

Company: Anadarko Petroleum Corporation

Well: Clark Francis D Unit B 1

API#: 05-123-07740

Rig Name: Production / Cable

Location: Weld County, CO

Latitude: 40.047, Longitude: -104.864

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: inrun-de_01.ut

Minimum Curvature Method

Report Date/Time: 12/12/2012 / 03:54

Vaughn Energy Services

Henderson, CO

303-853-4976

Robert Davis

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	0.460	287.223	99.999	0.119	-0.384	0.119	0.402	287.223	0.460
200.000	0.601	239.275	199.995	-0.030	-1.218	-0.030	1.219	268.597	0.450
300.000	0.694	230.882	299.989	-0.679	-2.138	-0.679	2.244	252.372	0.132
400.000	0.370	246.589	399.984	-1.189	-2.904	-1.189	3.138	247.726	0.352
500.000	0.786	192.058	499.980	-1.988	-3.343	-1.988	3.889	239.261	0.646
600.000	0.927	144.269	599.970	-3.315	-3.014	-3.315	4.480	222.277	0.706
700.000	0.797	198.010	699.960	-4.633	-2.757	-4.633	5.391	210.755	0.788
800.000	0.607	206.239	799.952	-5.768	-3.206	-5.768	6.599	209.061	0.215
900.000	0.759	205.100	899.945	-6.843	-3.720	-6.843	7.789	208.533	0.153
1000.000	0.780	215.260	999.936	-7.998	-4.394	-7.998	9.126	208.785	0.138
1100.000	0.575	250.958	1099.930	-8.718	-5.262	-8.718	10.183	211.114	0.459
1200.000	0.849	200.887	1199.923	-9.574	-6.001	-9.574	11.299	212.078	0.652
1300.000	0.928	221.303	1299.911	-10.874	-6.799	-10.874	12.825	212.016	0.324
1400.000	0.710	243.950	1399.901	-11.755	-7.890	-11.755	14.157	213.872	0.386
1500.000	0.920	232.970	1499.891	-12.510	-9.088	-12.510	15.463	215.996	0.261
1600.000	0.992	229.205	1599.877	-13.559	-10.384	-13.559	17.079	217.446	0.095
1700.000	0.672	239.838	1699.866	-14.419	-11.546	-14.419	18.472	218.686	0.354
1800.000	0.835	230.327	1799.858	-15.179	-12.614	-15.179	19.736	219.727	0.205
1900.000	0.768	249.452	1899.848	-15.879	-13.802	-15.879	21.039	220.997	0.274
2000.000	0.584	257.948	1999.841	-16.221	-14.928	-16.221	22.044	222.623	0.209
2100.000	0.649	266.805	2099.835	-16.359	-15.992	-16.359	22.877	224.350	0.116
2200.000	0.232	246.135	2199.832	-16.472	-16.743	-16.472	23.487	225.467	0.440
2300.000	0.551	324.920	2299.830	-16.160	-17.205	-16.160	23.604	226.792	0.555
2400.000	0.734	325.588	2399.824	-15.238	-17.843	-15.238	23.464	229.502	0.183
2500.000	0.833	264.694	2499.816	-14.777	-18.929	-14.777	24.014	232.022	0.799
2600.000	0.586	252.552	2599.808	-14.998	-20.141	-14.998	25.111	233.327	0.287
2700.000	0.482	235.028	2699.804	-15.392	-20.974	-15.392	26.016	233.726	0.193
2800.000	0.543	221.761	2799.800	-15.987	-21.634	-15.987	26.900	233.537	0.133
2900.000	0.457	192.818	2899.796	-16.729	-22.038	-16.729	27.668	232.798	0.263
3000.000	0.576	242.403	2999.793	-17.350	-22.572	-17.350	28.470	232.452	0.447
3100.000	0.876	191.770	3099.786	-18.332	-23.174	-18.332	29.548	231.655	0.677
3200.000	0.659	182.968	3199.777	-19.654	-23.360	-19.654	30.528	229.924	0.246
3300.000	0.560	198.144	3299.771	-20.693	-23.542	-20.693	31.343	228.685	0.189
3400.000	0.529	207.561	3399.767	-21.567	-23.907	-21.567	32.198	227.947	0.094

