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WCR VOL 2

SNAPPER-6

W925

ESSO EXPLORATION AND PRODUCTION
AUSTRALIA INC.

WELL COMPLETION REPORT
SNAPPER-6
VOLUME 2

GIPPSLAND BASIN
VICTORIA

ESSO AUSTRALIA LIMITED

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P.GLENTON

AUGUST 1987

SNAPPER-6

WELL COMPLETION REPORT

VOLUME 2

(Interpretative Data)

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GEOLOGICAL AND GEOPHYSICAL ANALYSIS

1. SUMMARY OF WELL RESULTS

FORMATION/HORIZON Tops	(m KB) Pre-Drill	(m KB) Post-Drill	(m SS) Post-Drill
Top of Latrobe Group (N-1.0)	1355	1331.5	-1310.5
Top of "coarse clastics" (N-1.1)	1371	1353.0	-1332.0
N-1 GOC	1403	1403.5	-1382.5
N-1 OWC	1411	1410.8	-1389.8
P.asperopolus seismic marker (N-1.4 Coal)	1473	1465.5	-1444.5
Upper M.diversus seismic marker (N-1.9 Coal)	1635	1641.5	-1620.5
L-1 coal (below upper L.balmei seismic marker)	1878	1890.5	-1869.5
Total Depth	3021	3021.0	-3000.0

2. INTRODUCTION

The Snapper Field lies 35km offshore in the Gippsland Basin in 55m of water, in southern Vic/L10. The field contains gas and a 6-8m oil leg in the Eocene N-1 reservoir at the top of the Latrobe Group, and a number of intra-Latrobe Group oil and gas accumulations (the M, L and T reservoirs). The Snapper 'A' Platform is currently producing N-1 oil and gas, and intra-Latrobe oil.

The main objective of Snapper-6 was to explore for oil legs downdip of intra-Latrobe gas reservoirs discovered by Snapper-5 in the south western-most fault block of the field. Snapper-6 was also designed to confirm the lateral continuity of the intra-Latrobe M and L oil reservoir sands in this fault block. Further objectives of the well were to test the N-1.1 and N-1.2 sand quality, and to confirm the thickness of the N-1 oil leg.

The well was programmed to drill to a T.D. of -3000m SS (3021mKB).

3. DRILLING HISTORY

The Snapper Field was discovered in June, 1968 by the exploration well Snapper-1 (T.D. 3755m KB) and confirmed by Snapper-2 (T.D. 3051m KB) and Snapper-3 (T.D. 3211m KB) in 1969 and 1970. All three wells encountered the major N-1 gas and oil reservoir at the top of the Latrobe Group. Snapper-1 and 2 also encountered thin gas and oil bearing sands in the Paleocene and Upper Cretaceous sections.

Because the adjacent Barracouta and Marlin fields were able to meet gas market demand during the 1970's, development drilling did not commence on Snapper until March 1981, and production commenced in July 1981. Twenty-one development wells were drilled from the 27 slot Snapper A platform during this first phase of drilling. The vertical platform well, Snapper A-21, was drilled to a depth of 3282m KB as an exploration well to evaluate the section below the N-1 reservoir. The well encountered numerous oil and gas bearing sands within the Paleocene and Upper Cretaceous, including the L-1 oil reservoir in the Upper L. balmei zone. Other significant intra-Latrobe Group oil discoveries were made by A-6 and A-8.

Snapper-4 was drilled in July 1983 to a T.D. of 2821m KB. This well delineated the central western portion of the Snapper field, and explored for intra-Latrobe Group hydrocarbons in the Snapper-3 fault wedge but discovered only minor indications in thin reservoirs.

Snapper-5 (total depth 2990m KB) tested the N-1 and intra-Latrobe 1.4 km SW of Snapper-4 in July/August 1985. The well discovered intra-Latrobe Group oil reservoirs between 1702 mKB and 1846 mKB and further delineated the N-1 oil and gas reservoir.

Snapper-6 was drilled 2.2 km south-east of Snapper-5 in December, 1985/ January, 1986. The well encountered only minor hydrocarbons below the major N-1 oil and gas accumulation.

4. STRUCTURE

The Snapper structure is a large, elongate, ENE-WSW trending anticline with four-way dip closure. It was formed during a post-Latrobe, basin-wide phase of compression which also caused the inversion of the E-W trending normal fault on the northern flank of the structure (the "Snapper Fault"). At the top of Latrobe the structure is 13 km long and 6.5 km wide. It is asymmetrical, dipping more steeply into the fault on its northern flank. The intra-Latrobe structure conforms approximately with the top of Latrobe.

The anticline is dissected by a series of steeply dipping, down-to-the-SW normal faults which show syndepositional movement on the deeper mappable horizons. Other less pronounced, down-to-the-NE faults without syndepositional movement are also present. Faults become more pervasive and numerous with increasing depth within the Latrobe Group.

Snapper-6 was drilled on the eastern flank of the most southwestern fault block. It is located downdip of but within the same fault-dependent closure as Snapper-5.

5. STRATIGRAPHY

(i) N-1 Reservoir

The N-1 reservoir, in the uppermost Latrobe Group, is divided into 10 mappable units, the N-1.0 to N-1.9. This subdivision is based firstly on field wide correlation and seismic mapping of three prominent surfaces, namely the top of Latrobe Group Unconformity (top of the N-1.0 or Gurnard Formation), top of the N-1.4 coal unit (the *P. asperopolus* seismic marker), and top of the N-1.9 coal unit (Upper *M. diversus* seismic marker). Further subdivision is based on correlation of thin but often laterally extensive shales and coals.

The Gurnard Formation (N-1.0) is the shallowest Latrobe Group unit, and is separated from the Latrobe Group "coarse clastics" by a regional unconformity. The Gurnard Formation is often glauconitic and is mostly non-net. Below the Gurnard Formation are the fluvial-deltaic or estuarine reservoir sandstones (N-1.1 to N-1.9 units) of the "coarse clastics". Juxtaposition of reservoir sandstones across faults has established fluid communication between fault blocks, hence the interpreted field wide GOC.

