

Vaughn Energy Services  
Rifle, Colorado  
970-456-2071

MS Gyro Survey Calculations  
Surveyor: Garry Fowler  
State Ehrlich 36-32 API# 05-123-19011

Depth	Inc	AzG	N/S	E/W	TVD	DL	VS	CD
0	0	0	0	0	0	0	0	0
100	0.33	40.83	0.21	0.19	100	0.33	0.21	0.28
200	0.28	48.2	0.59	0.55	200	0.06	0.59	0.81
300	0.17	48.79	0.85	0.84	300	0.1	0.85	1.2
400	0.22	74.18	1	1.14	400	0.1	1	1.52
500	0.22	93.4	1.04	1.52	500	0.07	1.04	1.84
600	0.22	101.12	0.99	1.9	600	0.03	0.99	2.14
700	0.22	89.54	0.96	2.28	699.99	0.04	0.96	2.47
800	0.21	97.49	0.94	2.65	799.99	0.03	0.94	2.81
900	0.24	94.02	0.9	3.04	899.99	0.03	0.9	3.17
1000	0.24	69.87	0.96	3.45	999.99	0.1	0.96	3.58
1100	0.25	46.47	1.18	3.8	1099.99	0.1	1.18	3.98
1200	0.26	35.06	1.51	4.09	1199.99	0.05	1.51	4.36
1300	0.21	42.01	1.83	4.34	1299.99	0.05	1.83	4.71
1400	0.19	45.03	2.08	4.58	1399.99	0.03	2.08	5.03
1500	0.16	55.54	2.28	4.82	1499.99	0.04	2.28	5.33
1600	0.33	341.94	2.64	4.84	1599.99	0.33	2.64	5.52
1700	0.42	340.22	3.26	4.63	1699.99	0.09	3.26	5.66
1800	0.54	347.87	4.07	4.4	1799.98	0.13	4.07	6
1900	0.85	346.38	5.26	4.13	1899.97	0.31	5.26	6.68
2000	1.22	314.69	6.73	3.2	1999.96	0.67	6.73	7.45
2100	1.27	315.11	8.27	1.65	2099.93	0.05	8.27	8.43
2200	1.35	315.37	9.89	0.05	2199.91	0.08	9.89	9.89
2300	1.42	312.39	11.56	-1.7	2299.88	0.1	11.56	11.68
2400	1	318.06	13.05	-3.2	2399.86	0.43	13.05	13.43
2500	0.93	313.01	14.25	-4.38	2499.84	0.11	14.25	14.91
2600	0.81	303.31	15.2	-5.56	2599.83	0.19	15.2	16.18
2700	0.63	313.38	15.96	-6.55	2699.82	0.22	15.96	17.26
2800	0.58	311.92	16.68	-7.33	2799.82	0.06	16.68	18.22
2900	0.29	264.26	16.99	-7.95	2899.82	0.44	16.99	18.76
3000	0.42	248.79	16.83	-8.55	2999.81	0.16	16.83	18.88
3100	0.5	215.92	16.34	-9.15	3099.81	0.27	16.34	18.73
3200	0.56	213.87	15.58	-9.68	3199.81	0.06	15.58	18.34
3300	0.56	204.75	14.73	-10.16	3299.8	0.09	14.73	17.89
3400	0.74	159.52	13.68	-10.14	3399.8	0.53	13.68	17.03
3500	0.93	152.28	12.36	-9.53	3499.78	0.22	12.36	15.61
3600	1.07	153.54	10.8	-8.74	3599.77	0.14	10.8	13.89
3700	1.29	151.34	8.97	-7.78	3699.75	0.22	8.97	11.87
3800	1.44	154.82	6.85	-6.7	3799.72	0.17	6.85	9.58
3900	1.49	148.64	4.6	-5.49	3899.69	0.17	4.6	7.16
4000	1.48	143.46	2.45	-4.05	3999.65	0.14	2.45	4.73
4100	1.46	146.83	0.35	-2.58	4099.62	0.09	0.35	2.6
4200	1.36	149.63	-1.75	-1.28	4199.59	0.12	-1.75	2.16

4300	1.2	142.27	-3.6	-0.04	4299.57	0.23	-3.6	3.6
4400	1.03	140.25	-5.12	1.18	4399.55	0.17	-5.12	5.26
4500	1.09	140.06	-6.54	2.37	4499.53	0.06	-6.54	6.96
4600	0.97	144.05	-7.96	3.47	4599.51	0.14	-7.96	8.68
4700	0.83	155.26	-9.3	4.27	4699.5	0.23	-9.3	10.23
4800	0.77	216.73	-10.49	4.17	4799.49	0.82	-10.49	11.29
4900	0.73	215.72	-11.54	3.4	4899.48	0.04	-11.54	12.03
5000	0.64	211.58	-12.54	2.74	4999.48	0.1	-12.54	12.83
5100	0.55	218.58	-13.39	2.14	5099.47	0.12	-13.39	13.56
5200	0.53	220.81	-14.11	1.54	5199.47	0.03	-14.11	14.2
5300	0.5	259.75	-14.54	0.81	5299.46	0.35	-14.54	14.57
5400	0.45	256.05	-14.72	0	5399.46	0.05	-14.72	14.72
5500	0.41	201.9	-15.15	-0.52	5499.46	0.4	-15.15	15.16
5600	0.77	197.08	-16.13	-0.85	5599.45	0.36	-16.13	16.15
5700	1.29	159.97	-17.83	-0.66	5699.44	0.82	-17.83	17.84
5800	1.97	134.4	-20.1	0.95	5799.4	0.98	-20.1	20.12
5900	2.42	138.47	-22.88	3.58	5899.32	0.47	-22.88	23.16
6000	2.53	144.82	-26.26	6.25	5999.23	0.3	-26.26	26.99
6100	3.11	155.87	-30.54	8.63	6099.11	0.79	-30.54	31.74
6200	3.17	162.11	-35.66	10.59	6198.96	0.35	-35.66	37.2
6300	3.03	173.43	-40.91	11.74	6298.81	0.63	-40.91	42.57
6400	2.65	185.98	-45.84	11.81	6398.69	0.73	-45.84	47.33
6500	2.06	204.63	-49.77	10.82	6498.61	0.96	-49.77	50.93
6600	1.95	227.21	-52.56	8.82	6598.55	0.79	-52.56	53.3
6700	1.11	234.49	-54.28	6.78	6698.51	0.86	-54.28	54.7
6715	1.07	231.76	-54.45	6.55	6713.51	0.41	-54.45	54.84

**Cbrg**

0  
40.83  
43.03  
44.79  
48.74  
55.53  
62.38  
67.19  
70.57  
73.56  
74.5  
72.79  
69.73  
67.13  
65.53  
64.63  
61.41  
54.81  
47.25  
38.16  
25.4  
11.32  
0.27  
351.66  
346.24  
342.93  
339.9  
337.68  
336.28  
334.91  
333.07  
330.76  
328.15  
325.41  
323.47  
322.36  
321.04  
319.08  
315.62  
309.96  
301.23  
277.72  
216.27

180.59  
167.02  
160.12  
156.42  
155.32  
158.31  
163.59  
167.69  
170.9  
173.77  
176.82  
180.01  
181.97  
183.03  
182.13  
177.29  
171.11  
166.62  
164.22  
163.46  
163.98  
165.56  
167.74  
170.48  
172.88  
173.14