WELL COMPLETION REPORT

VOLUME 2

INTERPRETED DATA

WHALESHARK-1

GIPPSLAND BASIN
VICTORIA

ESSO AUSTRALIA LIMITED

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ENCLOSURES

MS:lt:0393rep7

WHALESHARK-1

1. Summary of Well Results

Formation/Horizon	Predicted Depth mTVDSS	Post Drill Depth mTVDSS	+22 m
Gippsland Limestone (seafloor)	710	717.3	739.3
Lakes Entrance Formation	not interpreted	2590.2	2612.2 m
Top of Latrobe Group	2560	2700.0	2722.0 m
Top of Lower L. balmei unit	2560	2762.0	2784.0
Top of Upper T. longus unit	2570	2787.0	2809.0
Top of Lower T. longus unit	2800	not intersected	
Total Depth	**2850**	**2848.0**	2863

2. Introduction

Whaleshark-1 was drilled as a five year commitment well in the relatively unexplored eastern portion of VIC/P24. The well was designed to test the hydrocarbon potential of a seismically identified Latrobe Group erosional remnant.

The structure trends east-west and was interpreted predrill to have 105m of mapped four way dip closure. Top seal was thought to be provided by shales and marls of the Lakes Entrance Formation. The reservoir interval was predicted to be Late Cretaceous (Maastrichtian) Upper T. longus coastal plain to nearshore marine sands subcropping the Top of Latrobe Group unconformity.

The well intersected the Top of Latrobe unconformity at 2722mMDKB (2700mTVDSS) 140m low to prognosis. The top of the Upper T. longus was intersected at 2809mMDKB (2787mTVDSS), 217m low to prognosis. A condensed section of P. asperopolus to Lower L. balmei age was present between the Top of Latrobe Group and the top of the Upper T. longus. This section was not anticipated pre-drill.

No hydrocarbons were encountered in Whaleshark-1 and it was plugged and abandoned as a dry hole. Post drill analysis indicates that three factors are potentially responsible for this result.

1. The Whaleshark area has not has access to mature source rock since the time of trap formation.
2. The well was drilled outside closure at the top of porosity level.
3. The Lakes Entrance Formation, which is only 110m thick and highly faulted in this area, does not form an effective top seal over the prospect.

Current interpretation suggests that the source problem is the most important factor involved in the lack of hydrocarbons at Whaleshark.

3. Structure

The Whaleshark structure was mapped as an east-west trending erosional remnant at the top of the Latrobe Group, possibly underpinned by an intra-Latrobe Group horst. Four way dip closure was interpreted to have formed as a result of erosion associated with the Top of Latrobe Group unconformity surface, with possible later modification by erosion associated with Miocene channelling. 105m of closure was predicted at the Top of Latrobe Group level.

Post drill analysis confirms that the structure is an erosional remnant, partly underpinned by an intra-Latrobe Group horst. The age of the erosional feature is difficult to determine due to complex slumping of post Latrobe Group sediments along listric normal faults in the area of the prospect.

The Top of Latrobe Group unconformity surface was intersected 140m lower than predicted. This was due to a combination of the Top of the Latrobe Group unconformity being picked about 50msec too high and the use of a slower than actual interval velocity to the top of the Latrobe Group during pre-drill mapping. This also caused the areal extent of the prospect to be markedly reduced by post drill mapping. The amount of vertical closure at the well location was also reduced from 105m pre-drill to 70m post drill.

The uppermost Latrobe Group section consists mainly of siltstones and shales which are interpreted to form an intra Latrobe seal. The base of this section (top of porosity) is interpreted at -2761.5mSS. At this level Whaleshark-1 lies just within the mapped limit of closure. Approximately 40m of closure is interpreted updip (to the north-northeast) of the well location at the top of porosity.

4. Stratigraphy

The Whaleshark-1 well was expected to encounter Paleocene (Lower L. balmei) marine shale below the Top of Latrobe Group unconformity. A Maastrichtian (Upper T. longus) sequence of offshore shale grading upward into shoreface to nearshore sands and coastal plain siltstones, sandstones and coal was expected to underlie the Lower L. balmei shale. A Maastrichtian (Lower T. longus) coastal plain section of point bar sands, siltstone and coal was expected beneath the Upper T. longus section. The well was programmed to reach a total depth of -2850mSS within this section.

A condensed section ranging from P. asperopolus to Lower L. balmei in age was encountered below the Top of Latrobe Group unconformity surface. This section is made up of a Flounder Formation equivalent between -2700 and -2736mSS and an unnamed greensand unit between -2736 and -2787mSS. The Flounder Formation equivalent consists of glauconitic and pyritic siltstones. This greensand unit is made up of grey green, fine grained glauconitic sandstone and can be correlated with the condensed section seen in Hapuku-1 between -2803.5 and -2856.6mSS Both units are interpreted to have been deposited in a distal marine setting based on the presence of the condensed section indicating very low rates of deposition. The presence of abundant and diverse microplankton suites is also indicative of an open marine environment. The cessation of deposition of the condensed section is thought to be due to the cutting of the Marlin Channel to the west. This created a paleobathymetry which caused the distal eastern parts of the basin to be starved of sediment. The completeness of the palynological zones seen in the condensed section indicates minimal erosion at the Top of the Latrobe Group.

A marine Maastrichtian (Upper T. longus) section underlies the condensed section and extends to the total depth of the well. The section is interpreted to be marine based on the presence of dinoflagellates and the absence of coal. Coarser grain size than the overlying greensand section is indicative of a more proximal marine environment. Based on the coarser grain size and the comparative lack of glauconite this section is interpreted to be part of the undifferentiated "Coarse Clastics" part of the Latrobe Group.

Fair to good quality reservoir sands were encountered in the Upper T. longus section and the Lower L. balmei part of the condensed section. No reservoir quality sands were encountered above the top of the Lower L. balmei.

5. Hydrocarbons

No hydrocarbons were encountered in Whaleshark-1 and the well was plugged and abandoned as a dry hole.

6. Geophysical Discussion

Whaleshark-1 intersected the Top of Latrobe Group unconformity 140m low to prediction. This represents an error of 5.4%.

The post drill mapping of the Whaleshark area was carried out as part of the VIC/P24 regional mapping. In the Whaleshark area, the data consisted of GH88, G89A and G91A 2D data with an average line spacing of 500m. The interpretation was carried out on the CHARISMA geophysical workstation with extensive use of interactive gain control, horizon datuming and line/CDP computations.

The synthetic tie revealed that the Top of the Latrobe Group was interpreted pre-drill to be approximately 50msec too high. In addition, the interval velocity between the seafloor and the Top of the Latrobe Group was 3184m/s compared with a pre-drill estimate of 3000m/s. Both these factors contributed to the large depth prediction error at the Top of Latrobe Group.

In addition to remapping the Top of Latrobe Group unconformity, the top of the Lakes Entrance Formation and an Upper T. longus horizon were also interpreted. The Whaleshark-1 well ties and the post drill mapping show that the Lakes Entrance Formation is very thin in this part of the basin. Numerous listric fault planes displace both the Lakes Entrance Formation and the Gippsland Limestone in the vicinity of Whaleshark-1.

The depth map of the Upper T. longus horizon shows a regional dip to the southwest of approximately 2°. This is at variance with dipmeter data from the well, which has been interpreted to represent northerly dip into a north-northeast hading fault.

In order to account for the severe raypath distortion caused by the steeply dipping seafloor, water bottom static corrected (replacement velocity of 2100m/s) two way time values to all horizons were output on a CDP basis. These values were then hand contoured, honouring the longest travel times. The hand contoured static corrected two way time maps were then digitised and gridded on a 100x100m spacing. Depth conversion was done by isopaching down from the seafloor using an interval velocity grid derived from all surrounding well control to the top of the Lakes Entrance Formation. Depth to the Top of the Latrobe Group was derived by using a constant time weighted average interval velocity to isopach down from the top of the Lakes Entrance Formation. Depth to the Upper T. longus seismic horizon was generated by isopaching down from the Top of the Latrobe Group using a constant interval velocity.

A top of porosity depth map was prepared by isopaching up from the Upper T. longus seismic horizon. A composite surface map of the Top of Latrobe Group and the top of porosity was then generated to determine the top of porosity trap geometry.

7. Geological Discussion

Post drill analysis suggests three possible explanations for Whaleshark-1 being a dry hole.

1. Whaleshark-1 was drilled outside closure at the top of porosity level

2. The Lakes Entrance Formation does not form an effective top seal across the Whaleshark prospect due to reduced thickness and abundance of faulting

3. The Whaleshark prospect has not had access to mature source rock since the time of trap formation.

The most significant of the above factors is thought to be source. The T. lilliei, N. senectus, T. apoxyexinus and P. mawsonii units represent the potential source intervals in the area. Based on regional models, the T. lilliei is interpreted to have the best source potential. The T. lilliei and the N. senectus are immature in the Whaleshark area. Post-drill maturation modelling of T. apoxyexinus and the P. mawsonii section indicates large volumes of hydrocarbons were generated and expelled prior to the formation of the Whaleshark trap.

Post drill mapping also indicates that Whaleshark-1 was drilled just within closure at the top of porosity level.

Adequacy of the Lakes Entrance top seal in the Whaleshark area has to be questioned following the drilling of the well. Whaleshark-1 encountered a much thinner than anticipated Lakes Entrance Formation. Post-drill seismic interpretation also suggests slump faulting and structuring of the Lakes Entrance Formtion could potentially have breached the Latrobe Group top seal.

FIGURES

FIGURES

WHALESHARK-1
Locality Map

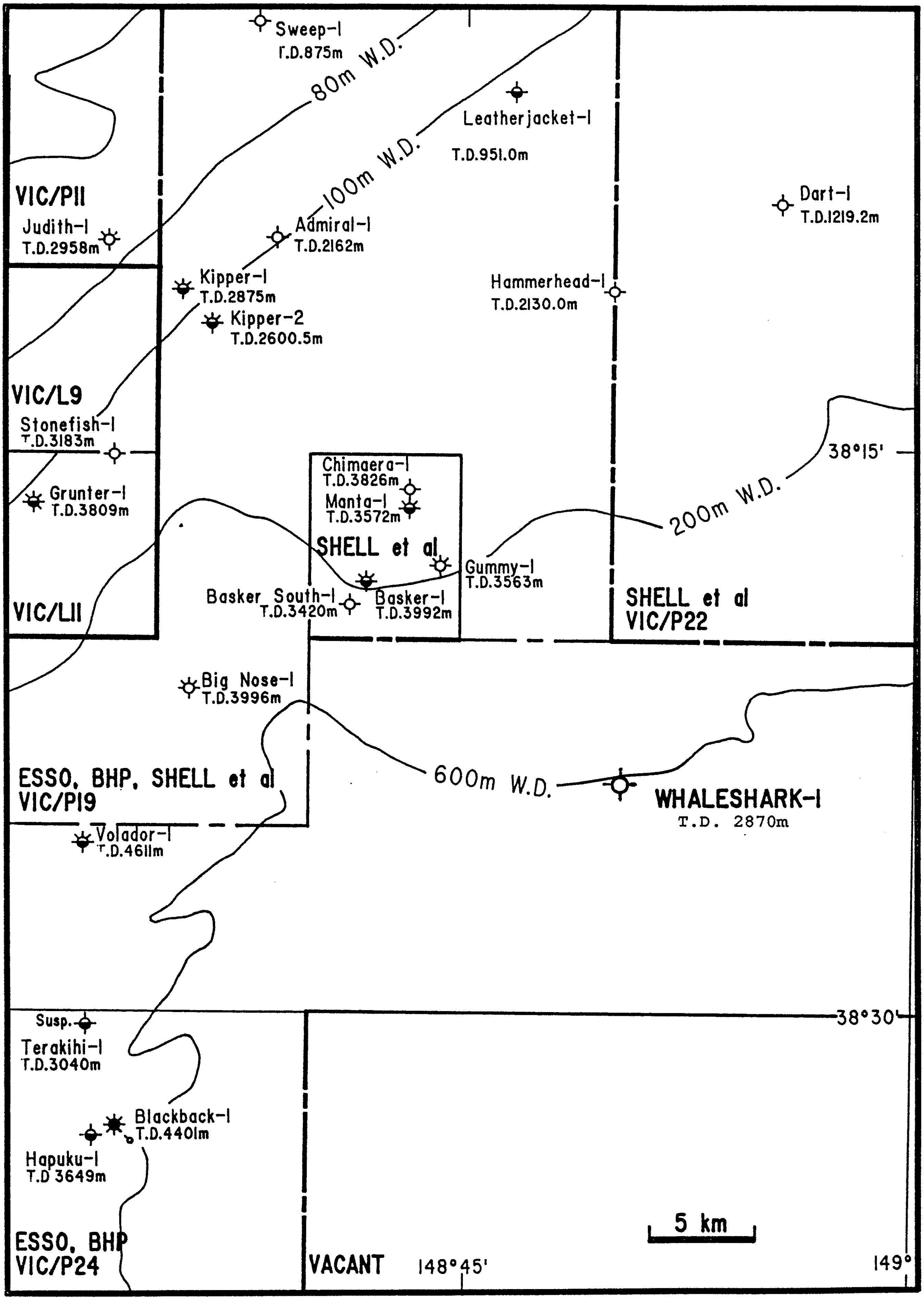

Figure 1

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APPENDIX 1

PALYNOLOGICAL ANALYSIS OF WHALESHARK-1
GIPPSLAND BASIN

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INTRODUCTION

Seventeen sidewall cores in Whaleshark-1 were examined, cleaned and split by author and then forwarded to Laola Pty Ltd in Perth for processing to extract organic microfossils (palynomorphs). All samples were examined by author for their contained spores, pollen and microplankton to derive the data and interpretations in this report.

Between 6 to 17 grams (average 12.3g) of each sidewall core was processed for palynological analysis. Residue yields were extremely low in the Latrobe Group coarse clastic section, mostly moderate in the overlying greensand section and Flounder Formation, and very low in the Seaspray Group. Palynomorph concentration on the slides overall was moderate to high and preservation generally fair to good and occasionally exceptional. As a consequence of good preservation overall spore-pollen diversity was high averaging 27+ species per sample. Microplankton were rare and of limited diversity (0-3 species) in the Latrobe coarse clastic section but common to very abundant through the greensand section, Flounder Formation and Seaspray Group. Microplankton diversity in these latter three units averaged 9+ species.

Lithological units and palynological zones from the base of the Seaspray Group to Total Depth are given in the following summary. The interpretative data with zone identification and Old and New Confidence Ratings are recorded in Table-1 and basic data on residue yields, preservation and diversity are recorded on Tables-2 and 3. All species which have been identified with binomial names are tabulated on separate range charts for spore-pollen and microplankton. Relinquishment lists for palynological slides and residues from samples analysed in Whaleshark-1 are provided at the end of the report.

PALYNOLOGICAL SUMMARY OF WHALESHARK-1

AGE	UNIT/FACIES		SPORE-POLLEN ZONES (DINOFLAGELLATE ZONES)	DEPTHS (mKB)
MIOCENE	SEASPRAY GROUP		*P. tuberculatus*	2617-2721
EARLY EOCENE	LATROBE GROUP	Flounder Formation Equivalent	*P. asperopolus* (*K. edwardsii*) Upper *M. diversus* (*D. waipawaense*)	2725-2726 (2726) 2746-2756 (2746)
PALEOCENE		Unnamed Greensand Unit	Lower *M. diversus* Upper *L. balmei* Lower *L. balmei* (*E. crassitabulata*) (*A. circumtabulata*)	2760-2765 2783 2786-2807 (2786-2799) (2807)
MAASTRICHTIAN		Undifferentiated coastal plain sands.	Upper *T. longus* (*M. druggii*)	2822-2850 (2822)

GEOLOGICAL COMMENTS

1. Palynological analysis has been performed on the basal 105 metres of the Seaspray Group (3 samples) and immediately underlying 128 metres of the Latrobe Group (14 samples). This represents one sample every 52.5 metres in the Seaspray Group and one sample every 9.8 metres in the Latrobe Group.