(ii) Intra-Latrobe

The intra-Latrobe Group units intersected by Snapper-6 consist predominantly of fluvial channel and point-bar sandstones interbedded with shales and coals. Correlation of these units for short distances within a fault block may be possible (for example between Snapper A-21 and A-8), but is often not possible over greater distances or between adjacent fault blocks.

Sand-to-sand correlation is generally not possible between Snapper-6 and Snapper-5, 2.2km to the northwest. However, there is a sandy section just above the L-1 coal in both wells (1850-1890m KB in Snapper-6; 1820-1845m KB in Snapper-5), and there may be fluid communication within this section. This interval contains the M-2.70 oil reservoir in Snapper-5 but in Snapper-6 is below the M-2.70 OWC.

6. RESERVOIR AND HYDROCARBONS

(i) Top of Latrobe Group

The top of Latrobe Group oil and gas accumulation is reservoired in the N-1 sandstones. The Lakes Entrance Formation, and in places the Gurnard Formation (N-1.0), provides the seal, with a spill point at the saddle on the western edge of the structure, towards Whiting-1.

Snapper-6 intersected a gross gas column of 72m in the N-1 reservoir, with an interpreted 47m of net gas sand. Average porosity of the net sand over the interval is 24%, with average water saturation of 19%.

In the southwestern fault block of the Snapper field, the thin N-1 oil column is largely confined to the N-1.1 and N-1.2 units. Snapper-6 intersected the N-1 oil leg within the lower N-1.1 unit. The gas-oil contact was intersected at 1403.5m KB (-1382.5m SS) and the oil-water contact at 1410.8m KB (-1389.8m). These are close to the interpreted original field contacts of -1382m SS and -1390m SS respectively.

(ii) Intra-Latrobe Group

No significant hydrocarbons were intersected below the N-1. Several minor intra-Latrobe Group gas reservoirs were penetrated, notably at 1941m KB, 2687m KB, and in a number of thin sandstones below 2805m KB. Log analysis (Appendix 3) indicates low porosity and high water saturation for most of these reservoirs. Direct correlation with Snapper-5 is generally not possible.

7. GEOPHYSICAL DISCUSSION

Snapper-6 was high to prediction at the top of Latrobe Group, top of "coarse clastics" and top of the N-1.4 coal. It was deep to prediction at the top of the N-1.9 and L-1 coal units. At the top of Latrobe and top of "coarse clastics" the error in prediction was due primarily to the predicted average velocity being too high. The errors at the top of the N-1.4, N-1.9 and L-1 coal units were due to errors in both the predicted average velocity and the mapped two-way time. These errors in mapped 2WT arose because of miss-ties between the G77A and G82B surveys in the vicinity of Snapper-6.

Pre-drill vs Post-drill Analysis:

Horizon	Predicted			Actual	
	Mapped 2WT (sec)	Lag Corrected 2WT (sec)	Depth (mSS)	Well * 2WT (sec)	Depth (mSS)
Top of Latrobe	1.143	1.121	-1334	1.118	-1310.5
Top of "coarse clastics"	-	-	-1350	1.135	-1332.0
P. asperopolus Seismic Marker (Top of N-1.4 Coal)	1.233	1.215	-1452	1.213	-1444.5
Upper M. diversus Seismic Marker (Top of N-1.9 Coal)	1.336	1.311	-1614	1.324	-1620.5
Top of L-1 Coal Unit	-	-	-1857	1.492	-1869.5

* Interpolated from checkshot data using integrated sonic log.

The Snapper Field is covered by a 1 x 1 km grid of 48-fold data from the G77A survey, infilled by 48-fold data from the G82B survey, which closes the grid to approximately 0.5 x 0.5 km over most of the Field. In the vicinity of Snapper-6 the grid is about 1 x 1 km. The G77A data were reprocessed in 1981. All of the data used have been migrated.

Depth maps for four horizons are enclosed: top of Latrobe Group, P. asperopolus seismic marker (Top of N-1.4 Coal), upper M. diversus seismic marker (Top of N-1.9 Coal) and top of L-1 coal unit (near the upper L. balmei seismic marker). Previous use of an upper L. balmei seismic marker has been discontinued because of difficulty in correlating the event both from seismic to well logs and between well logs. Well log correlations for the top of the L-1 coal unit are generally good over all of the Snapper Field. The time interpretation used to produce the enclosed depth maps is discussed in the "Snapper Field Geophysical Mapping Report" by A.J. Young, Esso Exploration and Production Australia Inc., July, 1983.

Data quality is generally good to the upper M. diversus marker but there is some uncertainty in the interpretation because of character differences and miss-ties between the G77A and G82B data and interference from water-bottom multiples sourced from strong reflectors at or near the top of Latrobe. The top of Latrobe, the P. asperopolus and the upper M. diversus horizons were carried on troughs immediately below peaks which persist over all of the field. The L-1 coal event was carried on a less persistent, broad, ropy peak.

Depth conversion of the three shallowest horizons (top of Latrobe, P. asperopolus and upper M. diversus was accomplished by multiplying lag-corrected times from the digitized seismic sections by a VAVG map and contouring the depth values. The VAVG map for each horizon was prepared using a VMNO map (from smoothed profiles) and a conversion factor map. VNMO data at the L-1 coal level are unreliable, hence no VNMO or VAVG map was produced for this deeper horizon. The depth map for the top the L-1 coal unit was constructed by isopaching from the upper M. diversus depth map using a constant interval velocity. The enclosed depth maps were produced by adjusting the pre-drill maps to tie the Snapper-6 well intersections. The intersections shown on these depth maps at Snapper-6 have not been adjusted to a common oil-water contact for the field, because there is some uncertainty as to how much movement of contacts would have occurred in this part of the field due to gas production from Snapper A platform.

Final mapping of the Field will be carried out at the completion of the Snapper Phase II Development drilling.

