

Elver-1 Survey Report

Report Date: December 28, 2008 Client: Apache Energy Ltd Field: Apache - Elver-1 Structure / Slot: Gippsland Basin / Slot 1 Well: Elver-1 Borehole: Elver - 1 UWI/API#: Survey Name / Date: Elver-1 Surveys / December 20, 2008 Tort / AHD / DDI / ERD ratio: 96.546° / 1212.81 m / 5.684 / 0.608 Grid Coordinate System: GDA94/MGA94 Zone 55 Location Lat/Long: S 38 43 9.133, E 148 30 41.316 Location Grid N/E Y/X: N 5713298.685 m, E 631400.498 m Grid Convergence Angle: -0.94557016° Grid Scale Factor: 0.99981262	Survey / DLS Computation Method: Minimum Curvature / Lubinski Vertical Section Azimuth: 191.240° Vertical Section Origin: N 0.000 m, E 0.000 m TVD Reference Datum: RKB TVD Reference Elevation: 21.5 m relative to MSL Sea Bed / Ground Level Elevation: -510.000 m relative to MSL Magnetic Declination: 13.423° Total Field Strength: 60082.562 nT Magnetic Dip: -69.065° Declination Date: December 20, 2008 Magnetic Declination Model: BGGM 2008 North Reference: Grid North Total Corr Mag North -> Grid North: +14.369° Local Coordinates Referenced To: Well Head
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Comments	Measured Depth (m)	Inclination (deg)	Azimuth Grid (deg)	TVD (m)	Vertical Section (m)	NS Grid North (m)	EW Grid North (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
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	51.80	191.68	1492.70	648.44	-629.08	-161.26	0.54	5712669.73	631239.27	S 38 43 29.617	E 148 30 35.071
1783.97	51.00	190.81	1511.42	671.89	-652.08	-165.83	1.05	5712646.73	631234.70	S 38 43 30.365	E 148 30 34.897
1812.87	50.86	189.83	1529.64	694.33	-674.15	-169.85	0.80	5712624.66	631230.68	S 38 43 31.083	E 148 30 34.746
1843.32	50.65	188.97	1548.90	717.90	-697.42	-173.70	0.69	5712601.40	631226.83	S 38 43 31.840	E 148 30 34.603
1872.41	49.76	188.22	1567.52	740.22	-719.52	-177.04	1.09	5712579.30	631223.49	S 38 43 32.558	E 148 30 34.479
1901.15	48.45	187.43	1586.33	761.91	-741.04	-180.00	1.50	5712557.79	631220.53	S 38 43 33.257	E 148 30 34.371
1930.37	47.89	185.83	1605.82	783.61	-762.66	-182.52	1.35	5712536.16	631218.01	S 38 43 33.960	E 148 30 34.282

1959.22	47.59	185.66	1625.22	804.87	-783.91	-184.65	0.34	5712514.92	631215.88	S 38 43 34.650	E 148 30 34.208
1988.27	48.04	185.58	1644.73	826.29	-805.33	-186.76	0.47	5712493.51	631213.77	S 38 43 35.346	E 148 30 34.136
2017.72	47.37	184.78	1664.55	847.95	-827.02	-188.73	0.91	5712471.82	631211.80	S 38 43 36.050	E 148 30 34.069
2046.54	47.54	184.61	1684.04	869.04	-848.19	-190.47	0.22	5712450.66	631210.07	S 38 43 36.737	E 148 30 34.011
2074.71	47.73	185.13	1703.02	889.73	-868.92	-192.24	0.46	5712429.92	631208.30	S 38 43 37.411	E 148 30 33.952
2103.75	47.78	184.59	1722.54	911.09	-890.35	-194.06	0.42	5712408.51	631206.48	S 38 43 38.106	E 148 30 33.892
2133.30	47.78	184.02	1742.40	932.82	-912.17	-195.70	0.43	5712386.69	631204.84	S 38 43 38.815	E 148 30 33.839
2162.82	47.66	184.04	1762.26	954.48	-933.95	-197.23	0.12	5712364.91	631203.30	S 38 43 39.522	E 148 30 33.790
2191.69	47.69	185.01	1781.70	975.68	-955.23	-198.92	0.75	5712343.63	631201.62	S 38 43 40.213	E 148 30 33.735
2220.09	47.65	186.53	1800.82	996.58	-976.12	-201.03	1.19	5712322.75	631199.51	S 38 43 40.891	E 148 30 33.662
2248.12	47.61	188.17	1819.71	1017.24	-996.66	-203.68	1.30	5712302.21	631196.86	S 38 43 41.559	E 148 30 33.566
2276.75	47.46	189.08	1839.04	1038.34	-1017.54	-206.85	0.72	5712281.34	631193.69	S 38 43 42.237	E 148 30 33.449
2306.28	47.59	190.37	1858.99	1060.11	-1039.00	-210.52	0.98	5712259.88	631190.01	S 38 43 42.935	E 148 30 33.311
2335.22	47.53	192.03	1878.52	1081.47	-1059.95	-214.67	1.27	5712238.93	631185.87	S 38 43 43.617	E 148 30 33.154
2364.15	47.45	194.30	1898.07	1102.78	-1080.72	-219.53	1.74	5712218.17	631181.01	S 38 43 44.293	E 148 30 32.967
2393.50	47.42	194.24	1917.92	1124.36	-1101.67	-224.86	0.05	5712197.23	631175.68	S 38 43 44.975	E 148 30 32.761
2421.02	47.65	192.97	1936.50	1144.65	-1121.40	-229.63	1.05	5712177.50	631170.91	S 38 43 45.617	E 148 30 32.577
2450.66	47.79	190.49	1956.44	1166.57	-1142.87	-234.09	1.86	5712156.03	631166.45	S 38 43 46.316	E 148 30 32.407
2478.84	48.08	188.60	1975.32	1187.48	-1163.49	-237.56	1.53	5712135.41	631162.99	S 38 43 46.986	E 148 30 32.277
2508.14	47.92	186.95	1994.93	1209.22	-1185.07	-240.50	1.27	5712113.84	631160.04	S 38 43 47.687	E 148 30 32.170

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>	<u>Borehole -> Survey</u>
0.00	531.50	Act-Stns	SLB_MWD+DMAG-Depth Only	Elver - 1 -> Elver-1 Surveys
531.50	2508.14	Act-Stns	SLB_MWD+DMAG	Elver - 1 -> Elver-1 Surveys