



Company: PDC Energy
Well: McCarty 28-6
API#: 05-123-13308
Rig Name: Production / V.E.S.
State/County: Colorado / Weld County
Latitude: 40.289, Longitude: -104.892
Directions are relative to True North
VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB = Ground Level

DRILLOG GYRO SURVEY CALCULATIONS

Filename: survey.ut
Minimum Curvature Method
Report Date/Time: 6/13/2014 / 17:41

Vaughn Energy Services
Henderson CO.
303-853-4976
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	0.257	265.836	100.000	-0.016	-0.224	-0.016	0.224	265.836	0.257
200.000	0.591	275.740	199.997	0.019	-0.961	0.019	0.961	271.133	0.341
300.000	0.535	253.884	299.992	-0.059	-1.923	-0.059	1.924	268.240	0.220
400.000	0.497	233.008	399.988	-0.450	-2.718	-0.450	2.755	260.603	0.191
500.000	0.377	237.745	499.985	-0.887	-3.343	-0.887	3.459	255.148	0.125
600.000	0.360	244.589	599.983	-1.197	-3.905	-1.197	4.085	252.960	0.047
700.000	0.126	283.446	699.982	-1.306	-4.296	-1.306	4.490	253.088	0.274
800.000	0.509	293.455	799.980	-1.104	-4.810	-1.104	4.935	257.077	0.386
900.000	0.884	340.012	899.974	-0.202	-5.482	-0.202	5.485	267.892	0.650
1000.000	0.646	342.231	999.965	1.060	-5.918	1.060	6.012	280.160	0.240
1100.000	0.360	272.210	1099.961	1.610	-6.404	1.610	6.603	284.109	0.623
1200.000	0.904	345.683	1199.956	2.386	-6.913	2.386	7.314	289.041	0.873
1300.000	0.581	290.023	1299.949	3.324	-7.584	3.324	8.281	293.664	0.750
1400.000	0.360	294.113	1399.945	3.626	-8.347	3.626	9.101	293.477	0.223
1500.000	0.422	242.950	1499.943	3.586	-8.962	3.586	9.653	291.811	0.342
1600.000	0.106	268.355	1599.942	3.416	-9.382	3.416	9.985	290.009	0.330
1700.000	0.386	316.822	1699.941	3.660	-9.705	3.660	10.372	290.662	0.326
1800.000	0.524	278.845	1799.938	3.976	-10.387	3.976	11.122	290.945	0.323
1900.000	1.344	268.811	1899.924	4.022	-12.011	4.022	12.666	288.512	0.833
2000.000	1.632	239.864	1999.892	3.282	-14.415	3.282	14.784	282.829	0.794
2100.000	1.362	216.894	2099.858	1.617	-16.359	1.617	16.439	275.646	0.652
2200.000	1.446	237.060	2199.829	-0.019	-18.131	-0.019	18.131	269.941	0.498
2300.000	1.894	224.333	2299.787	-1.887	-20.345	-1.887	20.432	264.701	0.579
2400.000	1.949	249.671	2399.732	-3.660	-23.095	-3.660	23.383	260.996	0.844
2500.000	2.084	232.123	2499.671	-5.367	-26.125	-5.367	26.670	258.391	0.629
2600.000	1.893	224.566	2599.611	-7.659	-28.718	-7.659	29.722	255.066	0.324
2700.000	1.774	239.780	2699.561	-9.615	-31.215	-9.615	32.662	252.880	0.499
2800.000	1.461	269.300	2799.522	-10.410	-33.826	-10.410	35.392	252.895	0.878
2900.000	1.409	283.841	2899.491	-10.131	-36.295	-10.131	37.682	254.404	0.367
3000.000	1.610	251.257	2999.458	-10.288	-38.819	-10.288	40.159	255.156	0.868
3100.000	1.101	265.556	3099.430	-10.814	-41.107	-10.814	42.506	255.262	0.607
3200.000	0.735	269.653	3199.417	-10.892	-42.707	-10.892	44.074	255.692	0.372