0123F/1-6

LOCALITY MAP
SNAPPER-6

SCALE 1:250 000

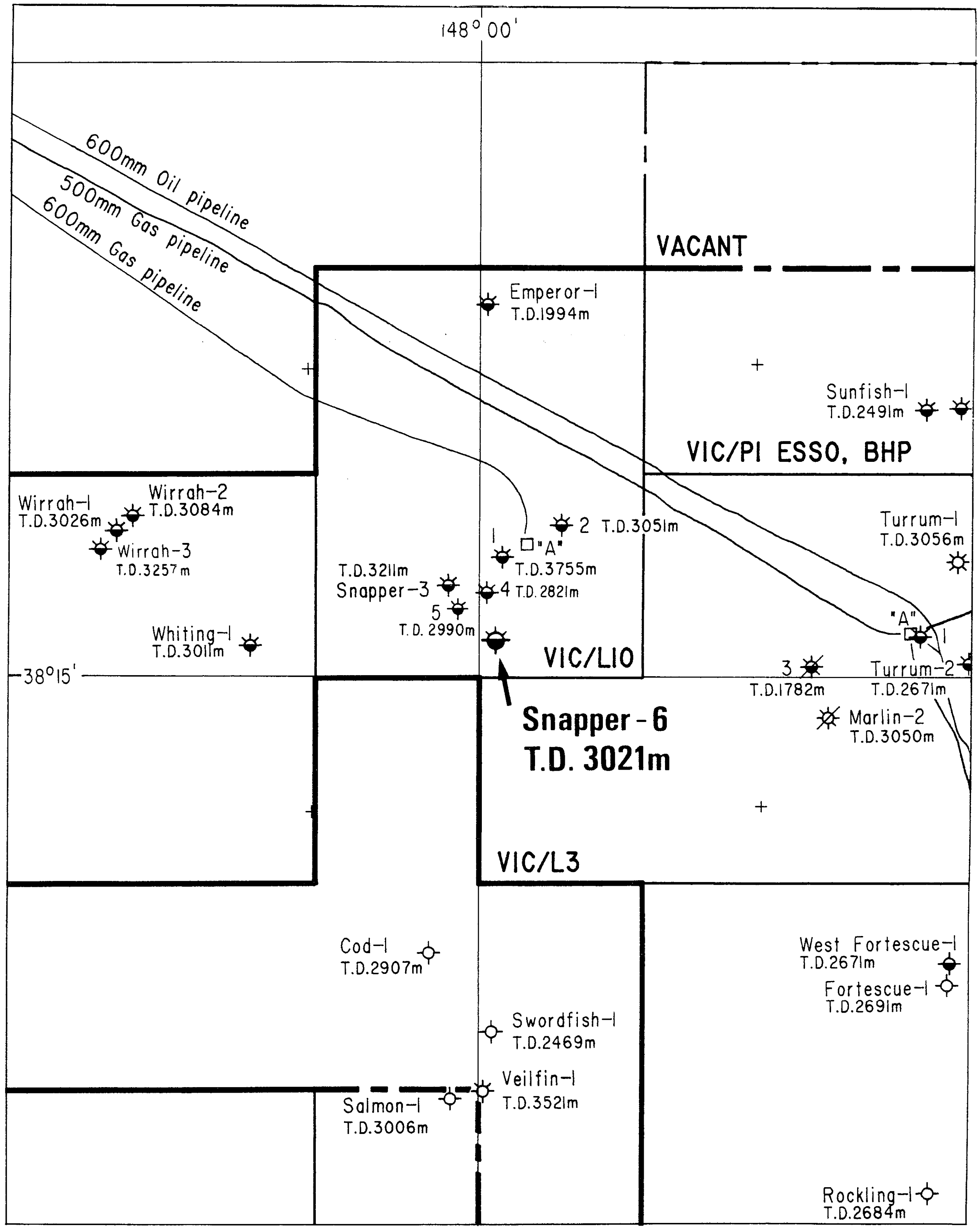
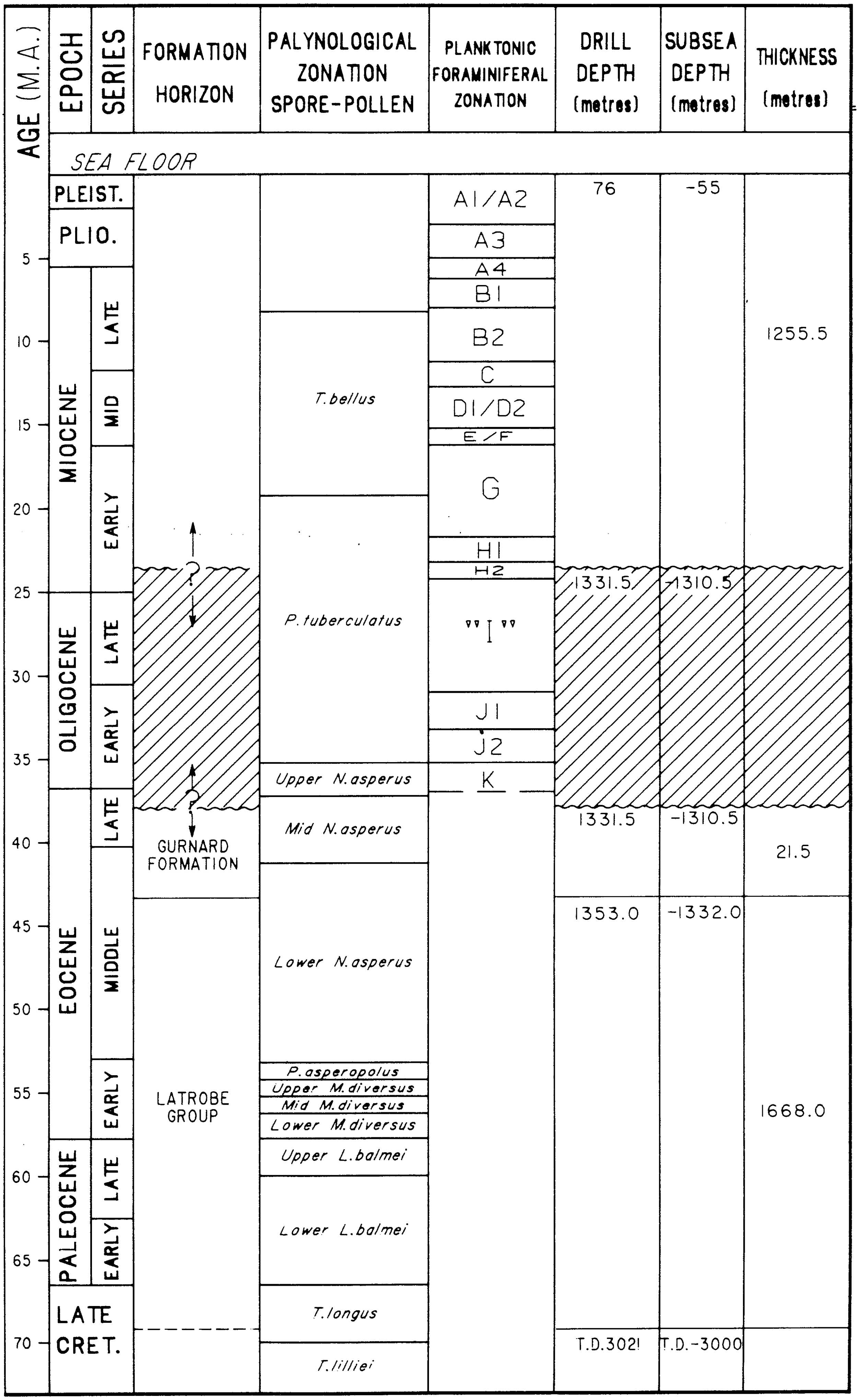


