

# Elver-1 Surveys Survey Report

<p><b>Report Date:</b> December 27, 2008  <b>Client:</b> Apache Energy Ltd  <b>Field:</b> Apache - Elver-1  <b>Structure / Slot:</b> Gippsland Basin / Slot 1  <b>Well:</b> Elver-1  <b>Borehole:</b> Elver - 1  <b>UWI/API#:</b>  <b>Survey Name / Date:</b> Elver-1 Surveys / December 20, 2008  <b>Tort / AHD / DDI / ERD ratio:</b> 73.806° / 650.38 m / 5.267 / 0.436  <b>Grid Coordinate System:</b> GDA94/MGA94 Zone 55  <b>Location Lat/Long:</b> S 38 43 9.133, E 148 30 41.316  <b>Location Grid N/E Y/X:</b> N 5713298.685 m, E 631400.498 m  <b>Grid Convergence Angle:</b> -0.94557016°  <b>Grid Scale Factor:</b> 0.99981262</p>	<p><b>Survey / DLS Computation Method:</b> Minimum Curvature / Lubinski  <b>Vertical Section Azimuth:</b> 191.240°  <b>Vertical Section Origin:</b> N 0.000 m, E 0.000 m  <b>TVD Reference Datum:</b> RKB  <b>TVD Reference Elevation:</b> 21.5 m relative to MSL  <b>Sea Bed / Ground Level Elevation:</b> -510.000 m relative to MSL  <b>Magnetic Declination:</b> 13.423°  <b>Total Field Strength:</b> 60082.562 nT  <b>Magnetic Dip:</b> -69.065°  <b>Declination Date:</b> December 20, 2008  <b>Magnetic Declination Model:</b> BGGM 2008  <b>North Reference:</b> Grid North  <b>Total Corr Mag North -&gt; Grid North:</b> +14.369°  <b>Local Coordinates Referenced To:</b> Well Head</p>
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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)	Northing (m)	Easting (m)	Latitude	Longitude
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5713298.69	631400.50	S 38 43 9.133	E 148 30 41.316
Seabed	525.37	0.00	0.00	525.37	0.00	0.00	0.00	0.00	5713298.69	631400.50	S 38 43 9.133	E 148 30 41.316
	554.25	0.49	285.86	554.25	-0.01	0.03	-0.12	0.51	5713298.72	631400.38	S 38 43 9.132	E 148 30 41.311
	607.72	1.25	215.61	607.71	0.50	-0.38	-0.68	0.66	5713298.31	631399.82	S 38 43 9.146	E 148 30 41.288
	636.20	2.69	198.79	636.18	1.45	-1.26	-1.07	1.62	5713297.42	631399.42	S 38 43 9.175	E 148 30 41.272
	654.71	3.59	194.36	654.66	2.46	-2.24	-1.36	1.51	5713296.45	631399.14	S 38 43 9.206	E 148 30 41.261
	665.02	4.20	195.11	664.95	3.16	-2.91	-1.54	1.78	5713295.77	631398.96	S 38 43 9.228	E 148 30 41.254
	683.35	5.50	193.27	683.21	4.70	-4.42	-1.91	2.14	5713294.27	631398.59	S 38 43 9.277	E 148 30 41.240
	693.33	6.32	191.54	693.14	5.73	-5.42	-2.13	2.52	5713293.27	631398.37	S 38 43 9.310	E 148 30 41.231
	722.44	8.89	187.05	721.99	9.58	-9.22	-2.73	2.72	5713289.46	631397.77	S 38 43 9.434	E 148 30 41.209
	750.81	11.95	182.38	749.89	14.67	-14.33	-3.12	3.35	5713284.35	631397.38	S 38 43 9.599	E 148 30 41.197
	779.60	13.43	183.88	777.97	20.93	-20.65	-3.47	1.58	5713278.04	631397.03	S 38 43 9.804	E 148 30 41.186
	814.19	15.56	190.67	811.46	29.55	-29.22	-4.60	2.36	5713269.47	631395.90	S 38 43 10.083	E 148 30 41.146
	842.98	19.16	193.49	838.94	38.14	-37.61	-6.42	3.85	5713261.08	631394.08	S 38 43 10.356	E 148 30 41.076
	871.68	20.59	194.24	865.93	47.88	-47.08	-8.76	1.52	5713251.61	631391.74	S 38 43 10.664	E 148 30 40.986
	895.45	22.54	192.98	888.03	56.61	-55.57	-10.81	2.53	5713243.12	631389.69	S 38 43 10.941	E 148 30 40.907
	924.90	24.17	197.67	915.07	68.25	-66.82	-13.91	2.52	5713231.88	631386.59	S 38 43 11.307	E 148 30 40.786
	952.68	25.43	194.75	940.29	79.85	-78.01	-17.15	1.90	5713220.69	631383.35	S 38 43 11.672	E 148 30 40.659
