

WELL NAME: IONA NO.1 PEPI08 ONSHORE OTWAY BASIN VICTORIA AUSTRALIA
LOCATION: 38.5755LAT/143.0326E DATE: 7TH JULY 1988

DEPTH	GRRES	GRCOR	USHGRC* TERT'Y	USHGRC 15/100	SONIC	NDPHI- NO COR	H-RPHI NO COR	ND/HRP CP=1	HRP NC K=.56	RHOB	RHOGA NO COR	RHOB- SC/HC	NPHI	RT
1286.400	102.951	103.189	.995	1.000	98.127	.246	.434	.567	.243	2.435	2.905	2.744	.324	5.289
1286.599	103.454	103.693	.995	1.000	95.208	.274	.417	.656	.233	2.427	2.966	2.736	.367	5.454
1286.800	100.046	100.277	.995	1.000	93.500	.285	.406	.702	.227	2.435	3.009	2.744	.390	6.038
1287.000	99.805	100.035	.995	1.000	94.734	.278	.414	.672	.231	2.437	2.992	2.746	.380	7.024
1287.200	101.655	101.889	.995	1.000	96.200	.277	.423	.655	.236	2.400	2.938	2.709	.359	6.860
1287.400	101.996	102.231	.995	1.000	96.351	.279	.423	.659	.237	2.369	2.901	2.678	.347	5.930
1287.599	99.570	99.800	.989	.997	97.892	.281	.433	.650	.242	2.384	2.926	2.690	.358	5.844
1291.599	101.618	101.852	.995	1.000	99.827	.269	.444	.606	.248	2.442	2.974	2.751	.367	6.437
1291.800	103.262	103.500	.995	1.000	98.951	.265	.439	.604	.245	2.427	2.942	2.735	.352	6.406
1292.000	102.164	102.400	.995	1.000	101.063	.257	.450	.571	.252	2.447	2.949	2.755	.349	6.756
1292.200	100.696	100.928	.995	1.000	100.595	.259	.448	.579	.251	2.460	2.972	2.768	.359	6.937
1296.200	100.274	100.505	.995	1.000	93.925	.240	.409	.586	.229	2.456	2.916	2.765	.323	9.177
1296.400	103.235	103.473	.995	1.000	93.587	.238	.406	.585	.227	2.459	2.916	2.768	.322	8.705
1296.599	106.034	106.278	.995	1.000	93.500	.246	.406	.606	.227	2.455	2.931	2.764	.334	8.910
1296.800	105.328	105.571	.995	1.000	93.781	.259	.408	.636	.228	2.443	2.950	2.752	.351	9.140
1297.000	100.057	100.288	.995	1.000	93.251	.257	.404	.635	.226	2.449	2.952	2.758	.350	8.861
1311.200	99.554	99.784	.989	.997	101.942	.246	.455	.541	.255	2.413	2.876	2.719	.313	13.915
1311.400	104.365	104.605	.995	1.000	99.321	.253	.441	.573	.247	2.411	2.889	2.719	.323	12.142
1311.599	105.098	105.341	.925	1.000	98.919	.256	.438	.585	.245	2.418	2.908	2.727	.333	12.729
1311.800	107.206	107.454	.995	1.000	100.606	.262	.448	.585	.251	2.428	2.937	2.737	.348	12.252
1312.000	111.056	111.312	.995	1.000	105.287	.268	.472	.567	.264	2.435	2.961	2.744	.361	11.601
1312.200	106.968	107.215	.995	1.000	112.649	.283	.507	.558	.284	2.394	2.945	2.702	.366	11.030
1346.599	101.406	101.640	.995	1.000	100.621	.290	.448	.648	.251	2.425	3.010	2.734	.393	7.527
1346.800	103.516	103.755	.995	1.000	100.235	.295	.446	.661	.249	2.446	3.052	2.755	.410	7.536
1347.000	104.391	104.631	.995	1.000	101.007	.303	.450	.673	.252	2.444	3.073	2.753	.422	7.457
1347.200	105.763	106.007	.995	1.000	101.653	.294	.454	.648	.254	2.432	3.030	2.741	.403	6.961
1347.400	106.671	106.917	.995	1.000	102.137	.278	.456	.610	.255	2.428	2.979	2.736	.375	7.159
1347.599	104.553	104.794	.995	1.000	101.692	.267	.454	.589	.254	2.429	2.952	2.738	.358	7.318
