

Company: Anadarko Petroleum Corp.

Well: Sekich Farms 19-7L

API: 05-123-17153

Rig Name: Production/Warrior

Location: Weld County, Colorado

Latitude: 40.213, Longitude: -104.930

Directions are relative to True North

VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB = Ground Level

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: hgyro-de_01.ut

Minimum Curvature Method

Report Date/Time: 3/26/2014 / 12:19

Vaughn Energy Services

Henderson, CO.

Justin Williams

303-853-4976

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	0.252	272.002	100.000	0.008	-0.220	0.008	0.220	272.002	0.252
200.000	0.411	261.423	199.998	-0.038	-0.795	-0.038	0.796	267.255	0.169
300.000	0.546	325.432	299.995	0.301	-1.420	0.301	1.451	281.964	0.520
400.000	0.465	1.949	399.991	1.099	-1.676	1.099	2.004	303.251	0.326
500.000	0.623	0.835	499.987	2.048	-1.654	2.048	2.633	321.069	0.158
600.000	0.557	335.839	599.982	3.035	-1.845	3.035	3.552	328.698	0.263
700.000	0.841	294.795	699.975	3.786	-2.711	3.786	4.657	324.401	0.558
800.000	0.495	359.667	799.969	4.526	-3.379	4.526	5.648	323.251	0.774
900.000	0.189	307.948	899.967	5.059	-3.512	5.059	6.158	325.230	0.406
1000.000	0.789	281.912	999.963	5.302	-4.316	5.302	6.837	320.857	0.624
1100.000	0.370	280.002	1099.958	5.500	-5.307	5.500	7.643	316.025	0.419
1200.000	0.129	271.353	1199.957	5.559	-5.737	5.559	7.989	314.096	0.243
1300.000	0.798	244.219	1299.953	5.259	-6.477	5.259	8.343	309.074	0.686
1400.000	0.376	233.847	1399.948	4.762	-7.369	4.762	8.774	302.873	0.433
1500.000	0.869	279.394	1499.942	4.693	-8.382	4.693	9.606	299.241	0.662
1600.000	0.317	305.515	1599.936	4.977	-9.356	4.977	10.597	298.013	0.600
1700.000	0.143	268.828	1699.936	5.135	-9.706	5.135	10.981	297.883	0.220
1800.000	0.367	311.363	1799.935	5.344	-10.071	5.344	11.401	297.954	0.279
1900.000	0.907	273.248	1899.928	5.601	-11.102	5.601	12.434	296.772	0.658
2000.000	0.630	239.177	1999.920	5.364	-12.364	5.364	13.477	293.454	0.522
2100.000	0.603	275.692	2099.914	5.134	-13.360	5.134	14.312	291.023	0.387
2200.000	0.491	353.682	2199.911	5.613	-13.931	5.613	15.019	291.945	0.694
2300.000	0.354	295.614	2299.909	6.172	-14.257	6.172	15.536	293.410	0.427
2400.000	0.359	302.250	2399.907	6.473	-14.801	6.473	16.154	293.623	0.042
2500.000	0.840	300.780	2499.901	7.016	-15.695	7.016	17.192	294.084	0.481
2600.000	0.766	301.462	2599.891	7.739	-16.895	7.739	18.583	294.612	0.074
2700.000	0.816	336.718	2699.882	8.743	-17.747	8.743	19.783	296.227	0.482
2800.000	0.405	286.403	2799.877	9.497	-18.368	9.497	20.677	297.341	0.639
2900.000	0.245	10.529	2899.876	9.807	-18.668	9.807	21.087	297.715	0.452
3000.000	0.894	273.307	2999.872	10.062	-19.407	10.062	21.861	297.406	0.956
3100.000	0.790	266.899	3099.861	10.070	-20.874	10.070	23.176	295.753	0.139
3200.000	0.658	219.292	3199.854	9.588	-21.927	9.588	23.931	293.619	0.597
3300.000	0.288	276.596	3299.850	9.172	-22.540	9.172	24.335	292.143	0.558
3400.000	0.785	205.819	3399.847	8.585	-23.088	8.585	24.633	290.396	0.741

