



Company: Anadarko Petroleum  
 Well: HSR Sekich Farms 9-18  
 API #: 05-123-18010  
 Rig Name: Production / Coretech  
 State/County: Colorado/Weld  
 Latitude: 40.225, Longitude: -104.926  
 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\_7100-01-de\_01.ut

Minimum Curvature Method

Report Date/Time: 2/28/2014 / 21:09

Vaughn Energy Services  
 Henderson, Colorado  
 303-853-4976  
 Brian Brewbaker

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	0.750	120.059	99.997	-0.328	0.566	-0.328	0.654	120.059	0.750
200.000	0.479	127.523	199.991	-0.910	1.465	-0.910	1.725	121.865	0.282
300.000	0.500	134.025	299.988	-1.468	2.110	-1.468	2.570	124.833	0.059
400.000	0.475	84.351	399.984	-1.730	2.836	-1.730	3.322	121.390	0.410
500.000	0.428	110.546	499.981	-1.821	3.598	-1.821	4.033	116.838	0.210
600.000	0.431	25.386	599.980	-1.612	4.110	-1.612	4.414	111.413	0.582
700.000	0.799	59.146	699.974	-0.914	4.869	-0.914	4.954	100.632	0.501
800.000	0.753	36.520	799.965	-0.028	5.859	-0.028	5.859	90.279	0.308
900.000	0.744	27.412	899.956	1.076	6.549	1.076	6.637	80.669	0.119
1000.000	0.919	36.824	999.946	2.294	7.328	2.294	7.679	72.616	0.221
1100.000	1.395	54.615	1099.926	3.641	8.801	3.641	9.525	67.525	0.591
1200.000	1.591	38.948	1199.892	5.426	10.666	5.426	11.967	63.039	0.451
1300.000	1.428	35.462	1299.857	7.520	12.262	7.520	14.385	58.479	0.186
1400.000	1.315	30.095	1399.829	9.529	13.561	9.529	16.574	54.906	0.171
1500.000	1.056	60.960	1499.808	10.969	14.942	10.969	18.536	53.718	0.679
1600.000	0.720	55.182	1599.796	11.775	16.264	11.775	20.079	54.095	0.348
1700.000	0.510	49.079	1699.790	12.425	17.116	12.425	21.150	54.022	0.219
1800.000	0.549	8.140	1799.786	13.191	17.520	13.191	21.931	53.023	0.372
1900.000	0.488	322.152	1899.783	14.001	17.327	14.001	22.277	51.059	0.409
2000.000	0.673	304.751	1999.777	14.673	16.582	14.673	22.142	48.497	0.254
2100.000	0.703	282.684	2099.770	15.142	15.501	15.142	21.670	45.672	0.265
2200.000	1.167	259.187	2199.757	15.086	13.903	15.086	20.515	42.664	0.593
2300.000	1.228	269.058	2299.735	14.877	11.831	14.877	19.008	38.494	0.215
2400.000	1.070	284.217	2399.716	15.089	9.855	15.089	18.022	33.149	0.341
2500.000	1.293	259.751	2499.695	15.117	7.839	15.117	17.029	27.410	0.546
2600.000	1.355	253.797	2599.668	14.587	5.594	14.587	15.623	20.982	0.151
2700.000	1.487	255.707	2699.637	13.937	3.202	13.937	14.300	12.938	0.141
2800.000	1.538	253.757	2799.603	13.241	0.655	13.241	13.257	2.833	0.073
2900.000	1.383	265.190	2899.570	12.764	-1.836	12.764	12.895	351.814	0.330
3000.000	1.232	225.256	2999.546	11.906	-3.802	11.906	12.499	342.290	0.904
3100.000	0.925	241.466	3099.529	10.764	-5.274	10.764	11.987	333.896	0.430
3200.000	0.731	238.661	3199.518	10.047	-6.528	10.047	11.981	326.987	0.198
3300.000	0.387	230.088	3299.513	9.498	-7.332	9.498	11.999	322.335	0.352
3400.000	0.386	200.718	3399.511	8.966	-7.710	8.966	11.826	319.307	0.196