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	0.376	201.378	3499.763	-22.281	-24.241	-22.281	32.925	227.412	0.161
3600.000	0.317	225.103	3599.762	-22.782	-24.556	-22.782	33.497	227.146	0.154
3700.000	0.223	254.476	3699.761	-23.029	-24.939	-23.029	33.946	227.280	0.164
3800.000	0.219	229.937	3799.760	-23.204	-25.273	-23.204	34.310	227.444	0.094
3900.000	0.243	220.165	3899.759	-23.489	-25.556	-23.489	34.711	227.413	0.046
4000.000	0.675	339.456	3999.757	-23.100	-25.899	-23.100	34.704	228.270	0.821
4100.000	0.640	344.829	4099.750	-22.009	-26.252	-22.009	34.257	230.024	0.071
4200.000	0.736	13.859	4199.743	-20.847	-26.244	-20.847	33.516	231.538	0.357
4300.000	0.760	308.450	4299.736	-19.811	-26.609	-19.811	33.174	233.332	0.808
4400.000	1.223	299.472	4399.721	-18.874	-28.057	-18.874	33.814	236.072	0.487
4500.000	1.351	314.648	4499.696	-17.520	-29.825	-17.520	34.590	239.568	0.363
4600.000	2.053	313.146	4599.652	-15.467	-31.970	-15.467	35.515	244.183	0.703
4700.000	2.915	306.796	4699.557	-12.719	-35.313	-12.719	37.534	250.192	0.904
4800.000	2.849	294.364	4799.431	-10.171	-39.613	-10.171	40.898	255.600	0.627
4900.000	2.579	296.992	4899.319	-8.124	-43.882	-8.124	44.628	259.511	0.298
5000.000	1.861	296.808	4999.243	-6.371	-47.336	-6.371	47.763	262.335	0.718
5100.000	2.268	306.209	5099.179	-4.470	-50.382	-4.470	50.580	264.930	0.529
5200.000	1.573	306.173	5199.122	-2.490	-53.087	-2.490	53.146	267.314	0.695
5300.000	1.373	298.101	5299.089	-1.116	-55.252	-1.116	55.264	268.843	0.288
5400.000	1.192	293.275	5399.064	-0.140	-57.265	-0.140	57.265	269.860	0.211
5500.000	1.032	294.452	5499.045	0.643	-59.040	0.643	59.043	270.624	0.161
5600.000	0.853	305.206	5599.031	1.445	-60.468	1.445	60.485	271.369	0.251
5700.000	0.454	317.049	5699.025	2.165	-61.346	2.165	61.384	272.021	0.419
5800.000	0.221	17.347	5799.023	2.638	-61.559	2.638	61.615	272.454	0.394
5900.000	0.362	87.818	5899.022	2.834	-61.185	2.834	61.251	272.652	0.356
6000.000	0.328	62.971	5999.020	2.977	-60.614	2.977	60.687	272.811	0.152
6100.000	0.295	65.059	6099.019	3.215	-60.125	3.215	60.211	273.061	0.035
6200.000	0.600	81.481	6199.016	3.402	-59.374	3.402	59.471	273.279	0.327
6300.000	0.516	136.121	6299.012	3.155	-58.544	3.155	58.629	273.085	0.517
6400.000	0.203	104.749	6399.010	2.785	-58.061	2.785	58.127	272.746	0.358
6500.000	0.477	152.158	6499.008	2.372	-57.694	2.372	57.743	272.354	0.371
6600.000	0.359	88.701	6599.006	2.011	-57.187	2.011	57.222	272.014	0.451
6700.000	0.524	121.540	6699.003	1.779	-56.483	1.779	56.511	271.804	0.296
6800.000	0.583	189.885	6798.999	1.038	-56.181	1.038	56.190	271.058	0.624
6900.000	0.697	184.444	6898.993	-0.070	-56.315	-0.070	56.315	269.929	0.129
7000.000	0.465	178.408	6998.988	-1.081	-56.351	-1.081	56.362	268.901	0.240
7100.000	0.752	185.076	7098.982	-2.140	-56.398	-2.140	56.439	267.827	0.295
7200.000	0.530	145.349	7198.976	-3.174	-56.193	-3.174	56.282	266.767	0.483
7300.000	0.577	141.783	7298.972	-3.951	-55.618	-3.951	55.758	265.937	0.058
7400.000	0.416	110.971	7398.968	-4.477	-54.967	-4.477	55.149	265.344	0.306
7500.000	0.458	258.038	7498.967	-4.690	-55.018	-4.690	55.218	265.128	0.838
HORIZONTAL DISPLACEMENT IS 55.218 FEET AT 265.128 DEGREES									