Fig.1

Dwg. 2343/OP/4

SNAPPER-6
STRATIGRAPHIC TABLE



DFT.SNAPPER6.STRAT 08-87

DWG. 2343/OP/9

Figure 2

APPENDIX 1

FORAMINIFERAL ANALYSIS, SNAPPER-6
GIPPSLAND BASIN

by

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ESSO AUSTRALIA LTD.
PALAEONTOLOGY REPORT 13/1986

April 1986

2216L

INTRODUCTION

The foraminiferal content of three sidewall cores from Snapper-6 has been examined. Only one sample from 1325.0 m, yielded age diagnostic foraminifera.

The top of Latrobe group occurs between 1337.0 m and 1331.0 m where there is a change, upsection, from a fine grained quartz sand to a strongly recrystalised carbonate.

BIOSTRATIGRAPHY

1325.0 m - Zone G.
Early-Middle Miocene.

This sample yielded a moderate planktonic foraminiferal fauna including Globorotalia zealandica, Globigenina woodi woodi and Globigeninoides trilobus. It is the presence of this latter species without Globigerinoides sicanus or any other younger species which indicates a zone G age.

			MICROFOSSIL			
DEPTH (m)	SWC NO.	YIELD	PRESERVATION	ZONE	AGE	LITHOLOGY*
1337.0	58	Barren		?	Indeterminate	ferruginous fine grained quartz sand. Glauconitic.
1331.0	59	Low	V. poor	?	Indeterminate	Recrystalized carbonate glauconitic recrystalized moulds of foraminifera only.
1325.0	60	Moderate	Fair	G	Early-Middle Miocene	Dominated by foraminiferal tests.

- DATA SUMMARY - SNAPPER 6.

* Lithology from washed residues

APPENDIX 2

APPENDIX

PALYNOLOGICAL ANALYSIS
SNAPPER-6, GIPPSLAND BASIN

by

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Esso Australia Ltd

Palaeontology Report 1986/4

May 1986

2271L

INTERPRETATIVE DATA

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INTRODUCTION

Forty six sidewall cores were processed and the fossil spore-pollen and dinoflagellate extracts analysed. Although most assemblages were diverse, yields were usually low and preservation poor. Consequently many Early Eocene and Palaeocene dates are of low confidence.

Lithological units and palynological zones from the base of the Lakes Entrance Formation to Total Depth are summarized below. Interpretative data are given in Table 1. Basic data are given in Table 2.

SUMMARY

AGE	UNIT/FACIES	ZONE	DEPTH(m)
Oligocene/ Early Miocene	Lakes Entrance Formation	P. tuberculatus	1325.0-1331.0
	Log break at 1330.5m		
Late/Middle Eocene	Gurnard Fm. "upper unit"	N. asperus (undiff.)	1337.0
	Log break at 1346.0m		
Middle Eocene	Gurnard Fm. "lower unit"	Lower N. asperus & A. diktyoplokus	1348.0
	Log break at 1349.0m		
Middle Eocene	Latrobe Group coarse clastics	Lower N. asperus	1407.0 - 1433.0
Early Eocene		P. asperopolus	1516.0 - 1557.0
Early Eocene		Upper M. diversus	1605.0
Early Eocene		Middle M. diversus	1704.0 - 1726.0
Early Eocene		Lower M. diversus	1787.0 - 1915.0
Paleocene		Upper L. balmei	1976.0 - 2211.0
Paleocene		Lower L. balmei	2274.0 - 2517.0
Maastrichtian		Upper T. longus	2744.0 - 2946.0
Maastrichtian		Lower T. longus	2998.0

T.D. 3021m

GEOLOGICAL COMMENTS

1. Snapper-6 contains essentially the same sequence of Late Cretaceous to Tertiary zones as other wells in the Snapper and adjacent Whiting fields. In all wells a substantial time break, probably representing the entire Oligocene Period, occurs between the top of the Latrobe Group and the base of the Lakes Entrance Formation.

2. As in Snapper-4 (Macphail 1984) and Snapper-5 (Partridge 1986), lithological and log data indicate the Gurnard Formation comprises two units: an upper glauconite unit between 1330.5 and 1346.0m (See Hannah 1986) and a siltstone unit with relatively minor amounts of glaucontie between 1346.0 and 1349.0m. The latter is characterized by a particularly strong kick out in the resistivity log. In Snapper-4 and Snapper-5 these subunits are dated as Late Eocene, Middle N. asperus Zone and Middle Eocene, Lower N. asperus Zone ages respectively. In Snapper-6, the lower unit is Lower N. asperus/A. diktyoplokus Zone in age, as in Snapper-4 and Snapper-5. The upper unit, which contains (?bioturbated) P. tuberculatus Zone species at 1331.0m, is undatable.

