



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : KB= GROUND LEVEL

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: run1-01-de_01.ut

Minimum Curvature Method

Report Date/Time: 4/18/2014 / 14:21

Vaughn Energy Services

Pinedale, Wyoming

866-835-8333

Jay Hinman

Robert Powers X 27-9

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	0.451	89.155	99.999	0.006	0.394	0.006	0.394	89.155	0.451
200.000	0.486	53.120	199.996	0.266	1.127	0.266	1.158	76.708	0.292
300.000	0.346	67.212	299.993	0.638	1.745	0.638	1.858	69.919	0.172
400.000	0.094	309.538	399.993	0.807	1.960	0.807	2.120	67.623	0.399
500.000	0.072	328.637	499.993	0.913	1.864	0.913	2.076	63.917	0.035
600.000	0.419	302.278	599.991	1.162	1.522	1.162	1.915	52.653	0.357
700.000	0.543	325.704	699.988	1.748	0.946	1.748	1.988	28.420	0.230
800.000	0.820	328.659	799.981	2.751	0.307	2.751	2.768	6.368	0.280
900.000	0.768	347.971	899.971	4.018	-0.205	4.018	4.023	357.078	0.271
1000.000	1.464	24.509	999.953	5.836	0.185	5.836	5.839	1.819	0.963
1100.000	2.214	33.739	1099.901	8.605	1.788	8.605	8.789	11.740	0.804
1200.000	1.862	34.289	1199.837	11.554	3.777	11.554	12.156	18.101	0.353
1300.000	2.109	28.546	1299.777	14.512	5.571	14.512	15.545	21.001	0.316
1400.000	1.683	40.509	1399.723	17.245	7.404	17.245	18.767	23.236	0.579
1500.000	1.623	43.170	1499.681	19.395	9.327	19.395	21.521	25.683	0.098
1600.000	1.810	46.892	1599.636	21.507	11.449	21.507	24.364	28.028	0.218
1700.000	1.877	20.727	1699.586	24.118	13.182	24.118	27.485	28.659	0.837
1800.000	1.736	42.904	1799.538	26.759	14.793	26.759	30.576	28.934	0.708
1900.000	1.307	25.502	1899.503	28.898	16.315	28.898	33.186	29.447	0.626
2000.000	1.635	13.520	1999.470	31.315	17.139	31.315	35.698	28.693	0.448
2100.000	1.527	14.049	2099.432	33.994	17.796	33.994	38.371	27.632	0.109
2200.000	1.135	9.755	2199.405	36.263	18.288	36.263	40.613	26.762	0.405
2300.000	0.685	52.537	2299.393	37.602	18.930	37.602	42.098	26.722	0.785
2400.000	0.261	141.918	2399.390	37.786	19.545	37.786	42.542	27.350	0.730
2500.000	0.730	178.470	2499.386	36.970	19.702	36.970	41.892	28.055	0.543
2600.000	1.499	176.643	2599.367	35.027	19.796	35.027	40.234	29.474	0.770
2700.000	1.841	177.590	2699.324	32.116	19.940	32.116	37.802	31.836	0.343
2800.000	1.883	152.252	2799.273	29.057	20.773	29.057	35.718	35.561	0.818
2900.000	1.631	127.233	2899.227	26.742	22.670	26.742	35.058	40.290	0.800
3000.000	1.593	128.271	2999.188	25.019	24.895	25.019	35.295	44.857	0.047
3100.000	0.808	110.897	3099.165	23.907	26.645	23.907	35.798	48.101	0.857
3200.000	0.699	79.788	3199.157	23.763	27.904	23.763	36.651	49.582	0.418
3300.000	0.351	103.855	3299.153	23.798	28.802	23.798	37.361	50.434	0.404
3400.000	0.729	52.163	3399.149	24.115	29.602	24.115	38.181	50.832	0.581