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	0.247	132.126	3499.510	8.507	-7.670	8.507	11.454	317.962	0.375
3600.000	0.204	149.917	3599.509	8.208	-7.421	8.208	11.066	317.885	0.082
3700.000	0.566	141.543	3699.507	7.668	-7.024	7.668	10.399	317.507	0.366
3800.000	0.547	149.914	3799.502	6.867	-6.478	6.867	9.440	316.673	0.084
3900.000	0.454	106.014	3899.498	6.345	-5.858	6.345	8.636	317.287	0.384
4000.000	0.629	73.038	3999.494	6.396	-4.952	6.396	8.089	322.252	0.350
4100.000	0.594	37.954	4099.489	6.965	-4.108	6.965	8.086	329.465	0.370
4200.000	0.849	57.941	4199.481	7.767	-3.161	7.767	8.386	337.852	0.355
4300.000	0.557	41.705	4299.473	8.523	-2.210	8.523	8.805	345.466	0.351
4400.000	0.308	45.128	4399.471	9.076	-1.696	9.076	9.233	349.415	0.251
4500.000	0.246	88.938	4499.469	9.269	-1.291	9.269	9.358	352.073	0.214
4600.000	0.376	75.111	4599.468	9.357	-0.758	9.357	9.388	355.368	0.149
4700.000	0.260	63.693	4699.466	9.542	-0.237	9.542	9.545	358.578	0.132
4800.000	0.147	186.164	4799.466	9.516	-0.047	9.516	9.516	359.717	0.361
4900.000	0.208	230.819	4899.466	9.273	-0.202	9.273	9.275	358.755	0.146
5000.000	0.462	243.950	4999.464	8.982	-0.704	8.982	9.009	355.517	0.263
5100.000	0.528	249.305	5099.460	8.642	-1.497	8.642	8.771	350.175	0.081
5200.000	0.345	261.384	5199.457	8.434	-2.225	8.434	8.723	345.222	0.204
5300.000	1.036	187.365	5299.451	7.492	-2.638	7.492	7.943	340.600	0.998
5400.000	2.136	107.365	5399.420	6.039	-0.975	6.039	6.117	350.828	2.207
5500.000	1.680	323.487	5499.397	6.661	-0.068	6.661	6.661	359.414	3.631
5600.000	1.600	46.626	5599.368	8.798	0.075	8.798	8.799	0.485	2.177
5700.000	1.600	246.626	5699.355	9.203	-0.192	9.203	9.205	358.803	3.152
5800.000	1.613	229.251	5799.316	7.731	-2.540	7.731	8.137	341.809	0.485
5900.000	1.175	244.733	5899.286	6.374	-4.534	6.374	7.822	324.578	0.574
6000.000	1.082	284.643	5999.268	6.175	-6.374	6.175	8.875	314.093	0.775
6100.000	1.445	258.890	6099.245	6.171	-8.524	6.171	10.524	305.902	0.665
6200.000	1.038	264.289	6199.221	5.838	-10.663	5.838	12.156	298.701	0.422
6300.000	0.664	289.210	6299.210	5.938	-12.112	5.938	13.489	296.119	0.518
6400.000	0.761	309.403	6399.203	6.550	-13.172	6.550	14.711	296.442	0.267
6500.000	0.548	239.392	6499.197	6.728	-14.096	6.728	15.620	295.516	0.771
6600.000	0.277	49.226	6599.196	6.643	-14.325	6.643	15.790	294.879	0.822
6700.000	0.237	45.054	6699.195	6.947	-13.995	6.947	15.625	296.398	0.045
6800.000	0.074	325.608	6799.195	7.146	-13.886	7.146	15.616	297.231	0.235
6900.000	0.052	237.518	6899.195	7.175	-13.961	7.175	15.696	297.199	0.089
7000.000	0.137	120.444	6999.195	7.089	-13.896	7.089	15.600	297.030	0.168
7100.000	0.079	59.359	7099.195	7.064	-13.733	7.064	15.443	297.220	0.121
HORIZONTAL DISPLACEMENT IS 15.443 FEET AT 297.220 DEGREES									