

Madfish-1 Survey Report

Report Date:	December 10, 2008	Survey / DLS Computation Method:	Minimum Curvature / Lubinski
Client:	Apache Energy Ltd	Vertical Section Azimuth:	360.000°
Field:	Apache - Madfish-1	Vertical Section Origin:	N 0.000 m, E 0.000 m
Structure / Slot:	Gippsland Basin / Slot 1	TVD Reference Datum:	RKB
Well:	Madfish-1	TVD Reference Elevation:	21.5 m relative to AHD
Borehole:	Madfish-1	Sea Bed / Ground Level Elevation:	-392.600 m relative to AHD
UWI/API#:		Magnetic Declination:	13.402°
Survey Name / Date:	Madfish-1 16"/12 1/4"/8 1/2" MWD Surveys / December 1, 2008	Total Field Strength:	60051.910 nT
Tort / AHD / DDI / ERD ratio:	145.200° / 712.82 m / 5.544 / 0.156	Magnetic Dip:	-69.011°
Grid Coordinate System:	GDA94/MGA94 Zone 55	Declination Date:	December 06, 2008
Location Lat/Long:	S 38 39 24.823, E 148 31 24.486	Magnetic Declination Model:	BGGM 2008
Location Grid N/E Y/X:	N 5720196.000 m, E 632558.000 m	North Reference:	Grid North
Grid Convergence Angle:	-0.95178110°	Total Corr Mag North -> Grid North:	+14.354°
Grid Scale Factor:	0.99981639	Local Coordinates Referenced To:	Well Head

