

Madfish - 1 Survey Report

Report Date: December 7, 2008 Client: Apache Energy Ltd Field: Apache - Madfish-1 Structure / Slot: Gippsland Basin / Slot 1 Well: Madfish-1 Borehole: Madfish-1 UWI/API#: Survey Name / Date: Madfish-1 16"/12 1/4"/8 1/2" MWD Surveys / December 1, 2008 Tort / AHD / DDI / ERD ratio: 74.406° / 323.16 m / 4.904 / 0.088 Grid Coordinate System: GDA94/MGA94 Zone 55 Location Lat/Long: S 38 39 24.823, E 148 31 24.486 Location Grid N/E Y/X: N 5720196.000 m, E 632558.000 m Grid Convergence Angle: -0.95178110° Grid Scale Factor: 0.99981639	Survey / DLS Computation Method: Minimum Curvature / Lubinski Vertical Section Azimuth: 360.000° Vertical Section Origin: N 0.000 m, E 0.000 m TVD Reference Datum: RKB TVD Reference Elevation: 21.5 m relative to AHD Sea Bed / Ground Level Elevation: -392.600 m relative to AHD Magnetic Declination: 13.402° Total Field Strength: 60051.910 nT Magnetic Dip: -69.011° Declination Date: December 06, 2008 Magnetic Declination Model: BGGM 2008 North Reference: Grid North Total Corr Mag North -> Grid North: +14.354° Local Coordinates Referenced To: Well Head
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Comments	Measured Depth (m)	Inclination (deg)	Azimuth (deg)	TVD (m)	Vertical Section (m)	NS (m)	EW (m)	DLS (deg/30 m)	Build Rate (deg/30 m)	Walk Rate (deg/30 m)	Survey Tool Model
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SLB_MWD-STD-Depth Only
	414.11	0.00	0.00	414.11	0.00	0.00	0.00	0.00	0.00	0.00	SLB_MWD-STD
	444.52	0.03	41.63	444.52	0.01	0.01	0.01	0.03	0.03	0.00	SLB_MWD-STD
	500.44	0.06	78.38	500.44	0.02	0.02	0.04	0.02	0.02	19.72	SLB_MWD-STD
	529.28	0.17	82.48	529.28	0.03	0.03	0.10	0.11	0.11	4.26	SLB_MWD-STD
	558.15	0.09	83.78	558.15	0.04	0.04	0.17	0.08	-0.08	1.35	SLB_MWD-STD
	615.75	0.25	22.35	615.75	0.16	0.16	0.26	0.12	0.08	-31.99	SLB_MWD-STD
	644.51	0.25	41.76	644.51	0.27	0.27	0.32	0.09	0.00	20.25	SLB_MWD-STD
	673.26	0.25	20.31	673.26	0.37	0.37	0.39	0.10	0.00	-22.38	SLB_MWD-STD
	702.10	0.20	17.59	702.10	0.48	0.48	0.42	0.05	-0.05	-2.83	SLB_MWD-STD
	730.84	0.25	3.26	730.84	0.59	0.59	0.44	0.08	0.05	-14.96	SLB_MWD-STD
	759.63	0.22	16.58	759.63	0.70	0.70	0.46	0.06	-0.03	13.88	SLB_MWD-STD
	788.36	0.25	359.64	788.36	0.82	0.82	0.48	0.08	0.03	-17.69	SLB_MWD-STD
	817.05	0.28	5.02	817.05	0.95	0.95	0.48	0.04	0.03	5.63	SLB_MWD-STD
	845.74	0.31	353.38	845.74	1.10	1.10	0.48	0.07	0.03	-12.17	SLB_MWD-STD