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
3300.000	1.034	256.203	3299.405	-11.111	-44.224	-11.111	45.598	255.897	0.362
3400.000	1.648	225.695	3399.379	-12.330	-46.129	-12.330	47.748	255.035	0.921
3500.000	1.079	255.629	3499.351	-13.568	-48.070	-13.568	49.948	254.238	0.893
3600.000	0.871	245.408	3599.337	-14.118	-49.673	-14.118	51.640	254.134	0.271
3700.000	1.129	272.798	3699.322	-14.386	-51.347	-14.386	53.325	254.349	0.535
3800.000	1.091	264.754	3799.303	-14.425	-53.279	-14.425	55.197	254.850	0.160
3900.000	0.880	275.098	3899.289	-14.444	-54.992	-14.444	56.857	255.283	0.275
4000.000	1.633	286.014	3999.264	-13.982	-57.127	-13.982	58.813	256.247	0.787
4100.000	1.279	305.721	4099.232	-12.938	-59.403	-12.938	60.795	257.713	0.608
4200.000	1.275	283.954	4199.208	-12.018	-61.389	-12.018	62.554	258.924	0.482
4300.000	1.349	301.753	4299.182	-11.130	-63.469	-11.130	64.438	260.054	0.412
4400.000	1.701	276.501	4399.148	-10.342	-65.945	-10.342	66.751	261.087	0.750
4500.000	1.582	286.613	4499.107	-9.780	-68.742	-9.780	69.434	261.903	0.312
4600.000	0.725	272.858	4599.086	-9.354	-70.696	-9.354	71.312	262.463	0.895
4700.000	0.769	256.950	4699.077	-9.474	-71.982	-9.474	72.603	262.502	0.211
4800.000	0.790	226.795	4799.068	-10.097	-73.139	-10.097	73.832	262.140	0.406
4900.000	0.594	211.849	4899.061	-11.010	-73.915	-11.010	74.731	261.528	0.265
5000.000	0.853	216.653	4999.053	-12.048	-74.633	-12.048	75.600	260.830	0.266
5100.000	0.592	264.822	5099.046	-12.692	-75.593	-12.692	76.651	260.469	0.636
5200.000	0.760	277.226	5199.039	-12.656	-76.765	-12.656	77.801	260.638	0.221
5300.000	0.725	203.716	5299.033	-13.152	-77.677	-13.152	78.782	260.390	0.889
5400.000	1.073	220.262	5399.020	-14.446	-78.536	-14.446	79.854	259.578	0.430
5500.000	0.749	221.001	5499.008	-15.653	-79.570	-15.653	81.095	258.871	0.324
5600.000	0.542	204.638	5599.001	-16.576	-80.196	-16.576	81.891	258.322	0.275
5700.000	0.417	304.516	5698.999	-16.799	-80.693	-16.799	82.423	258.240	0.738
5800.000	0.258	348.534	5798.997	-16.372	-81.038	-16.372	82.675	258.578	0.293
5900.000	0.375	341.539	5898.996	-15.842	-81.186	-15.842	82.717	258.959	0.123
6000.000	0.169	324.570	5998.995	-15.412	-81.375	-15.412	82.822	259.276	0.219
6100.000	0.281	6.705	6098.994	-15.048	-81.432	-15.048	82.811	259.530	0.192
6200.000	0.366	322.677	6198.993	-14.551	-81.597	-14.551	82.884	259.889	0.255
6300.000	0.500	354.547	6298.990	-13.863	-81.832	-13.863	82.998	260.385	0.270
6400.000	0.303	340.760	6398.987	-13.179	-81.961	-13.179	83.013	260.865	0.218
6500.000	0.467	240.442	6498.986	-13.130	-82.402	-13.130	83.442	260.947	0.601
6600.000	0.343	271.065	6598.983	-13.326	-83.056	-13.326	84.118	260.885	0.245
6700.000	0.594	278.207	6698.980	-13.246	-83.869	-13.246	84.908	261.025	0.258
6800.000	0.495	337.273	6798.976	-12.773	-84.549	-12.773	85.508	261.409	0.544
6900.000	0.192	272.273	6898.975	-12.368	-84.884	-12.368	85.780	261.710	0.449
7000.000	0.560	231.368	6998.972	-12.666	-85.433	-12.666	86.367	261.567	0.433
7100.000	0.117	121.829	7098.971	-13.024	-85.728	-13.024	86.712	261.361	0.609
7200.000	0.178	96.601	7198.971	-13.096	-85.487	-13.096	86.484	261.290	0.088
HORIZONTAL DISPLACEMENT IS 86.484 FEET AT 261.290 DEGREES									