



Company: PDC ENERGY
 Lease/Well: FOX/ #42-24
 A.P.I.#: 05-123-20530
 Rig Name: PRODUCTION/ V.E.S.
 State/County: COLORADO/WELD
 Latitude: 40.125, Longitude: -104.943
 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: fox#42-24-de_01.ut
 Minimum Curvature Method
 Report Date/Time: 11/13/2014 / 18:37

VES Survey International
 Pinedale, Wyoming
 866-835-8333
 Jay Hinman
 Fox #42-24

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	1.399	152.095	99.990	-1.079	0.571	-1.079	1.221	152.095	1.399
200.000	2.155	143.287	199.941	-3.665	2.266	-3.665	4.309	148.264	0.802
300.000	3.009	139.805	299.839	-7.177	5.085	-7.177	8.795	144.684	0.868
400.000	4.720	143.591	399.608	-12.493	9.221	-12.493	15.528	143.571	1.728
500.000	6.516	147.281	499.124	-20.578	14.730	-20.578	25.307	144.405	1.831
600.000	7.747	152.511	598.350	-31.331	20.908	-31.331	37.667	146.284	1.390
700.000	8.836	158.133	697.305	-44.438	26.880	-44.438	51.936	148.831	1.357
800.000	9.569	157.363	796.017	-59.238	32.939	-59.238	67.780	150.924	0.743
900.000	8.188	178.108	894.842	-74.031	36.375	-74.031	82.484	153.833	3.462
1000.000	6.291	238.329	994.170	-84.039	31.941	-84.039	89.904	159.190	7.433
1100.000	7.472	284.793	1093.522	-85.256	20.982	-85.256	87.800	166.174	5.526
1200.000	12.141	293.473	1192.038	-79.404	5.041	-79.404	79.564	176.368	4.884
1300.000	16.298	294.056	1288.953	-69.491	-17.428	-69.491	71.643	194.079	4.160
1400.000	18.476	299.827	1384.385	-55.888	-43.993	-55.888	71.125	218.209	2.775
1500.000	18.176	292.710	1479.326	-41.983	-72.131	-41.983	83.459	239.799	2.256
1600.000	16.802	283.761	1574.718	-32.521	-100.564	-32.521	105.691	252.079	3.016
1700.000	12.794	270.330	1671.410	-29.017	-125.692	-29.017	128.998	257.000	5.251
1800.000	14.500	274.614	1768.586	-27.946	-149.244	-27.946	151.838	259.394	1.982
1900.000	16.346	296.837	1865.065	-20.579	-174.302	-20.579	175.513	263.267	6.149
2000.000	18.363	304.031	1960.519	-5.407	-199.919	-5.407	199.992	268.451	2.941
2100.000	19.722	312.202	2055.061	14.747	-225.478	14.747	225.959	273.742	2.989
2200.000	22.806	316.122	2148.246	40.059	-251.418	40.059	254.589	279.053	3.394
2300.000	19.966	310.810	2241.360	65.195	-277.782	65.195	285.330	283.208	3.435
2400.000	16.062	307.251	2336.442	84.735	-301.726	84.735	313.398	285.687	4.055
2500.000	12.998	305.604	2433.233	99.660	-321.886	99.660	336.960	287.203	3.092
2600.000	5.924	301.801	2531.811	108.938	-335.432	108.938	352.678	287.992	7.097
2700.000	5.034	299.069	2631.353	113.789	-343.653	113.789	362.002	288.321	0.927
2800.000	2.902	294.577	2731.108	116.974	-349.791	116.974	368.832	288.491	2.153
2900.000	1.913	299.448	2831.019	118.848	-353.547	118.848	372.989	288.581	1.009
3000.000	2.326	275.813	2930.952	119.874	-357.020	119.874	376.607	288.560	0.957
3100.000	1.469	301.560	3030.898	120.751	-360.130	120.751	379.835	288.536	1.189
3200.000	0.977	295.776	3130.875	121.792	-361.990	121.792	381.930	288.596	0.506
3300.000	0.844	271.162	3230.862	122.178	-363.494	122.178	383.478	288.579	0.409
3400.000	0.530	264.842	3330.855	122.151	-364.691	122.151	384.604	288.518	0.323