Comments	Measured Depth (m)	Inclination (deg)	Azimuth (deg)	TVD (m)	Vertical Section (m)	NS (m)	EW (m)	DLS (deg/30 m)	Northing (m)	Easting (m)	Latitude	Longitude
Tie-In	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5720196.000	632558.000	S 38 39 24.823	E 148 31 24.486
	414.110	0.000	0.000	414.110	0.000	0.000	0.000	0.000	5720196.000	632558.000	S 38 39 24.823	E 148 31 24.486
	444.520	0.030	41.630	444.520	0.006	0.006	0.005	0.030	5720196.006	632558.005	S 38 39 24.823	E 148 31 24.486
	500.440	0.060	78.380	500.440	0.023	0.023	0.044	0.022	5720196.023	632558.044	S 38 39 24.822	E 148 31 24.488
	529.280	0.170	82.480	529.280	0.031	0.031	0.101	0.115	5720196.031	632558.101	S 38 39 24.822	E 148 31 24.490
	558.150	0.090	83.780	558.150	0.039	0.039	0.166	0.083	5720196.039	632558.166	S 38 39 24.822	E 148 31 24.493
	615.750	0.250	22.350	615.750	0.161	0.161	0.259	0.115	5720196.161	632558.259	S 38 39 24.818	E 148 31 24.497
	644.510	0.250	41.760	644.509	0.265	0.265	0.324	0.088	5720196.265	632558.324	S 38 39 24.814	E 148 31 24.499
	673.260	0.250	20.310	673.259	0.371	0.371	0.388	0.097	5720196.371	632558.388	S 38 39 24.811	E 148 31 24.502
	702.100	0.200	17.590	702.099	0.478	0.478	0.425	0.053	5720196.478	632558.425	S 38 39 24.807	E 148 31 24.503
	730.840	0.250	3.260	730.839	0.588	0.588	0.444	0.078	5720196.588	632558.444	S 38 39 24.804	E 148 31 24.504
	759.630	0.220	16.580	759.628	0.704	0.704	0.463	0.065	5720196.704	632558.463	S 38 39 24.800	E 148 31 24.505
	788.360	0.250	359.640	788.358	0.820	0.820	0.478	0.079	5720196.820	632558.478	S 38 39 24.796	E 148 31 24.505
	817.050	0.280	5.020	817.048	0.952	0.952	0.484	0.041	5720196.952	632558.484	S 38 39 24.792	E 148 31 24.505
	845.740	0.310	353.380	845.737	1.099	1.099	0.481	0.070	5720197.099	632558.481	S 38 39 24.787	E 148 31 24.505
	874.530	0.280	355.630	874.527	1.247	1.247	0.467	0.034	5720197.246	632558.467	S 38 39 24.782	E 148 31 24.504
	903.360	0.400	349.710	903.357	1.416	1.416	0.444	0.130	5720197.416	632558.443	S 38 39 24.777	E 148 31 24.503
	932.320	0.310	342.800	932.316	1.590	1.590	0.402	0.103	5720197.590	632558.402	S 38 39 24.771	E 148 31 24.502
	961.190	0.390	346.140	961.185	1.760	1.760	0.356	0.086	5720197.760	632558.356	S 38 39 24.766	E 148 31 24.499
	990.190	0.430	354.460	990.185	1.964	1.964	0.322	0.074	5720197.964	632558.321	S 38 39 24.759	E 148 31 24.498
	1019.160	0.430	344.050	1019.154	2.177	2.177	0.281	0.081	5720198.177	632558.281	S 38 39 24.752	E 148 31 24.496
	1048.210	0.480	353.620	1048.203	2.403	2.403	0.238	0.094	5720198.402	632558.238	S 38 39 24.745	E 148 31 24.494
	1106.070	0.510	7.040	1106.061	2.899	2.899	0.242	0.062	5720198.899	632558.242	S 38 39 24.729	E 148 31 24.494
	1135.040	0.410	345.610	1135.030	3.127	3.127	0.232	0.204	5720199.127	632558.232	S 38 39 24.722	E 148 31 24.493
	1164.130	0.500	328.140	1164.119	3.336	3.336	0.140	0.169	5720199.336	632558.139	S 38 39 24.715	E 148 31 24.489
	1308.310	0.720	6.510	1308.291	4.770	4.770	-0.090	0.094	5720200.770	632557.910	S 38 39 24.668	E 148 31 24.479
	1393.750	0.670	3.420	1393.725	5.803	5.803	0.001	0.022	5720201.801	632558.001	S 38 39 24.635	E 148 31 24.482
	1422.520	0.560	11.260	1422.493	6.108	6.108	0.038	0.144	5720202.107	632558.038	S 38 39 24.625	E 148 31 24.483
	1451.370	0.560	17.300	1451.342	6.381	6.381	0.108	0.061	5720202.380	632558.108	S 38 39 24.616	E 148 31 24.486
	1509.310	0.570	2.040	1509.279	6.940	6.940	0.202	0.078	5720202.938	632558.202	S 38 39 24.598	E 148 31 24.490
1st SLB Survey	1530.130	0.520	4.620	1530.098	7.137	7.137	0.214	0.080	5720203.136	632558.213	S 38 39 24.592	E 148 31 24.490
	1569.730	0.490	1.740	1569.697	7.486	7.486	0.233	0.030	5720203.484	632558.233	S 38 39 24.580	E 148 31 24.490
	1742.330	0.610	2.420	1742.289	9.141	9.141	0.294	0.021	5720205.140	632558.294	S 38 39 24.527	E 148 31 24.492
	1857.650	0.060	267.750	1857.607	9.752	9.752	0.260	0.161	5720205.750	632558.260	S 38 39 24.507	E 148 31 24.490
	1968.540	0.530	334.360	1968.495	10.212	10.212	-0.020	0.138	5720206.210	632557.980	S 38 39 24.492	E 148 31 24.478
	2001.570	1.010	286.290	2001.522	10.432	10.432	-0.366	0.695	5720206.430	632557.635	S 38 39 24.485	E 148 31 24.464
	2061.290	1.250	200.410	2061.234	9.969	9.969	-1.098	0.778	5720205.967	632556.902	S 38 39 24.500	E 148 31 24.434
	2139.180	0.090	276.980	2139.118	9.180	9.180	-1.455	0.475	5720205.178	632556.545	S 38 39 24.526	E 148 31 24.419
	2172.630	0.090	93.650	2172.568	9.181	9.181	-1.455	0.161	5720205.180	632556.545	S 38 39 24.526	E 148 31 24.419
	2202.290	0.120	243.590	2202.228	9.166	9.166	-1.459	0.205	5720205.164	632556.541	S 38 39 24.527	E 148 31 24.419
	2229.130	0.150	79.180	2229.068	9.160	9.160	-1.450	0.299	5720205.159	632556.550	S 38 39 24.527	E 148 31 24.420
	2260.330	0.260	154.660	2260.268	9.104	9.104	-1.380	0.255	5720205.102	632556.621	S 38 39 24.529	E 148 31 24.423
	2291.170	0.400	9.180	2291.107	9.147	9.147	-1.333	0.614	5720205.145	632556.668	S 38 39 24.527	E 148 31 24.425