2. The base of the Seaspray Group is Whaleshark-1 is most likely no older than Early Miocene and unconformably overlies, at 2722m, a marine Early Eocene to Paleocene **condensed section** which is 87+ metres thick. This in turn overlies, in apparent conformity, a Maastrichtian marine sandy section which is probably considerably thicker than the 50+ metres penetrated in Whaleshark-1.

3. The condensed section at the top of the Latrobe Group between 2722m to the top of the first sand at 2808.5m can be subdivided on the basis of the sidewall core lithologies into two units.

The upper unit between 2722-2758m can be characterised as a black siltstone with a trace to common amounts of glauconite and/or pyrite. This unit is correlated to the Flounder Formation based partly on the lithology but also because the identification of the *K. edwardsii* and *D. waipawaense* dinoflagellate Zones near the top and base of the interval. It is quite likely that the intervening *K. thompsonae* and *W. ornatum* dinoflagellate Zones occur in the unsampled interval between 2726-2746m. All four zones are characteristic of Flounder Formation.

The lower unit between 2758-2808.5m can be characterised as a grey green, fine grained, glauconitic sandstone. This unit, which contains the Lower *M. diversus*, Upper *L. balmei* and Lower *L. balmei* Zones and equivalent microplankton assemblages (not all of which are given formal zone names) can be correlated with the Paleocene condensed section sampled in Hapuku-1 between 2812.4-2865.1m (Partridge, 1975a).

4. The section below 2808.5m is correlated to the undifferentiated or coarse clastic part of the Latrobe Group because it lacks obvious glauconite and is much coarser grained. The sidewall cores at 2839m and 2842m in particular contain significant coarse grained quartz. With the possible exception of the unsampled interval between 2808.5-2822m the section is assigned to the Upper *T. longus* Zone and is thus Maastrichtian in age. The environment of deposition is marine based on the presence of dinoflagellates and absence of coals.

5. To emphasis the difference in the environment of deposition of the Early Eocene to Paleocene **condensed section** and the underlying Maastrichtian undifferentiated Latrobe section approximate rates of deposition have been calculated.

In Whaleshark-1 the Flounder Formation (2722-2758m) is considered to span the time interval 49.5-51.5 Ma and have a depositional rate of 18 metres per million years (m/my) and the Unnamed greensand (2758-2808.5m) a depositional rate of 3.4 m/my. Average depositional rate for composite interval is 5 m/my.

The depositional rate for the underlying Maastrichtian cannot be estimated in Whaleshark-1 but the rate for the combined Upper and

Lower *T. longus* Zones has been calculated in the following wells:

BASKER-1	88 m/my
BASKER SOUTH-1	86 m/my
HAPUKU-1	>96 m/my
SHARK-1	37 to 61 m/my

These rate are 10 to 20 times greater than the average depositional rate in the condensed section in Whaleshark-1. Assuming that equivalent depositional rates apply to Whaleshark-1 during the Maastrichtian the probable thickness of the Upper to Lower *T. longus* Zone interval in this well ranges from 259 to >672 metres.

6. Both the Flounder Formation and Unnamed greensand units are considered to have been deposited in a distal marine environment a considerable distance offshore from the palaeoshoreline. The evidence for a distal environmental setting is based on the presence of a condensed section representing an almost complete set of palynological zones deposited at very low rates of deposition. The recorded zonation is as complete as is possible to obtain with the available sidewall core spacing. Further, an open marine environment is clearly indicated by the consistent presence of abundant and diverse microplankton suites. The spore-pollen assemblages also support a distal offshore environment as most of the assemblages are dominated by pollen types that typically display the "Neves effect". This is the tendency for bisaccate pollen, certain buoyant spores, and other pollen with "comparatively greater transportability" to have greater relative abundance the further offshore you go in any depositional basin (Traverse, 1988, p.413). In Whaleshark-1 the "Neves effect" is displayed by the higher abundance of gymnosperm pollen (especially *Podocarpidites* spp. and *Dilwynites* spp.) relative to samples from sections of the same age in coastal plain environmental settings.

7. The undifferentiated Latrobe section, although clearly marine based on the presence of dinoflagellates, is considered to be deposited in a more proximal nearshore environment. The deposition rate of this section is interpreted to be greater, the microplankton are less abundant and less diverse and there is no obvious abundance preference in the spore-pollen assemblages, although the latter is hard to detect because of the low recoveries from the available samples.

8. There is a major time break, of at least 25 million years, but not necessarily an erosive unconformity at the top of the Latrobe Group at 2722m. The base of Seaspray Group is dated as no older than Early Miocene (approximately 25 Ma) while the top of the underlying Latrobe Group is considered to be no younger than the 49.5 Ma Sequence

Boundary on the cycle charts of Haq *et al.* (1987, 1988). This interpretation is based on the recording of the diagnostic acritarch *Tritonites bilobus* and the *K. edwardsii* dinoflagellate Zone within 4 metres of the top of Latrobe. Extending the arguments for the age of channelling and the major erosive event at the top of Latrobe presented by Marshall & Partridge (1988) it is proposed that cessation of deposition of the condensed section at Whaleshark-1 correlates with the cutting of the Marlin Channel located in the central part of the basin west of Whaleshark-1 at the 49.5 Ma Sequence Boundary. The palaeobathymetry created by the submarine Marlin Channel caused the more distal eastern part of the basin to be starved of sediments from the end of the Early Eocene until probably well into the Miocene. The occurrence of an apparent complete Early Eocene and Paleocene section below the top of Latrobe suggests strongly that there has been only negligible erosion at the top of Latrobe at Whaleshark-1 .

9. A minor time break of approximately 1 million years duration probably occurs in the 4 metre interval between the Upper and Lower *M. diversus* Zones to account for the absence of the Middle *M. diversus* Zone. This probable disconformity is best placed on the electric logs at 2758m and would correlate to the 51.5 Ma Sequence Boundary at which time the cutting of the Tuna-Flounder Channel system was believed to have been initiated.

10. A second minor time break is possible in the 3 metre interval between the Upper and Lower *L. balmei* Zones. In the thicker coastal plains sequences in the western parts of the basin considerable section occurs between the base of the Upper *L. balmei* Zone and youngest occurrence of the dinoflagellate *Eisenackia crassitabulata*. On the current correlations of the zones to the time scale of Haq *et al.* (1987, 1988) this interval is assigned a duration of 2 million years. An alternative interpretation which is equally as a plausible on our current knowledge is that *E. crassitabulata* ranges into younger sediments in marine sections and that it is only represented by a partial range in the thicker but predominantly coastal plain facies in the western part of the basin. If this disconformity is present the best log pick appears to be at 2784m where there is a reduction in the separation between the neutron porosity and bulk density logs.

11. The important K/T boundary datum in Whaleshark-1 cannot be located more precisely than within the 15 metre interval between the top Cretaceous assemblage at 2822m and the lowest Paleocene assemblage at 2807m. Unfortunately the electric log character over this interval cannot be readily correlated to the better sampled sequences across the K/T boundary in wells to the north of Whaleshark-1.

BIOSTRATIGRAPHY

Zone and age determinations are based on the spore-pollen zonation scheme proposed by Stover & Partridge (1973), partially modified by Stover & Partridge (1982) and Helby, Morgan & Partridge (1987), and a dinoflagellate zonation scheme which has only been published in outline by Partridge (1975b, 1976). Other modifications and embellishments to both zonation schemes can be found in the many palynological reports on the Gippsland Basin wells drilled by Esso Australia Ltd. Unfortunately this work is not collated or summarised in a single report. Note also that the name of the Upper *T. longus* Zone has not been changed to conform with recent nomenclature change to the name of the eponymous species *Forcipites* (al. *Tricolpites*) *longus* (Stover & Evans) Dettmann & Jarzen 1988.

Author citations for most spore-pollen species can be sourced from Stover & Partridge (1973, 1982), Helby, Morgan & Partridge (1987) or other references cited herein. Author citations for dinoflagellates can be found in the indexes of Lentin & Williams (1985, 1989) or in the papers of Wilson (1988) and Marshall & Partridge (1988) or other references cited herein. Species names followed by "ms" are unpublished manuscript names.

***Proteacidites tuberculatus* Zone: 2617.0-2721.0 metres**
and
***Tuberculodinium vancampoae* Dinoflagellate Zone: 2721.0 metres Miocene.**

The three sidewall cores analysed from the Seaspray Group all gave meagre yields with limited but overall similar assemblages. The deepest and shallowest samples can be assigned to the *P. tuberculatus* Zone on the occurrence of the key spore *Cyatheacidites annulatus*. The occurrence of the pollen *Guettardidites ivirensis* Khan 1976 (= cf *Reticulataepollis* sp. of Partridge 1971) at 2617m suggest this sample can be assigned to the Middle or Upper subdivisions of the zone (Stover & Partridge 1973, p.243) but otherwise the overall spore-pollen assemblage, whilst of moderate diversity (22+ species in three samples), is rather bland and not very diagnostic and only indicates a broad Oligocene to Early Miocene age.

All three samples are dominated by microplankton (78%-86% of total palynomorph count) and contain additional marine indicators such as microforaminiferal liners (8% at 2721m) and scolecodonts. The occurrence of the distinctive dinoflagellate *Tuberculodinium vancampoae* in the deepest sample at 2721m suggests that the base of the Seaspray Group is no older than Early Miocene based on the compilation of dinoflagellate species ranges in Williams & Bujak (1985).

The oldest occurrence of this species is the basis for recognising the informal *T. vancampoae* Zone within the broader *Operculodinium* spp.

assemblage or "Association" first used informally by Partridge (1976) for Seaspray Group microplankton assemblages. The microplankton assemblages are dominated by *Operculodinium centrocarpum* (56% at 2720m; 39% at 2721m) or *Spiniferites* spp. (48% at 2617m). Other common species are *Protoellipsodinium simplex* ms (11% at 2617m; 5% at 2721m) and *Achomosphaera ramulifera* (15% at 2721m). The composite recorded diversity for the three samples is a moderate 14+ species. This is undoubtedly a marked underestimation of the true microplankton diversity of the assemblages even allowing for the meagre residue yields. Many species are not recorded on the range chart because they could not be identified or are undescribed. Only a few of the latter have been given manuscript names of which the most stratigraphically important are *Protoellipsodinium simplex* ms, *P. mamilatus* ms and *Pyxidinopsis pontus* ms.

Proteacidites asperopolus Zone: 2725.0-2726.0 metres
and
Kisselovia edwardsii Dinoflagellate Zone: 2726.0 metres Early Eocene.

The two closely spaced sidewall cores from immediately below the top of the Latrobe Group contain highly diverse spore-pollen assemblages with a composite recorded diversity of 68 species most of which are good to excellently preserved. The poor preservation recorded in the shallower sample relates mainly to the fragmented nature of many of the dinoflagellates. Although spore-pollen dominate both samples, fungal spores and hyphae are common (16% of total count) at 2726m and abundant (32%) at 2725m while microplankton abundance averages 19%.

The samples are assigned to the *P. asperopolus* Zone on occurrence of *Conbaculites apiculatus* ms and *Sapotaceoidaepollenites rotundus* in both samples and *Clavastephanocolporites meleosus* ms in the shallower sample. The samples are no younger than the *P. asperopolus* Zone based on the consistent occurrence of *Myrtaceidites tenuis*. Both assemblages are very rich and it is considered that the recording of other index species was only limited by the moderate yield extracted.

Proteacidites spp. and *Haloragacidites harrisii* (= *Casuarina* pollen) at 2726m dominate the assemblages. The *Nothofagidites* spp. to *H. harrisii* ratio is 0.6 at 2726m but increases to 2.0 at 2725m but the *Nothofagidites* abundances (12% at 2726m; 20% at 2725m) do not dominate the assemblages as is typical in the overlying Lower *N. asperus* and younger Zones. Other significant abundances are *Malvacipollis* spp. which averages 4.5%, while *Myrtaceidites tenuis* is 2.5% at 2726m. *Proteacidites pachypolus* although recorded in both samples turned out to represent less than 1% of the assemblages while the eponymous species *P. asperopolus* was not recorded.

The microplankton diversity averages 11 species per sample but total diversity is 21+ species. The true diversity is undoubtedly higher but is limited by moderate residue yield, fragmented preservation of many specimens and the fact that many unknown or undescribed forms were not identified with binomial names. Both samples contained *Deflandrea flounderensis* and *Homotryblium tasmaniense* which can be considered typical of the Flounder Formation.

Two specimens of the index dinoflagellate *Kisselovia edwardsii* were recorded at 2726m to identify the zone of this name, while in the shallower sample a single specimen of the acritarch *Tritonites bilobus* Marshall & Partridge 1988 was recorded. This latter form is not considered to range younger than the 49.5 Ma sequence boundary (Haq *et al.* 1987, 1988) and has been recorded with planktonic foraminifera in the Otway Basin correlated to the low latitude Zone P9 (Marshall & Partridge 1988).

Another significant dinoflagellate recorded in the samples is *Arachnodinium antarcticum* whose occurrence in both samples significantly extends its stratigraphic range (Marshall & Partridge 1988, fig.4) into the Early Eocene.

Upper *Malvacipollis diversus* Zone: 2746.0-2756.0 metres
and
***Dracodinium waipawaense* Dinoflagellate Zone: 2746.0 metres Early Eocene.**

Two sidewall cores, which gave moderate yields of high diversity (average 38 species) spore-pollen assemblages of fair preservation are assigned to the Upper *M. diversus* Zone on the occurrence of *M. tenuis* in both samples (5% at 2746m) and *Proteacidites pachypolus* in the shallower sample. Most other spore-pollen species are consistent with but not particularly diagnostic of the zone. There are, however, a few anomalous occurrence as seems to be typical of more distal marine environment. A good specimen of *Aglaoreidia qualumis* recorded at 2746m is particularly noteworthy as this species consistent First Appearance Datum is within the much younger Middle *N. asperus* Zone. As no other conspicuous younger forms were identified contamination is considered unlikely. Species ranging into strata younger than is typical are *Rotverrusporites stellatus* ms and *Tetracolporites multistrixus* ms both recorded at 2756m.

The spore-pollen assemblages are dominated by *Dilwynites* spp. at 2756m (28%) and *H. harrisii* at 2746m (27%) while *Malvacipollis* spp. represents 12% of the assemblage at 2746m but only 4% at 2756m. The *Nothofagidites* spp. to *H. harrisii* ratio is 0.1 at 2746m and 0.3 at 2756m.

Microplankton dominate (80% of total count) the shallower sample but are subordinate (34%) to the spores-pollen (57%) plus fungal spores (9%) in the deeper sample. The reason for this marked difference in abundances is the flood of the dinoflagellate species *Homotryblium tasmaniense* which dominates both the microplankton count (50%) as well as the total count (41%) for the shallower sample at 2746m. This flood or swarm of *H. tasmaniense* is associated with the key index species *Dracodinium waipawaense* which is represent by numerous but mostly poorly preserved specimens even though in total it represents less than 1% of the microplankton count. The association of the *D. waipawaense* Zone with a flood or swarm of *H. tasmaniense* has been noted in other wells in the basin. As such this local acme of *H. tasmaniense* is potentially an important horizon for correlation within the *H. tasmaniense* Zone of Harris (1985). In the Gippsland Basin the *H. tasmaniense* dinoflagellate Zone (which is based on the total range of the species) seems to equate to the interval from the base of the Upper *M. diversus* to top of the *P. asperopolus* spore-pollen Zones and is typical of sediments of the Flounder Formation.

Recorded microplankton diversity is 13+ species in each sample and 20+ species in the zone, but as in the overlying *P. asperopolus* Zone the true diversity is undoubtedly greater. Although the deeper of the two samples cannot be assigned to the currently recognised dinoflagellate zones in the Gippsland Basin its assemblage is consistent with assemblages recorded from the Flounder Formation.

Lower *Malvacipollis diversus* Zone: 2760.0-2765.0 metres Early Eocene.