3. Thick coals at 1465-1474m and 1641.5-1654m form an excellent datum for correlating Snapper-6 with the other Snapper and Whiting wells. The depths of the equivalent coals in Snapper-5 are 1396.5-1405m and 1606-1621.5m respectively [Partridge 1986]. Although these coals fall within unsampled intervals in both wells, the Snapper-4 data indicate the upper one is P. asperopolus Zone. It remains uncertain whether the lower coal is Upper or Middle M. diversus Zone in age

4. A marked thickening of Paleocene and (?) Late Cretaceous sediments occurs between Snapper-5 and Snapper-6, a trend that continues to the southwest across the Whiting Field. The most likely explanation is that the Snapper wells, including Snapper-5 and Snapper-6 and Snapper-1 and Snapper-4 (Macphail 1984), are separated by a series of growth faults which had ceased development by the end of the Paleocene.

5. Prior to the development of open marine conditions across Snapper-6 during the Middle Eocene, the well was sited within a coastal plain environment that was relatively unaffected by Paleocene-Early Eocene marine transgressions. Marine-influenced sediments occur at 1516.0m, 2099.0 and 2462.0m (A. homomorphum Zone), and 2396.0m (?A. homomorphum Zone). Sediments deposited during the A. hyperacanthum Zone marine transgression occur at 1834.5m in Snapper-5 but have not been identified

in Snapper-6. Log data indicates the most likely equivalent facies in Snapper-6 is the shale unit at 1862-1872m. Sidewall core 33 (1870.0m) shot in this unit contains very rare dinoflagellates, the only marine organisms recorded within the Lower M. diversus Zone in Snapper-6.

6. Because of anomalously young occurrences of the typically Paleocene species Lygistepollenites balmei, it is not clear whether the Upper L. balmei - Lower M. diversus Zone boundary lies between 2099.0 and 1915.0m or between 1915.0 and 1870.0m. If the former, then the "L-1" coal, at approx. 1890m and the L. balmei seismic marker some metres above this coal lie within the Early Eocene, Lower M. diversus Zone interval.

BIOSTRATIGRAPHY

Zone boundaries have been established using the criteria of Stover and Partridge (1973) and subsequent proprietary revisions.

Upper Tricolpites longus Zone: 2744-2946.0m.

Samples within this interval contain Stereisporites punctatus associated with frequent Gambierina and, usually, Proteacidites spp. that typically range no higher than this zone, e.g. P. otwayensis, P. reticuloconcavus. One specimen of Tricolpites longus was recorded, at 2786.0m. The basal sidewall core, at 2998.0m lacks S. punctatus and is tentatively assigned to the Lower T. longus Zone.

Lower Lygistepollenites balmei Zone: 2274.0-2517.0m.

Palynofloras within this interval are dominated by gymnosperm pollen, usually including frequent Lygistepollenites balmei. Most samples include Polycolpites langstonii or Integricorpus antipodus, species first appearing in this zone. The lower boundary is provisionally placed at 2517.0m, based on occurrences of Tetracolporites verrucosus with frequent to common L. balmei. Occurrences of Verrucosisporites kopukuensis and Integricorpus antipodus indicate this sample is relatively high within the Lower L. balmei Zone. The upper boundary is picked at 2274.0m, the highest sample lacking Malvacipollis spp.

Upper Lygistepollenites balmei Zone: 1976.0-2211.0m.

The lower boundary is placed at 2211.0m, the first occurrence of Malvacipollis subtilis. Both Gambierina rudata and Polycolpites langstonii are present at this depth. The sample at 2153.5m contains the first record of Haloragacidites harrisii and that at 2099.0m, the lowest record of Proteacidites annularis. The upper boundary is provisionally placed at 1976.0m, the highest sample containing frequent Lygistepollenites balmei. Malvacipollis subtilis and Gambierina rudata occur in this sample.

Lower Malvacipollis diversus Zone: 1787.0-1915.0m.

All palynofloras in the above interval are dominated by fern spores - species of Cyathidites, Clavifera, Gleicheniidites, Laevigatosporites, Stereisporites and, less commonly, Ischyosporites, Rugulatisporites and Verrucosisporites. The next most common palynomorphs were gymnosperm pollen - Podocarpidites ssp. and Phyllocladidites mawsonii. Although isolated spore-dominated palynofloras occur in the majority of Gippsland wells, the persistence of this dominance over an approx. 130m section is unusual. The evidence indicates a stable floodplain swamp-forest, vegetation that possibly include rare (Eocene) occurrences of Lygistepollenites balmei [1845.0m, 1915.0m]. L. balmei pollen also occurs in time-equivalent sediments in Snapper-5 [see Partridge 1986]. Although the diversity of angiosperm pollen was often high, most species were long-ranging. The base of the zone is placed at 1915.0m, a very sparse assemblage containing single specimens of Crassiretitriletes vanraadshoovenii and Proteacidites obscurus. Since the same flora also contains three specimens of Lygistepollenites balmei, the data is of low confidence. The upper boundary is provisionally placed at 1787.0m, a sample containing a general M. diversus Zone palynoflora which includes a very rare (for Gippsland Basin) Eocene record of Integricorpus antipodus.

Middle Malvacipollis diversus Zone: 1704.0m-1726.0m.

Two samples are assigned to this zone. Both contain species that range no lower than the Middle M. diversus Zone: Proteacidites tuberculiformis at 1726.0m and Anacolosidites rotundus at 1704.0m. Species ranging no higher than this zone were not recorded.

Upper Malvacipollis diversus Zone: 1605.0m.

One sample is assigned to this zone, based on occurrences of Myrtaceidites tenuis, Santalumidites cainozoicus and frequent Malvacipollis subtilis and Proteacidites pachypolus. No species diagnostic of the P. asperopolus Zone were recorded.

Proteacidites asperopolus Zone: 1516.0-1557.0m.

The two samples within this interval contain species which first appear in the zone, e.g. Proteacidites asperopolus, Tricolpites incisus and Sapotaceoidaepollenites rotundus, as well as species which range no higher than this zone, e.g. Intratriporopollenites notabilis, Myrtaceidites tenuis, Proteacidites ornatus, P. plemmelus and P. tuberculiformis. Clavastephanocolporites meleosus occurs at 1516.0m. Both age-determinations are of high confidence.

Lower Nothofagidites asperus Zone: 1348.0-1433.5m.