874.53	0.28	355.63	874.53	1.25	1.25	0.47	0.03	-0.03	2.34	SLB_MWD-STD
903.36	0.40	349.71	903.36	1.42	1.42	0.44	0.13	0.12	-6.16	SLB_MWD-STD
932.32	0.31	342.80	932.32	1.59	1.59	0.40	0.10	-0.09	-7.16	SLB_MWD-STD
961.19	0.39	346.14	961.19	1.76	1.76	0.36	0.09	0.08	3.47	SLB_MWD-STD
990.19	0.43	354.46	990.18	1.96	1.96	0.32	0.07	0.04	8.61	SLB_MWD-STD
1019.16	0.43	344.05	1019.15	2.18	2.18	0.28	0.08	0.00	-10.78	SLB_MWD-STD
1048.21	0.48	353.62	1048.20	2.40	2.40	0.24	0.09	0.05	9.88	SLB_MWD-STD
1106.07	0.51	7.04	1106.06	2.90	2.90	0.24	0.06	0.02	6.96	SLB_MWD-STD
1135.04	0.41	345.61	1135.03	3.13	3.13	0.23	0.20	-0.10	-22.19	SLB_MWD-STD
1164.13	0.50	328.14	1164.12	3.34	3.34	0.14	0.17	0.09	-18.02	SLB_MWD-STD
1308.31	0.72	6.51	1308.29	4.77	4.77	-0.09	0.09	0.05	7.98	SLB_MWD-STD
1393.75	0.67	3.42	1393.73	5.80	5.80	0.00	0.02	-0.02	-1.08	SLB_MWD-STD
1422.52	0.56	11.26	1422.49	6.11	6.11	0.04	0.14	-0.11	8.18	SLB_MWD-STD
1451.37	0.56	17.30	1451.34	6.38	6.38	0.11	0.06	0.00	6.28	SLB_MWD-STD
1509.31	0.57	2.04	1509.28	6.94	6.94	0.20	0.08	0.01	-7.90	SLB_MWD-STD
1530.13	0.52	4.62	1530.10	7.14	7.14	0.21	0.08	-0.07	3.72	SLB_MWD-STD
1569.73	0.49	1.74	1569.70	7.49	7.49	0.23	0.03	-0.02	-2.18	SLB_MWD-STD
1742.33	0.61	2.42	1742.29	9.14	9.14	0.29	0.02	0.02	0.12	SLB_MWD-STD
1857.65	0.06	267.75	1857.61	9.75	9.75	0.26	0.16	-0.14	-24.63	SLB_MWD-STD
1968.54	0.53	334.36	1968.49	10.21	10.21	-0.02	0.14	0.13	18.02	SLB_MWD-STD
2001.57	1.01	286.29	2001.52	10.43	10.43	-0.37	0.70	0.44	-43.66	SLB_MWD-STD
2061.29	1.25	200.41	2061.23	9.97	9.97	-1.10	0.78	0.12	-43.14	SLB_MWD-STD
2139.18	0.09	276.98	2139.12	9.18	9.18	-1.45	0.47	-0.45	29.49	SLB_MWD-STD
2172.63	0.09	93.65	2172.57	9.18	9.18	-1.45	0.16	0.00	158.45	SLB_MWD-STD
2202.29	0.12	243.59	2202.23	9.17	9.17	-1.46	0.21	0.03	151.66	SLB_MWD-STD
2229.13	0.15	79.18	2229.07	9.16	9.16	-1.45	0.30	0.03	-183.77	SLB_MWD-STD
2260.33	0.26	154.66	2260.27	9.10	9.10	-1.38	0.26	0.11	72.58	SLB_MWD-STD
2291.17	0.40	9.18	2291.11	9.15	9.15	-1.33	0.61	0.14	-141.52	SLB_MWD-STD
2318.46	0.49	168.30	2318.40	9.13	9.13	-1.29	0.96	0.10	174.92	SLB_MWD-STD
2347.23	0.81	45.26	2347.17	9.15	9.15	-1.12	1.20	0.33	-128.30	SLB_MWD-STD
2403.50	0.45	115.62	2403.43	9.33	9.33	-0.64	0.42	-0.19	37.51	SLB_MWD-STD
2433.19	0.03	155.86	2433.12	9.28	9.28	-0.53	0.43	-0.42	40.66	SLB_MWD-STD
2464.21	0.29	156.76	2464.14	9.20	9.20	-0.50	0.25	0.25	0.87	SLB_MWD-STD
2490.85	0.63	81.35	2490.78	9.16	9.16	-0.33	0.70	0.38	-84.92	SLB_MWD-STD