Of the two sidewall cores assigned to the Lower *M. diversus* Zone the shallowest at 2760m is confidently assigned on the presence of the index species *Intratriporopollenites notabilis, Spinizonocolpites prominatus* and *Tricolporites paenestriatus* which do not range below this zone, associated with frequent *Malvacipollis diversus* and *Proteacidites grandis* (2%). The deeper sample at 2765m lacks all of the above species except *P. grandis* which is rarer (<1%) and it is assigned to the zone principally on the absence of older indicator species. Although *Lygistepollenites balmei* was recorded it is not associated with other indicator species for the *L. balmei* Zone and therefore is regarded as reworked.

The spore-pollen assemblages are dominated by gymnosperm pollen (44%-47%) and *Dilwynites* spp. is the most abundant type overall (38% at 2760m; 22% at 2765m), and *Proteacidites* spp. the next most abundant category (16% average). Other prominent species are *Haloragacidites harrisii* (8% at 2760m; but only 2% at 2765m); *Nothofagidites* spp. (6% in both samples) and *Proteacidites grandis* (3.2% at 2760m; 0.8% at 2765m) and *Malvacipollis* spp. was recorded as 2% at 2760m.

Although microplankton are common in both samples (13%-20% of total count) there are no significant species in common. The shallower sample can be characterised by the presence of *Wetzeliella symmetrica* and *Diphyes colligerum* and the deeper sample by *Deflandrea dartmooria* and *D. truncata*. The latter sample at 2765m is informally referred to the *D. dartmooria* Association which has been recognised in other wells.

Upper *Lygistepollenites balmei* Zone: 2783.0 metres Late Paleocene.

The top of the Paleocene *L. balmei* Zone is recorded in Whaleshark-1 at 2783m based on the youngest occurrences of frequent *Lygistepollenites balmei* (3%), common *Australopollis obscurus* (5%) and rare *Gambierina rudata* (1.4%). This sidewall core sample is also considered no older than the Upper *L. balmei* Zone based on the presence of *Proteacidites annularis*. The remainder of the spore-pollen species in this moderate diversity assemblage are not particularly diagnostic but are mostly consistent with the zone determination. The presence of a good specimen of *Tricolpites waiparaensis* is anomalous as this species is rare to very rare and inconsistent above the *T. longus* Zones.

The spore-pollen assemblage is dominated by *Dilwynites* spp. (23%) which with other gymnosperm pollen make up 53% of the spore-pollen count. *Proteacidites* spp. at 13% is the commonest angiosperm category and the spores (17%) are dominated by *Gleicheniidites circinidites* (8%).

The microplankton represent 13% of the total count and fungal spores and hyphae at <3% are significantly less abundant than in the overlying Early Eocene zones. The microplankton diversity is a low 5 species and is dominated by *Spinidinium* spp. and *Spiniferites ramosus* s.l. and there were no species recorded which are zone diagnostic.

Lower *Lygistepollenites balmei* Zone: 2786.0-2807.0 metres
and
***Eisenackia crassitabulata* Dinoflagellate Zone: 2786.0-2799.0 metres**
Early Paleocene.

The three sidewall cores of fine grained glauconitic sandstone assigned to this zone gave low to moderate yields of poor to well preserved palynomorphs which were in moderate concentration on the slides. Spore-pollen diversity averaged 26+ species and although the microplankton diversity only averaged 8 species they are abundant in the two shallowest samples.

The samples at 2799m and 2807m are assigned to the Lower *L. balmei* Zone on the presence of *Proteacidites angulatus*. The shallowest sample at 2786m lack this or any other index species of the Lower subdivision of the *L. balmei* Zone, but is assigned to the zone on the basis of the associated dinoflagellates. The absence of index spore-pollen is the combined result of low yield, sandy lithology and marine environment.

Frequent to common age diagnostic spore-pollen in the samples are *Lygistepollenites balmei* (6%-10%); *Australopollis obscurus* (<1%-4%) and *Gambierina rudata* (<1%-5%). Overall the spore-pollen assemblages are dominated by gymnosperm pollen (53%-78%) with *Dilwynites* spp. (7%-26%), *Phyllocladidites mawsonii* (13%-23%) and *Podocarpidites* spp. (14%-15%) being most abundant.

The microplankton assemblages are each of individual character. The shallowest sample at 2786m is dominated by *Eisenackia crassitabulata* (22% of microplankton count), *Senegalinium dilwynense* (28%) and *Deflandrea speciosus* (9%). The middle sample at 2799m is overwhelmingly dominated by a variety of morphotypes of *Glaphrocysta retiintexta* which comprises 93% of the microplankton count and 81% of the total count. Other important species in the sample are *Eisenackia* sp. cf. *E. crassitabulata*, *Isabelidinium bakeri*, *I. cingulata* Wilson 1988 and *Deflandrea speciosus*. These two samples are assigned to the *E. crassitabulata* dinoflagellate Zone even though the middle sample at 2799m lacks perfect specimens of the zone species.

The microplankton assemblage in the deeper sample at 2807m is not dominated by any species but can be characterised by the presence of *Alisocysta circumtabulata* and *Alisocysta margarita*. The sample also contains frequent poorly preserved specimens of a peridinacean dinoflagellate compared to *Trithyrodinium evittii*. Unfortunately these specimens cannot be confidently assigned to this species nor the sample to the *T. evittii* Zone. Instead the sample is correlated to the informal *A. circumtabulata* Association which was found to lie stratigraphically above the *T. evittii* Zone and below the *E. crassitabulata* Zone in Roundhead-1 (Partridge, 1989).

Upper *Tricolpites longus* Zone: 2822.0-2850.0 metres
and
***Manumiella druggii* Dinoflagellate Zone: 2822.0 metres Maastrichtian.**

Of the four sidewall cores analysed over this interval only two gave datable assemblages. Both were assigned to the Upper *T. longus* Zone on the common occurrence of *Gambierina rudata* (18.2% at 2822m and 10.2% at 2850m). Species whose last appearances indicate an age no younger than this zone are *Proteacidites clinei* ms, *P. reticuloconcavus* ms, *Tricolpites confessus* and *Triporopollenites sectilis* whose LADs occur at 2822m, while *Proteacidites palisadus* has its LAD at 2850m.

Principally because of the meagre yields diagnostic microplankton are very rare. A single specimen of *Manumiella conorata* was recorded at 2822m and is the basis for assigning this sample to the *M. druggii* Zone. Other fragmented specimens of *Manumiella* were recorded from this sample and at 2850m but these cannot be confidently assigned to any species. Several specimens of an undescribed moderate sized dinoflagellate assigned to *Batiacasphaera* sp. were also recorded at 2850m. Notwithstanding the low diversity, low abundance and sporadic occurrence of microplankton it is considered that all of the Upper *T. longus* Zone sampled was deposited in a marine environment.

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TABLE-1: INTERPRETATIVE PALYNOLOGICAL DATA FOR WHALESHARK-1, GIPPSLAND BASIN.

SAMPLE TYPE	DEPTH (m)	SPORE-POLLEN ZONES	*CR OLD	*CR NEW	MICROPLANKTON ZONES (OR ASSOCIATION)	*CR OLD	*CR NEW	COMMENTS
SWC 19	2617	*P. tuberculatus*	2	B4	(*Operculodinium* spp.)	0	B3	Microplankton 86%.
SWC 17	2720	Indeterminate			(*Operculodinium* spp.)	2	B5	Microplankton 83%.
SWC 16	2721	*P. tuberculatus*	0	B2	*T. vancampoae*	0	B3	Microplankton 78% FAD *Cyatheacidites annulatus*.
SWC 15	2725	*P. asperopolus*	0	B1	(*Tritonites bilobus*)	0	B2	Microplankton 22% LAD *Myrtaceidites tenuis*.
SWC 14	2726	*P. asperopolus*	0	B1	*K. edwardsii*	0	B2	Microplankton 16% FAD *Conbaculites apiculatus* ms.
SWC 13	2746	Upper *M. diversus*	0	B1	*D. waipawaense*	0	B2	Microplankton 81% *Homotryblium tasmaniense* 50%.
SWC 12	2756	Upper *M. diversus*	1	B1				Microplankton 34% FAD *Myrtaceidites tenuis*.
SWC 11	2760	Lower *M. diversus*	1	B1				Microplankton 20%.
SWC 10	2765	Lower *M. diversus*	2	B4	(*D. dartmooria*)	1	B1	Microplankton 13%.
SWC 9	2783	Upper *L. balmei*	1	B1				Microplankton 13% FAD *Proteacidites annularis*.
SWC 8	2786	Lower *L. balmei*	2	B4	*E. crassitabulata*	1	B3	Microplankton 34%.
SWC 7	2799	Lower *L. balmei*	0	B2	*E. crassitabulata*	1	B3	Microplankton 87% LAD *Proteacidites angulatus*.
SWC 6	2807	Lower *L. balmei*	0	B1	(*A. circumtabulata*)	1	B3	Microplankton 7%.
SWC 5	2822	Upper *T. longus*	0	B1	*M. druggii*	1	B3	Microplankton 2%; *Gambierina* spp. 18%.
SWC 4	2834	*T. longus/T. lilliei*						Very low yield.
SWC 2	2842	Indeterminate						Virtually barren.
SWC 1	2850	Upper *T. longus*	2	B4				*Gambierina* spp. 10%.

*CR = Confidence Ratings OLD & NEW
FAD = First Appearance Datum
LAD = Last Appearance Datum

CONFIDENCE RATINGS

The concept of Confidence Ratings applied to palaeontological zone picks was originally proposed by Dr. L.E. Stover in 1971 to aid the compilation of micropalaeontological and palynological data and to expedite the revision of the then rapidly evolving zonation concepts in the Gippsland Basin. The original or OLD scheme which mixes confidence in fossil species assemblage with confidence due to sample type has gradually proved to be rather limiting as additional refinements to existing zonations have been made. With the development of the STRATDAT computer database as a replacement for the increasingly unwieldy paper based Palaeontological Data Sheet files a NEW set of Confidence Ratings have been proposed. Both OLD and NEW Confidence Ratings for zone picks are given on Table 1, and their meanings are summarised below:

OLD CONFIDENCE RATINGS

0 SWC or CORE, Excellent Confidence, assemblage with zone species of spore, pollen and microplankton.

1 SWC or CORE, Good Confidence, assemblage with zone species of spores and pollen or microplankton.

2 SWC or CORE, Poor Confidence, assemblage with non-diagnostic spores, pollen and/or microplankton.

3 CUTTINGS, Fair Confidence, assemblage with zone species of either spore and pollen or microplankton, or both.

4 CUTTINGS, No Confidence, assemblage with non-diagnostic spores, pollen and/or microplankton.

NEW CONFIDENCE RATINGS

Alpha codes: Linked to sample type

A Core
B Sidewall core
C Coal cuttings
D Ditch cuttings
E Junk basket
F Miscellaneous/unknown
G Outcrop

Numeric codes: Linked to fossil assemblage

1 **Excellent confidence:** High diversity assemblage recorded with key zone species.

2 **Good confidence:** Moderately diverse assemblage recorded with key zone species.

3 **Fair confidence:** Low diversity assemblage recorded with key zone species.

4 **Poor confidence:** Moderate to high diversity assemblage recorded without key zone species.

5 **Very low confidence:** Low diversity assemblage recorded without key zone species.

BASIC DATA

TABLE 2: BASIC SAMPLE DATA

TABLE 3: BASIC PALYNOMORPH DATA

RELINQUISHMENT LISTS

SPORE-POLLEN RANGE CHART
(ATTACHMENT)

MICROPLANKTON RANGE CHART
(ATTACHMENT)

TABLE 2: BASIC SAMPLE DATA WHALESHARK-1, GIPPSLAND BASIN.

SAMPLE TYPE	DEPTH (M)	LITHOLOGY	SAMPLE WT (g)	RESIDUE YIELD
SWC 19	2617.0	Med-dk grey calcisiltite	8.4	Low
SWC 17	2720.0	Med.grey laminated calcisiltite	5.8	Very low
SWC 16	2721.0	Med.grey calcisiltite tr.glauc.	9.8	Very low
SWC 15	2725.0	Black siltstone, pyritic	13.0	Moderate
SWC 14	2726.0	Dk gry-blk siltstone, pyritic	13.9	Moderate
SWC 13	2746.0	Black glauconitic siltstone	12.7	Moderate
SWC 12	2756.0	Blk-grn glauconitic siltstone	13.1	Moderate
SWC 11	2760.0	Dk grn-brn glauconitic siltstone	14.4	High
SWC 10	2765.0	Dk gry brn glauconitic sandstone	13.1	Moderate
SWC 9	2783.0	Grn-grey glauconitic sandstone	16.5	Moderate
SWC 8	2786.0	Gry-grn glauconitic sandstone	13.4	Low
SWC 7	2799.0	Gry-grn glauconitic sandstone	15.9	High
SWC 6	2807.0	Grn-gry glauconitic sandstone, burrowed.	13.8	Moderate
SWC 5	2822.0	Dk grey clayey sandstone	11.8	Moderate
SWC 4	2834.0	Med grey clayey sandstone	14.7	Very low
SWC 2	2842.0	Lt grey med-crs qtz sandstone	11.4	Very low
SWC 1	2850.0	Lt grey vf-f clayey sandstone	8.2	Very low

TABLE 3: BASIC PALYNOMORPH DATA WHALESHARK-1, GIPPSLAND BASIN

SAMPLE TYPE	DEPTH (M)	PALYNOMORPH CONCENTRATION	FOSSIL PRESERVATION and No. Spore-Pollen Species*		MICROPLANKTON Abundance & No. of Species*	
SWC 19	2617.0	High	Fair-poor	14	Very Abundant	8
SWC 17	2720.0	Low	Poor	6	Very Abundant	5
SWC 16	2721.0	Moderate	Poor	13	Very Abundant	9
SWC 15	2725.0	High	Poor-good	52	Abundant	12
SWC 14	2726.0	High	Excellent	48	Common	10
SWC 13	2746.0	Moderate	Fair	34	Very Abundant	13
SWC 12	2756.0	Moderate	Fair	42	Common	13
SWC 11	2760.0	Moderate	Fair-good	42	Abundant	11
SWC 10	2765.0	Moderate	Fair-good	48	Common	10
SWC 9	2783.0	High	Fair-good	36	Common	5
SWC 8	2786.0	Moderate	Fair-good	22	Very Abundant	8
SWC 7	2799.0	High	Poor-good	21	Very Abundant	7
SWC 6	2807.0	Moderate	Fair	35	Frequent	8
SWC 5	2822.0	Moderate	Fair-v. good	27	Rare	3
SWC 4	2834.0	Moderate	Good	9		
SWC 2	2842.0	Very low	Fair	4		
SWC 1	2850.0	Low	Fair-good	18	Rare	2

*Diversity:
Very Low = 1- 5 species.
Low = 6-10 species.
Moderate = 11-25 species.
High = 26-74 species.
Very High = 75+ species.