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	0.793	222.873	3499.837	7.461	-23.858	7.461	24.997	287.366	0.234
3600.000	0.435	165.599	3599.832	6.586	-24.234	6.586	25.113	285.203	0.668
3700.000	0.673	250.209	3699.829	6.019	-24.692	6.019	25.415	283.700	0.766
3800.000	0.713	190.246	3799.823	5.208	-25.356	5.208	25.885	281.608	0.693
3900.000	0.348	261.944	3899.819	4.554	-25.767	4.554	26.166	280.022	0.688
4000.000	0.406	216.837	3999.817	4.228	-26.280	4.228	26.618	279.139	0.294
4100.000	0.736	165.947	4099.813	3.321	-26.336	3.321	26.545	277.188	0.574
4200.000	0.890	188.994	4199.803	1.931	-26.301	1.931	26.372	274.200	0.358
4300.000	0.538	152.156	4299.795	0.750	-26.203	0.750	26.214	271.639	0.561
4400.000	0.627	264.638	4399.792	0.283	-26.529	0.283	26.530	270.612	0.970
4500.000	0.668	280.800	4499.786	0.342	-27.646	0.342	27.648	270.708	0.187
4600.000	1.191	328.678	4599.774	1.338	-28.759	1.338	28.790	272.664	0.893
4700.000	0.839	345.437	4699.758	2.934	-29.483	2.934	29.629	275.684	0.457
4800.000	0.449	318.600	4799.752	3.937	-29.926	3.937	30.184	277.494	0.483
4900.000	0.802	289.777	4899.746	4.467	-30.843	4.467	31.165	278.241	0.462
5000.000	0.282	10.916	4999.742	4.945	-31.455	4.945	31.842	278.935	0.808
5100.000	0.585	292.319	5099.740	5.381	-31.881	5.381	32.332	279.580	0.597
5200.000	0.446	292.167	5199.736	5.721	-32.714	5.721	33.210	279.920	0.140
5300.000	0.070	61.926	5299.735	5.897	-33.020	5.897	33.543	280.125	0.493
5400.000	0.584	260.200	5399.733	5.838	-33.469	5.838	33.975	279.895	0.651
5500.000	0.686	239.823	5499.727	5.451	-34.489	5.451	34.917	278.981	0.246
5600.000	0.199	194.705	5599.724	4.982	-35.050	4.982	35.403	278.089	0.563
5700.000	0.344	153.633	5699.723	4.544	-34.961	4.544	35.255	277.406	0.234
5800.000	1.067	199.148	5799.716	3.395	-35.133	3.395	35.297	275.520	0.861
5900.000	0.937	221.413	5899.701	1.903	-35.979	1.903	36.029	273.027	0.407
6000.000	0.945	166.877	5999.689	0.486	-36.333	0.486	36.336	270.767	0.862
6100.000	0.831	190.996	6099.677	-1.029	-36.284	-1.029	36.298	268.375	0.388
6200.000	0.819	161.271	6199.667	-2.418	-36.192	-2.418	36.273	266.178	0.423
6300.000	0.767	160.833	6299.658	-3.727	-35.743	-3.727	35.937	264.048	0.053
6400.000	1.263	165.455	6399.642	-5.426	-35.247	-5.426	35.662	261.249	0.503
6500.000	0.891	158.311	6499.624	-7.215	-34.682	-7.215	35.425	258.248	0.395
6600.000	1.364	168.506	6599.605	-9.104	-34.158	-9.104	35.350	255.076	0.512
6700.000	1.264	188.328	6699.579	-11.362	-34.081	-11.362	35.925	251.563	0.463
6800.000	0.596	175.507	6799.565	-12.972	-34.200	-12.972	36.577	249.228	0.696
6900.000	1.071	149.208	6899.555	-14.294	-33.680	-14.294	36.588	247.004	0.598
7000.000	0.482	137.447	6999.545	-15.407	-32.917	-15.407	36.344	244.918	0.608
7100.000	0.888	131.025	7099.538	-16.225	-32.048	-16.225	35.921	243.148	0.413
7125.000	0.895	134.241	7124.535	-16.489	-31.762	-16.489	35.787	242.564	0.202

HORIZONTAL DISPLACEMENT IS
35.787 FEET AT 242.564 DEGREES