The base of this zone is defined by the occurrence of Proteacidites asperopolus in an assemblage dominated by Nothofagidites pollen. Nothofagidites falcatus pollen first occurs at 1412.5m and Triporopollenites delicatus at 1348.0m. The latter sample, which contains Tritonites pandus and T. tricornus associated with Areosphaeridium diktyoplokus, is picked as the upper boundary. This sample represents the first evidence for an overlap in the ranges of Tritonites pandus and T. tricornus.

Proteacidites tuberculatus Zone: 1325-1331.0m.

Occurrences of Cyatheacidites annulatus confirm a P. tuberculatus Zone age for the samples at 1325.0m and if in situ, at 1331.0m.

REFERENCES

MACPHAIL, M.K. 1984. Palynological analysis, Snapper-4, Gippsland Basin. Esso Australia Ltd. Palaeontological Report 1984/8.

PARTRIDGE, A.D. 1986. Palynological analysis, Snapper-5, Gippsland Basin. Esso Australia Ltd. Palaeontological Report 1986/9.

STOVER, L.E. & PARTRIDGE, A.D. (1973). Tertiary and Late Cretaceous spores and pollen from the Gippsland Basin, Southeastern Australia. Proc. R. Soc. Vict., 85: 237-286.

PALYNOLOGY DATA SHEET

BASIN: GIPPSLAND — ELEVATION: KB: +21.0m GL: -55.0m

WELL NAME: SNAPPER-6 — TOTAL DEPTH: 3021m

AGE	PALYNOLOGICAL ZONES	HIGHEST DATA					LOWEST DATA				
		Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time	Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time
NEOGENE	*T. pleistocenicus*										
	M. lipsis										
	C. bifurcatus										
	T. bellus										
PALEOGENE	*P. tuberculatus*	1325.0	0				1331.0	0			
	Upper *N. asperus*										
	Mid *N. asperus*										
	Lower *N. asperus*	1348.0	0				1433.5	1			
	P. asperopolus	1516.0	0				1557.0	0			
	Upper *M. diversus*	1605.0	2				1605.0	2			
	Mid *M. diversus*	1704.0	2				1726.0	1			
	Lower *M. diversus*	1787.0	2				1915.0	2	1870.0	1	
	Upper *L. balmei*	1976.0	2				2211.0	2			
	Lower *L. balmei*	2274.0	2				2517.0	1			
LATE CRETACEOUS	Upper *T. longus*	2744.0	1				2946.0	2	2905.0	1	
	Lower *T. longus*	2998.0	2				2998.0	2			
	T. lilliei										
	N. senectus										
	T. apoxyexinus										
	P. mawsonii										
	A. distocarinatus										
EARLY CRET.	*P. pannosus*										
	C. paradoxa										
	C. striatus										
	C. hughesi										
	F. wonthaggiensis										
	C. australiensis										

COMMENTS: Dinoflagellate Zones:
A. diktyoplokus 1348.0m
A. homomorphum: 2099.0, 2462.0m
Sample or fossils at 1331.0m may not be in situ.

CONFIDENCE RATING:
- O: SWC or Core, Excellent Confidence, assemblage with zone species of spores, 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 spores and pollen or microplankton, or both.
- 4: Cuttings, No Confidence, assemblage with non-diagnostic spores, pollen and/or microplankton.

NOTE: If an entry is given a 3 or 4 confidence rating, an alternative depth with a better confidence rating should be entered, if possible. If a sample cannot be assigned to one particular zone, then no entry should be made, unless a range of zones is given where the highest possible limit will appear in one zone and the lowest possible limit in another.

DATA RECORDED BY: M.K. Macphail — DATE: 23 May 1986

DATA REVISED BY: ________ — DATE: ________

TABLE I: SUMMARY OF INTERPRETATIVE PALYNOLOGICAL DATA

SNAPPER-6

SAMPLE NO.	DEPTH (m)	SPORE-POLLEN ZONE	DINOFLAGELLATE ZONE	AGE	CONFIDENCE RATING	COMMENTS
SWC 60	1325.0	P. tuberculatus	-	Early-Middle Miocene	0	F. crater, C. annulatus, P. simplex
SWC 59	1331.0	P. tuberculatus	-	Oligocene-Miocene	0	C. annulatus, F. lacunosus, P. simplex
SWC 58	1337.0	N. asperus	-	?Middle Eocene	-	N. falcatus. No older than Lower N. asperus Zone
SWC 57	1342.0	Indeterminate	-	-	-	Negligible yield
SWC 56	1348.0	Lower N. asperus	A. diktoplokus	Middle Eocene	0	P. asperopolus, abund. Nothofagidites, T. delicatus A. diktyoplokus, T. pandus, T. tricornus
SWC 55	1351.5	Indeterminate	-	-	-	Barren
SWC 54	1357.5	Indeterminate	-	-	-	Negligible yield
SWC 52	1407.7	Lower N. asperus	-	Middle Eocene	I	P. asperopolus, freq. Nothofagidites
SWC 51	1410.0	Lower N. asperus	-	Middle Eocene	I	P. asperopolus, abund. Nothofagidites
SWC 50	1410.5	Lower N. asperus	-	Middle Eocene	I	P. asperopolus, abund. Nothofagidites
SWC 49	1411.5	Lower N. asperus	-	Middle Eocene	I	Freq. P. asperopolus, abund. Nothofagidites
SWC 48	1412.5	Lower N. asperus	-	Middle Eocene	I	P. asperopolus, common Nothofagidites
SWC 46	1433.5	Lower N. asperus	-	Middle Eocene	I	P. asperopolus, abund. Nothofagidites
SWC 45	1475.0	Indeterminate	-	-	-	Barren
SWC 44	1516.0	P. asperopolus	-	Early Eocene	0	P. asperopolus, M. tenuis, C. meleosus, S. rotundus