RELINQUISHMENT LIST - PALYNOLOGY SLIDES

WELL NAME & NO: WHALESHARK-1

PREPARED BY: A.D. PARTRIDGE

DATE: 21 DECEMBER 1992

SHEET 1 OF 1

SAMPLE TYPE	DEPTH (M)	CATALOGUE NUMBER	DESCRIPTION
SWC 19	2617	P196297	Kerogen slide sieved/unsieved fractions
SWC 19	2617	P196298	Oxidized slide 2
SWC 17	2720	P196299	Kerogen slide sieved fraction (1/4 cover slip)
SWC 16	2721	P196300	Kerogen slide sieved fraction
SWC 15	2725	P196301	Kerogen slide sieved/unsieved fractions
SWC 15	2725	P196302	Oxidized slide 2
SWC 15	2725	P196303	Oxidized slide 3 (1/2 cover slip)
SWC 14	2726	P196304	Kerogen slide 20 micron sieved
SWC 14	2726	P196305	Oxidized slide 2
SWC 14	2726	P196306	Oxidized slide 3 (1/2 cover slip)
SWC 13	2746	P196307	Kerogen slide sieved/unsieved fractions
SWC 13	2746	P196308	Oxidized slide 2
SWC 13	2746	P196309	Oxidized slide 3
SWC 12	2756	P196310	Kerogen slide sieved/unsieved fractions
SWC 12	2756	P196311	Oxidized slide 2
SWC 12	2756	P196312	Oxidized slide 3
SWC 12	2756	P196313	Oxidized slide 4 (1/2 cover slip)
SWC 11	2760	P196314	Kerogen slide sieved/unsieved fractions
SWC 11	2760	P196315	Oxidized slide 2
SWC 11	2760	P196316	Oxidized slide 3
SWC 11	2760	P196317	Oxidized slide 4
SWC 10	2765	P196318	Kerogen slide sieved/unsieved fractions
SWC 10	2765	P196319	Oxidized slide 2
SWC 10	2765	P196320	Oxidized slide 3 (1/2 cover slip)
SWC 9	2783	P196321	Kerogen slide sieved/unsieved fractions
SWC 9	2783	P196322	Oxidized slide 2
SWC 9	2783	P196323	Oxidized slide 3
SWC 9	2783	P196324	Oxidized slide 4 (1/2 cover slip)
SWC 8	2786	P196325	Kerogen slide sieved/unsieved fractions
SWC 8	2786	P196326	Oxidized slide 2
SWC 8	2786	P196327	Oxidized slide 3 (1/2 cover slip)
SWC 7	2799	P196328	Kerogen slide sieved/unsieved fractions
SWC 7	2799	P196329	Oxidized slide 2
SWC 7	2799	P196330	Oxidized slide 3
SWC 7	2799	P196331	Oxidized slide 4
SWC 6	2807	P196332	Kerogen slide sieved/unsieved fractions
SWC 6	2807	P196333	Oxidized slide 2
SWC 6	2807	P196334	Oxidized slide 3
SWC 5	2822	P196335	Kerogen slide sieved/unsieved fractions
SWC 5	2822	P196336	Oxidized slide 2
SWC 5	2822	P196337	Oxidized slide 3
SWC 5	2822	P196338	Oxidized slide 4
SWC 4	2834	P196339	Kerogen slide (1/4 cover slip)
SWC 2	2842	P196340	Kerogen slide (1/4 cover slip)
SWC 1	2850	P196341	Kerogen sieved/unsieved (1/4 cover slips)

RELINQUISHMENT LIST - PALYNOLOGY RESIDUES

WELL NAME & NO: WHALESHARK-1

PREPARED BY: A.D. PARTRIDGE

DATE: 21 DECEMBER 1992

SAMPLE TYPE	DEPTH (M)	DESCRIPTION
SWC 15	2725	Kerogen residue
SWC 12	2756	Kerogen residue
SWC 7	2799	Oxidized residue
SWC 5	2822	Oxidized residue

PE900490

This is an enclosure indicator page.
The enclosure PE900490 is enclosed within the container PE900984 at this location in this document.

The enclosure PE900490 has the following characteristics:

ITEM_BARCODE = PE900490
CONTAINER_BARCODE = PE900984
NAME = Microplankton Range Chart
BASIN = GIPPSLAND
PERMIT = VIC/P24
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Microplankton Range Chart for Whaleshark-1
REMARKS =
DATE_CREATED = 31/01/93
DATE_RECEIVED =
W_NO = W1068
WELL_NAME = WHALESHARK-1
CONTRACTOR = BIOSTRATA PTY LTD
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

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PE900491

This is an enclosure indicator page.
The enclosure PE900491 is enclosed within the container PE900984 at this location in this document.

The enclosure PE900491 has the following characteristics:

ITEM_BARCODE = PE900491
CONTAINER_BARCODE = PE900984
NAME = Spore-Pollen Range Chart
BASIN = GIPPSLAND
PERMIT = VIC/P24
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Spore-Pollen Range Chart for Whaleshark-1
REMARKS =
DATE_CREATED = 31/01/93
DATE_RECEIVED =
W_NO = W1068
WELL_NAME = WHALESHARK-1
CONTRACTOR = BIOSTRATA PTY LTD
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

APPENDIX 2

MICROPALAEONTOLOGICAL ANALYSIS
WHALESHARK-1, PERMIT VIC-P-24
GIPPSLAND BASIN

FOR

ESSO AUSTRALIA LTD

J.P. REXILIUS

FEBRUARY, 1993

INTERNATIONAL STRATIGRAPHIC CONSULTANTS PTY LTD
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CONTENTS

I. SUMMARY

Whaleshark–1 was drilled in offshore petroleum permit Vic–P–24, Gippsland Basin to a depth of 2870mKB. A total of 15 sidewall core samples from the interval 1561m to 2721m have been examined for foraminifera. A summary of the planktonic foraminiferal breakdown is given below:–

Planktonic Foraminiferal Sub–division

1561m	Zone A–3	Late Pliocene
1693m–2290m	Zone A–4	lower Late–Early Pliocene
2445m	Zones B–2 & C	Late–upper Middle Miocene
2606m	?Zone C	?Middle Miocene
2617m	Zones F/G boundary	upper Early Miocene
2693m	Zone H–2	latest Late Oligocene
2720m–2721m	Zone I–1	upper Late Oligocene

Environment of Deposition

Samples 1561m–2606m inclusive	upper bathyal
Samples 2617m–2721m inclusive	middle bathyal

II. INTRODUCTION

A total of 15 sidewall core samples from the interval 1561m to 2721m have been examined for foraminifera.

Foraminiferal assemblages identified in the well section have been plotted on the distribution chart (Figure No. 1).

III. BIOSTRATIGRAPHIC ANALYSIS

The planktonic foraminiferal letter scheme of Taylor (in prep.) is used for biostratigraphic subdivision.

1. **1561m : Zone A–3 (Late Pliocene)**

   The association of *Globorotalia puncticulata* and *Neogloboquadrina humerosa* indicates assignment to Zone A–3.

2. **1693m–2290m : Zone A–4 (lower Late–Early Pliocene)**

   Assignment to Zone A–4 is based on the association of *Globorotalia crassaformis*, *Globorotalia puncticulata* and *Globorotalia sphericomiozea*. The *Globorotalia margaritae* group occurs sporadically in the upper part of the interval (1693m–1762m).

3. **2445m : Zones B–2 & C (Late–upper Middle Miocene)**

   The impoverished planktonic foraminiferal fauna at 2445m includes *Globorotalia miotumida miotumida* and *Globorotalia scitula* and lacks *Globorotalia miotumida conomiozea* and on this basis is assigned to Zones B–2 and C.

4. **2606m : ?Zone C (?Middle Miocene)**

   The very poorly preserved planktonic foraminiferal assemblage includes a single specimen of *Globorotalia miotumida miotumida* together with minor *Globorotalia scitula*. The assemblage is interpreted to be probably Zone C in age.

5. **2617m : Zones F/G boundary (upper Early Miocene)**

   The rich and well preserved planktonic foraminiferal fauna at 2617m is assigned to the boundary between Zone F and Zone G. The assemblage includes rare *Globigerinoides bisphericus* together with common *Globigerinoides trilobus* and minor specimens of the elongate morphotype of *Globigerinoides trilobus*.

6. **2693m : Zone H–2 (latest Late Oligocene)**

   The rich and well preserved planktonic foraminiferal fauna at 2693m includes *Globigerina woodi woodi* and lacks *Globigerina woodi connecta*. On this basis the sample is assigned to Zone H–2.

7. **2720m–2721m : Zone I–1 (upper Late Oligocene)**

   Assignment to Zone I–1 is based on the occurrence of *Globoquadrina dehiscens* s.l. and the lack of *Globigerina woodi woodi*.

IV. ENVIRONMENT OF DEPOSITION

1. Samples 1561m–2606m inclusive : Upper bathyal

The limestones in the interval are interpreted to have been deposited in an upper bathyal setting. The benthonic foraminiferal faunas include the following bathymetrically-significant taxa: *Euuvigerina peregrina* (few), *Pullenia bulloides* (single–few), *Osangularia* (single specimen at 1561m and a few specimens at 1762m).

2. Samples 2617m–2721m inclusive : Middle bathyal

The planktonic foraminiferal ooze samples (all samples dominated by planktonics-greater than 95% planktonics) include the following bathymetrically–diagnostic benthonic foraminiferal taxa: *Hyperammina* (rare–few), *Bathysiphon* (few), *Cyclammina* (single–rare), *Glomospira* (single), *Cribrostomoides* (rare–few), *Planulina wuellerstorfi* (single at 2617m) and *Osangularia bengalensis* (rare–few). Deposition in a middle bathyal environment is envisaged.

V. REFERENCES

TAYLOR. D.J., (in prep.). Observed Gippsland biostratigraphic sequences of planktonic foraminiferal assemblages.

APPENDIX NO. 1 : SUMMARY OF MICROPALAEONTOLOGICAL DATA, WHALESHARK-1

SAMPLE (mKB)	FORAM YIELD	FORAM PRESERV.	FORAM DIVERSITY
SWC30, 1561	high	poor–very poor	high
SWC29, 1693	moderate	very poor	moderate
SWC28, 1747	high	poor	high
SWC27, 1755	moderate	very poor	moderate
SWC26, 1762	high	poor	high
SWC25, 1987	moderate	very poor	moderate–high
SWC24, 2143	low	very poor	low
SWC23, 2285	high	very poor	moderate–high
SWC22, 2290	high	poor	high
SWC21, 2445	low	very poor	moderate
SWC20, 2606	moderate–low	very poor	moderate–high
SWC19, 2617	high	good	high
SWC18, 2693	high	poor	moderate–low
SWC17, 2720	high	very poor	moderate–high
SWC16, 2721	high	poor–very poor	high

SPECIES	1561	1693	1747	1755	1762	1887	2143	2285	2290	2445	2606	2617	2693	2720	2721
PLANKTONIC FORAMINIFERA															
Globigerina bulloides	c	r	c	f	a	s	f	f	c	r					
Globigerinoides sacculiferus	r														
Orbulina suturalis	f			r	r			f							
Orbulina universa	c	r	r	r	c	c	f	c	f	s	c				
Neogloboquadrina dutertreii	r														
Globorotalia inflata	r														
Neogloboquadrina pachyderma	f	s	f		f				c						
Globigerinoides trilobus trilobus	f	s	f	f	c	s		r	c	s	s	c			
Globorotalia scitula	r	s			f			s		r	r				
Globigerina decoraperta	f			s	r				r						
Globigerinella aequilateralis	r				r			s							
Neogloboquadrina humerosa	f				r	s		r							
Globigerina falconensis	r		s	s					s						
Globorotalia puncticulata	c	r	r	r	r			s							
Globorotalia crassaformis	r	s	s	r	r	f	s	c							
Globigerinoides quadrilobatus	f		f	f	c	r	r	f	f	r	f	f			
Globorotalia sphericomiozea	f	r	r	r	f			f	r						
Indeterminate/Juvenile planktonics		c	c	c	c	r	f	f	a	f	f		a	a	a
Globigerinoides ruber		s	r												
Globorotalia aff. margaritae		s													
Globorotalia margaritae				s											
Globorotalia acostaensis					c		r	f	a						
Globigerina apertura					s										
Globorotalia margaritae primitiva					s			s							
Globorotalia miozea conoides									f	r	r				
Globorotalia conomiozea									r						
Globorot. miozea conoid.\sphericom.									s						
Sphaeroidinella seminulina									s						
Globorotalia miotumida miotumida										s	s				
Globorot. miotum. miotum.\mioz. con.											r				
Globigerina woodi woodi											s	c			
Globorotalia mayeri mayeri											s	a			
Orbulina bilobata											s				
Globigerina praebulloides												c	c		r
Globorotalia praescitula												f			
Globorotalia zealandica												f			
Globigerina woodi connecta												f			
Globigerinoides altiapertura												f			
Globoquadrina dehiscens s.s.												r			
Globorotalia bella												r			
Catapsydrax unicavus												r	r		
Globigerinoides trilobus (elongate)												r			
Globigennoides bisphericus												s			
Globorotalia continuosa												s			
Globoquadrina dehiscens s.l.													r	s	r
Globigerina aff. euapertura													c		
Globigerina angustiumbilicata													r		
Globigerina woodi brazieri													r		
Catapsydrax stainforthi													s		r
Globorotalia mayeri group													s	s	s
Globigerina spp.													c	c	c
Catapsydrax dissimilis														r	r
Guembelitna spp.														s	
Globigerina euapertura														s	
Globorotalia aff. opima														s	
Globigerina venezuelana														f	f
Globigerina tripartita															s
OTHER SKELETAL MATERIAL															
Ostracods	r	s	r	r	f	f		s	f	s	s				s
Echinoid debris	f		s		f	f		c							r
Fish teeth												r		s	

FIGURE 1 ctd. Micropaleontological distribution chart for Whaleshark-1. Key: s-single, r-rare, f-few, c-common, a-abundant.

PE905602

This is an enclosure indicator page.
The enclosure PE905602 is enclosed within the container PE900984 at this location in this document.

The enclosure PE905602 has the following characteristics:

ITEM_BARCODE = PE905602
CONTAINER_BARCODE = PE900984
NAME = Micropaleotological distribution Chart
BASIN = GIPPSLAND
PERMIT = VIC/P24
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Micropaleontological Distibution Chart (from WCR--vol 2--appendix 2) for Whaleshark-1
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W1068
WELL_NAME = WHALESHARK-1
CONTRACTOR =
CLIENT_OP_CO =

(Inserted by DNRE - Vic Govt Mines Dept)

APPENDIX 3

WHALESHARK 1

QUANTITATIVE LOG ANALYSIS

Interval:	2715 - 2870 mMDKB
Analyst:	M. C. Schapper
Date:	December, 1992

CONTENTS

WHALESHARK 1 QUANTITATIVE LOG ANALYSIS

Wireline log data from the Whaleshark 1 wildcat well have been quantitatively analysed for effective porosity and effective water saturation over the interval 2715 - 2870 mMDKB. The results of this analysis are presented as a depth plot, a tabular listing (Appendix 2) and an interval summary table (Table 2). All depths used in this analysis are in mMDKB as the well was not deviated.

Data Acquisition and Quality:

Logs were recorded by Schlumberger using the Maxis 500 unit. The data used in this analysis were acquired in two runs: one recording the resistivity and gamma ray data and the other recording the neutron and density data.

The caliper log (CALI) shows the borehole to be in generally good condition throughout the analysis interval. Minor washouts are present at 2725 metres and 2750 metres and have degraded the quality of the MSFL log slightly in these depths. The degradation of MSFL quality has not adversely affected the analysis as both of these washouts are in non porous silty intervals. The effect of these washouts on the bulk density log (RHOB) was not significant. The quality of other logs is good throughout the analysis interval. The MSFL used was environmentally corrected by Schlumberger. Environmental corrections were not used for other logs and depth alignment of individual logs was not required.

Logs Used:

GR	(gamma ray)
LLD	(deep laterolog)
MSFC	(environmentally corrected MSFL)
RHOB	(bulk density)
NPOR	(alpha processed neutron porosity)
CALI	(caliper)

Analysis Methodolgy:

Porosities and water saturations were calculated using an interative technique which converges into a preselected grain density window by appropriately incrementing or decrementing shale volume (Vsh). The initial shale volume, used as the starting point for the iterative process, was calculated from the gamma ray response. The model incorporates porosity calculation from density - neutron crossplot algorithms, water saturation from the dual water relationship, hydrocarbon corrections to porosity logs where applicable and convergence upon the preselected grain density window by shale volume adjustment. The preselected grain density window is calculated from hydrocarbon and shale corrected density and neutron logs. The algorithms used are shown in appendix 1.

Analysis Parameters:

Parameters used in the analysis are shown in Table 1 of this report. Formation water salinity was estimated using the Rwa method. Because of the lack of true shales in the Latrobe Group section, constant values were used for the shale parameters RSH, RHOBSH and PHINSH. The values chosen were the default shale parameter values in the LOGIC K12 log analysis program.

Summary of Results:

Quantitative log analysis indicates that the entire section in Whaleshark is water wet. The effective porosity may be overestimated in the interval between 2785 and 2807 mMDKB due to a shift in the neutron porosity to higher values and a shift in the bulk density to lower values caused by the presence of abundant glauconite. The effect of the glauconite on the effective porosity was not quantitatively evaluated as no mineralogical anaylsis has been carried out to quantify the amount of glauconite present.

