Method
 Report Date/Time: 10/10/2013 / 09:20

Vaughn Energy Services
 Pinedale, Wyoming
 866-835-8333
 Jay Hinman
 Gordon Turkey Farms B#1

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	0.143	205.335	100.000	-0.113	-0.053	-0.113	0.125	205.335	0.143
200.000	0.112	194.447	200.000	-0.320	-0.131	-0.320	0.346	202.286	0.040
300.000	0.183	174.448	299.999	-0.574	-0.140	-0.574	0.591	193.722	0.087
400.000	0.131	204.931	399.999	-0.836	-0.173	-0.836	0.854	191.667	0.097
500.000	0.161	317.345	499.999	-0.836	-0.316	-0.836	0.894	200.696	0.243
600.000	0.287	85.736	599.998	-0.714	-0.161	-0.714	0.732	192.695	0.407
700.000	0.214	159.504	699.998	-0.870	0.155	-0.870	0.884	169.919	0.307
800.000	0.219	326.696	799.997	-0.886	0.115	-0.886	0.893	172.588	0.430
900.000	0.274	133.332	899.997	-0.890	0.184	-0.890	0.909	168.311	0.490
1000.000	0.232	354.789	999.997	-0.852	0.340	-0.852	0.917	158.271	0.474
1100.000	0.124	22.271	1099.996	-0.550	0.362	-0.550	0.658	146.629	0.135
1200.000	0.139	21.346	1199.996	-0.336	0.448	-0.336	0.560	126.925	0.016
1300.000	0.087	197.970	1299.996	-0.295	0.468	-0.295	0.554	122.221	0.226
1400.000	0.084	22.730	1399.996	-0.300	0.473	-0.300	0.560	122.369	0.171
1500.000	0.307	330.484	1499.995	0.001	0.370	0.001	0.370	89.918	0.264
1600.000	0.269	265.188	1599.994	0.214	0.004	0.214	0.214	1.039	0.312
1700.000	0.286	332.672	1699.993	0.416	-0.344	0.416	0.540	320.353	0.308
1800.000	0.103	281.599	1799.993	0.655	-0.547	0.655	0.853	320.146	0.235
1900.000	0.402	311.214	1899.992	0.904	-0.899	0.904	1.275	315.175	0.317
2000.000	0.371	297.915	1999.989	1.287	-1.449	1.287	1.939	311.613	0.095
2100.000	0.494	349.577	2099.987	1.863	-1.814	1.863	2.600	315.773	0.393
2200.000	0.351	9.570	2199.984	2.590	-1.841	2.590	3.177	324.589	0.204
2300.000	0.704	334.242	2299.980	3.444	-2.057	3.444	4.012	329.154	0.464
2400.000	0.496	16.638	2399.975	4.413	-2.200	4.413	4.931	333.500	0.475
2500.000	0.610	12.342	2499.970	5.348	-1.962	5.348	5.696	339.850	0.121
2600.000	0.356	20.041	2599.967	6.160	-1.742	6.160	6.401	344.208	0.262
2700.000	0.290	349.888	2699.965	6.701	-1.680	6.701	6.908	345.925	0.180
2800.000	0.736	18.714	2799.961	7.559	-1.518	7.559	7.710	348.642	0.502
2900.000	0.577	316.643	2899.956	8.533	-1.658	8.533	8.693	349.007	0.691
3000.000	0.605	306.991	2999.950	9.216	-2.424	9.216	9.530	345.262	0.103
3100.000	0.377	273.272	3099.947	9.553	-3.174	9.553	10.066	341.618	0.358
3200.000	0.321	314.203	3199.945	9.767	-3.704	9.767	10.446	339.230	0.250
3300.000	0.656	273.092	3299.941	9.994	-4.477	9.994	10.951	335.867	0.465
3400.000	0.515	298.942	3399.936	10.242	-5.442	10.242	11.598	332.014	0.296