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	2318.460	0.490	168.300	2318.397	9.127	9.127	-1.294	0.962	5720205.125	632556.707	S 38 39 24.528	E 148 31 24.426
	2347.230	0.810	45.260	2347.166	9.149	9.149	-1.124	1.202	5720205.148	632556.876	S 38 39 24.527	E 148 31 24.433
	2403.500	0.450	115.620	2403.433	9.334	9.334	-0.643	0.418	5720205.332	632557.358	S 38 39 24.521	E 148 31 24.453
	2433.190	0.030	155.860	2433.123	9.276	9.276	-0.534	0.432	5720205.275	632557.466	S 38 39 24.523	E 148 31 24.458
	2464.210	0.290	156.760	2464.143	9.197	9.197	-0.500	0.251	5720205.195	632557.500	S 38 39 24.525	E 148 31 24.459
	2490.850	0.630	81.350	2490.782	9.157	9.157	-0.329	0.702	5720205.155	632557.672	S 38 39 24.526	E 148 31 24.466
	2547.540	0.230	39.150	2547.470	9.292	9.292	0.051	0.257	5720205.290	632558.051	S 38 39 24.522	E 148 31 24.482
	2604.750	0.200	3.850	2604.680	9.481	9.481	0.131	0.070	5720205.479	632558.131	S 38 39 24.516	E 148 31 24.485
	2634.300	0.030	95.440	2634.230	9.531	9.531	0.142	0.206	5720205.530	632558.142	S 38 39 24.514	E 148 31 24.485
	2664.670	0.090	241.800	2664.600	9.519	9.519	0.129	0.115	5720205.518	632558.129	S 38 39 24.514	E 148 31 24.485
	2722.380	0.120	225.480	2722.310	9.456	9.456	0.046	0.022	5720205.454	632558.046	S 38 39 24.516	E 148 31 24.481
	2750.490	0.040	78.420	2750.420	9.437	9.437	0.034	0.166	5720205.435	632558.034	S 38 39 24.517	E 148 31 24.481
	2777.200	0.080	82.910	2777.130	9.441	9.441	0.062	0.045	5720205.439	632558.062	S 38 39 24.517	E 148 31 24.482
	2805.140	1.520	30.510	2805.066	9.763	9.763	0.269	1.581	5720205.761	632558.269	S 38 39 24.506	E 148 31 24.490
	2842.310	3.610	41.640	2842.197	11.062	11.062	1.297	1.726	5720207.060	632559.297	S 38 39 24.464	E 148 31 24.532
	2864.240	5.270	40.980	2864.061	12.339	12.339	2.417	2.272	5720208.336	632560.416	S 38 39 24.422	E 148 31 24.577
	2895.590	7.370	42.230	2895.219	14.915	14.915	4.713	2.014	5720210.912	632562.712	S 38 39 24.337	E 148 31 24.671
	2918.010	9.180	43.560	2917.404	17.275	17.275	6.912	2.435	5720213.272	632564.910	S 38 39 24.259	E 148 31 24.760
	2938.810	11.100	44.080	2937.878	19.916	19.916	9.448	2.772	5720215.913	632567.446	S 38 39 24.172	E 148 31 24.863
	2981.480	13.240	40.840	2979.587	26.565	26.565	15.502	1.579	5720222.560	632573.499	S 38 39 23.953	E 148 31 25.109
	3011.280	14.880	39.540	3008.494	32.098	32.098	20.170	1.681	5720228.092	632578.166	S 38 39 23.771	E 148 31 25.298
	3040.130	16.710	37.210	3036.253	38.258	38.258	25.036	2.014	5720234.251	632583.032	S 38 39 23.569	E 148 31 25.495
	3069.440	19.120	31.350	3064.143	45.715	45.715	30.083	3.078	5720241.707	632588.078	S 38 39 23.325	E 148 31 25.699
	3098.310	20.890	26.700	3091.271	54.352	54.352	34.856	2.472	5720250.342	632592.850	S 38 39 23.042	E 148 31 25.890
	3126.010	22.890	23.460	3116.974	63.708	63.708	39.221	2.530	5720259.696	632597.213	S 38 39 22.736	E 148 31 26.064
	3153.860	24.740	19.150	3142.454	74.183	74.183	43.289	2.735	5720270.169	632601.281	S 38 39 22.394	E 148 31 26.225
	3185.970	26.450	14.140	3171.415	87.467	87.467	47.241	2.576	5720283.451	632605.233	S 38 39 21.961	E 148 31 26.379
	3214.730	27.650	10.300	3197.030	100.246	100.246	49.999	2.210	5720296.227	632607.990	S 38 39 21.546	E 148 31 26.485
	3240.340	28.550	6.360	3219.623	112.176	112.176	51.740	2.416	5720308.155	632609.731	S 38 39 21.158	E 148 31 26.548
	3271.640	29.220	1.690	3247.033	127.248	127.248	52.794	2.255	5720323.224	632610.784	S 38 39 20.669	E 148 31 26.582