TABLE 1: WHALESHARK 1 ANALYSIS PARAMETERS.

Tortuosity (a):	1.000
Cementation factor (m):	2.000
Saturation exponent (n):	2.000
Fluid density:	1.000
Gamma ray value in clean formation (grmin):	40 gapi
Gamma ray value in shale (grmax):	115 gapi
Apparent shale resistivity (rsh):	4 ohmm
Apparent shale bulk density (rhobsh):	2.50 g/cm3
Apparent shale neutron porosity (phinsh):	0.30 frac
Input hydrocarbon density:	0.70 g/cm3
Lower limit of grain density:	2.645 g/cm3
Upper limit of grain density:	2.675 g/cm3
Formation water entered in terms of salinity	
Formation water salinity:	60000 ppm
Measured Rmf:	0.053 ohmm
Temperature at which Rmf was measured:	55 deg C
Sxo derived from Rxo	
Logged TD	2865 mMDKB
Logged bottom hole temperature:	61 deg C
Estimated sea bed temperature:	10 deg C
Water depth:	717 m
KB height:	22 m
Irreducible water saturation: (lower limit)	0.025 frac
Vsh upper limit for effective porosity:	0.65 frac
Minimum effective porosity for hydrocarbons:	0.03 frac

TABLE 2:

WHALESHARK 1 ANALYSIS SUMMARY

Net porosity cutoff = 0.120 per unit volume

	GROSS INTERVAL (metres) (top) -(base)	Gross Metres	NET POROUS INTERVAL Net Metres	Net to Gross	Mean Vsh	(Std.) (Dev.)	Mean Porosity	(Std.) (Dev.)	Mode Porosity	Mean Sw	INTEGRATED HYDROCARBON PORE VOLUME
MDKB	2784.6-2798.2	13.6	7.8	57 %	0.37	(0.084)	0.20	(0.030)	0.18	1.00	0.000
MDKB	2798.8-2807.0	8.2	4.6	56 %	0.42	(0.038)	0.17	(0.022)	0.19	1.00	0.000
MDKB	2808.6-2814.8	6.2	2.0	32 %	0.21	(0.121)	0.15	(0.011)	0.16	1.00	0.000
MDKB	2815.6-2820.6	5.0	3.0	60 %	0.30	(0.081)	0.17	(0.030)	0.16	1.00	0.000
MDKB	2823.2-2849.8	26.6	20.8	78 %	0.21	(0.147)	0.18	(0.025)	0.19	1.00	0.000

APPENDIX 1

ALGORITHMS AND LOGIC USED IN THE QUANTITATIVE ANALYSIS.

Initial shale volume calculated from GR response.

```
vsh = (gr-grmin)/(grmax-grmin)
```

Apparent total porosity and shale porosity calculated from one of two sources, at the analyst's discretion:

1) Density-Neutron Crossplot Porosity.

   Initial estimate of total porosity from density-neutron crossplot algorithms, using bulk density and neutron porosity (limestone matrix, decimal p.u.) log values.

```
h = 2.71 - rhob + nphi*(rhof-2.71)
   if (h < 0) rho[matrix] = 2.71 - 0.64*h
   else       rho[matrix] = 2.71 - 0.5*h
phit = (rho[matrix]-rhob)/(rho[matrix]-rhof)
```

   Similarly, apparent shale porosity is calculated using apparent shale bulk density and shale neutron porosity values as input to the same algorithms

2) Sonic Porosity.

   Calculated using the following relationship derived in zones of good hole conditions by cross-plotting density-neutron crossplot porosity against DT:

```
phis = 0.0055 * dt - 0.2925
```

   Similarly, apparent shale porosity is calculated from shale transit time, using the same relationship.

Effective porosity is derived by shale correcting the apparent total porosity.

```
    phie = phit-(vsh*phish)
or, phie = phis - (vsh*phish)
```

Water saturation (total) calculated using dual water relationship:

```
1/rt=(swt**n)*(phit**m)/(a*rw)+swt**(n-1)*(swb*(phit**m)/a)*((1/rwb)-(1/rw))
      This is solved for Sw by Newtons solution
        exsw=0.
        sw  =0.9
        aa  =((phiti**m)/(a*rwi))
        bb  =((swb*(phiti**m)/a)*((1/rwb)-(1/rwi)))
            repeat
              fx1=(aa*(sw**n))+(bb*(sw**(n-1)))-(1/res)
              fx2=(n*aa*(sw**(n-1)))+((n-1)*bb*(sw**(n-2)))
                 if((abs(fx2)) < 0.0001)
                  fx2=0.0001
              swp=sw
              sw =swp-(fx1/fx2)
              exsw=exsw+1
            until (exsw > 4 or (abs(sw-swp)) <= 0.01)
        swt=sw
               [ where:swb = bound water saturation            ]
               [       swb = max(0,(min(1,(vsh*phish/phit)))) ]
```

If appropriate, invaded zone saturation (Sxo) is then calculated using the same algorithms, replacing Rt with Rxo, and Rw with Rmfi (resistivity of mud filtrate at formation temperature), where:

```
  rmfi= rmf*((trmf+6.77)/(ti+6.77))
   where: [ ti = temperature at zone of interest (degrees F)   ]
          [ ti = ((bht-sbt)/(td-wd-kb))*(depth-wd-kb) + sbt   ]
          [ rmf= measured rmf value                           ]
          [trmf= temperature(F) at which rmf was measured     ]
```

Alternatively, if no Rxo log is available, Sxo is estimated by the relationship Sxo = Sw**Z, where Z is an analyst input.

The bulk density and neutron porosity log responses are then corrected for hydrocarbon effects, using the following algorithms, which incorporate calculated Sxo and analyst input hydrocarbon density (rhoh).

```
 rhobh=rhob+1.07*phit*(1-sxot)*((1.11-0.1*p)*rhof-1.15*rhoh)
 phinh=nphi+(1.3*phit*(1-sxot)*(rhof*(1-p)-1.5*rhoh+0.2))/(rhof*(1-p))
           where:[  p = mud filtrate salinity in parts per unity ]
                 [  p = 0.1778*(3/(rmf*(trmf+7)-1))**(1.05)      ]
```

Total porosity is then recalculated from the density-neutron crossplot algorithm, using the hydrocarbon corrected porosity logs, Sw and Sxo recalculated, and replacement hydrocarbon corrections calculated using the latest Sxo. This process is repeated until the latest total porosity calculated is within 0.008pu (0.8% porosity) of the previously calculated value. At this stage, clay corrections are made to the hydrocarbon corrected bulk density and neutron porosity logs, and apparent matrix density calculated from the density-neutron crossplot algorithm.

```
rhobc = (rhobh - vsh*rhobsh)/(1 - vsh)
phinc = (phinh - vsh*phinsh)/(1 - vsh)
h  = 2.71 - rhobc + phinc*(rhof-2.71)
   if (h < 0)  rhogc = 2.71 - 0.64*h
   else        rhogc = 2.71 - 0.5*h
```

The apparent matrix density is compared to the analyst input grain density window. If it falls within this window, effective porosity and water saturation are calculated, and the processing sequence finished. If it falls outside the specified grain density window, shale volume is incremented or decremented, and the whole processing sequence repeated, until the calculated grain density falls within the grain density window.

Effective porosity and water saturation are derived from calculated total porosity and water saturation as follows:

```
phie= max(0.001,(phit-(vsh*phish)))
swe = max(swirr,( 1 - ((phit/phie)*(1-swt))))
sxo =1 - ((phit/phie)*(1-sxot))
sxo = min(sxo,swe,1)
   if (vsh > vshco) {
      swt  = 1
      swe  = 1
      sxo  = 1
      phie = 0
   }
   if (vsh > (vshco-0.2)) {
      phie= phie*((vshco-vsh)/0.2)
      swe = 1-((1-swe)*((vshco-vsh)/0.2))
      sxo = 1-((1-sxo)*((vshco-vsh)/0.2))
   }
```

At high shale volumes, the final calculated effective porosity and water saturation are modified as follows:

```
if (vsh > vshco)  phie = 0, swe  = 1
else if (vsh > (vshco-0.2))
   phie = phie*((vshco-vsh)/0.2)
   swe  = 1-((1-swe)*((vshco-vsh)/0.2))
```

where: vshco = analyst defined vsh cut-off value

APPENDIX 2:

WHALESHARK_1
Well Data Listing (page 1)

DEPTH (mRKB)	GR api	RT ohmm	RHOB g/cc	NPHI frac	VSH frac	PHIE frac	SWE frac
2722.2	62	2.5	2.500	0.374	1.000	0.000	1.000
2722.4	68	2.3	2.483	0.369	1.000	0.000	1.000
2722.6	75	2.2	2.520	0.384	1.000	0.000	1.000
2722.8	83	2.0	2.589	0.419	1.000	0.000	1.000
2723.0	89	2.1	2.599	0.386	1.000	0.000	1.000
2723.2	90	2.1	2.563	0.393	1.000	0.000	1.000
2723.4	92	2.1	2.478	0.400	1.000	0.000	1.000
2723.6	94	2.2	2.445	0.358	1.000	0.000	1.000
2723.8	102	2.6	2.458	0.317	0.967	0.000	1.000
2724.0	112	3.0	2.502	0.294	0.979	0.000	1.000
2724.2	110	3.4	2.515	0.306	1.000	0.000	1.000
2724.4	104	3.6	2.484	0.300	0.960	0.000	1.000
2724.6	102	3.5	2.454	0.280	0.833	0.000	1.000
2724.8	103	3.5	2.440	0.266	0.713	0.000	1.000
2725.0	100	3.4	2.428	0.294	0.804	0.000	1.000
2725.2	98	3.2	2.427	0.293	0.792	0.000	1.000
2725.4	96	3.1	2.434	0.313	0.891	0.000	1.000
2725.6	103	3.1	2.462	0.308	0.938	0.000	1.000
2725.8	110	3.3	2.479	0.311	0.991	0.000	1.000
2726.0	103	3.4	2.516	0.281	0.962	0.000	1.000
2726.2	97	3.5	2.570	0.283	1.000	0.000	1.000
2726.4	99	3.8	2.618	0.290	1.000	0.000	1.000
2726.6	100	3.8	2.536	0.301	1.000	0.000	1.000
2726.8	100	3.7	2.460	0.284	0.837	0.000	1.000
2727.0	105	3.6	2.449	0.290	0.865	0.000	1.000
2727.2	111	3.4	2.450	0.248	0.668	0.000	1.000
2727.4	110	3.6	2.455	0.306	0.929	0.000	1.000
2727.6	106	3.6	2.460	0.323	0.993	0.000	1.000
2727.8	101	3.6	2.468	0.290	0.881	0.000	1.000
2728.0	103	3.6	2.465	0.316	0.981	0.000	1.000
2728.2	99	3.7	2.459	0.329	1.000	0.000	1.000
2728.4	98	3.7	2.460	0.325	1.000	0.000	1.000
2728.6	99	3.7	2.460	0.313	0.956	0.000	1.000
2728.8	99	3.7	2.456	0.311	0.939	0.000	1.000
2729.0	100	3.6	2.445	0.331	0.991	0.000	1.000
2729.2	102	3.5	2.442	0.309	0.893	0.000	1.000
2729.4	110	3.3	2.444	0.326	0.967	0.000	1.000
2729.6	114	3.2	2.443	0.362	1.000	0.000	1.000
2729.8	115	3.2	2.455	0.363	1.000	0.000	1.000
2730.0	111	3.3	2.444	0.333	0.998	0.000	1.000
2730.2	111	3.5	2.446	0.320	0.950	0.000	1.000
2730.4	111	3.5	2.483	0.349	1.000	0.000	1.000
2730.6	105	3.4	2.531	0.339	1.000	0.000	1.000
2730.8	99	3.5	2.526	0.369	1.000	0.000	1.000
2731.0	97	3.4	2.478	0.364	1.000	0.000	1.000
2731.2	102	3.4	2.459	0.340	1.000	0.000	1.000
2731.4	108	3.4	2.449	0.287	0.907	0.000	1.000
2731.6	112	3.5	2.453	0.340	1.000	0.000	1.000
2731.8	109	3.7	2.442	0.309	0.921	0.000	1.000
2732.0	111	3.8	2.418	0.312	0.941	0.000	1.000
2732.2	113	3.8	2.415	0.325	0.971	0.000	1.000
2732.4	109	3.8	2.445	0.289	0.925	0.000	1.000
2732.6	110	3.9	2.449	0.311	0.929	0.000	1.000
2732.8	113	3.8	2.457	0.323	0.989	0.000	1.000

WHALESHARK_1 (page 2 of data listing)

DEPTH (mRKB)	GR api	RT ohmm	RHOB g/cc	NPHI frac	VSH frac	PHIE frac	SWE frac
2733.0	107	3.8	2.463	0.335	1.000	0.000	1.000
2733.2	112	3.7	2.457	0.315	0.958	0.000	1.000
2733.4	115	3.8	2.487	0.308	1.000	0.000	1.000
2733.6	106	3.5	2.505	0.300	1.000	0.000	1.000
2733.8	92	2.6	2.457	0.293	0.866	0.000	1.000
2734.0	93	2.6	2.432	0.310	0.872	0.000	1.000
2734.2	104	2.7	2.434	0.298	0.856	0.000	1.000
2734.4	109	3.6	2.395	0.327	0.915	0.000	1.000
2734.6	114	3.4	2.373	0.328	0.991	0.000	1.000
2734.8	116	3.2	2.378	0.321	1.000	0.000	1.000
2735.0	116	3.1	2.398	0.319	1.000	0.000	1.000
2735.2	115	3.0	2.412	0.314	0.994	0.000	1.000
2735.4	113	3.0	2.419	0.294	0.976	0.000	1.000
2735.6	116	3.0	2.425	0.297	1.000	0.000	1.000
2735.8	119	3.1	2.480	0.302	1.000	0.000	1.000
2736.0	116	3.4	2.539	0.300	1.000	0.000	1.000
2736.2	113	3.5	2.490	0.305	0.995	0.000	1.000
2736.4	115	3.4	2.415	0.311	0.997	0.000	1.000
2736.6	115	3.2	2.395	0.330	1.000	0.000	1.000
2736.8	114	3.1	2.421	0.369	1.000	0.000	1.000
2737.0	111	3.1	2.417	0.361	1.000	0.000	1.000
2737.2	110	3.1	2.407	0.371	1.000	0.000	1.000
2737.4	108	3.1	2.405	0.360	1.000	0.000	1.000
2737.6	113	3.0	2.437	0.317	0.968	0.000	1.000
2737.8	112	3.1	2.464	0.280	0.955	0.000	1.000
2738.0	109	3.3	2.473	0.310	0.973	0.000	1.000
2738.2	105	3.5	2.465	0.277	0.872	0.000	1.000
2738.4	105	3.4	2.439	0.281	0.872	0.000	1.000
2738.6	104	3.3	2.436	0.280	0.852	0.000	1.000
2738.8	105	3.3	2.457	0.303	0.907	0.000	1.000
2739.0	107	3.4	2.503	0.312	1.000	0.000	1.000
2739.2	113	3.4	2.517	0.330	1.000	0.000	1.000
2739.4	116	3.5	2.475	0.339	1.000	0.000	1.000
2739.6	111	3.4	2.458	0.335	1.000	0.000	1.000
2739.8	108	3.5	2.461	0.329	1.000	0.000	1.000
2740.0	110	3.6	2.463	0.279	0.937	0.000	1.000
2740.2	108	3.5	2.444	0.314	0.920	0.000	1.000
2740.4	111	3.3	2.428	0.335	0.967	0.000	1.000
2740.6	109	3.1	2.415	0.336	0.938	0.000	1.000
2740.8	115	3.1	2.423	0.352	1.000	0.000	1.000
2741.0	115	3.2	2.450	0.385	1.000	0.000	1.000
2741.2	112	3.3	2.492	0.333	1.000	0.000	1.000
2741.4	103	3.2	2.481	0.334	1.000	0.000	1.000
2741.6	98	3.1	2.465	0.350	1.000	0.000	1.000
2741.8	103	3.0	2.519	0.329	1.000	0.000	1.000
2742.0	110	3.2	2.561	0.321	1.000	0.000	1.000
2742.2	110	3.5	2.541	0.338	1.000	0.000	1.000
2742.4	107	3.5	2.480	0.353	1.000	0.000	1.000
2742.6	108	3.4	2.439	0.308	0.911	0.000	1.000
2742.8	111	3.2	2.415	0.322	0.941	0.000	1.000
2743.0	113	3.1	2.384	0.342	0.968	0.000	1.000
2743.2	118	2.9	2.378	0.348	1.000	0.000	1.000
2743.4	114	2.8	2.392	0.276	0.639	0.005	1.000
2743.6	115	2.8	2.420	0.273	0.695	0.000	1.000
2743.8	114	3.0	2.453	0.281	0.991	0.000	1.000
2744.0	116	3.0	2.457	0.316	1.000	0.000	1.000
2744.2	118	3.1	2.497	0.326	1.000	0.000	1.000
2744.4	118	3.2	2.550	0.316	1.000	0.000	1.000

