



Company: PDC Energy
Well: Becker 6-11 I
API: 05-123-24879
Rig Name: Production/ VES
State/County: Colorado/Weld
Latitude: 40.258, Longitude: -104.575
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: becker 6-11 i-de_02.ut

Minimum Curvature Method

Report Date/Time: 4/28/2014 / 13:45

Vaughn 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	0.976	106.138	99.995	-0.237	0.818	-0.237	0.852	106.138	0.976
200.000	1.415	111.756	199.973	-0.931	2.783	-0.931	2.934	108.498	0.454
300.000	1.348	114.772	299.944	-1.881	4.997	-1.881	5.340	110.631	0.099
400.000	1.300	129.397	399.918	-3.094	6.942	-3.094	7.600	114.025	0.340
500.000	1.209	149.302	499.894	-4.722	8.357	-4.722	9.599	119.466	0.443
600.000	0.881	138.094	599.878	-6.201	9.410	-6.201	11.270	123.386	0.385
700.000	0.339	108.519	699.872	-6.868	10.204	-6.868	12.300	123.943	0.610
800.000	0.343	55.763	799.870	-6.793	10.732	-6.793	12.701	122.334	0.303
900.000	0.396	46.833	899.868	-6.389	11.231	-6.389	12.921	119.633	0.078
1000.000	0.423	357.595	999.866	-5.784	11.468	-5.784	12.844	116.765	0.342
1100.000	0.310	31.534	1099.864	-5.185	11.594	-5.185	12.701	114.093	0.239
1200.000	0.291	1.061	1199.863	-4.700	11.740	-4.700	12.646	111.816	0.159
1300.000	0.437	21.954	1299.861	-4.092	11.888	-4.092	12.572	108.993	0.195
1400.000	0.469	35.482	1399.857	-3.405	12.268	-3.405	12.731	105.512	0.111
1500.000	0.482	14.093	1499.854	-2.664	12.608	-2.664	12.886	101.931	0.177
1600.000	0.629	33.436	1599.849	-1.798	13.013	-1.798	13.136	97.865	0.236
1700.000	0.482	70.773	1699.845	-1.201	13.712	-1.201	13.765	95.005	0.382
1800.000	0.776	33.850	1799.839	-0.500	14.487	-0.500	14.495	91.976	0.486
1900.000	0.798	24.269	1899.830	0.698	15.150	0.698	15.166	87.363	0.133
2000.000	0.833	4.910	1999.820	2.057	15.499	2.057	15.634	82.442	0.276
2100.000	1.053	359.919	2099.806	3.699	15.559	3.699	15.993	76.627	0.235
2200.000	0.934	5.165	2199.791	5.429	15.631	5.429	16.547	70.847	0.150
2300.000	0.419	38.196	2299.784	6.528	15.931	6.528	17.216	67.719	0.626
2400.000	0.253	58.093	2399.783	6.932	16.344	6.932	17.753	67.019	0.200
2500.000	0.260	54.685	2499.782	7.180	16.717	7.180	18.194	66.758	0.017
2600.000	0.070	6.564	2599.781	7.372	16.909	7.372	18.446	66.445	0.219
2700.000	0.079	98.750	2699.781	7.422	16.985	7.422	18.536	66.395	0.108
2800.000	0.092	7.518	2799.781	7.492	17.063	7.492	18.635	66.296	0.123
2900.000	0.467	330.546	2899.780	7.927	16.873	7.927	18.642	64.837	0.397
3000.000	0.376	320.095	2999.777	8.534	16.462	8.534	18.542	62.599	0.119
3100.000	0.630	325.194	3099.773	9.237	15.938	9.237	18.421	59.905	0.257
3200.000	0.775	299.882	3199.766	10.025	15.038	10.025	18.073	56.310	0.339
3300.000	1.183	276.333	3299.751	10.476	13.426	10.476	17.029	52.036	0.565
3400.000	1.197	255.738	3399.730	10.332	11.388	10.332	15.377	47.783	0.426
3500.000	1.077	250.507	3499.711	9.761	9.490	9.761	13.614	44.192	0.158

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	0.887	283.698	3599.697	9.631	7.852	9.631	12.426	39.188	0.590
3700.000	0.809	275.433	3699.686	9.881	6.397	9.881	11.771	32.917	0.145
3800.000	1.005	264.855	3799.673	9.869	4.821	9.869	10.984	26.033	0.257
3900.000	0.979	266.997	3899.658	9.746	3.094	9.746	10.225	17.613	0.045
4000.000	1.042	250.738	3999.643	9.401	1.382	9.401	9.502	8.364	0.293
4100.000	1.339	270.673	4099.622	9.115	-0.645	9.115	9.138	355.953	0.506
4200.000	1.644	294.594	4199.589	9.726	-3.118	9.726	10.213	342.226	0.686
4300.000	2.162	306.701	4299.534	11.450	-5.934	11.450	12.896	332.603	0.653
4400.000	2.174	305.810	4399.462	13.687	-8.985	13.687	16.372	326.718	0.036
4500.000	2.325	297.954	4499.385	15.747	-12.314	15.747	19.990	321.975	0.343
4600.000	2.393	295.993	4599.300	17.613	-15.982	17.613	23.783	317.779	0.105
4700.000	2.539	306.442	4699.208	19.843	-19.640	19.843	27.919	315.295	0.472
4800.000	2.691	313.709	4799.104	22.781	-23.119	22.781	32.457	314.579	0.365
4900.000	2.826	298.429	4898.990	25.577	-26.984	25.577	37.179	313.467	0.745
5000.000	2.935	312.810	4998.865	28.490	-31.029	28.490	42.125	312.557	0.729
5100.000	3.197	306.189	5098.722	31.876	-35.157	31.876	47.457	312.197	0.440
5200.000	3.504	301.603	5198.551	35.124	-40.011	35.124	53.241	311.279	0.408
5300.000	3.571	297.793	5298.361	38.178	-45.369	38.178	59.295	310.080	0.244
5400.000	3.115	295.636	5398.190	40.806	-50.575	40.806	64.984	308.898	0.473
5500.000	2.901	289.473	5498.053	42.825	-55.410	42.825	70.030	307.700	0.388
5600.000	2.878	293.781	5597.926	44.681	-60.092	44.681	74.883	306.632	0.218
5700.000	2.909	292.928	5697.798	46.681	-64.726	46.681	79.804	305.800	0.053
5800.000	3.233	295.445	5797.654	48.881	-69.609	48.881	85.058	305.077	0.351
5900.000	3.284	288.209	5897.493	50.988	-74.876	50.988	90.588	304.253	0.414
6000.000	3.668	288.070	5997.309	52.875	-80.638	52.875	96.428	303.253	0.383
6100.000	4.014	289.177	6097.084	55.017	-86.985	55.017	102.923	302.313	0.354
6200.000	4.250	287.354	6196.824	57.272	-93.828	57.272	109.926	301.400	0.270
6300.000	4.417	293.325	6296.539	59.902	-100.901	59.902	117.342	300.696	0.481
6400.000	4.442	288.277	6396.241	62.641	-108.114	62.641	124.950	300.088	0.391
6500.000	4.667	292.039	6495.925	65.382	-115.561	65.382	132.775	299.500	0.374
6600.000	4.887	294.257	6595.578	68.658	-123.216	68.658	141.053	299.127	0.287
6650.000	5.085	294.740	6645.389	70.460	-127.170	70.460	145.385	298.989	0.405

HORIZONTAL DISPLACEMENT IS
145.385 FEET AT 298.989 DEGREES