

Company: Anadarko Petroleum Corp.

Well: Bearson 10-27A

API: 05-123-21555

Rig Name: Production/Coretech

State/County: Colorado/Weld

Latitude: 40.108, Longitude: -104.874

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: 1/24/2014 / 16:21

Vaughn Energy Services

Henderson, CO

303-853-4976

Levi Sheldon

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	0.380	272.717	99.999	0.016	-0.332	0.016	0.332	272.717	0.380
200.000	0.530	256.663	199.996	-0.075	-1.113	-0.075	1.116	266.137	0.195
300.000	0.510	250.359	299.992	-0.331	-1.982	-0.331	2.010	260.508	0.060
400.000	0.328	240.626	399.989	-0.622	-2.651	-0.622	2.723	256.805	0.195
500.000	0.114	230.056	499.989	-0.826	-2.977	-0.826	3.090	254.490	0.217
600.000	0.038	172.588	599.988	-0.923	-3.050	-0.923	3.186	253.155	0.099
700.000	0.190	152.143	699.988	-1.103	-2.968	-1.103	3.166	249.617	0.155
800.000	0.245	138.514	799.987	-1.410	-2.749	-1.410	3.089	242.851	0.076
900.000	0.141	166.615	899.987	-1.689	-2.578	-1.689	3.083	236.766	0.138
1000.000	0.094	217.182	999.987	-1.874	-2.599	-1.874	3.204	234.211	0.109
1100.000	0.233	237.964	1099.986	-2.047	-2.821	-2.047	3.486	234.037	0.150
1200.000	0.329	249.108	1199.985	-2.257	-3.262	-2.257	3.967	235.317	0.110
1300.000	0.414	255.989	1299.983	-2.447	-3.881	-2.447	4.588	237.767	0.096
1400.000	0.540	265.032	1399.980	-2.576	-4.701	-2.576	5.361	241.283	0.146
1500.000	0.549	270.983	1499.975	-2.608	-5.650	-2.608	6.223	245.219	0.057
1600.000	0.469	269.549	1599.971	-2.603	-6.538	-2.603	7.037	248.290	0.081
1700.000	0.488	269.311	1699.968	-2.612	-7.374	-2.612	7.823	250.498	0.019
1800.000	0.558	269.800	1799.963	-2.618	-8.288	-2.618	8.691	252.466	0.070
1900.000	0.532	270.648	1899.959	-2.615	-9.239	-2.615	9.602	254.197	0.028
2000.000	0.520	275.197	1999.955	-2.568	-10.155	-2.568	10.475	255.806	0.043
2100.000	0.599	279.270	2099.950	-2.443	-11.123	-2.443	11.388	257.612	0.089
2200.000	0.788	271.144	2199.943	-2.345	-12.327	-2.345	12.548	259.229	0.212
2300.000	0.891	267.171	2299.932	-2.370	-13.791	-2.370	13.993	260.250	0.118
2400.000	0.929	269.702	2399.919	-2.412	-15.379	-2.412	15.567	261.085	0.056
2500.000	1.139	271.988	2499.903	-2.382	-17.183	-2.382	17.348	262.108	0.214
2600.000	1.160	275.411	2599.883	-2.252	-19.185	-2.252	19.316	263.304	0.072
2700.000	1.146	290.633	2699.863	-1.804	-21.128	-1.804	21.205	265.118	0.306
2800.000	1.010	293.359	2799.845	-1.103	-22.872	-1.103	22.899	267.240	0.145
2900.000	0.838	298.439	2899.832	-0.405	-24.324	-0.405	24.328	269.045	0.191
3000.000	0.763	302.654	2999.822	0.302	-25.528	0.302	25.529	270.678	0.095
3100.000	0.714	295.537	3099.814	0.930	-26.651	0.930	26.667	271.999	0.104
3200.000	0.661	282.484	3199.807	1.324	-27.777	1.324	27.808	272.728	0.165
3300.000	0.477	275.192	3299.802	1.486	-28.755	1.486	28.793	272.958	0.198
3400.000	0.457	261.514	3399.799	1.465	-29.564	1.465	29.600	272.837	0.113