TABLE I: SUMMARY OF INTERPRETATIVE PALYNOLOGICAL DATA

SNAPPER-6

SAMPLE NO.	DEPTH (m)	SPORE-POLLEN ZONE	DINOFLAGELLATE ZONE	AGE	CONFIDENCE RATING	COMMENTS
SWC 43	1557.0	P. asperopolus	-	Early Eocene	0	I. notabilis, P. tuberculiformis, T. incisus, P. ornatus, P. plemmelus, freq. P. asperopolus
SWC 42	1605.0	Upper M. diversus	-	Early Eocene	2	M. tenuis, freq. P. pachypolus & M. subtilis
SWC 41	1656.0	Indeterminate	-	-	-	Barren
SWC 39	1704.0	Middle M. diversus	-	Early Eocene	2	A. rotundus, M. diversus
SWC 38	1726.0	Middle M. diversus	-	Early Eocene	1	P. tuberculiformis, freq. P. grandis
SWC 37	1759.0	Indeterminate	-	Early Eocene	-	Negligible yield
SWC 36	1787.0	Lower M. diversus	-	Early Eocene	2	I. antipodus; spore-dominated flora.
SWC 35	1818.5	Lower M. diversus	-	Early Eocene	1	P. varus; spore-dominated flora.
SWC 34	1845.0	Lower M. diversus	-	Early Eocene	2	Spore-dominated flora.
SWC 33	1870.0	Lower M. diversus	-	Early Eocene	1	Spore-dominated P. obscurus.
SWC 32	1915.0	Lower M. diversus	-	Early Eocene	2	P. obscurus, C. vanraadshoovenii, spore-dominated flora.
SWC 31	1976.0	Upper L. balmei	-	Paleocene	2	M. subtilis, G. rudata, L. balmei.
SWC 30	2037.3	Upper L. balmei	-	Paleocene	1	P. annularis, Freq. L. balmei.
SWC 29	2099.0	Upper L. balmei	A. homomorphum	Paleocene	1	as above plus M. subtilis, P. langstonii
SWC 28	2153.5	Upper L. balmei	-	Paleocene	2	M. ornamentalis, freq. L. balmei.
SWC 27	2211.0	Upper L. balmei	-	Paleocene	2	M. subtilis, P. langstonii.

TABLE I: SUMMARY OF INTERPRETATIVE PALYNOLOGICAL DATA

SNAPPER-6

SAMPLE NO.	DEPTH (m)	SPORE-POLLEN ZONE	DINOFLAGELLATE ZONE	AGE	CONFIDENCE RATING	COMMENTS
SWC 26	2274.0	Lower L. balmei	-	Paleocene	2	L. balmei, common. P. langstonii.
SWC 25	2337.0	Lower L. balmei	-	Paleocene	2	T. verrucosus, freq. L. balmei.
SWC 23	2396.0	Lower L. balmei	-	Paleocene	2	L. balmei freq. marginal marine.
SWC 22	2435.2	Indeterminate	-	Paleocene	-	Barren.
SWC 21	2462.0	Lower L. balmei	A. homomorphum	Paleocene	1	L. balmei, P. langstonii, freq. A. homomorphum.
SWC 20	2484.8	Lower L. balmei	-	Paleocene	2	L. balmei, freq. A. obscurus.
SWC 19	2517.0	Lower L. balmei	-	Paleocene	1	T. verrucosus, I. antipodus, freq. L. balmei, freq. H. elliottii.
SWC 18	2580.0	Indeterminate	-	-	-	Negligible yield.
SWC 17	2636.0	Indeterminate	-	-	-	Barren.
SWC 12	2744.0	Upper T. longus	-	Maastrichtian	1	S. punctatus, P. wahooensis, freq. G. rudata.
SWC 10	2786.0	Upper T. longus	-	Maastrichtian	0	S. punctatus, T. longus, freq. G. rudata.
SWC 7	2865.3	Indeterminate	-	-	-	Assemblage resembles Lower L. balmei flora.
SWC 5	2905.0	Upper T. longus	-	Maastrichtian	1	S. punctatus, P. reticuloconcavus.
SWC 4	2946.0	Upper T. longus	-	Maastrichtian	2	S. punctatus in coal flora.
SWC 2	2988.0	Lower T. longus	-	Maastrichtian	2	G. rudata.

2271L:8-10

(GI:2181L:1)

TABLE 2: SUMMARY OF BASIC PALYNOLOGICAL DATA

SNAPPER-6

DIVERSITY -	low	medium	high
S & P	less than 10	10-30	greater than 30
D	1-3	3-10	10

SAMPLE NO.	DEPTH (m)	YIELD SPORE-POLLEN	YIELD DINOS	DIVERSITY SPORE-POLLEN	DIVERSITY DINOS	PRESERVATION	LITHOLOGY	PYRIZATION	COMMENTS
SWC 60	1325.0	Low	Fair	Low	Medium	Good	Calcilutite	-	
SWC 59	1331.0	Low	Fair	Medium	Medium	V. good	Slst.,calc, glauc.	-	
SWC 58	1337.0	V. low	Low	Medium	Low	Fair	Slst.	-	
SWC 57	1342.0	Negl.	-	Low	-	Fair	Slst.	-	
SWC 56	1348.0	Fair	Low	High	Medium	Good	Sst.	-	
SWC 55	1351.5	-	-	-	-	-	Sst.	-	
SWC 54	1357.5	Negl.	-	Low	-	Fair	Sst.	-	
SWC 52	1407.7	V. low	Neg.	Medium	Low	Good	Sst.	-	
SWC 51	1410.0	Low	V. low	Medium	Low	Fair	Sst.	-	Hydrocarbon-affected?
SWC 50	1410.5	Low	V. low	Medium	Low	Fair	Sst.	-	
SWC 49	1411.5	Low	-	Medium	-	Fair	Sst.	-	
SWC 48	1412.5	Low	-	Medium	-	Fair	Sst.	minor	
SWC 46	1433.5	Good	-	Medium	-	Fair	Sst.	-	Hydrocarbon-affected?
SWC 45	1475.0	Good	-	-	-	-	Sst.	-	
SWC 44	1516.0	Good	Fair	High	Medium	Fair	Sst.	minor	

TABLE 2: SUMMARY OF BASIC PALYNOLOGICAL DATA

SNAPPER-6

DIVERSITY -	low	medium	high
S & P	less than 10	10-30	greater than 30
D	1-3	3-10	10

