



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : GROUND LEVEL

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: ROCKYMTNFUELCOF3.ut

Minimum Curvature Method

Report Date/Time: 12/27/2013 / 15:15

Vaughn Energy Services

Corpus Christi, Texas

361-767-0602

Sal Visoso

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	0.365	102.501	99.999	-0.069	0.311	-0.069	0.319	102.501	0.365
200.000	0.440	73.758	199.997	-0.031	0.991	-0.031	0.992	91.764	0.213
300.000	0.373	192.756	299.996	-0.241	1.289	-0.241	1.311	100.585	0.702
400.000	0.289	212.899	399.994	-0.770	1.080	-0.770	1.326	125.491	0.143
500.000	0.279	209.018	499.993	-1.194	0.825	-1.194	1.451	145.354	0.022
600.000	0.325	231.560	599.991	-1.583	0.485	-1.583	1.656	162.973	0.127
700.000	0.308	187.729	699.990	-2.026	0.226	-2.026	2.039	173.627	0.237
800.000	0.373	227.368	799.988	-2.514	-0.050	-2.514	2.514	181.131	0.239
900.000	0.337	181.884	899.987	-3.028	-0.299	-3.028	3.043	185.640	0.277
1000.000	0.283	194.505	999.985	-3.561	-0.371	-3.561	3.581	185.941	0.087
1100.000	0.371	191.114	1099.984	-4.118	-0.495	-4.118	4.148	186.852	0.089
1200.000	0.278	213.025	1199.982	-4.639	-0.690	-4.639	4.690	188.455	0.153
1300.000	0.405	219.984	1299.980	-5.113	-1.049	-5.113	5.220	191.592	0.133
1400.000	0.376	183.343	1399.978	-5.711	-1.295	-5.711	5.856	192.776	0.247
1500.000	0.354	189.529	1499.976	-6.343	-1.365	-6.343	6.488	192.147	0.045
1600.000	0.338	186.018	1599.974	-6.941	-1.447	-6.941	7.090	191.778	0.027
1700.000	0.391	186.314	1699.972	-7.574	-1.516	-7.574	7.724	191.318	0.054
1800.000	0.532	200.330	1799.969	-8.349	-1.715	-8.349	8.523	191.606	0.179
1900.000	0.514	220.665	1899.965	-9.125	-2.169	-9.125	9.379	193.369	0.186
2000.000	0.602	217.965	1999.960	-9.879	-2.784	-9.879	10.264	195.739	0.091
2100.000	0.381	199.022	2099.956	-10.608	-3.216	-10.608	11.084	196.865	0.272
2200.000	0.510	188.997	2199.953	-11.361	-3.394	-11.361	11.857	196.631	0.151
2300.000	0.424	152.399	2299.950	-12.129	-3.292	-12.129	12.568	195.185	0.305
2400.000	0.830	138.611	2399.944	-13.000	-2.642	-13.000	13.266	191.487	0.430
2500.000	0.950	152.791	2499.932	-14.281	-1.784	-14.281	14.392	187.121	0.250
2600.000	0.922	147.293	2599.919	-15.695	-0.970	-15.695	15.725	183.537	0.094
2700.000	1.020	185.910	2699.906	-17.257	-0.627	-17.257	17.268	182.081	0.649
2800.000	0.972	193.943	2799.890	-18.964	-0.923	-18.964	18.987	182.787	0.147
2900.000	1.045	190.541	2899.875	-20.683	-1.294	-20.683	20.724	183.580	0.094
3000.000	1.045	196.082	2999.858	-22.456	-1.713	-22.456	22.521	184.363	0.101
3100.000	1.112	210.207	3099.841	-24.170	-2.454	-24.170	24.295	185.798	0.274
3200.000	0.768	216.138	3199.827	-25.550	-3.338	-25.550	25.768	187.443	0.357
3300.000	0.736	226.086	3299.819	-26.537	-4.196	-26.537	26.867	188.985	0.134
3400.000	0.840	227.575	3399.809	-27.478	-5.200	-27.478	27.965	190.716	0.106

