

Company: ANADARKO PETROLEUM
 Lease/Well: HSR SEKICH FARMS/10-18
 API#: 05-123-18009
 Rig Name: PRODUCTION / VES
 State/County: COLORADO/WELD
 Latitude: 40.224, Longitude: -104.929
 Directions are relative to True North
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB = GROUND LEVEL

DRILLOG GYRO SURVEY CALCULATIONS

Filename: 951.ut

Minimum Curvature Method

Report Date/Time: 1/17/2014 / 13:47

Vaughn Energy Services

Henderson CO.

303-853-4976

DUSTIN SKORUPPA

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	0.647	216.887	99.998	-0.451	-0.339	-0.451	0.564	216.887	0.647
200.000	0.459	217.703	199.993	-1.220	-0.922	-1.220	1.529	217.101	0.188
300.000	0.715	236.981	299.988	-1.876	-1.690	-1.876	2.525	222.014	0.320
400.000	0.815	241.885	399.979	-2.551	-2.840	-2.551	3.818	228.070	0.120
500.000	0.466	245.788	499.973	-3.053	-3.838	-3.053	4.904	231.500	0.352
600.000	0.613	238.537	599.968	-3.499	-4.665	-3.499	5.831	233.129	0.162
700.000	0.538	251.034	699.963	-3.930	-5.565	-3.930	6.813	234.767	0.146
800.000	0.368	263.348	799.960	-4.120	-6.328	-4.120	7.551	236.931	0.195
900.000	0.913	263.746	899.953	-4.244	-7.439	-4.244	8.564	240.293	0.545
1000.000	1.205	272.984	999.936	-4.276	-9.280	-4.276	10.218	245.260	0.337
1100.000	1.497	298.476	1099.909	-3.599	-11.478	-3.599	12.029	252.592	0.661
1200.000	1.395	290.899	1199.878	-2.542	-13.764	-2.542	13.996	259.537	0.216
1300.000	1.034	285.671	1299.855	-1.863	-15.770	-1.863	15.880	263.261	0.377
1400.000	0.995	297.091	1399.839	-1.224	-17.413	-1.224	17.456	265.979	0.206
1500.000	1.113	274.631	1499.823	-0.750	-19.154	-0.750	19.169	267.757	0.426
1600.000	1.941	274.026	1599.786	-0.553	-21.811	-0.553	21.818	268.548	0.829
1700.000	1.345	289.957	1699.745	-0.033	-24.604	-0.033	24.604	269.922	0.746
1800.000	1.535	304.958	1799.714	1.134	-26.804	1.134	26.828	272.423	0.420
1900.000	1.387	323.065	1899.682	2.869	-28.629	2.869	28.773	275.723	0.482
2000.000	1.569	318.828	1999.649	4.867	-30.258	4.867	30.647	279.139	0.211
2100.000	2.115	302.594	2099.597	6.892	-32.714	6.892	33.432	281.897	0.751
2200.000	1.537	289.855	2199.547	8.341	-35.530	8.341	36.496	283.212	0.703
2300.000	1.735	285.617	2299.506	9.204	-38.249	9.204	39.341	283.531	0.232
2400.000	1.628	282.428	2399.463	9.918	-41.094	9.918	42.274	283.568	0.142
2500.000	1.377	287.258	2499.428	10.580	-43.629	10.580	44.894	283.631	0.281
2600.000	1.280	290.036	2599.402	11.319	-45.826	11.319	47.203	283.874	0.116
2700.000	1.944	276.499	2699.362	11.894	-48.561	11.894	49.996	283.762	0.761
2800.000	1.512	264.923	2799.316	11.969	-51.560	11.969	52.931	283.069	0.554
2900.000	2.207	267.670	2899.263	11.774	-54.798	11.774	56.048	282.126	0.700
3000.000	1.302	248.279	2999.216	11.275	-57.777	11.275	58.866	281.043	1.070
3100.000	0.954	244.967	3099.197	10.503	-59.586	10.503	60.505	279.996	0.354
3200.000	0.388	133.235	3199.192	9.918	-60.094	9.918	60.907	279.372	1.155
3300.000	0.396	156.763	3299.190	9.369	-59.710	9.369	60.441	278.917	0.160
3400.000	0.418	134.386	3399.187	8.796	-59.314	8.796	59.962	278.435	0.159