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	0.463	263.822	3499.795	1.362	-30.360	1.362	30.391	272.570	0.019
3600.000	0.463	260.124	3599.792	1.250	-31.159	1.250	31.184	272.297	0.030
3700.000	1.153	273.961	3699.782	1.250	-32.561	1.250	32.585	272.199	0.713
3800.000	1.078	278.051	3799.763	1.451	-34.496	1.451	34.527	272.409	0.110
3900.000	1.129	275.317	3899.744	1.674	-36.408	1.674	36.447	272.633	0.073
4000.000	1.121	276.665	3999.725	1.879	-38.361	1.879	38.407	272.804	0.028
4100.000	1.155	265.591	4099.705	1.915	-40.337	1.915	40.383	272.718	0.222
4200.000	1.223	268.140	4199.684	1.803	-42.409	1.803	42.448	272.434	0.086
4300.000	0.985	276.441	4299.665	1.865	-44.331	1.865	44.370	272.409	0.286
4400.000	0.997	280.161	4399.650	2.115	-46.042	2.115	46.090	272.630	0.065
4500.000	1.042	287.915	4499.634	2.548	-47.763	2.548	47.831	273.054	0.145
4600.000	0.931	289.883	4599.619	3.104	-49.393	3.104	49.490	273.596	0.116
4700.000	0.946	303.233	4699.606	3.833	-50.847	3.833	50.992	274.311	0.219
4800.000	0.945	310.503	4799.593	4.821	-52.165	4.821	52.387	275.280	0.120
4900.000	1.017	313.400	4899.578	5.966	-53.437	5.966	53.769	276.371	0.088
5000.000	1.172	314.804	4999.560	7.297	-54.807	7.297	55.291	277.583	0.157
5100.000	1.296	330.697	5099.537	9.004	-56.087	9.004	56.805	279.120	0.363
5200.000	1.440	327.805	5199.508	11.054	-57.310	11.054	58.366	280.917	0.160
5300.000	1.363	325.168	5299.478	13.093	-58.659	13.093	60.102	282.583	0.101
5400.000	0.844	292.414	5399.460	14.350	-60.019	14.350	61.711	283.447	0.796
5500.000	0.842	268.012	5499.450	14.606	-61.435	14.606	63.147	283.374	0.356
5600.000	0.813	261.904	5599.439	14.481	-62.871	14.481	64.517	282.970	0.093
5700.000	0.866	264.738	5699.429	14.311	-64.325	14.311	65.898	282.543	0.067
5800.000	0.655	266.543	5799.420	14.208	-65.648	14.208	67.168	282.212	0.212
5900.000	0.613	278.379	5899.414	14.251	-66.748	14.251	68.252	282.052	0.137
6000.000	0.529	302.996	5999.409	14.581	-67.665	14.581	69.218	282.160	0.257
6100.000	0.566	309.179	6099.404	15.144	-68.435	15.144	70.091	282.478	0.070
6200.000	0.511	330.580	6199.400	15.845	-69.037	15.845	70.832	282.926	0.207
6300.000	0.514	331.211	6299.396	16.627	-69.472	16.627	71.434	283.460	0.006
6400.000	0.477	8.986	6399.393	17.431	-69.623	17.431	71.772	284.056	0.323
6500.000	0.450	357.361	6499.389	18.234	-69.577	18.234	71.926	284.686	0.098
6600.000	0.379	335.546	6599.387	18.927	-69.731	18.927	72.254	285.186	0.172
6700.000	0.172	6.802	6699.386	19.377	-69.850	19.377	72.488	285.505	0.248
6800.000	0.139	16.558	6799.385	19.643	-69.798	19.643	72.509	285.718	0.042
6900.000	0.037	11.943	6899.385	19.791	-69.757	19.791	72.510	285.839	0.102
7000.000	0.070	200.284	6999.385	19.765	-69.771	19.765	72.517	285.816	0.107
7100.000	0.083	270.454	7099.385	19.708	-69.865	19.708	72.591	285.753	0.088
7200.000	0.127	202.965	7199.385	19.606	-69.980	19.606	72.675	285.651	0.122
7300.000	0.083	200.439	7299.385	19.436	-70.049	19.436	72.695	285.507	0.044
7400.000	0.074	225.622	7399.385	19.322	-70.121	19.322	72.734	285.406	0.036
7500.000	0.061	238.296	7499.385	19.249	-70.212	19.249	72.803	285.331	0.020
7600.000	0.160	121.113	7599.384	19.149	-70.139	19.149	72.706	285.270	0.195
7700.000	0.203	54.562	7699.384	19.180	-69.875	19.180	72.459	285.349	0.202
7800.000	0.296	69.341	7799.383	19.374	-69.489	19.374	72.139	285.579	0.112
7900.000	0.448	35.190	7899.381	19.784	-69.022	19.784	71.801	285.994	0.262
7950.000	0.447	42.587	7949.380	20.087	-68.778	20.087	71.651	286.281	0.115
HORIZONTAL DISPLACEMENT IS 71.651 FEET AT 286.281 DEGREES									