



Company: PDC Energy
Well: Bailey 33-2
API: 05-123-15980
Rig Name: Production/ VES
State/County: Colorado/Weld
Latitude: 40.357, Longitude: -104.562
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: 7/15/2014 / 18:42

VES Survey International
Henderson, CO 80640
303-853-4976
Sean Bratt

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	0.240	183.341	100.000	-0.209	-0.012	-0.209	0.209	183.341	0.240
200.000	0.239	188.270	199.999	-0.624	-0.054	-0.624	0.627	184.979	0.021
300.000	0.524	196.061	299.997	-1.270	-0.211	-1.270	1.287	189.428	0.289
400.000	0.269	266.644	399.995	-1.723	-0.572	-1.723	1.816	198.365	0.503
500.000	0.351	242.799	499.993	-1.877	-1.079	-1.877	2.165	209.896	0.151
600.000	0.384	211.350	599.991	-2.303	-1.526	-2.303	2.763	213.525	0.202
700.000	0.423	174.534	699.989	-2.957	-1.665	-2.957	3.393	209.382	0.258
800.000	0.256	197.370	799.987	-3.538	-1.696	-3.538	3.924	205.617	0.212
900.000	0.264	129.575	899.986	-3.898	-1.586	-3.898	4.209	202.133	0.290
1000.000	0.147	247.426	999.986	-4.094	-1.526	-4.094	4.370	200.445	0.357
1100.000	0.228	258.279	1099.985	-4.184	-1.840	-4.184	4.571	203.737	0.089
1200.000	0.335	302.751	1199.984	-4.066	-2.281	-4.066	4.662	209.293	0.235
1300.000	0.188	292.662	1299.983	-3.845	-2.679	-3.845	4.686	214.865	0.154
1400.000	0.561	247.158	1399.981	-3.972	-3.281	-3.972	5.152	219.564	0.450
1500.000	0.375	302.991	1499.978	-3.984	-4.008	-3.984	5.651	225.172	0.468
1600.000	0.603	267.131	1599.975	-3.832	-4.808	-3.832	6.148	231.446	0.371
1700.000	0.511	246.870	1699.970	-4.033	-5.743	-4.033	7.018	234.922	0.216
1800.000	0.614	246.604	1799.965	-4.421	-6.645	-4.421	7.982	236.364	0.103
1900.000	0.710	291.661	1899.959	-4.405	-7.713	-4.405	8.882	240.265	0.515
2000.000	0.653	258.800	1999.952	-4.288	-8.847	-4.288	9.831	244.144	0.389
2100.000	0.692	274.715	2099.946	-4.349	-10.008	-4.349	10.912	246.514	0.190
2200.000	0.752	275.069	2199.938	-4.241	-11.263	-4.241	12.035	249.366	0.060
2300.000	0.584	293.802	2299.931	-3.977	-12.382	-3.977	13.005	252.192	0.273
2400.000	1.129	277.585	2399.920	-3.642	-13.825	-3.642	14.297	255.242	0.592
2500.000	0.817	286.438	2499.905	-3.310	-15.486	-3.310	15.836	257.936	0.345
2600.000	0.928	279.249	2599.893	-2.978	-16.969	-2.978	17.229	260.047	0.155
2700.000	1.188	274.679	2699.876	-2.763	-18.802	-2.763	19.004	261.639	0.274
2800.000	1.171	275.181	2799.855	-2.586	-20.852	-2.586	21.012	262.929	0.020
2900.000	1.082	255.218	2899.836	-2.735	-22.783	-2.735	22.946	263.154	0.400
3000.000	1.230	278.107	2999.816	-2.825	-24.758	-2.825	24.919	263.491	0.481
3100.000	1.125	265.872	3099.795	-2.744	-26.800	-2.744	26.940	264.154	0.272
3200.000	1.613	296.882	3199.768	-2.178	-29.035	-2.178	29.116	265.710	0.870
3300.000	1.674	317.857	3299.728	-0.459	-31.270	-0.459	31.273	269.159	0.601
3400.000	2.164	303.829	3399.672	1.675	-33.819	1.675	33.860	272.836	0.676
3500.000	1.913	323.060	3499.610	4.061	-36.390	4.061	36.616	276.367	0.724