DEPTH (mRKB)	GR api	RT ohmm	RHOB g/cc	NPHI frac	VSH frac	PHIE frac	SWE frac
2744.6	118	3.2	2.513	0.356	1.000	0.000	1.000
2744.8	114	3.2	2.452	0.359	1.000	0.000	1.000
2745.0	113	3.2	2.434	0.334	0.978	0.000	1.000
2745.2	118	3.1	2.447	0.305	1.000	0.000	1.000
2745.4	116	3.2	2.463	0.330	1.000	0.000	1.000
2745.6	110	3.1	2.482	0.340	1.000	0.000	1.000
2745.8	107	3.0	2.481	0.329	1.000	0.000	1.000
2746.0	113	2.9	2.486	0.323	1.000	0.000	1.000
2746.2	116	3.0	2.564	0.333	1.000	0.000	1.000
2746.4	117	3.3	2.620	0.312	1.000	0.000	1.000
2746.6	113	3.5	2.516	0.305	1.000	0.000	1.000
2746.8	109	3.4	2.441	0.325	0.959	0.000	1.000
2747.0	112	3.0	2.415	0.346	0.980	0.000	1.000
2747.2	116	2.7	2.395	0.300	0.742	0.000	1.000
2747.4	113	2.5	2.369	0.335	0.976	0.000	1.000
2747.6	112	2.5	2.367	0.323	0.966	0.000	1.000
2747.8	110	2.4	2.339	0.329	0.721	0.000	1.000
2748.0	105	2.5	2.336	0.343	0.860	0.000	1.000
2748.2	104	2.6	2.412	0.347	0.975	0.000	1.000
2748.4	105	2.6	2.395	0.336	0.888	0.000	1.000
2748.6	104	2.7	2.313	0.312	0.590	0.000	1.000
2748.8	104	2.7	2.344	0.326	0.725	0.000	1.000
2749.0	106	2.6	2.405	0.302	0.874	0.000	1.000
2749.2	105	2.5	2.404	0.344	0.943	0.000	1.000
2749.4	106	2.5	2.382	0.314	0.874	0.000	1.000
2749.6	105	2.6	2.385	0.329	0.863	0.000	1.000
2749.8	101	2.7	2.428	0.309	0.860	0.000	1.000
2750.0	100	2.7	2.451	0.309	0.918	0.000	1.000
2750.2	106	2.8	2.429	0.309	0.880	0.000	1.000
2750.4	106	2.8	2.313	0.301	0.578	0.000	1.000
2750.6	103	2.8	2.279	0.336	0.692	0.000	1.000
2750.8	98	2.7	2.361	0.300	0.661	0.000	1.000
2751.0	96	2.6	2.397	0.329	0.865	0.000	1.000
2751.2	99	2.5	2.400	0.333	0.888	0.000	1.000
2751.4	104	2.4	2.408	0.334	0.910	0.000	1.000
2751.6	104	2.4	2.391	0.326	0.854	0.000	1.000
2751.8	102	2.6	2.416	0.292	0.825	0.000	1.000
2752.0	99	2.8	2.412	0.313	0.836	0.000	1.000
2752.2	95	2.9	2.397	0.305	0.767	0.000	1.000
2752.4	94	2.8	2.419	0.288	0.774	0.000	1.000
2752.6	91	2.8	2.432	0.263	0.683	0.000	1.000
2752.8	95	2.9	2.452	0.266	0.738	0.000	1.000
2753.0	95	2.8	2.460	0.303	0.913	0.000	1.000
2753.2	97	2.8	2.426	0.310	0.857	0.000	1.000
2753.4	101	2.6	2.424	0.297	0.818	0.000	1.000
2753.6	99	2.5	2.401	0.310	0.797	0.000	1.000
2753.8	98	2.5	2.391	0.339	0.891	0.000	1.000
2754.0	97	2.5	2.403	0.347	0.951	0.000	1.000
2754.2	102	2.5	2.438	0.301	0.852	0.000	1.000
2754.4	101	2.6	2.460	0.324	0.998	0.000	1.000
2754.6	101	2.6	2.453	0.338	1.000	0.000	1.000
2754.8	103	2.6	2.461	0.332	1.000	0.000	1.000
2755.0	107	2.4	2.489	0.351	1.000	0.000	1.000
2755.2	103	2.3	2.488	0.359	1.000	0.000	1.000
2755.4	98	2.3	2.481	0.372	1.000	0.000	1.000
2755.6	98	2.3	2.483	0.372	1.000	0.000	1.000
2755.8	102	2.4	2.498	0.359	1.000	0.000	1.000
2756.0	100	2.4	2.512	0.349	1.000	0.000	1.000

WHALESHARK_1 (page 4 of data listing)

DEPTH (mRKB)	GR api	RT ohmm	RHOB g/cc	NPHI frac	VSH frac	PHIE frac	SWE frac
2756.2	97	2.4	2.534	0.362	1.000	0.000	1.000
2756.4	98	2.4	2.575	0.342	1.000	0.000	1.000
2756.6	97	2.3	2.582	0.349	1.000	0.000	1.000
2756.8	95	2.5	2.546	0.335	1.000	0.000	1.000
2757.0	97	2.6	2.543	0.327	1.000	0.000	1.000
2757.2	98	2.8	2.553	0.302	1.000	0.000	1.000
2757.4	101	2.7	2.530	0.304	1.000	0.000	1.000
2757.6	100	2.6	2.481	0.338	1.000	0.000	1.000
2757.8	97	2.6	2.450	0.321	0.964	0.000	1.000
2758.0	105	2.6	2.435	0.326	0.947	0.000	1.000
2758.2	107	2.6	2.413	0.320	0.895	0.000	1.000
2758.4	100	2.5	2.399	0.320	0.835	0.000	1.000
2758.6	97	2.3	2.411	0.305	0.805	0.000	1.000
2758.8	97	2.3	2.413	0.356	1.000	0.000	1.000
2759.0	98	2.5	2.418	0.326	0.905	0.000	1.000
2759.2	100	2.8	2.434	0.325	0.941	0.000	1.000
2759.4	104	2.8	2.448	0.302	0.880	0.000	1.000
2759.6	105	2.7	2.483	0.323	1.000	0.000	1.000
2759.8	101	2.8	2.490	0.377	1.000	0.000	1.000
2760.0	98	2.9	2.512	0.347	1.000	0.000	1.000
2760.2	97	3.2	2.614	0.339	1.000	0.000	1.000
2760.4	96	3.4	2.687	0.322	1.000	0.000	1.000
2760.6	86	3.3	2.614	0.320	1.000	0.000	1.000
2760.8	82	2.8	2.508	0.332	1.000	0.000	1.000
2761.0	89	2.4	2.445	0.301	0.870	0.000	1.000
2761.2	98	2.2	2.416	0.292	0.770	0.000	1.000
2761.4	96	2.3	2.386	0.295	0.701	0.000	1.000
2761.6	98	2.3	2.348	0.298	0.648	0.001	1.000
2761.8	101	2.2	2.377	0.308	0.733	0.000	1.000
2762.0	99	2.2	2.450	0.335	1.000	0.000	1.000
2762.2	95	2.3	2.461	0.325	1.000	0.000	1.000
2762.4	92	2.3	2.421	0.280	0.698	0.000	1.000
2762.6	94	2.3	2.433	0.309	0.873	0.000	1.000
2762.8	95	2.0	2.437	0.327	0.957	0.000	1.000
2763.0	92	1.7	2.395	0.296	0.717	0.000	1.000
2763.2	87	1.6	2.388	0.317	0.795	0.000	1.000
2763.4	85	1.6	2.410	0.325	0.881	0.000	1.000
2763.6	87	1.6	2.426	0.299	0.814	0.000	1.000
2763.8	88	1.7	2.414	0.307	0.815	0.000	1.000
2764.0	93	1.8	2.413	0.317	0.855	0.000	1.000
2764.2	100	1.8	2.430	0.322	0.917	0.000	1.000
2764.4	94	1.8	2.428	0.324	0.920	0.000	1.000
2764.6	85	1.6	2.436	0.326	0.950	0.000	1.000
2764.8	83	1.6	2.461	0.326	1.000	0.000	1.000
2765.0	83	1.6	2.464	0.292	0.880	0.000	1.000
2765.2	85	1.6	2.451	0.314	0.935	0.000	1.000
2765.4	90	1.8	2.437	0.295	0.825	0.000	1.000
2765.6	92	1.8	2.441	0.254	0.669	0.000	1.000
2765.8	89	1.8	2.450	0.275	0.776	0.000	1.000
2766.0	85	1.8	2.481	0.314	1.000	0.000	1.000
2766.2	88	1.9	2.496	0.323	1.000	0.000	1.000
2766.4	86	1.8	2.471	0.362	1.000	0.000	1.000
2766.6	85	1.8	2.471	0.368	1.000	0.000	1.000
2766.8	84	1.8	2.488	0.326	1.000	0.000	1.000
2767.0	84	1.8	2.445	0.310	0.905	0.000	1.000
2767.2	86	1.7	2.402	0.341	0.925	0.000	1.000
2767.4	87	1.6	2.407	0.346	0.957	0.000	1.000
2767.6	87	1.6	2.433	0.300	0.837	0.000	1.000

DEPTH (mRKB)	GR api	RT ohmm	RHOB g/cc	NPHI frac	VSH frac	PHIE frac	SWE frac
2767.8	90	1.7	2.444	0.298	0.853	0.000	1.000
2768.0	89	1.7	2.432	0.307	0.864	0.000	1.000
2768.2	83	1.7	2.438	0.331	0.973	0.000	1.000
2768.4	83	1.6	2.445	0.319	0.943	0.000	1.000
2768.6	87	1.6	2.415	0.320	0.872	0.000	1.000
2768.8	92	1.5	2.379	0.359	0.944	0.000	1.000
2769.0	90	1.6	2.399	0.341	0.920	0.000	1.000
2769.2	85	1.9	2.512	0.338	1.000	0.000	1.000
2769.4	79	2.5	2.599	0.351	1.000	0.000	1.000
2769.6	77	2.6	2.545	0.323	1.000	0.000	1.000
2769.8	82	2.1	2.447	0.301	0.873	0.000	1.000
2770.0	86	1.6	2.376	0.305	0.699	0.000	1.000
2770.2	88	1.4	2.338	0.319	0.667	0.000	1.000
2770.4	86	1.4	2.314	0.312	0.593	0.041	1.000
2770.6	84	1.4	2.313	0.289	0.497	0.118	1.000
2770.8	86	1.5	2.304	0.303	0.530	0.093	1.000
2771.0	82	1.6	2.337	0.305	0.589	0.041	1.000
2771.2	81	1.7	2.384	0.269	0.550	0.056	1.000
2771.4	81	1.7	2.384	0.264	0.549	0.055	1.000
2771.6	78	1.7	2.373	0.244	0.460	0.117	1.000
2771.8	75	1.6	2.372	0.289	0.620	0.017	1.000
2772.0	75	1.5	2.356	0.293	0.586	0.040	1.000
2772.2	78	1.5	2.351	0.304	0.622	0.017	1.000
2772.4	78	1.5	2.369	0.308	0.716	0.000	1.000
2772.6	80	1.6	2.400	0.327	0.864	0.000	1.000
2772.8	82	1.6	2.400	0.303	0.746	0.000	1.000
2773.0	81	1.6	2.391	0.324	0.828	0.000	1.000
2773.2	84	1.6	2.376	0.308	0.731	0.000	1.000
2773.4	83	1.7	2.365	0.309	0.692	0.000	1.000
2773.6	83	1.7	2.357	0.295	0.609	0.025	1.000
2773.8	83	1.7	2.346	0.275	0.519	0.087	1.000
2774.0	81	1.6	2.340	0.280	0.525	0.084	1.000
2774.2	80	1.7	2.369	0.289	0.626	0.013	1.000
2774.4	83	1.7	2.395	0.314	0.801	0.000	1.000
2774.6	85	1.8	2.424	0.316	0.877	0.000	1.000
2774.8	88	1.8	2.445	0.324	0.962	0.000	1.000
2775.0	91	1.8	2.453	0.319	0.962	0.000	1.000
2775.2	90	1.7	2.451	0.316	0.947	0.000	1.000
2775.4	86	1.7	2.461	0.314	0.964	0.000	1.000
2775.6	80	1.7	2.465	0.321	1.000	0.000	1.000
2775.8	79	1.7	2.453	0.272	0.771	0.000	1.000
2776.0	77	1.6	2.434	0.333	0.972	0.000	1.000
2776.2	78	1.5	2.417	0.364	1.000	0.000	1.000
2776.4	80	1.5	2.416	0.364	1.000	0.000	1.000
2776.6	77	1.5	2.449	0.349	1.000	0.000	1.000
2776.8	77	1.6	2.479	0.322	1.000	0.000	1.000
2777.0	79	1.7	2.459	0.279	0.815	0.000	1.000
2777.2	78	1.7	2.416	0.293	0.768	0.000	1.000
2777.4	81	1.5	2.381	0.307	0.721	0.000	1.000
2777.6	81	1.5	2.383	0.312	0.764	0.000	1.000
2777.8	75	1.6	2.419	0.317	0.872	0.000	1.000
2778.0	76	1.6	2.441	0.323	0.947	0.000	1.000
2778.2	80	1.6	2.408	0.325	0.874	0.000	1.000
2778.4	83	1.5	2.376	0.344	0.873	0.000	1.000
2778.6	81	1.5	2.367	0.346	0.861	0.000	1.000
2778.8	81	1.5	2.358	0.350	0.854	0.000	1.000
2779.0	79	1.6	2.387	0.377	1.000	0.000	1.000
2779.2	77	1.6	2.444	0.339	1.000	0.000	1.000