1st SLB Survey

2547.54	0.23	39.15	2547.47	9.29	9.29	0.05	0.26	-0.21	-22.33	SLB_MWD-STD
2604.75	0.20	3.85	2604.68	9.48	9.48	0.13	0.07	-0.02	-18.51	SLB_MWD-STD
2634.30	0.03	95.44	2634.23	9.53	9.53	0.14	0.21	-0.17	92.98	SLB_MWD-STD
2664.67	0.09	241.80	2664.60	9.52	9.52	0.13	0.11	0.06	144.58	SLB_MWD-STD
2722.38	0.12	225.48	2722.31	9.46	9.46	0.05	0.02	0.02	-8.48	SLB_MWD-STD
2750.49	0.04	78.42	2750.42	9.44	9.44	0.03	0.17	-0.09	-156.95	SLB_MWD-STD
2777.20	0.08	82.91	2777.13	9.44	9.44	0.06	0.05	0.04	5.04	SLB_MWD-STD
2805.14	1.52	30.51	2805.07	9.76	9.76	0.27	1.58	1.55	-56.26	SLB_MWD-STD
2842.31	3.61	41.64	2842.20	11.06	11.06	1.30	1.73	1.69	8.98	SLB_MWD-STD
2864.24	5.27	40.98	2864.06	12.34	12.34	2.42	2.27	2.27	-0.90	SLB_MWD-STD
2895.59	7.37	42.23	2895.22	14.91	14.91	4.71	2.01	2.01	1.20	SLB_MWD-STD
2918.01	9.18	43.56	2917.40	17.28	17.28	6.91	2.44	2.42	1.78	SLB_MWD-STD
2938.81	11.10	44.08	2937.88	19.92	19.92	9.45	2.77	2.77	0.75	SLB_MWD-STD
2981.48	13.24	40.84	2979.59	26.56	26.56	15.50	1.58	1.50	-2.28	SLB_MWD-STD
3011.28	14.88	39.54	3008.49	32.10	32.10	20.17	1.68	1.65	-1.31	SLB_MWD-STD
3040.13	16.71	37.21	3036.25	38.26	38.26	25.04	2.01	1.90	-2.42	SLB_MWD-STD
3069.44	19.12	31.35	3064.14	45.72	45.72	30.08	3.08	2.47	-6.00	SLB_MWD-STD
3098.31	20.89	26.70	3091.27	54.35	54.35	34.86	2.47	1.84	-4.83	SLB_MWD-STD
3126.01	22.89	23.46	3116.97	63.71	63.71	39.22	2.53	2.17	-3.51	SLB_MWD-STD
3153.86	24.74	19.15	3142.45	74.18	74.18	43.29	2.73	1.99	-4.64	SLB_MWD-STD
3185.97	26.45	14.14	3171.41	87.47	87.47	47.24	2.58	1.60	-4.68	SLB_MWD-STD
3214.73	27.65	10.30	3197.03	100.25	100.25	50.00	2.21	1.25	-4.01	SLB_MWD-STD
3240.34	28.55	6.36	3219.62	112.18	112.18	51.74	2.42	1.05	-4.62	SLB_MWD-STD
3271.64	29.22	1.69	3247.03	127.25	127.25	52.79	2.25	0.64	-4.48	SLB_MWD-STD
3300.27	29.72	357.56	3271.96	141.32	141.32	52.70	2.19	0.52	-4.33	SLB_MWD-STD
3321.40	30.35	355.39	3290.25	151.88	151.88	52.05	1.78	0.89	-3.08	SLB_MWD-STD
3345.18	30.05	353.68	3310.81	163.79	163.79	50.91	1.15	-0.38	-2.16	SLB_MWD-STD
3370.22	26.45	351.23	3332.86	175.53	175.53	49.37	4.53	-4.31	-2.94	SLB_MWD-STD
3398.43	23.17	349.47	3358.46	187.20	187.20	47.39	3.58	-3.49	-1.87	SLB_MWD-STD
3431.37	21.90	349.79	3388.89	199.62	199.62	45.12	1.16	-1.16	0.29	SLB_MWD-STD
3462.00	21.96	349.98	3417.30	210.88	210.88	43.11	0.09	0.06	0.19	SLB_MWD-STD
3491.18	20.42	350.37	3444.51	221.27	221.27	41.31	1.59	-1.58	0.40	SLB_MWD-STD
3519.65	19.79	350.81	3471.24	230.93	230.93	39.71	0.68	-0.66	0.46	SLB_MWD-STD
3548.44	20.87	353.04	3498.24	240.83	240.83	38.31	1.38	1.13	2.32	SLB_MWD-STD

	3576.22	21.27	354.16	3524.16	250.75	250.75	37.20	0.61	0.43	1.21 SLB_MWD-STD
	3606.05	21.13	354.84	3551.97	261.49	261.49	36.16	0.28	-0.14	0.68 SLB_MWD-STD
	3635.38	19.05	356.50	3579.52	271.54	271.54	35.40	2.21	-2.13	1.70 SLB_MWD-STD
	3663.53	21.36	357.29	3605.93	281.24	281.24	34.87	2.48	2.46	0.84 SLB_MWD-STD
Projection to Bit	3718.00	21.50	353.00	3656.64	301.06	301.06	33.19	0.87	0.08	-2.36 SLB_MWD-STD

Survey Type: Non-Def Survey

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

Surveying Prog:

<u>MD From (m)</u>	<u>MD To (m)</u>	<u>EOU Freq</u>	<u>Survey Tool Type</u>
0.00	414.10	Act-Stns	SLB_MWD-STD-Depth Only
414.10	3718.00	Act-Stns	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

Compare to Plan Computation
 Computation Method: 3D Least Distance
 Svy Used: Last Active Survey Station
 Active Survey: Madfish-1 16"/12 1/4"/8 1/2" MWD Surveys
 Reference Well Plan: Madfish - 1 Rev 1

Ct-Ct Dist.: 34.65 m N Azim: 252.79 deg

NS Distance: 9.18 m North Of Plan
 EW Distance: 33.19 m East Of Plan
 Left/Right Dist: 34.43 m Right Of Plan
 TVD Distance: 3.88 m Above Plan