	3300.270	29.720	357.560	3271.961	141.325	141.325	52.698	2.192	5720337.299	632610.688	S 38 39 20.212	E 148 31 26.568
	3321.400	30.350	355.390	3290.254	151.879	151.879	52.046	1.783	5720347.851	632610.036	S 38 39 19.870	E 148 31 26.534
	3345.180	30.050	353.680	3310.807	163.785	163.785	50.908	1.149	5720359.755	632608.898	S 38 39 19.485	E 148 31 26.479
	3370.220	26.450	351.230	3332.861	175.533	175.533	49.367	4.531	5720371.500	632607.358	S 38 39 19.105	E 148 31 26.407
	3398.430	23.170	349.470	3358.465	187.201	187.201	47.394	3.575	5720383.167	632605.385	S 38 39 18.727	E 148 31 26.317
	3431.370	21.900	349.790	3388.889	199.619	199.619	45.121	1.162	5720395.582	632603.112	S 38 39 18.326	E 148 31 26.215
	3462.000	21.960	349.980	3417.303	210.881	210.881	43.112	0.091	5720406.842	632601.104	S 38 39 17.962	E 148 31 26.124
	3491.180	20.420	350.370	3444.509	221.273	221.273	41.311	1.590	5720417.232	632599.303	S 38 39 17.626	E 148 31 26.042
	3519.650	19.790	350.810	3471.244	230.927	230.927	39.710	0.683	5720426.885	632597.703	S 38 39 17.314	E 148 31 25.969
	3548.440	20.870	353.040	3498.240	240.829	240.829	38.310	1.385	5720436.785	632596.303	S 38 39 16.993	E 148 31 25.905
	3576.220	21.270	354.160	3524.163	250.754	250.754	37.198	0.613	5720446.708	632595.191	S 38 39 16.672	E 148 31 25.852
	3606.050	21.130	354.840	3551.974	261.491	261.491	36.164	0.285	5720457.443	632594.157	S 38 39 16.325	E 148 31 25.802
	3635.380	19.050	356.500	3579.518	271.535	271.535	35.396	2.206	5720467.485	632593.390	S 38 39 15.999	E 148 31 25.763
	3663.530	21.360	357.290	3605.935	281.243	281.243	34.873	2.479	5720477.191	632592.867	S 38 39 15.685	E 148 31 25.735
	3699.910	21.170	0.100	3639.838	294.430	294.430	34.571	0.855	5720490.376	632592.565	S 38 39 15.257	E 148 31 25.713
	3726.650	18.090	13.220	3665.034	303.306	303.306	35.530	6.013	5720499.251	632593.523	S 38 39 14.969	E 148 31 25.747
	3756.940	21.430	1.010	3693.548	313.424	313.424	36.704	5.243	5720509.367	632594.697	S 38 39 14.640	E 148 31 25.788
	3787.490	22.100	344.540	3721.947	324.554	324.554	35.269	6.015	5720520.494	632593.262	S 38 39 14.280	E 148 31 25.721
	3816.090	20.730	337.430	3748.576	334.415	334.415	31.891	3.076	5720530.354	632589.885	S 38 39 13.962	E 148 31 25.575
	3844.210	21.430	338.410	3774.814	343.787	343.787	28.091	0.836	5720539.724	632586.086	S 38 39 13.661	E 148 31 25.411
	3873.860	17.210	331.570	3802.792	352.687	352.687	24.007	4.838	5720548.622	632582.003	S 38 39 13.374	E 148 31 25.236
	3902.770	16.630	329.170	3830.451	360.000	360.000	19.851	0.942	5720555.934	632577.847	S 38 39 13.139	E 148 31 25.060
	3931.400	19.360	341.050	3857.687	368.010	368.010	16.208	4.779	5720563.943	632574.205	S 38 39 12.881	E 148 31 24.903
	3959.120	17.350	352.080	3884.003	376.453	376.453	14.146	4.334	5720572.384	632572.143	S 38 39 12.609	E 148 31 24.812
	3987.420	17.090	356.500	3911.036	384.784	384.784	13.310	1.414	5720580.713	632571.308	S 38 39 12.339	E 148 31 24.772
	4013.790	18.660	0.160	3936.133	392.870	392.870	13.086	2.195	5720588.798	632571.083	S 38 39 12.077	E 148 31 24.757
	4043.550	17.530	1.740	3964.421	402.111	402.111	13.235	1.242	5720598.038	632571.233	S 38 39 11.777	E 148 31 24.757
	4072.380	19.770	1.780	3991.735	411.326	411.326	13.518	2.331	5720607.250	632571.516	S 38 39 11.478	E 148 31 24.762
	4102.840	22.200	0.950	4020.173	422.230	422.230	13.774	2.411	5720618.153	632571.771	S 38 39 11.125	E 148 31 24.765