	981.86	28.33	192.25	966.31	93.03	-90.83	-20.22	3.20	5713207.87	631380.28	S 38 43 12.089	E 148 30 40.541
	1009.78	30.89	192.87	990.59	106.82	-104.30	-23.22	2.77	5713194.41	631377.28	S 38 43 12.527	E 148 30 40.426
	1039.49	33.00	194.59	1015.80	122.53	-119.56	-26.96	2.32	5713179.14	631373.54	S 38 43 13.024	E 148 30 40.282
	1067.30	35.27	196.94	1038.81	138.08	-134.58	-31.21	2.83	5713164.13	631369.30	S 38 43 13.513	E 148 30 40.116
	1097.02	36.45	198.93	1062.90	155.37	-151.14	-36.57	1.67	5713147.58	631363.93	S 38 43 14.053	E 148 30 39.906
	1125.42	37.84	194.76	1085.54	172.43	-167.54	-41.53	3.04	5713131.17	631358.98	S 38 43 14.588	E 148 30 39.712
	1159.87	38.80	196.50	1112.57	193.72	-188.11	-47.29	1.26	5713110.61	631353.22	S 38 43 15.258	E 148 30 39.487
	1188.66	42.22	197.27	1134.46	212.33	-206.00	-52.72	3.60	5713092.72	631347.79	S 38 43 15.841	E 148 30 39.275
	1217.27	48.00	197.87	1154.64	232.46	-225.32	-58.84	6.08	5713073.41	631341.67	S 38 43 16.470	E 148 30 39.034
	1238.31	50.18	196.12	1168.42	248.28	-240.52	-63.49	3.64	5713058.21	631337.02	S 38 43 16.966	E 148 30 38.853
	1270.80	50.76	196.28	1189.10	273.25	-264.59	-70.48	0.55	5713034.15	631330.03	S 38 43 17.750	E 148 30 38.580
	1299.61	51.35	196.03	1207.21	295.57	-286.11	-76.71	0.65	5713012.63	631323.80	S 38 43 18.451	E 148 30 38.336
	1328.78	51.81	196.26	1225.33	318.34	-308.06	-83.07	0.51	5712990.68	631317.45	S 38 43 19.166	E 148 30 38.088
	1353.89	52.32	196.05	1240.77	338.07	-327.08	-88.58	0.64	5712971.66	631311.94	S 38 43 19.786	E 148 30 37.873
	1384.89	51.23	195.60	1259.95	362.35	-350.51	-95.22	1.11	5712948.24	631305.30	S 38 43 20.549	E 148 30 37.614
	1415.19	51.86	195.80	1278.79	386.01	-373.36	-101.64	0.64	5712925.40	631298.88	S 38 43 21.293	E 148 30 37.364
	1443.77	52.76	195.36	1296.27	408.56	-395.14	-107.71	1.01	5712903.62	631292.80	S 38 43 22.003	E 148 30 37.128
	1472.48	49.48	194.11	1314.29	430.86	-416.75	-113.40	3.57	5712882.01	631287.12	S 38 43 22.707	E 148 30 36.907
	1501.31	50.19	194.07	1332.88	452.86	-438.12	-118.77	0.74	5712860.65	631281.75	S 38 43 23.403	E 148 30 36.699
	1530.05	50.97	193.61	1351.13	475.04	-459.68	-124.08	0.89	5712839.10	631276.44	S 38 43 24.104	E 148 30 36.494
	1558.72	51.56	193.54	1369.07	497.39	-481.41	-129.33	0.62	5712817.36	631271.20	S 38 43 24.812	E 148 30 36.292
	1587.68	52.03	193.35	1386.98	520.13	-503.55	-134.62	0.51	5712795.23	631265.91	S 38 43 25.533	E 148 30 36.088
	1616.26	49.02	192.15	1405.15	542.18	-525.06	-139.49	3.31	5712773.72	631261.03	S 38 43 26.233	E 148 30 35.901

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
	1645.25	49.77	191.73	1424.02	564.19	-546.59	-144.04	0.84	5712752.19	631256.48	S 38 43 26.933	E 148 30 35.727
	1674.25	50.37	191.91	1442.63	586.42	-568.36	-148.60	0.64	5712730.43	631251.93	S 38 43 27.642	E 148 30 35.554
	1703.46	50.90	191.79	1461.16	609.00	-590.46	-153.24	0.55	5712708.33	631247.29	S 38 43 28.361	E 148 30 35.377
	1753.96	51.77	191.53	1492.71	648.43	-629.08	-161.20	0.53	5712669.72	631239.32	S 38 43 29.617	E 148 30 35.073

**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>EQU Freq</u>	<u>Survey Tool Type</u>	<u>Borehole -&gt; Survey</u>
0.00	531.50	Act-Stns	SLB_MWD+DMAG-Depth Only	Elver - 1 -> Elver-1 Surveys
531.50	1703.46	Act-Stns	SLB_MWD+DMAG	Elver - 1 -> Elver-1 Surveys
1703.46	1753.96	Act-Stns	SLB_MWD-STD	Elver - 1 -> Elver-1 Surveys