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	0.175	53.260	3499.145	24.597	30.227	24.597	38.970	50.864	0.554
3600.000	0.360	78.527	3599.144	24.751	30.658	24.751	39.402	51.085	0.215
3700.000	0.238	31.918	3699.143	24.990	31.075	24.990	39.877	51.195	0.262
3800.000	0.385	6.995	3799.141	25.500	31.226	25.500	40.315	50.764	0.197
3900.000	1.029	338.899	3899.134	26.671	30.944	26.671	40.852	49.242	0.712
4000.000	1.325	0.315	3999.113	28.664	30.627	28.664	41.948	46.896	0.526
4100.000	1.464	27.431	4099.084	30.954	31.222	30.954	43.966	45.247	0.667
4200.000	1.139	20.241	4199.058	33.021	32.154	33.021	46.090	44.238	0.363
4300.000	1.483	28.819	4299.032	35.087	33.122	35.087	48.251	43.350	0.395
4400.000	1.255	29.740	4399.004	37.172	34.289	37.172	50.571	42.690	0.229
4500.000	1.847	30.593	4498.966	39.510	35.652	39.510	53.217	42.062	0.593
4600.000	2.446	40.992	4598.896	42.508	37.872	42.508	56.932	41.700	0.712
4700.000	2.330	59.856	4698.811	45.140	41.030	45.140	61.001	42.270	0.791
4800.000	2.053	74.450	4798.738	46.641	44.514	46.641	64.473	43.664	0.621
4900.000	1.992	90.788	4898.677	47.097	47.977	47.097	67.230	45.531	0.578
5000.000	2.035	95.147	4998.615	46.913	51.484	46.913	69.653	47.659	0.159
5100.000	1.755	85.743	5098.561	46.868	54.779	46.868	72.093	49.451	0.418
5200.000	1.459	57.425	5198.523	47.667	57.379	47.667	74.595	50.282	0.837
5300.000	1.249	62.075	5298.495	48.862	59.414	48.862	76.926	50.566	0.236
5400.000	1.168	47.297	5398.473	50.064	61.126	50.064	79.011	50.682	0.321
5500.000	1.303	32.119	5498.450	51.718	62.480	51.718	81.108	50.383	0.353
5600.000	1.457	25.291	5598.421	53.831	63.627	53.831	83.344	49.768	0.225
5700.000	1.166	28.933	5698.395	55.871	64.663	55.871	85.456	49.172	0.303
5800.000	0.399	56.370	5798.385	56.954	65.445	56.954	86.757	48.968	0.832
5900.000	0.266	131.597	5898.384	56.992	65.909	56.992	87.133	49.150	0.420
6000.000	0.219	33.436	5998.383	56.997	66.188	56.997	87.347	49.267	0.368
6100.000	0.593	219.230	6098.382	56.756	65.966	56.756	87.022	49.292	0.811
6200.000	0.709	234.408	6198.375	55.996	65.136	55.996	85.896	49.315	0.207
6300.000	0.766	237.630	6298.367	55.278	64.068	55.278	84.619	49.213	0.070
6400.000	1.150	228.842	6398.353	54.260	62.749	54.260	82.955	49.150	0.410
6500.000	1.389	209.641	6498.329	52.546	61.394	52.546	80.810	49.440	0.485
6600.000	1.201	220.763	6598.303	50.698	60.110	50.698	78.635	49.855	0.313
6700.000	1.654	209.613	6698.272	48.650	58.712	48.650	76.249	50.354	0.530
6800.000	1.444	185.168	6798.237	46.140	57.886	46.140	74.025	51.442	0.687
6900.000	1.111	162.426	6898.212	43.961	58.065	43.961	72.829	52.870	0.600
7000.000	1.130	148.414	6998.193	42.197	58.874	42.197	72.434	54.369	0.274
7100.000	0.881	159.735	7098.178	40.636	59.657	40.636	72.182	55.739	0.317
7200.000	0.624	194.229	7198.170	39.387	59.789	39.387	71.597	56.625	0.509
7300.000	0.165	200.436	7298.167	38.724	59.605	38.724	71.080	56.989	0.460
7400.000	0.277	93.373	7398.167	38.574	59.796	38.574	71.159	57.174	0.362
7500.000	0.475	74.399	7498.164	38.672	60.437	38.672	71.750	57.386	0.231
7600.000	0.101	323.726	7598.163	38.854	60.784	38.854	72.141	57.413	0.519

HORIZONTAL DISPLACEMENT IS
72.141 FEET AT 57.413 DEGREES