

Company: ANADARKO PETROLEUM
 Well: CARL A MILLER UNIT C 1
 API: 05-123-07846
 Rig Name: PRODUCTION/WARRIOR
 State/County: COLORADO / WELD
 Latitude: 40.090, Longitude: -104.902
 Directions are relative to True North
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB = GROUND LEVEL

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: run1-de_01.ut
 Minimum Curvature Method
 Report Date/Time: 1/10/2014 / 13:19

VAUGHN ENERGY SERVICES
 HENDERSON, COLORADO
 303-853-4976
 NICK KULA

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	0.161	26.354	100.000	0.126	0.062	0.126	0.140	26.354	0.161
200.000	0.100	63.769	200.000	0.290	0.203	0.290	0.354	35.001	0.101
300.000	0.008	196.939	300.000	0.322	0.280	0.322	0.427	40.960	0.106
400.000	0.114	205.829	400.000	0.226	0.234	0.226	0.325	46.033	0.106
500.000	0.133	195.231	499.999	0.024	0.160	0.024	0.162	81.396	0.030
600.000	0.195	194.802	599.999	-0.253	0.086	-0.253	0.267	161.135	0.062
700.000	0.160	212.673	699.998	-0.535	-0.033	-0.535	0.536	183.493	0.065
800.000	0.129	227.627	799.998	-0.728	-0.191	-0.728	0.753	194.698	0.049
900.000	0.215	220.826	899.998	-0.946	-0.397	-0.946	1.026	202.748	0.089
1000.000	0.407	241.926	999.996	-1.255	-0.833	-1.255	1.506	213.570	0.221
1100.000	0.397	245.550	1099.994	-1.566	-1.462	-1.566	2.142	223.036	0.028
1200.000	0.434	240.163	1199.991	-1.898	-2.106	-1.898	2.835	227.979	0.054
1300.000	0.459	242.194	1299.988	-2.273	-2.790	-2.273	3.599	230.822	0.030
1400.000	0.648	245.611	1399.983	-2.694	-3.659	-2.694	4.544	233.640	0.191
1500.000	0.706	253.255	1499.976	-3.105	-4.764	-3.105	5.687	236.908	0.107
1600.000	0.737	245.479	1599.968	-3.550	-5.940	-3.550	6.920	239.139	0.103
1700.000	0.680	254.186	1699.961	-3.978	-7.096	-3.978	8.136	240.725	0.122
1800.000	0.755	251.896	1799.953	-4.345	-8.294	-4.345	9.363	242.351	0.080
1900.000	0.932	259.394	1899.942	-4.699	-9.720	-4.699	10.796	244.197	0.208
2000.000	0.951	268.525	1999.929	-4.870	-11.349	-4.870	12.350	246.773	0.151
2100.000	1.012	263.247	2099.914	-4.996	-13.055	-4.996	13.978	249.061	0.109
2200.000	1.099	266.003	2199.897	-5.166	-14.889	-5.166	15.760	250.864	0.101
2300.000	1.094	267.429	2299.879	-5.276	-16.799	-5.276	17.608	252.565	0.028
2400.000	0.930	252.119	2399.863	-5.568	-18.526	-5.568	19.345	253.272	0.315
2500.000	0.797	236.820	2499.852	-6.198	-19.881	-6.198	20.824	252.685	0.265
2600.000	0.795	235.541	2599.842	-6.971	-21.035	-6.971	22.160	251.665	0.018
2700.000	0.661	238.055	2699.834	-7.669	-22.096	-7.669	23.389	250.860	0.137
2800.000	0.472	239.427	2799.829	-8.183	-22.940	-8.183	24.356	250.367	0.190
2900.000	0.371	239.217	2899.827	-8.558	-23.573	-8.558	25.078	250.046	0.100

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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
8000.000	1.381	326.723	7998.578	26.858	-97.794	26.858	101.415	285.357	0.532
<div> HORIZONTAL DISPLACEMENT IS 101.415 FEET AT 285.357 DEGREES </div>									