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	0.692	228.926	3499.800	-28.369	-6.196	-28.369	29.038	192.321	0.150
3600.000	0.668	244.729	3599.793	-29.014	-7.178	-29.014	29.889	193.896	0.188
3700.000	0.273	235.150	3699.790	-29.399	-7.900	-29.399	30.442	195.042	0.401
3800.000	0.403	131.712	3799.789	-29.769	-7.833	-29.769	30.782	194.742	0.537
3900.000	0.469	160.298	3899.786	-30.388	-7.432	-30.388	31.284	193.744	0.224
4000.000	0.683	173.586	3999.781	-31.366	-7.228	-31.366	32.188	192.977	0.252
4100.000	0.731	198.009	4099.773	-32.565	-7.359	-32.565	33.386	192.733	0.303
4200.000	0.949	207.752	4199.763	-33.904	-7.941	-33.904	34.821	193.183	0.260
4300.000	0.990	221.206	4299.749	-35.287	-8.896	-35.287	36.391	194.150	0.231
4400.000	0.866	228.417	4399.735	-36.439	-10.031	-36.439	37.794	195.391	0.170
4500.000	1.313	238.845	4499.717	-37.533	-11.576	-37.533	39.278	197.142	0.487
4600.000	1.328	254.803	4599.691	-38.429	-13.675	-38.429	40.790	199.588	0.367
4700.000	1.471	254.355	4699.661	-39.079	-16.029	-39.079	42.239	202.302	0.144
4800.000	1.480	255.726	4799.628	-39.744	-18.517	-39.744	43.846	204.981	0.036
4900.000	1.372	256.001	4899.597	-40.352	-20.930	-40.352	45.457	207.415	0.108
5000.000	1.110	251.991	4999.573	-40.941	-23.012	-40.941	46.965	209.340	0.276
5100.000	0.962	268.595	5099.557	-41.261	-24.773	-41.261	48.126	210.981	0.333
5200.000	0.671	262.063	5199.547	-41.362	-26.193	-41.362	48.958	212.344	0.305
5300.000	0.587	286.593	5299.541	-41.297	-27.264	-41.297	49.485	213.432	0.280
5400.000	0.647	268.765	5399.535	-41.163	-28.319	-41.163	49.963	214.527	0.200
5500.000	0.380	274.808	5499.531	-41.147	-29.214	-41.147	50.463	215.374	0.272
5600.000	0.397	13.122	5599.530	-40.782	-29.466	-40.782	50.313	215.849	0.588
5700.000	0.371	127.075	5699.529	-40.639	-29.129	-40.639	50.000	215.632	0.644
5800.000	0.509	259.494	5799.527	-40.915	-29.308	-40.915	50.329	215.614	0.807
5900.000	0.721	247.485	5899.522	-41.237	-30.326	-41.237	51.187	216.331	0.247
6000.000	0.797	244.468	5999.513	-41.778	-31.534	-41.778	52.343	217.046	0.086
6100.000	0.561	251.894	6099.506	-42.230	-32.627	-42.230	53.366	217.690	0.251
6200.000	0.549	289.948	6199.501	-42.218	-33.543	-42.218	53.922	218.468	0.362
6300.000	0.804	299.874	6299.494	-41.705	-34.603	-41.705	54.191	219.683	0.280
6400.000	0.858	284.717	6399.484	-41.165	-35.935	-41.165	54.643	221.119	0.225
6500.000	0.996	293.314	6499.471	-40.631	-37.458	-40.631	55.263	222.673	0.196
6600.000	0.650	309.813	6599.461	-39.924	-38.692	-39.924	55.596	224.102	0.417
6700.000	0.296	310.256	6699.457	-39.394	-39.324	-39.394	55.662	224.950	0.353
6800.000	0.415	300.119	6799.455	-39.045	-39.835	-39.045	55.779	225.574	0.134
6900.000	0.324	275.519	6899.453	-38.836	-40.429	-38.836	56.061	226.152	0.181
7000.000	0.324	258.812	6999.451	-38.864	-40.988	-38.864	56.484	226.524	0.094
7100.000	0.472	243.584	7099.449	-39.102	-41.634	-39.102	57.117	226.796	0.180
7200.000	0.557	214.823	7199.445	-39.684	-42.280	-39.684	57.986	226.814	0.268
7300.000	0.920	169.010	7299.437	-40.871	-42.404	-40.871	58.894	226.055	0.665
7400.000	0.623	181.074	7399.428	-42.203	-42.261	-42.203	59.725	225.040	0.337
7500.000	1.025	167.548	7499.418	-43.620	-42.079	-43.620	60.608	223.970	0.444
7600.000	1.308	149.902	7599.397	-45.481	-41.314	-45.481	61.444	222.251	0.454
7700.000	1.274	166.264	7699.372	-47.548	-40.478	-47.548	62.444	220.408	0.369
7800.000	1.466	149.456	7799.344	-49.729	-39.563	-49.729	63.548	218.505	0.443
7900.000	1.495	136.520	7899.311	-51.778	-38.016	-51.778	64.235	216.287	0.335
8000.000	1.239	119.692	7999.283	-53.259	-36.179	-53.259	64.386	214.188	0.473
HORIZONTAL DISPLACEMENT IS 64.386 FEET AT 214.188 DEGREES									