

Company: ANADARKO PETROLEUM  
Lease/Well: ALE PARTNERSHIP FEDERAL W/29-10DI  
API: 05-123-19687  
Rig Name: PRODUCTION/CORE-TECH  
State/County: COLORADO / WELD  
Latitude: 40.108, Longitude: -104.799  
Directions are relative to True North  
VS-Azi: 0.000 Degrees



**FIELD COPY ONLY (NOT DEFINITIVE)**

Depth Reference : RKB = GROUND LEVEL

**DRILLOG MS GYRO SURVEY CALCULATIONS**

Filename: msgyro\_run01-01-de\_01.ut

Minimum Curvature Method

Report Date/Time: 2/10/2014 / 15:35

VAUGHN ENERGY SERVICES  
HENDERSON, COLORADO  
303-853-4976  
NICK KULA

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	0.208	294.980	100.000	0.077	-0.164	0.077	0.181	294.980	0.208
200.000	0.639	312.991	199.997	0.533	-0.736	0.533	0.909	305.906	0.446
300.000	0.525	308.992	299.992	1.201	-1.500	1.201	1.922	308.692	0.121
400.000	0.571	345.735	399.987	1.973	-1.979	1.973	2.794	314.910	0.348
500.000	0.209	335.937	499.985	2.623	-2.176	2.623	3.408	320.315	0.367
600.000	0.331	221.040	599.984	2.572	-2.441	2.572	3.546	316.496	0.461
700.000	0.411	229.428	699.982	2.120	-2.903	2.120	3.595	306.136	0.097
800.000	0.628	269.208	799.978	1.879	-3.724	1.879	4.171	296.772	0.408
900.000	1.152	262.564	899.966	1.741	-5.269	1.741	5.549	288.288	0.533
1000.000	1.153	267.032	999.946	1.559	-7.270	1.559	7.435	282.104	0.090
1100.000	0.994	258.228	1099.928	1.330	-9.124	1.330	9.220	278.294	0.228
1200.000	1.014	277.157	1199.913	1.263	-10.851	1.263	10.924	276.640	0.331
1300.000	1.013	265.692	1299.898	1.307	-12.610	1.307	12.678	275.918	0.202
1400.000	0.927	287.434	1399.884	1.483	-14.263	1.483	14.339	275.936	0.375
1500.000	0.921	284.078	1499.871	1.921	-15.814	1.921	15.930	276.925	0.054
1600.000	0.949	283.490	1599.857	2.309	-17.398	2.309	17.551	277.561	0.029
1700.000	1.091	276.929	1699.841	2.617	-19.148	2.617	19.326	277.783	0.184
1800.000	1.063	279.894	1799.824	2.892	-21.007	2.892	21.206	277.837	0.062
1900.000	1.287	286.406	1899.803	3.368	-22.999	3.368	23.244	278.332	0.261
2000.000	1.231	279.506	1999.779	3.863	-25.135	3.863	25.430	278.737	0.162
2100.000	1.394	288.229	2099.753	4.421	-27.350	4.421	27.705	279.182	0.257
2200.000	1.690	278.285	2199.716	5.014	-29.965	5.014	30.381	279.499	0.398
2300.000	1.767	293.039	2299.671	5.830	-32.843	5.830	33.356	280.065	0.450
2400.000	1.797	286.644	2399.623	6.882	-35.765	6.882	36.421	280.892	0.201
2500.000	1.920	294.391	2499.571	8.023	-38.793	8.023	39.614	281.685	0.279
2600.000	2.286	300.907	2599.503	9.739	-42.029	9.739	43.143	283.047	0.437
2700.000	2.498	298.889	2699.416	11.816	-45.648	11.816	47.153	284.513	0.229
2800.000	2.450	297.045	2799.323	13.841	-49.460	13.841	51.360	285.634	0.093
2900.000	2.460	299.247	2899.231	15.861	-53.236	15.861	55.549	286.591	0.095



HORIZONTAL DISPLACEMENT IS  
161.779 FEET AT 296.751 DEGREES