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	0.988	146.258	3499.179	7.824	-58.574	7.824	59.094	277.608	0.586
3600.000	0.889	139.788	3599.166	6.515	-57.594	6.515	57.962	276.454	0.145
3700.000	1.283	127.007	3699.148	5.248	-56.199	5.248	56.444	275.335	0.460
3800.000	0.645	139.233	3799.133	4.148	-54.938	4.148	55.094	274.318	0.667
3900.000	1.228	137.813	3899.119	2.928	-53.851	2.928	53.930	273.112	0.583
4000.000	1.131	141.899	3999.098	1.357	-52.522	1.357	52.540	271.480	0.128
4100.000	1.146	146.916	4099.078	-0.257	-51.367	-0.257	51.368	269.713	0.101
4200.000	1.089	176.451	4199.060	-2.044	-50.762	-2.044	50.804	267.694	0.572
4300.000	0.717	165.004	4299.048	-3.597	-50.542	-3.597	50.670	265.930	0.412
4400.000	1.089	190.090	4399.036	-5.136	-50.546	-5.136	50.807	264.198	0.534
4500.000	1.948	175.258	4499.000	-7.765	-50.572	-7.765	51.165	261.271	0.938
4600.000	1.603	181.199	4598.952	-10.858	-50.461	-10.858	51.616	257.857	0.390
4700.000	1.407	189.508	4698.917	-13.468	-50.693	-13.468	52.452	255.122	0.293
4800.000	1.378	206.301	4798.888	-15.756	-51.429	-15.756	53.788	252.966	0.408
4900.000	0.303	221.952	4898.876	-17.031	-52.138	-17.031	54.849	251.911	1.089
5000.000	0.901	213.500	4998.870	-17.883	-52.748	-17.883	55.697	251.273	0.603
5100.000	0.719	223.640	5098.860	-18.992	-53.615	-18.992	56.880	250.494	0.230
5200.000	0.614	280.324	5198.854	-19.351	-54.576	-19.351	57.905	250.477	0.640
5300.000	0.311	312.884	5298.851	-19.070	-55.302	-19.070	58.498	250.974	0.390
5400.000	0.820	2.661	5398.846	-18.170	-55.468	-18.170	58.368	251.863	0.663
5500.000	1.253	25.044	5498.830	-16.464	-54.972	-16.464	57.385	253.327	0.585
5600.000	1.472	14.418	5598.802	-14.230	-54.190	-14.230	56.027	255.287	0.334
5700.000	0.705	28.206	5698.783	-12.443	-53.579	-12.443	55.005	256.926	0.805
5800.000	0.626	35.377	5798.777	-11.455	-52.972	-11.455	54.196	257.798	0.115
5900.000	0.497	35.006	5898.772	-10.655	-52.407	-10.655	53.479	258.508	0.129
6000.000	0.675	52.227	5998.767	-9.939	-51.693	-9.939	52.639	259.116	0.248
6100.000	0.769	49.732	6098.759	-9.145	-50.716	-9.145	51.533	259.778	0.099
6200.000	0.633	47.797	6198.751	-8.340	-49.795	-8.340	50.488	260.491	0.138
6300.000	0.879	52.772	6298.742	-7.505	-48.775	-7.505	49.349	261.252	0.255
6400.000	1.189	48.164	6398.726	-6.349	-47.391	-6.349	47.814	262.369	0.320
6500.000	1.206	59.043	6498.704	-5.116	-45.715	-5.116	46.001	263.615	0.228
6600.000	1.155	57.564	6598.683	-4.034	-43.962	-4.034	44.147	264.757	0.060
6700.000	1.223	50.224	6698.662	-2.810	-42.291	-2.810	42.384	266.198	0.167
6800.000	0.781	68.702	6798.646	-1.880	-40.835	-1.880	40.879	267.364	0.542
6900.000	0.165	74.152	6898.642	-1.593	-40.062	-1.593	40.094	267.723	0.617
7000.000	1.121	84.815	6998.635	-1.465	-38.950	-1.465	38.977	267.846	0.960
7050.000	1.169	98.880	7048.625	-1.500	-37.958	-1.500	37.988	267.737	0.569

HORIZONTAL DISPLACEMENT IS
37.988 FEET AT 267.737 DEGREES