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	0.863	258.639	3430.848	121.961	-365.889	121.961	385.680	288.435	0.341
3600.000	0.986	251.050	3530.835	121.534	-367.441	121.534	387.018	288.302	0.174
3700.000	1.162	234.445	3630.817	120.665	-369.079	120.665	388.303	288.104	0.355
3800.000	0.719	253.245	3730.804	119.895	-370.505	119.895	389.421	287.931	0.534
3900.000	0.704	311.722	3830.797	120.123	-371.564	120.123	390.499	287.915	0.695
4000.000	1.199	2.098	3930.785	121.577	-371.985	121.577	391.348	288.099	0.925
4100.000	1.678	34.838	4030.755	123.824	-371.110	123.824	391.222	288.452	0.932
4200.000	3.007	57.482	4130.671	126.436	-368.062	126.436	389.173	288.959	1.594
4300.000	2.215	70.716	4230.567	128.484	-364.026	128.484	386.035	289.441	0.990
4400.000	1.614	87.684	4330.512	129.179	-360.795	129.179	383.223	289.699	0.820
4500.000	1.466	84.614	4430.475	129.356	-358.113	129.356	380.760	289.861	0.170
4600.000	1.486	72.843	4530.442	129.859	-355.600	129.859	378.570	290.061	0.303
4700.000	1.114	59.441	4630.417	130.736	-353.524	130.736	376.923	290.295	0.478
4800.000	1.201	55.254	4730.396	131.828	-351.826	131.828	375.712	290.541	0.121
4900.000	1.155	48.598	4830.375	133.091	-350.209	133.091	374.646	290.808	0.144
5000.000	1.184	52.838	4930.354	134.381	-348.630	134.381	373.633	291.079	0.091
5100.000	1.174	63.041	5030.333	135.470	-346.893	135.470	372.407	291.332	0.210
5200.000	0.728	30.287	5130.320	136.483	-345.660	136.483	371.629	291.546	0.687
5300.000	0.346	44.781	5230.316	137.245	-345.127	137.245	371.415	291.686	0.402
5400.000	0.190	33.729	5330.314	137.597	-344.823	137.597	371.262	291.754	0.164
5500.000	0.041	8.922	5430.314	137.770	-344.725	137.770	371.236	291.784	0.154
5600.000	0.130	84.704	5530.314	137.815	-344.607	137.815	371.143	291.797	0.126
5700.000	0.394	80.464	5630.313	137.883	-344.156	137.883	370.749	291.833	0.265
5800.000	0.102	232.719	5730.312	137.886	-343.887	137.886	370.501	291.849	0.486
5900.000	0.409	56.669	5830.312	138.028	-343.660	138.028	370.343	291.882	0.510
6000.000	1.151	108.493	5930.303	137.905	-342.410	137.905	369.138	291.937	0.954
6100.000	1.525	98.280	6030.275	137.395	-340.141	137.395	366.843	291.995	0.442
6200.000	1.071	65.776	6130.251	137.587	-337.973	137.587	364.905	292.151	0.847
6300.000	0.985	65.714	6230.235	138.324	-336.337	138.324	363.670	292.356	0.086
6400.000	0.527	137.272	6330.227	138.339	-335.241	138.339	362.663	292.424	0.959
6500.000	0.400	30.756	6430.225	138.302	-334.750	138.302	362.195	292.448	0.747
6600.000	0.426	72.456	6530.223	138.714	-334.217	138.714	361.860	292.541	0.295
6700.000	0.234	202.383	6630.222	138.637	-333.940	138.637	361.575	292.546	0.604
6800.000	0.181	293.761	6730.222	138.511	-334.163	138.511	361.732	292.514	0.300
6900.000	0.370	175.752	6830.221	138.253	-334.283	138.253	361.745	292.469	0.483
7000.000	0.214	271.590	6930.220	137.936	-334.446	137.936	361.774	292.413	0.446
7100.000	0.269	64.763	7030.220	138.041	-334.420	138.041	361.790	292.430	0.470
7200.000	0.264	195.231	7130.219	137.919	-334.268	137.919	361.603	292.421	0.484
7300.000	0.216	237.177	7230.219	137.594	-334.487	137.594	361.682	292.360	0.178
7400.000	0.439	34.485	7330.218	137.807	-334.429	137.807	361.709	292.395	0.644
7500.000	0.431	78.279	7430.215	138.199	-333.843	138.199	361.318	292.488	0.325
7600.000	0.739	120.544	7530.210	137.948	-332.920	137.948	360.368	292.507	0.510
7700.000	0.811	110.859	7630.201	137.368	-331.703	137.368	359.022	292.496	0.149
7800.000	0.830	148.115	7730.192	136.502	-330.659	136.502	357.727	292.432	0.524
7900.000	0.049	103.453	7830.188	135.877	-330.235	135.877	357.096	292.365	0.795

HORIZONTAL DISPLACEMENT IS
357.096 FEET AT 292.365 DEGREES