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	4131.310	25.260	0.650	4046.233	433.685	433.685	13.932	3.227	5720629.605	632571.929	S 38 39 10.753	E 148 31 24.764
	4194.610	26.150	358.710	4103.269	461.136	461.136	13.771	0.580	5720657.052	632571.769	S 38 39 9.863	E 148 31 24.739
	4216.820	25.720	0.690	4123.242	470.848	470.848	13.719	1.306	5720666.762	632571.716	S 38 39 9.548	E 148 31 24.730
	4246.640	25.440	2.820	4150.140	483.716	483.716	14.112	0.967	5720679.627	632572.109	S 38 39 9.131	E 148 31 24.737
	4275.540	26.860	4.020	4176.082	496.429	496.429	14.875	1.573	5720692.338	632572.872	S 38 39 8.718	E 148 31 24.760
	4306.350	27.470	3.230	4203.493	510.467	510.467	15.763	0.690	5720706.373	632573.761	S 38 39 8.263	E 148 31 24.787
	4335.700	26.740	1.600	4229.620	523.826	523.826	16.329	1.064	5720719.730	632574.326	S 38 39 7.829	E 148 31 24.801
	4395.450	22.700	1.530	4283.883	548.798	548.798	17.013	2.029	5720744.698	632575.010	S 38 39 7.019	E 148 31 24.812
	4425.480	23.180	3.160	4311.539	560.492	560.492	17.493	0.795	5720756.389	632575.490	S 38 39 6.639	E 148 31 24.824
	4454.100	24.830	4.360	4337.683	572.109	572.109	18.261	1.804	5720768.004	632576.257	S 38 39 6.262	E 148 31 24.848
	4478.610	25.710	3.840	4359.847	582.545	582.545	19.008	1.111	5720778.438	632577.004	S 38 39 5.924	E 148 31 24.872
	4507.340	26.550	1.850	4385.641	595.181	595.181	19.633	1.268	5720791.071	632577.629	S 38 39 5.514	E 148 31 24.889
	4534.970	25.610	359.950	4410.458	607.324	607.324	19.827	1.365	5720803.213	632577.823	S 38 39 5.120	E 148 31 24.889
	4623.950	26.500	354.900	4490.404	646.333	646.333	18.045	0.806	5720842.215	632576.042	S 38 39 3.856	E 148 31 24.788
	4650.700	25.730	354.180	4514.423	658.054	658.054	16.926	0.934	5720853.934	632574.923	S 38 39 3.476	E 148 31 24.734
	4678.340	24.010	353.200	4539.499	669.608	669.608	15.651	1.920	5720865.485	632573.648	S 38 39 3.102	E 148 31 24.673
	4707.920	22.240	350.210	4566.702	681.101	681.101	13.987	2.154	5720876.976	632571.984	S 38 39 2.731	E 148 31 24.596
Projection to TD	4720.000	21.500	349.000	4577.913	685.527	685.527	13.176	2.152	5720881.401	632571.173	S 38 39 2.588	E 148 31 24.560

Survey Type: Definitive Survey

Survey Error Model: SLB ISCWSA version 24 *** 3-D 95.00% Confidence 2.7955 sigma

Surveying Prog:

MD From (m)

0.000

414.100

MD To (m)

414.100

4720.000

EOU Freq

Act-Stns

Act-Stns

Survey Tool Type

SLB_MWD-STD-Depth Only

SLB_MWD-STD

Borehole -> Survey

Madfish-1 -> Madfish-1 16"/12 1/4"/8 1/2" MWD Surveys

Madfish-1 -> Madfish-1 16"/12 1/4"/8 1/2" MWD Surveys