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	0.649	281.222	3499.931	10.570	-6.391	10.570	12.352	328.840	0.223
3600.000	0.940	244.884	3599.922	10.332	-7.689	10.332	12.879	323.342	0.567
3700.000	1.469	231.683	3699.900	9.189	-9.437	9.189	13.172	314.236	0.594
3800.000	1.200	233.954	3799.873	7.778	-11.289	7.778	13.710	304.566	0.274
3900.000	1.195	249.048	3899.851	6.789	-13.110	6.789	14.764	297.378	0.315
4000.000	1.110	254.877	3999.831	6.164	-15.019	6.164	16.234	292.313	0.145
4100.000	1.210	240.899	4099.811	5.397	-16.877	5.397	17.719	287.734	0.299
4200.000	1.404	257.726	4199.785	4.623	-18.997	4.623	19.552	283.677	0.428
4300.000	1.152	248.308	4299.760	3.991	-21.129	3.991	21.502	280.696	0.327
4400.000	1.097	272.989	4399.741	3.669	-23.019	3.669	23.310	279.057	0.484
4500.000	1.110	309.895	4499.724	4.341	-24.719	4.341	25.097	279.959	0.699
4600.000	0.754	308.781	4599.711	5.374	-25.976	5.374	26.526	281.689	0.357
4700.000	0.882	285.890	4699.701	5.997	-27.229	5.997	27.882	282.421	0.348
4800.000	0.687	306.233	4799.691	6.562	-28.452	6.562	29.199	282.987	0.337
4900.000	0.977	317.004	4899.681	7.540	-29.517	7.540	30.465	284.330	0.329
5000.000	0.891	281.527	4999.668	8.319	-30.860	8.319	31.962	285.087	0.575
5100.000	0.927	300.887	5099.656	8.890	-32.316	8.890	33.516	285.381	0.308
5200.000	1.180	280.619	5199.639	9.494	-34.022	9.494	35.322	285.593	0.447
5300.000	0.893	311.912	5299.624	10.205	-35.614	10.205	37.047	285.989	0.624
5400.000	0.997	280.783	5399.611	10.888	-37.048	10.888	38.615	286.378	0.517
5500.000	0.886	301.786	5499.598	11.458	-38.560	11.458	40.226	286.549	0.360
5600.000	0.874	273.198	5599.586	11.908	-39.979	11.908	41.715	286.586	0.435
5700.000	0.949	282.633	5699.574	12.132	-41.549	12.132	43.284	286.277	0.167
5800.000	0.506	299.912	5799.565	12.533	-42.739	12.533	44.539	286.343	0.489
5900.000	0.449	305.524	5899.562	12.981	-43.441	12.981	45.339	286.637	0.073
6000.000	0.903	301.055	5999.555	13.615	-44.435	13.615	46.474	287.035	0.456
6100.000	0.781	317.374	6099.544	14.523	-45.571	14.523	47.829	287.676	0.268
6200.000	0.490	310.220	6199.538	15.300	-46.359	15.300	48.819	288.265	0.301
6300.000	0.547	282.683	6299.534	15.681	-47.151	15.681	49.691	288.395	0.253
6400.000	0.565	284.203	6399.529	15.907	-48.095	15.907	50.658	288.301	0.023
6500.000	1.259	289.255	6499.516	16.390	-49.610	16.390	52.248	288.282	0.697
6600.000	0.908	271.863	6599.498	16.778	-51.439	16.778	54.106	288.065	0.477
6700.000	1.619	283.083	6699.473	17.123	-53.607	17.123	56.275	287.715	0.749
6800.000	1.996	273.427	6799.424	17.547	-56.721	17.547	59.373	287.190	0.484
6900.000	3.471	275.163	6899.307	17.924	-61.475	17.924	64.034	286.255	1.477
7000.000	2.660	277.321	6999.163	18.492	-66.791	18.492	69.304	285.475	0.818
7100.000	1.751	285.676	7099.088	19.200	-70.564	19.200	73.130	285.222	0.962
7200.000	0.813	292.813	7199.062	19.888	-72.689	19.888	75.361	285.302	0.950
7300.000	0.674	312.555	7299.054	20.561	-73.776	20.561	76.587	285.573	0.289
7400.000	0.549	298.638	7399.048	21.188	-74.629	21.188	77.579	285.850	0.193
7500.000	0.845	341.659	7499.041	22.118	-75.282	22.118	78.464	286.373	0.581
7600.000	0.541	9.549	7599.034	23.283	-75.435	23.283	78.947	287.153	0.446
7700.000	0.557	14.538	7699.030	24.219	-75.235	24.219	79.037	287.844	0.050
7800.000	0.441	349.929	7799.026	25.068	-75.181	25.068	79.250	288.441	0.241
7900.000	0.388	347.237	7899.023	25.778	-75.323	25.778	79.612	288.892	0.057

HORIZONTAL DISPLACEMENT IS
79.612 FEET AT 288.892 DEGREES