

Measured SG in
CORE no 1 at
normalised to
log depths. (see reference)

WELL NAME:	IONA NO.1 PEP108 ONSHORE OTWAY BASIN VICTORIA AUSTRALIA													
LOCATION:	38.575SLAT/143.0326E DATE: 7TH JULY 1988													
DEPTH	GRCOR	VSHGRC TERT'Y	VSHGRC 15/100	SONIC	DT-SC K=.6	DTMTXA SC K=1	DTMTXA CP=2	DTMTXA K=.56	RHOB	RHOBHC	RHOESC PER 53	RHOB- SC/HC	RHOGA- SC/HC	NPHI- SC/HC
1302.200	15.750	.014	.008	107.200	106.579	74.923	74.274	74.768	2.126	2.297	2.131	2.305	2.664	.191
1303.000	15.406	.013	.004	110.165	109.585	81.459	80.827	81.308	2.205	2.337	2.210	2.344	2.659	.163
1303.200	13.749	.009	-.001	109.781	109.388	83.365	82.933	83.265	2.247	2.360	2.250	2.363	2.658(2.72)	.148
1303.400	12.731	.006	-.001	110.539	110.256	83.198	82.870	83.127	2.240	2.351	2.242	2.356	2.661	.154
1303.599	12.932	.007	-.001	113.010	112.707	82.491	82.162	82.413	2.202	2.325	2.204	2.328	2.667(2.76)	.176
1303.800	14.551	.011	-.001	115.154	114.671	82.769	82.243	82.640	2.176	2.310	2.180	2.317	2.667(2.63)	.185
1304.000	15.521	.014	.006	116.472	115.878	83.865	83.210	83.699	2.171	2.310	2.176	2.318	2.665	.184
1304.200	15.710	.014	.008	116.625	116.009	83.316	82.639	83.145	2.161	2.305	2.166	2.309	2.668	.192
1304.400	15.708	.014	.008	117.371	116.756	82.376	81.704	82.204	2.138	2.290	2.143	2.295	2.671	.203
1304.599	14.977	.012	-.001	118.893	118.362	82.023	81.443	81.871	2.112	2.276	2.116	2.280	2.676	.215
1304.800	14.533	.011	-.001	119.128	118.647	82.104	81.579	81.967	2.113	2.275	2.117	2.279	2.677	.216
1305.000	15.129	.013	.001	117.908	117.360	82.367	81.772	82.217	2.141	2.286	2.145	2.291	2.674	.207
1305.800	15.071	.012	.000	119.714	119.172	83.607	83.018	83.459	2.149	2.285	2.153	2.289	2.675	.209
1306.000	13.654	.009	-.001	121.253	120.871	86.119	85.688	86.004	2.142	2.295	2.145	2.298	2.672	.199
1306.200	13.778	.009	-.001	122.133	121.736	86.853	86.400	86.728	2.126	2.296	2.129	2.299	2.670	.197
1306.400	14.132	.010	-.001	122.010	121.575	86.763	86.264	86.624	2.122	2.295	2.126	2.301	2.667	.194
1306.599	14.230	.010	-.001	121.796	121.349	86.801	86.290	86.659	2.129	2.297	2.132	2.300	2.669(2.67)	.196
1306.800	14.735	.012	-.001	122.401	121.898	87.320	86.744	87.161	2.135	2.298	2.138	2.301	2.669(2.66)	.196
1307.000	15.481	.014	.005	123.769	123.179	88.425	87.749	88.239	2.139	2.297	2.143	2.304	2.667(2.68)	.194
1307.400	15.316	.013	.003	118.223	117.652	82.530	81.905	82.363	2.129	2.285	2.133	2.293	2.671(2.68)	.204
1307.599	14.264	.010	-.001	119.772	119.322	82.793	82.300	82.665	2.119	2.275	2.123	2.282	2.676(2.68)	.214
1307.800	15.822	.014	.009	121.428	120.799	83.474	82.783	83.292	2.113	2.270	2.118	2.275	2.678(2.67)	.221
1314.200	15.447	.013	.005	118.716	118.130	75.780	75.168	75.618	2.027	2.218	2.031	2.227	2.693	.260
1314.400	14.126	.010	-.001	115.820	115.385	72.418	71.964	72.292	1.994	2.210	1.997	2.214	2.700	.271
1314.599	12.153	.005	-.001	112.835	112.614	69.893	69.665	69.829	1.974	2.209	1.975	2.215	2.697	.265
1314.800	11.545	.003	-.001	110.902	110.746	69.713	69.554	69.671	1.985	2.222	1.986	2.223	2.695	.259
1315.000	12.315	.005	-.001	109.895	109.657	71.120	70.876	71.057	2.019	2.245	2.020	2.246	2.683	.237
1315.200	13.275	.008	-.001	109.423	109.082	73.957	73.601	73.868	2.075	2.272	2.077	2.275	2.675	.215
1315.400	14.273	.010	-.001	109.129	108.678	76.185	75.700	76.069	2.123	2.296	2.127	2.299	2.669	.197
1315.599	14.952	.012	-.001	108.299	107.771	75.776	75.223	75.645	2.136	2.296	2.139	2.304	2.668	.194
1315.800	14.962	.012	-.001	106.770	106.240	74.773	74.224	74.646	2.140	2.298	2.144	2.305	2.667	.193
1316.000	14.582	.011	-.001	105.380	104.894	75.220	74.714	75.105	2.164	2.316	2.168	2.320	2.664	.181
1316.200	14.139	.010	-.001	105.089	104.653	76.769	76.311	76.668	2.196	2.331	2.199	2.337	2.661	.167
1316.400	13.852	.009	-.001	106.910	106.506	79.340	78.908	79.243	2.218	2.343	2.221	2.346	2.661	.161
1316.599	14.118	.010	-.001	109.242	108.808	80.895	80.425	80.705	2.211	2.338	2.214	2.345	2.661	.162
1316.800	15.129	.013	.001	109.221	108.673	78.873	78.286	78.734	2.175	2.319	2.179	2.327	2.662	.176
1317.000	15.755	.014	.003	108.260	107.639	75.296	74.650	75.143	2.131	2.295	2.135	2.299	2.668	.198
1317.400	15.593	.014	.006	110.464	109.861	72.812	72.198	72.662	2.069	2.252	2.074	2.261	2.680	.230
1317.599	15.134	.013	.001	110.697	110.148	71.997	71.441	71.861	2.057	2.243	2.061	2.247	2.687	.243
1317.800	15.329	.013	.003	107.160	106.589	68.275	67.718	68.145	2.047	2.232	2.051	2.237	2.691	.253

53 is the TLOG FILE channel (column) containing Vshale per the soft formation GR model.

TABLE 4. SANDSTONE CHARACTERISTICS.

All depths where Vshale < 1.5% in the zone 1255-1381m.

Measured SG ~ log interpreted RHOG apparent. This breeds confidence. A phenomenal $C_p \sim 2$ (K-.5) is insufficient to reduce apparent sonic phi to restored state core phi (at overburden conditions). In contrast, an excellent correlation of vshale and hydrocarbon corrected NDPHI to restored state core phi can be demonstrated.

$K = 1/C_p$ compaction factor for sonic phi

SC = shale corrected

HC = hydrocarbon corrected