DEPTH (mRKB)	GR api	RT ohmm	RHOB g/cc	NPHI frac	VSH frac	PHIE frac	SWE frac
2779.4	82	1.6	2.445	0.328	0.977	0.000	1.000
2779.6	86	1.6	2.409	0.346	0.962	0.000	1.000
2779.8	85	1.6	2.414	0.319	0.867	0.000	1.000
2780.0	86	1.6	2.432	0.300	0.834	0.000	1.000
2780.2	82	1.7	2.451	0.298	0.874	0.000	1.000
2780.4	82	1.8	2.450	0.310	0.917	0.000	1.000
2780.6	81	1.8	2.458	0.306	0.921	0.000	1.000
2780.8	81	1.7	2.472	0.332	1.000	0.000	1.000
2781.0	89	1.6	2.443	0.351	1.000	0.000	1.000
2781.2	92	1.6	2.427	0.336	0.967	0.000	1.000
2781.4	88	1.6	2.415	0.300	0.792	0.000	1.000
2781.6	79	1.6	2.399	0.289	0.703	0.000	1.000
2781.8	78	1.6	2.427	0.279	0.712	0.000	1.000
2782.0	80	1.6	2.435	0.298	0.833	0.000	1.000
2782.2	82	1.6	2.423	0.298	0.804	0.000	1.000
2782.4	80	1.6	2.420	0.307	0.831	0.000	1.000
2782.6	75	1.6	2.430	0.279	0.741	0.000	1.000
2782.8	72	1.6	2.444	0.304	0.879	0.000	1.000
2783.0	76	1.6	2.486	0.288	0.917	0.000	1.000
2783.2	76	1.6	2.550	0.301	1.000	0.000	1.000
2783.4	74	1.8	2.565	0.362	1.000	0.000	1.000
2783.6	73	1.9	2.543	0.358	1.000	0.000	1.000
2783.8	72	1.8	2.532	0.340	1.000	0.000	1.000
2784.0	68	1.7	2.492	0.308	1.000	0.000	1.000
2784.2	65	1.6	2.473	0.297	0.921	0.000	1.000
2784.4	65	1.6	2.472	0.269	0.806	0.000	1.000
2784.6	70	1.5	2.438	0.274	0.731	0.000	1.000
2784.8	80	1.3	2.365	0.313	0.709	0.000	1.000
2785.0	81	1.3	2.348	0.267	0.495	0.103	1.000
2785.2	76	1.3	2.402	0.272	0.626	0.011	1.000
2785.4	70	1.3	2.434	0.305	0.860	0.000	1.000
2785.6	66	1.3	2.399	0.313	0.804	0.000	1.000
2785.8	64	1.2	2.348	0.307	0.644	0.004	1.000
2786.0	68	1.1	2.318	0.301	0.528	0.092	1.000
2786.2	69	1.1	2.322	0.301	0.539	0.082	1.000
2786.4	69	1.1	2.312	0.300	0.512	0.107	1.000
2786.6	69	1.2	2.325	0.320	0.629	0.014	1.000
2786.8	68	1.2	2.345	0.337	0.770	0.000	1.000
2787.0	71	1.2	2.314	0.311	0.558	0.070	1.000
2787.2	73	1.2	2.273	0.306	0.442	0.185	1.000
2787.4	75	1.1	2.240	0.312	0.411	0.204	1.000
2787.6	75	1.0	2.240	0.288	0.317	0.214	1.000
2787.8	75	1.0	2.262	0.289	0.373	0.196	1.000
2788.0	71	1.0	2.273	0.285	0.411	0.182	1.000
2788.2	69	1.0	2.256	0.284	0.362	0.197	1.000
2788.4	68	1.0	2.248	0.270	0.280	0.211	1.000
2788.6	67	1.0	2.260	0.270	0.325	0.197	1.000
2788.8	73	1.1	2.267	0.293	0.412	0.187	1.000
2789.0	77	1.1	2.263	0.287	0.368	0.195	1.000
2789.2	77	1.1	2.250	0.280	0.307	0.209	1.000
2789.4	78	1.0	2.231	0.263	0.192	0.233	1.000
2789.6	74	1.0	2.235	0.287	0.329	0.212	1.000
2789.8	73	1.0	2.272	0.320	0.495	0.140	1.000
2790.0	73	1.1	2.299	0.321	0.561	0.071	1.000
2790.2	73	1.1	2.311	0.291	0.467	0.148	1.000
2790.4	75	1.1	2.320	0.314	0.591	0.042	1.000
2790.6	70	1.2	2.317	0.337	0.703	0.000	1.000
2790.8	64	1.1	2.305	0.336	0.651	0.000	1.000

DEPTH (mRKB)	GR api	RT ohmm	RHOB g/cc	NPHI frac	VSH frac	PHIE frac	SWE frac
2792.0	70	1.1	2.271	0.312	0.459	0.177	1.000
2792.2	73	1.0	2.275	0.347	0.620	0.024	1.000
2792.4	72	1.0	2.272	0.305	0.431	0.187	1.000
2792.6	72	1.0	2.281	0.293	0.424	0.181	1.000
2792.8	69	1.1	2.287	0.290	0.391	0.185	1.000
2793.0	67	1.1	2.283	0.318	0.511	0.120	1.000
2793.2	63	1.1	2.279	0.340	0.612	0.031	1.000
2793.4	65	1.0	2.271	0.329	0.543	0.093	1.000
2793.6	66	1.0	2.249	0.315	0.409	0.204	1.000
2793.8	62	1.0	2.227	0.290	0.295	0.223	1.000
2794.0	60	0.9	2.238	0.298	0.292	0.224	1.000
2794.2	59	0.9	2.233	0.287	0.249	0.230	1.000
2794.4	58	0.9	2.208	0.291	0.236	0.243	1.000
2794.6	58	0.9	2.200	0.282	0.212	0.248	1.000
2794.8	57	0.9	2.206	0.304	0.255	0.245	1.000
2795.0	59	0.9	2.226	0.327	0.403	0.217	1.000
2795.2	61	1.0	2.263	0.323	0.488	0.150	1.000
2795.4	62	1.1	2.291	0.299	0.446	0.176	1.000
2795.6	61	1.0	2.279	0.308	0.461	0.170	1.000
2795.8	61	1.0	2.257	0.332	0.524	0.116	1.000
2796.0	60	0.9	2.257	0.285	0.293	0.212	1.000
2796.2	60	0.9	2.285	0.283	0.352	0.190	1.000
2796.4	63	1.0	2.333	0.299	0.547	0.073	1.000
2796.6	64	1.2	2.342	0.282	0.524	0.086	1.000
2796.8	66	1.2	2.290	0.262	0.351	0.179	1.000
2797.0	73	1.1	2.231	0.294	0.326	0.217	1.000
2797.2	74	1.0	2.215	0.303	0.328	0.226	1.000
2797.4	74	1.0	2.248	0.264	0.237	0.218	1.000
2797.6	77	1.1	2.311	0.285	0.478	0.134	1.000
2797.8	82	1.3	2.377	0.263	0.551	0.055	1.000
2798.0	87	1.4	2.385	0.283	0.629	0.011	1.000
2798.2	90	1.5	2.385	0.316	0.783	0.000	1.000
2798.4	87	1.5	2.414	0.301	0.794	0.000	1.000
2798.6	90	1.6	2.420	0.273	0.666	0.000	1.000
2798.8	90	1.6	2.379	0.282	0.630	0.010	1.000
2799.0	81	1.4	2.301	0.263	0.365	0.173	1.000
2799.2	75	1.2	2.256	0.293	0.375	0.199	1.000
2799.4	79	1.1	2.254	0.308	0.430	0.194	1.000
2799.6	85	1.1	2.250	0.290	0.347	0.205	1.000
2799.8	81	1.1	2.269	0.281	0.356	0.193	1.000
2800.0	75	1.1	2.290	0.278	0.397	0.177	1.000
2800.2	78	1.2	2.320	0.260	0.395	0.160	1.000
2800.4	79	1.2	2.369	0.298	0.646	0.002	1.000
2800.6	79	1.3	2.409	0.292	0.736	0.000	1.000
2800.8	80	1.4	2.400	0.277	0.653	0.000	1.000
2801.0	78	1.4	2.370	0.318	0.742	0.000	1.000
2801.2	77	1.3	2.332	0.304	0.584	0.045	1.000
2801.4	73	1.2	2.290	0.310	0.495	0.132	1.000
2801.6	70	1.1	2.275	0.300	0.423	0.186	1.000
2801.8	67	1.1	2.284	0.292	0.395	0.186	1.000
2802.0	69	1.2	2.308	0.286	0.442	0.165	1.000
2791.0	60	1.1	2.290	0.299	0.443	0.177	1.000
2791.2	62	1.1	2.300	0.335	0.628	0.016	1.000
2791.4	66	1.1	2.318	0.325	0.642	0.006	1.000
2791.6	65	1.2	2.299	0.314	0.547	0.081	1.000
2791.8	65	1.2	2.272	0.330	0.541	0.096	1.000

DEPTH (mRKB)	GR api	RT ohmm	RHOB g/cc	NPHI frac	VSH frac	PHIE frac	SWE frac
2802.2	70	1.3	2.339	0.271	0.457	0.142	1.000
2802.4	70	1.5	2.366	0.279	0.555	0.058	1.000
2802.6	74	1.5	2.343	0.259	0.449	0.141	1.000
2802.8	76	1.5	2.316	0.268	0.418	0.159	1.000
2803.0	78	1.5	2.331	0.294	0.540	0.078	1.000
2803.2	80	1.6	2.346	0.288	0.539	0.075	1.000
2803.4	82	1.4	2.342	0.306	0.619	0.020	1.000
2803.6	77	1.3	2.320	0.347	0.734	0.000	1.000
2803.8	73	1.3	2.316	0.297	0.499	0.118	1.000
2804.0	69	1.4	2.310	0.316	0.573	0.058	1.000
2804.2	70	1.5	2.309	0.282	0.426	0.167	1.000
2804.4	71	1.6	2.322	0.265	0.416	0.157	1.000
2804.6	73	1.4	2.335	0.298	0.566	0.057	1.000
2804.8	71	1.2	2.319	0.283	0.442	0.161	1.000
2805.0	74	1.1	2.281	0.298	0.449	0.177	1.000
2805.2	79	1.1	2.254	0.310	0.439	0.193	1.000
2805.4	75	1.1	2.267	0.301	0.433	0.186	1.000
2805.6	76	1.2	2.287	0.278	0.389	0.179	1.000
2805.8	85	1.4	2.307	0.279	0.444	0.162	1.000
2806.0	94	1.5	2.330	0.293	0.558	0.064	1.000
2806.2	94	1.5	2.332	0.290	0.546	0.072	1.000
2806.4	90	1.5	2.319	0.286	0.500	0.113	1.000
2806.6	86	1.6	2.316	0.286	0.491	0.122	1.000
2806.8	85	2.0	2.364	0.287	0.596	0.031	1.000
2807.0	85	2.4	2.479	0.277	0.858	0.000	1.000
2807.2	92	2.8	2.603	0.313	1.000	0.000	1.000
2807.4	90	3.1	2.530	0.326	1.000	0.000	1.000
2807.6	86	2.8	2.438	0.322	0.938	0.000	1.000
2807.8	87	2.3	2.416	0.312	0.842	0.000	1.000
2808.0	88	2.1	2.409	0.286	0.694	0.000	1.000
2808.2	87	2.2	2.446	0.298	0.858	0.000	1.000
2808.4	83	2.5	2.500	0.244	0.749	0.000	1.000
2808.6	69	2.7	2.528	0.241	0.829	0.000	1.000
2808.8	55	2.5	2.463	0.211	0.500	0.055	1.000
2809.0	49	2.2	2.396	0.154	0.117	0.146	1.000
2809.2	46	2.0	2.393	0.142	0.074	0.152	1.000
2809.4	47	1.9	2.381	0.157	0.092	0.159	1.000
2809.6	48	2.0	2.367	0.172	0.110	0.166	1.000
2809.8	48	1.9	2.376	0.164	0.111	0.159	1.000
2810.0	52	2.0	2.449	0.182	0.341	0.096	1.000
2810.2	65	2.2	2.482	0.187	0.452	0.066	1.000
2810.4	76	2.4	2.434	0.208	0.468	0.079	1.000
2810.6	85	2.7	2.407	0.214	0.421	0.106	1.000
2810.8	93	2.4	2.395	0.237	0.489	0.086	1.000
2811.0	97	2.2	2.394	0.231	0.460	0.105	1.000
2811.2	96	2.1	2.390	0.272	0.617	0.016	1.000
2811.4	90	1.8	2.386	0.242	0.485	0.093	1.000
2811.6	87	2.0	2.395	0.220	0.417	0.114	1.000
2811.8	91	1.9	2.397	0.237	0.492	0.084	1.000
2812.0	95	2.1	2.396	0.241	0.506	0.076	1.000
2812.2	98	2.4	2.422	0.232	0.534	0.051	1.000
2812.4	99	2.9	2.444	0.223	0.551	0.036	1.000
2812.6	91	2.8	2.435	0.210	0.476	0.074	1.000
2812.8	88	2.6	2.432	0.194	0.404	0.093	1.000
2813.0	83	2.2	2.427	0.228	0.529	0.052	1.000
2813.2	78	2.1	2.428	0.215	0.479	0.076	1.000
2813.4	75	1.8	2.418	0.217	0.461	0.092	1.000
2813.6	70	1.5	2.362	0.225	0.373	0.135	1.000

DEPTH (mRKB)	GR api	RT ohmm	RHOB g/cc	NPHI frac	VSH frac	PHIE frac	SWE frac
2813.8	66	1.4	2.326	0.224	0.284	0.164	1.000
2814.0	64	1.3	2.321	0.229	0.289	0.167	1.000
2814.2	65	1.3	2.332	0.220	0.275	0.163	1.000
2814.4	71	1.6	2.365	0.246	0.415	0.136	1.000
2814.6	73	2.0	2.405	0.228	0.442	0.110	1.000
2814.8	80	2.4	2.435	0.199	0.430	0.090	1.000
2815.0	88	2.9	2.463	0.234	0.640	0.003	1.000
2815.2	93	3.2	2.485	0.209	0.596	0.013	1.000
2815.4	92	3.4	2.493	0.209	0.615	0.007	1.000
2815.6	95	3.2	2.475	0.208	0.565	0.023	1.000
2815.8	93	2.7	2.446	0.210	0.504	0.056	1.000
2816.0	88	2.1	2.429	0.224	0.517	0.057	1.000
2816.2	78	1.8	2.424	0.223	0.500	0.067	1.000
2816.4	72	1.7	2.411	0.233	0.459	0.102	1.000
2816.6	70	1.9	2.413	0.231	0.462	0.099	1.000
2816.8	71	2.0	2.428	0.217	0.443	0.098	1.000
2817.0	71	1.9	2.428	0.220	0.445	0.099	1.000
2817.2	68	1.7	2.395	0.222	0.371	0.125	1.000
2817.4	66	1.6	2.352	0.238	0.341	0.152	1.000
2817.6	65	1.4	2.343	0.249	0.358	0.156	1.000
2817.8	64	1.3	2.360	0.283	0.556	0.059	1.000
2818.0	63	1.3	2.378	0.253	0.488	0.097	1.000
2818.2	60	1.4	2.344	0.236	0.293	0.163	1.000
2818.4	57	1.4	2.293	0.235	0.224	0.193	1.000
2818.6	56	1.3	2.279	0.252	0.215	0.206	1.000
2818.8	56	1.2	2.268	0.266	0.248	0.209	1.000
2819.0	56	1.1	2.256	0.235	0.160	0.220	1.000
2819.2	56	1.1	2.276	0.238	0.218	0.201	1.000
2819.4	55	1.1	2.297	0.223	0.196	0.193	1.000
2819.6	61	1.2	2.301	0.259	0.304	0.184	1.000
2819.8	65	1.2	2.292	0.264	0.336	0.182	1.000
2820.0	68	1.3	2.316	0.243	0.339	0.165	1.000
2820.2	70	1.4	2.352	0.241	0.405	0.139	1.000
2820.4	76	1.5	2.373	0.241	0.448	0.124	1.000
2820.6	82	1.6	2.402	0.239	0.511	0.071	1.000
2820.8	81	1.8	2.453	0.237	0.606	0.015	1.000
2821.0	84	2.0	2.478	0.225	0.623	0.007	1.000
2821.2	89	2.3	2.453	0.214	0.534	0.041	1.000
2821.4	88	2.6	2.445	0.241	0.627	0.007	1.000
2821.6	89	2.8	2.479	0.230	0.658	0.000	1.000
2821.8	92	2.9	2.457	0.208	0.523	0.044	1.000
2822.0	91	3.0	2.445	0.218	0.530	0.045	1.000
2822.2	91	3.1	2.453	0.226	0.585	0.021	1.000
2822.4	91	2.9	2.459	0.248	0.686	0.000	1.000
2822.6	92	2.6	2.448	0.227	0.574	0.026	1.000
2822.8	94	2.4	2.427	0.232	0.546	0.044	1.000
2823.0	89	2.4	2.421	0.220	0.485	0.076	1.000
2823.2	86	2.4	2.422	0.248	0.598	0.021	1.000
2823.4	93	2.4	2.423	0.226	0.510	0.063	1.000
2823.6	87	2.1	2.405	0.220	0.446	0.105	1.000
2823.8	74	1.8	2.377	0.222	0.387	0.126	1.000
2824.0	70	1.6	2.334	0.212	0.254	0.163	1.000
2824.2	70	1.5	2.310	0.231	0.285	0.172	1.000
2824.4	67	1.5	2.313	0.257	0.357	0.168	1.000
2824.6	62	1.4	2.310	0.268	0.355	0.175	1.000
2824.8	62	1.3	2.303	0.237	0.290	0.176	1.000
2825.0	59	1.3	2.295	0.230	0.226	0.190	1.000
2825.2	58	1.2	2.291	0.225	0.209	0.193	1.000