1347.800	102.234	102.470	.995	1.000	102.665	.270	.459	.588	.257	2.411	2.935	2.720	.353	7.900
1348.000	102.255	102.491	.995	1.000	107.319	.304	.482	.630	.270	2.325	2.904	2.633	.367	7.924
1349.000	101.288	101.521	.995	1.000	107.964	.367	.485	.756	.272	2.314	3.078	2.622	.458	5.810
1349.200	103.651	103.890	.995	1.000	104.229	.331	.467	.708	.261	2.345	3.012	2.654	.419	5.264
1349.400	107.689	107.937	.995	1.000	100.334	.302	.446	.676	.250	2.400	3.007	2.709	.400	5.417
1349.599	112.420	112.679	.995	1.000	101.413	.294	.452	.650	.253	2.411	3.001	2.720	.393	5.667
1349.800	115.129	115.394	.995	1.000	105.067	.306	.471	.649	.264	2.372	2.979	2.681	.393	5.334
1350.000	113.904	114.166	.995	1.000	107.385	.321	.483	.664	.270	2.338	2.971	2.646	.400	4.981
1350.200	109.794	110.047	.995	1.000	105.116	.326	.472	.692	.264	2.363	3.025	2.672	.420	5.026
1350.400	106.057	106.302	.995	1.000	100.865	.320	.449	.712	.251	2.407	3.072	2.716	.431	5.672
1350.599	106.324	106.569	.995	1.000	98.761	.305	.438	.697	.245	2.408	3.028	2.717	.408	6.451
1350.800	107.355	107.602	.995	1.000	99.310	.291	.441	.660	.247	2.390	2.962	2.699	.377	6.839
1351.000	106.753	107.000	.995	1.000	99.434	.287	.441	.649	.247	2.390	2.950	2.698	.370	6.724
1351.200	104.801	105.043	.995	1.000	98.742	.294	.437	.671	.245	2.403	2.983	2.711	.388	6.652
1351.400	103.418	103.656	.995	1.000	99.544	.303	.442	.686	.247	2.409	3.024	2.717	.406	6.926
1351.599	104.195	104.436	.995	1.000	100.659	.306	.448	.683	.251	2.403	3.023	2.712	.407	6.983
1351.800	106.615	106.861	.995	1.000	99.546	.298	.442	.675	.247	2.406	3.006	2.715	.397	6.492
1352.000	106.017	106.262	.995	1.000	95.466	.281	.418	.673	.234	2.436	3.000	2.745	.384	6.425
1352.200	102.477	102.713	.995	1.000	94.544	.267	.412	.647	.231	2.453	2.983	2.761	.369	7.505
1353.200	106.460	106.706	.995	1.000	105.316	.331	.473	.701	.264	2.354	3.026	2.662	.423	5.935
1353.400	108.938	109.189	.995	1.000	102.776	.318	.460	.692	.257	2.382	3.028	2.691	.416	5.567
1353.599	105.575	105.819	.995	1.000	100.537	.295	.448	.658	.251	2.407	2.997	2.716	.392	5.671
1353.800	100.492	100.723	.995	1.000	98.958	.285	.439	.651	.245	2.418	2.986	2.726	.382	5.932

GR Definitions {sst=10 sst=15
sh=100 sh=100

TABLE 3.
SHALE CHARACTERISTICS

HC = hydrocarbon corrected
SC = shale corrected
HRP = HUNT RAYMER POROSITY FOR SONIC

All depths in the zone
1255 - 1381 m where
Vshgtert'y* (soft fm
GR model for shale)
≥ 98.5% shale at
a 0.2m log increment

Selected Shale values

are:

$$R_t = 7 \text{ ohm} \cdot \text{m}^2$$

GRCOR shale = 100 API units

$$CNLSH = 0.41$$

$$Dtsh = 97.5 \mu\text{sec/ft}$$

$$RHO_{sh} = 2.42 \text{ g/cc}$$

XRD is only available
in sands (reference 2).

CP = Compaction Factor; $K = 1/CP$

RATIO OF UNCORRECTED

NDPHI AND SONIC

PHI with CP = K = 1

Suggests CP in shale

of ~1.66 ($K = 1/CP = .6$)

Sonic phi corr. CP = 1.78 ($K = .56$)