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
3600.000	2.127	303.048	3599.549	6.407	-38.949	6.407	39.473	279.342	0.733
3700.000	1.877	305.509	3699.487	8.370	-41.838	8.370	42.667	281.314	0.265
3800.000	2.008	323.349	3799.431	10.727	-44.216	10.727	45.499	283.637	0.616
3900.000	1.646	327.846	3899.380	13.348	-46.026	13.348	47.923	286.173	0.389
4000.000	1.564	323.748	3999.341	15.664	-47.597	15.664	50.109	288.216	0.141
4100.000	1.324	310.144	4099.309	17.510	-49.288	17.510	52.305	289.558	0.417
4200.000	1.444	288.651	4199.281	18.657	-51.365	18.657	54.649	289.963	0.530
4300.000	1.383	292.846	4299.250	19.529	-53.671	19.529	57.114	289.995	0.120
4400.000	1.839	311.016	4399.211	21.050	-55.994	21.050	59.820	290.603	0.679
4500.000	1.855	318.215	4499.159	23.310	-58.283	23.310	62.772	291.799	0.232
4600.000	1.537	329.245	4599.116	25.670	-60.047	25.670	65.304	293.146	0.455
4700.000	0.605	330.925	4699.097	27.283	-60.989	27.283	66.814	294.101	0.932
4800.000	0.265	147.651	4799.096	27.549	-61.122	27.549	67.044	294.262	0.869
4900.000	0.325	128.435	4899.094	27.178	-60.776	27.178	66.576	294.093	0.115
5000.000	0.708	118.973	4999.090	26.702	-60.014	26.702	65.686	293.986	0.391
5100.000	0.541	77.161	5099.085	26.508	-59.013	26.508	64.693	294.189	0.472
5200.000	0.864	75.320	5199.077	26.804	-57.824	26.804	63.734	294.870	0.324
5300.000	1.406	64.816	5299.057	27.517	-55.984	27.517	62.381	296.175	0.579
5400.000	1.508	59.883	5399.025	28.699	-53.735	28.699	60.919	298.106	0.161
5500.000	2.309	68.351	5498.969	30.103	-50.725	30.103	58.985	300.687	0.847
5600.000	2.157	79.168	5598.893	31.199	-47.005	31.199	56.417	303.574	0.447
5700.000	2.376	71.163	5698.815	32.222	-43.195	32.222	53.890	306.722	0.384
5800.000	1.531	73.095	5798.756	33.280	-39.955	33.280	52.000	309.792	0.847
5900.000	0.737	41.744	5898.737	34.149	-38.248	34.149	51.274	311.759	0.980
6000.000	0.902	11.680	5998.727	35.399	-37.660	35.399	51.686	313.227	0.454
6100.000	0.658	6.660	6098.718	36.740	-37.435	36.740	52.452	314.464	0.253
6200.000	0.853	359.911	6198.709	38.055	-37.369	38.055	53.335	315.521	0.215
6300.000	1.086	5.120	6298.694	39.743	-37.286	39.743	54.495	316.827	0.249
6400.000	1.908	4.231	6398.659	42.348	-37.078	42.348	56.286	318.796	0.823
6500.000	3.634	3.138	6498.539	47.173	-36.782	47.173	59.818	322.055	1.726
6600.000	2.232	4.183	6598.405	52.279	-36.467	52.279	63.741	325.103	1.403
6700.000	1.437	19.058	6698.354	55.405	-35.915	55.405	66.028	327.048	0.920
6800.000	1.500	55.103	6798.323	57.339	-34.432	57.339	66.883	329.015	0.911

HORIZONTAL DISPLACEMENT IS
66.883 FEET AT 329.015 DEGREES