DEPTH (mRKB)	GR api	RT ohmm	RHOB g/cc	NPHI frac	VSH frac	PHIE frac	SWE frac
2825.4	64	1.2	2.284	0.268	0.316	0.191	1.000
2825.6	68	1.2	2.274	0.263	0.309	0.193	1.000
2825.8	67	1.2	2.267	0.228	0.173	0.211	1.000
2826.0	61	1.2	2.279	0.259	0.286	0.195	1.000
2826.2	66	1.3	2.288	0.249	0.288	0.187	1.000
2826.4	70	1.3	2.291	0.224	0.193	0.196	1.000
2826.6	65	1.3	2.296	0.222	0.212	0.189	1.000
2826.8	66	1.3	2.298	0.230	0.255	0.183	1.000
2827.0	69	1.4	2.318	0.276	0.415	0.163	1.000
2827.2	64	1.4	2.338	0.233	0.318	0.158	1.000
2827.4	61	1.3	2.323	0.249	0.314	0.171	1.000
2827.6	60	1.2	2.293	0.247	0.273	0.188	1.000
2827.8	63	1.2	2.269	0.257	0.271	0.200	1.000
2828.0	62	1.2	2.271	0.253	0.267	0.199	1.000
2828.2	67	1.2	2.298	0.247	0.304	0.179	1.000
2828.4	75	1.4	2.313	0.262	0.386	0.165	1.000
2828.6	81	1.4	2.307	0.252	0.333	0.173	1.000
2828.8	86	1.4	2.299	0.248	0.298	0.181	1.000
2829.0	89	1.3	2.307	0.249	0.321	0.174	1.000
2829.2	89	1.3	2.327	0.257	0.402	0.155	1.000
2829.4	90	1.3	2.334	0.263	0.443	0.147	1.000
2829.6	86	1.3	2.298	0.256	0.325	0.179	1.000
2829.8	83	1.3	2.267	0.264	0.281	0.202	1.000
2830.0	84	1.2	2.267	0.269	0.305	0.199	1.000
2830.2	86	1.2	2.274	0.261	0.290	0.197	1.000
2830.4	88	1.2	2.273	0.240	0.202	0.207	1.000
2830.6	92	1.2	2.284	0.254	0.285	0.191	1.000
2830.8	98	1.2	2.299	0.271	0.388	0.173	1.000
2831.0	108	1.3	2.311	0.252	0.345	0.169	1.000
2831.2	117	1.4	2.316	0.236	0.289	0.171	1.000
2831.4	111	1.5	2.331	0.232	0.311	0.161	1.000
2831.6	100	1.7	2.340	0.225	0.306	0.156	1.000
2831.8	92	1.7	2.345	0.225	0.319	0.152	1.000
2832.0	89	1.7	2.348	0.237	0.372	0.145	1.000
2832.2	86	1.6	2.357	0.233	0.379	0.139	1.000
2832.4	91	1.7	2.367	0.228	0.385	0.133	1.000
2832.6	95	1.7	2.360	0.233	0.387	0.137	1.000
2832.8	99	1.7	2.365	0.244	0.441	0.129	1.000
2833.0	96	1.7	2.368	0.231	0.399	0.131	1.000
2833.2	87	1.7	2.362	0.251	0.465	0.119	1.000
2833.4	80	1.6	2.338	0.241	0.362	0.152	1.000
2833.6	73	1.5	2.333	0.234	0.355	0.152	1.000
2833.8	74	1.5	2.340	0.260	0.447	0.143	1.000
2834.0	77	1.6	2.356	0.270	0.487	0.109	1.000
2834.2	77	1.6	2.349	0.270	0.489	0.109	1.000
2834.4	80	1.5	2.334	0.256	0.415	0.150	1.000
2834.6	80	1.5	2.347	0.252	0.432	0.140	1.000
2834.8	79	1.5	2.354	0.251	0.444	0.135	1.000
2835.0	76	1.5	2.339	0.250	0.400	0.148	1.000
2835.2	75	1.5	2.333	0.243	0.363	0.155	1.000
2835.4	70	1.5	2.345	0.237	0.371	0.146	1.000
2835.6	72	1.7	2.355	0.246	0.432	0.135	1.000
2835.8	77	1.8	2.381	0.219	0.378	0.126	1.000
2836.0	76	2.0	2.434	0.196	0.416	0.091	1.000
2836.2	74	2.2	2.453	0.176	0.383	0.083	1.000
2836.4	72	2.2	2.435	0.182	0.365	0.094	1.000
2836.6	65	2.3	2.385	0.162	0.186	0.139	1.000
2836.8	52	2.1	2.353	0.161	0.096	0.169	1.000

DEPTH (mRKB)	GR api	RT ohmm	RHOB g/cc	NPHI frac	VSH frac	PHIE frac	SWE frac
2837.0	43	1.9	2.340	0.195	0.100	0.187	1.000
2837.2	37	1.8	2.335	0.213	0.180	0.179	1.000
2837.4	33	1.6	2.357	0.189	0.120	0.174	1.000
2837.6	31	1.6	2.359	0.177	0.060	0.181	1.000
2837.8	30	1.6	2.337	0.163	0.000	0.196	1.000
2838.0	29	1.6	2.330	0.151	0.000	0.194	1.000
2838.2	29	1.5	2.322	0.185	0.000	0.211	1.000
2838.4	28	1.4	2.296	0.205	0.030	0.222	1.000
2838.6	26	1.4	2.306	0.180	0.000	0.214	1.000
2838.8	27	1.4	2.337	0.165	0.000	0.197	1.000
2839.0	27	1.4	2.339	0.150	0.000	0.190	1.000
2839.2	28	1.5	2.315	0.182	0.000	0.211	1.000
2839.4	32	1.4	2.320	0.171	0.000	0.205	1.000
2839.6	39	1.5	2.341	0.157	0.000	0.192	1.000
2839.8	47	1.5	2.347	0.157	0.067	0.176	1.000
2840.0	48	1.5	2.330	0.199	0.101	0.192	1.000
2840.2	46	1.5	2.296	0.229	0.140	0.208	1.000
2840.4	44	1.3	2.274	0.187	0.027	0.223	1.000
2840.6	44	1.2	2.281	0.191	0.052	0.217	1.000
2840.8	41	1.3	2.305	0.169	0.015	0.207	1.000
2841.0	43	1.4	2.340	0.176	0.041	0.192	1.000
2841.2	44	1.5	2.353	0.181	0.080	0.181	1.000
2841.4	45	1.6	2.341	0.196	0.127	0.181	1.000
2841.6	47	1.6	2.324	0.197	0.088	0.196	1.000
2841.8	43	1.5	2.323	0.192	0.034	0.206	1.000
2842.0	40	1.4	2.326	0.187	0.035	0.202	1.000
2842.2	40	1.5	2.309	0.183	0.000	0.214	1.000
2842.4	40	1.5	2.299	0.172	0.005	0.213	1.000
2842.6	41	1.5	2.292	0.180	0.015	0.216	1.000
2842.8	42	1.5	2.294	0.178	0.027	0.212	1.000
2843.0	42	1.5	2.326	0.174	0.025	0.199	1.000
2843.2	42	1.5	2.357	0.209	0.209	0.163	1.000
2843.4	43	1.5	2.342	0.210	0.166	0.178	1.000
2843.6	42	1.5	2.332	0.189	0.057	0.197	1.000
2843.8	39	1.4	2.339	0.220	0.210	0.174	1.000
2844.0	40	1.4	2.331	0.197	0.096	0.191	1.000
2844.2	43	1.4	2.322	0.207	0.106	0.197	1.000
2844.4	43	1.4	2.321	0.199	0.065	0.202	1.000
2844.6	39	1.4	2.320	0.207	0.120	0.194	1.000
2844.8	41	1.5	2.341	0.205	0.167	0.176	1.000
2845.0	45	1.5	2.365	0.168	0.072	0.173	1.000
2845.2	45	1.5	2.375	0.155	0.061	0.166	1.000
2845.4	41	1.6	2.384	0.147	0.008	0.171	1.000
2845.6	41	1.7	2.415	0.099	0.007	0.139	1.000
2845.8	42	1.8	2.473	0.103	0.031	0.116	1.000
2846.0	42	2.0	2.492	0.114	0.147	0.090	1.000
2846.2	42	2.5	2.487	0.101	0.061	0.104	1.000
2846.4	45	3.1	2.509	0.065	0.069	0.079	1.000
2846.6	47	3.5	2.556	0.057	0.097	0.054	1.000
2846.8	48	3.8	2.557	0.071	0.109	0.058	1.000
2847.0	48	4.9	2.542	0.081	0.139	0.061	1.000
2847.2	48	6.5	2.538	0.071	0.109	0.064	1.000
2847.4	48	7.9	2.542	0.071	0.109	0.063	1.000
2847.6	48	7.8	2.545	0.079	0.139	0.059	1.000
2847.8	48	8.1	2.549	0.091	0.199	0.051	1.000
2848.0	48	8.3	2.528	0.093	0.139	0.071	1.000
2848.2	48	8.4	2.538	0.084	0.139	0.063	1.000
2848.4	48	8.3	2.530	0.085	0.109	0.073	1.000

DEPTH (mRKB)	GR api	RT ohmm	RHOB g/cc	NPHI frac	VSH frac	PHIE frac	SWE frac
2848.6	48	8.1	2.479	0.100	0.109	0.096	1.000
2848.8	48	7.7	2.470	0.178	0.409	0.073	1.000
2849.0	48	6.4	2.479	0.150	0.289	0.082	1.000
2849.2	48	5.5	2.491	0.092	0.109	0.089	1.000
2849.4	48	5.2	2.500	0.098	0.109	0.089	1.000
2849.6	48	5.4	2.503	0.104	0.139	0.084	1.000
2849.8	48	5.4	2.525	0.109	0.199	0.067	1.000

PE600806

This is an enclosure indicator page.
The enclosure PE600806 is enclosed within the container PE900984 at this location in this document.

The enclosure PE600806 has the following characteristics:

ITEM_BARCODE = PE600806
CONTAINER_BARCODE = PE900984
NAME = CPI Quantitative Log
BASIN = GIPPSLAND
PERMIT = VIC/P24
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = CPI Quantitative Log for Whaleshark-1
REMARKS =
DATE_CREATED = 3/12/92
DATE_RECEIVED = 26/03/93
W_NO = W1068
WELL_NAME = Whaleshark-1
CONTRACTOR = SOLAR
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

ENCLOSURES

ENCLOSURES

PE600807

This is an enclosure indicator page.
The enclosure PE600807 is enclosed within the container PE900984 at this location in this document.

The enclosure PE600807 has the following characteristics:

ITEM_BARCODE = PE600807
CONTAINER_BARCODE = PE900984
NAME = Formation Evaluation Log/Mud Log
BASIN = GIPPSLAND
PERMIT = VIC/P24
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Formation Evaluation Log/Mud Log for Whaleshark-1
REMARKS =
DATE_CREATED = 16/08/92
DATE_RECEIVED = 26/03/93
W_NO = W1068
WELL_NAME = Whaleshark-1
CONTRACTOR = HALLIBURTON GEODATA SDL
CLIENT_OP_CO = ESSO

PE600808

This is an enclosure indicator page.
The enclosure PE600808 is enclosed within the container PE900984 at this location in this document.

The enclosure PE600808 has the following characteristics:

```
     ITEM_BARCODE = PE600808
CONTAINER_BARCODE = PE900984
             NAME = Well Completion Log
            BASIN = GIPPSLAND
           PERMIT = VIC/P24
             TYPE = WELL
          SUBTYPE = COMPLETION_LOG
      DESCRIPTION = Well completion log for Whaleshark-1
          REMARKS =
     DATE_CREATED = 28/02/93
    DATE_RECEIVED = 26/03/93
             W_NO = W1068
        WELL_NAME = Whaleshark-1
       CONTRACTOR = ESSO
     CLIENT_OP_CO = ESSO
```

(Inserted by DNRE - Vic Govt Mines Dept)

PE600809

This is an enclosure indicator page.
The enclosure PE600809 is enclosed within the container PE900984 at this location in this document.

The enclosure PE600809 has the following characteristics:

ITEM_BARCODE = PE600809
CONTAINER_BARCODE = PE900984
NAME = Synthetic Siesmic trace
BASIN = GIPPSLAND
PERMIT = VIC/P24
TYPE = SEISMIC
SUBTYPE = SYNTH_SEISMOGRAM
DESCRIPTION = Synthetic Siesmic trace for Whaleshark-1
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W1068
WELL_NAME = Whaleshark-1
CONTRACTOR = ESSO
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE600810

This is an enclosure indicator page.
The enclosure PE600810 is enclosed within the container PE900984 at this location in this document.

The enclosure PE600810 has the following characteristics:

ITEM_BARCODE =	PE600810
CONTAINER_BARCODE =	PE900984
NAME =	Seismic Calibration Log
BASIN =	GIPPSLAND
PERMIT =	VIC/P24
TYPE =	WELL
SUBTYPE =	VELOCITY_CHART
DESCRIPTION =	Seismic Calibration Log for Whaleshark-1
REMARKS =	
DATE_CREATED =	27/08/92
DATE_RECEIVED =	26/03/93
W_NO =	W1068
WELL_NAME =	Whaleshark-1
CONTRACTOR =	SCHLUMBERGER
CLIENT_OP_CO =	ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE900985

This is an enclosure indicator page.
The enclosure PE900985 is enclosed within the container PE900984 at this location in this document.

The enclosure PE900985 has the following characteristics:

ITEM_BARCODE = PE900985
CONTAINER_BARCODE = PE900984
NAME = Depth Structure Map
BASIN = GIPPSLAND
PERMIT = VIC/P24
TYPE = WELL
SUBTYPE = HRZN_CNTR_MAP
DESCRIPTION = Depth Structure Map, Top of Latrobe Group (most likely case) for Whaleshark-1
REMARKS =
DATE_CREATED = 31/03/93
DATE_RECEIVED = 26/03/93
W_NO = W1068
WELL_NAME = Whaleshark-1
CONTRACTOR = ESSO
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE900986

This is an enclosure indicator page.
The enclosure PE900986 is enclosed within the container PE900984 at this location in this document.

The enclosure PE900986 has the following characteristics:

ITEM_BARCODE =	PE900986
CONTAINER_BARCODE =	PE900984
NAME =	Depth Structure Map
BASIN =	GIPPSLAND
PERMIT =	VIC/P24
TYPE =	WELL
SUBTYPE =	HRZN_CNTR_MAP
DESCRIPTION =	Depth Structure Map, Upper T Longus seismic Horizon for Whaleshark-1
REMARKS =	
DATE_CREATED =	31/03/93
DATE_RECEIVED =	26/03/93
W_NO =	W1068
WELL_NAME =	Whaleshark-1
CONTRACTOR =	ESSO
CLIENT_OP_CO =	ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE900987

This is an enclosure indicator page.
The enclosure PE900987 is enclosed within the container PE900984 at this location in this document.

The enclosure PE900987 has the following characteristics:

ITEM_BARCODE = PE900987
CONTAINER_BARCODE = PE900984
NAME = Depth Structure Map
BASIN = GIPPSLAND
PERMIT = VIC/P24
TYPE = WELL
SUBTYPE = HRZN_CNTR_MAP
DESCRIPTION = Depth Structure Map, Composite Surface: TOL Group/Top of Porosity for Whaleshark-1
REMARKS =
DATE_CREATED = 31/03/93
DATE_RECEIVED = 26/03/93
W_NO = W1068
WELL_NAME = Whaleshark-1
CONTRACTOR = ESSO
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)