



Company: ANADARKO
 Well: NYGREN 12-19
 Location: NW/SW SEC.19 T4W R67W
 Rig Name: CABLE WIRE
 State/County: COLORADO/WELD
 Latitude: 40.30
 GRID North is 0.37 Degrees East of True North
 VS-Azi: 0.00 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_run01-01.ut

Minimum Curvature Method

Report Date/Time: 3/18/2009 / 21:52

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.47	172.28	100.00	-0.40	0.05	-0.40	0.41	172.28	0.47
200.00	0.42	173.55	200.00	-1.17	0.15	-1.17	1.18	172.67	0.05
300.00	0.40	183.21	299.99	-1.88	0.17	-1.88	1.89	174.77	0.07
400.00	1.03	232.40	399.99	-2.78	-0.56	-2.78	2.83	191.39	0.83
500.00	1.16	251.42	499.97	-3.65	-2.23	-3.65	4.28	211.47	0.38
600.00	1.08	284.75	599.95	-3.73	-4.11	-3.73	5.55	227.74	0.65
700.00	1.20	291.70	699.93	-3.10	-5.99	-3.10	6.75	242.63	0.18
800.00	1.74	301.89	799.90	-1.91	-8.26	-1.91	8.48	256.96	0.60
900.00	2.04	322.50	899.84	0.30	-10.63	0.30	10.63	271.63	0.74
1000.00	1.85	319.11	999.79	2.93	-12.77	2.93	13.10	282.94	0.22
1100.00	1.94	309.52	1099.73	5.23	-15.14	5.23	16.02	289.08	0.33
1200.00	1.68	306.37	1199.68	7.18	-17.62	7.18	19.03	292.17	0.28
1300.00	1.44	304.55	1299.64	8.77	-19.84	8.77	21.69	293.84	0.24
1400.00	1.22	307.51	1399.62	10.13	-21.72	10.13	23.97	295.00	0.24
1500.00	1.06	317.95	1499.60	11.46	-23.18	11.46	25.86	296.30	0.26
1600.00	0.73	314.92	1599.59	12.59	-24.25	12.59	27.32	297.44	0.33
1700.00	0.56	333.42	1699.58	13.48	-24.92	13.48	28.33	298.41	0.27
1800.00	0.53	335.89	1799.57	14.33	-25.32	14.33	29.10	299.51	0.04
1900.00	0.36	7.84	1899.57	15.06	-25.47	15.06	29.59	300.59	0.29
2000.00	0.40	4.81	1999.57	15.71	-25.40	15.71	29.87	301.75	0.05
2100.00	0.33	13.15	2099.57	16.35	-25.30	16.35	30.12	302.87	0.09
2200.00	0.09	285.86	2199.57	16.65	-25.31	16.65	30.30	303.34	0.34
2300.00	0.42	279.71	2299.57	16.74	-25.75	16.74	30.71	303.03	0.33
2400.00	0.70	275.48	2399.56	16.86	-26.72	16.86	31.59	302.25	0.28
2500.00	1.02	273.07	2499.55	16.96	-28.22	16.96	32.92	301.01	0.33
2600.00	0.91	264.06	2599.53	16.93	-29.90	16.93	34.36	299.52	0.19
2700.00	0.96	250.09	2699.52	16.56	-31.48	16.56	35.57	297.75	0.23
2800.00	1.02	254.60	2799.51	16.04	-33.13	16.04	36.81	295.84	0.10
2900.00	0.88	255.69	2899.49	15.61	-34.73	15.61	38.08	294.21	0.14
3000.00	0.46	261.64	2999.49	15.37	-35.87	15.37	39.02	293.19	0.43
3100.00	0.08	262.91	3099.48	15.30	-36.34	15.30	39.43	292.83	0.37
3200.00	0.30	223.08	3199.48	15.09	-36.59	15.09	39.58	292.42	0.25
3300.00	0.68	86.59	3299.48	14.94	-36.18	14.94	39.14	292.43	0.92
3400.00	0.88	83.69	3399.47	15.06	-34.83	15.06	37.94	293.38	0.21

HORIZONTAL DISPLACEMENT IS
3.34 FEET AT 301.42 DEGREES