SAMPLE NO.	DEPTH (m)	YIELD SPORE-POLLEN	YIELD DINOS	DIVERSITY SPORE-POLLEN	DIVERSITY DINOS	PRESERVATION	LITHOLOGY	PYRIZATION	COMMENTS
SWC 43	1557.0	Good	V. low	High	Low	Good	Slst.	-	
SWC 42	1605.0	V. low	-	Medium	-	Fair	Slst.	-	
SWC 41	1656.0	-	-	-	-	-	Slst.	-	
SWC 39	1704.0	V. low	V. low	Medium	Low	Fair	Slst.	-	
SWC 38	1726.0	Good	Fair	High	Medium	Good	Slst.	-	
SWC 37	1759.5	Negl.	-	Low	-	Fair	Slst.	-	
SWC 36	1787.0	V. good	-	Medium	-	Good	Slst.	-	
SWC 35	1818.5	Good	-	High	-	Fair	Slst.	-	
SWC 34	1845.0	Low	-	Medium	-	Poor	Slst.	-	
SWC 33	1870.0	V. good	Negl.	High	Low	Good	Sh.	-	
SWC 32	1915.0	V. low	-	Medium	-	Fair	Sh.	-	
SWC 31	1976.0	Fair	-	Medium	-	Poor	Sh.	-	
SWC 30	2037.5	Low	-	Medium	-	Fair	Clyst.	-	
SWC 29	2099.0	Good	Good	High	Low	Poor	Slst.	Minor	
SWC 28	2153.5	V. good	Low	High	Low	Poor	Slst.	Strong	

TABLE 2: SUMMARY OF BASIC PALYNOLOGICAL DATA

SNAPPER-6

DIVERSITY -	low	medium	high
S & P	less than 10	10-30	greater than 30
D	1-3	3-10	10

SAMPLE NO.	DEPTH (m)	YIELD SPORE-POLLEN	YIELD DINOS	DIVERSITY SPORE-POLLEN	DIVERSITY DINOS	PRESERVATION	LITHOLOGY	PYRIZATION	COMMENTS
SWC 27	2211.0	Fair	V. low	Medium	Low	V. poor	Ss.	Strong	
SWC 26	2274.0	Low	-	Medium	-	Poor	Clyst, carbon.	-	
SWC 25	2337.0	Fair	-	Medium	-	Poor	Clyst.	-	
SWC 24	2396.0	V. good	Good	Medium	Medium	V. poor	Slst., carb.	Strong	
SWC 22	2435.2	-	-	-	-	-	Sst.	-	
SWC 21	2462.0	Low	Low	Medium	Medium	Poor	Slst.	Minor	
SWC 20	2484.8	V. low	-	Medium	-	Poor	Sst.	-	
SWC 19	2517.0	Fair	-	Medium	-	Poor	Slst., carb.	-	
SWC 18	2580.0	Negl.	-	Low	-	Good	Clyst.	-	
SWC 17	2636.0	-	-	-	-	-	Slst., carb.	-	
SWC 12	2744.0	Low	-	Medium	-	Poor	Slst., carb.	-	
SWC 10	2786.0	Low	-	Medium	-	Poor	Slst., carb.	-	
SWC 7	2865.3	V. low	-	Low	-	Poor	Sst.	-	
SWC 5	2905.0	Fair	-	Medium	-	V. poor	Sst. carb.	-	
SWC 4	2946.0	Negl.	-	Low	-	Poor	Coal	-	
SWC 2	2988.0	V. low	-	Low	-	Poor	Coal	-	

APPENDIX 3

SNAPPER-6

QUANTITATIVE LOG ANALYSIS

Interval: 1330 - 2990m KB

Analyst : A.N. Boston

Date : March, 1986

SNAPPER-6 QUANTITATIVE LOG ANALYSIS

SUMMARY

Snapper-6 wireline logs have been analysed for effective porosity and effective water saturation over the interval 1292m - 2990m KB. Analysis was carried out over the logged section using the Dual-Water model of Clavier, Coates and Dumonoir (1977). It utilises a reiterative technique which incorporates hydrocarbon correction to the porosity logs, density-neutron crossplot porosities, a Dual Water saturation relationship and convergence on a preselected grain density window by shale volume adjustment.

The N-1 reservoir at the top of Latrobe Group contains gas over the gross interval 1330.5-1403.5m KB. Below the top of Coarse clastics at 1353m KB, there is 42.75m of net gas sand with an average porosity of 25.3% and an average water saturation of 16.4%. An oil leg lies below the gas over the interval 1403.5-1410.75m KB. 4.25m of net oil sand with an average porosity of 28.2% and an average water saturation of 14.8% occurs in this zone.

A gas sand with 4.5m net occurs over the interval 1941.25-1948.50m KB. The next significant hydrocarbon sands occur from 2605m KB to T.D. They are thin gas sands with average porosities in the range 11.9-16.1% and average water saturations of 25.1-79.1%.

A summary of log analysis results for hydrocarbon sands is given in Table 1 while Table 2 lists results for sands interpreted as being water bearing. Net sand is defined as that which has a calculated effective porosity of greater than 10%.

WIRELINE LOGGING AND QUALITY CONTROL

The following wireline logs were run on Snapper-6 Suite 2:

DLTE-MSFL-GR	"Super-combo" tool
LDTC-CNTH-GR-AMS	Logs run together.
DDBHC-GR	
DITD-GR	

A knuckle joint was run between the DLT and the LDT in the "super-combo" tool. The DLT had a 1-1/2" standoff while no standoff was used with the LDT. Raw data was processed using the latest Schlumberger software CP28.2A.

The DLTE-MSFL-GR log is generally of good quality. In saline water sands from 1800-2600m KB, an unusual profile occurs with LLS $<$ MSFL $<$ LLD (figure 1). The curves assume the expected profile of MSFL $<$ LLS $<$ LLD when borehole corrections to the curves are applied (figure 2). The LLS and LLD and to a lesser extent the MSFL show an unusual feature immediately above resistive beds such as coals or shales. The curves dip to lower resistivity immediately above the resistive beds as seen at 1407.75m, 1427.25m, 1483.75m and 1642m KB. This effect causes problems especially within hydrocarbon zones such as at 1407.75m KB. Schlumberger were informed and attempted normalisation and reconstruction of the LLD but were unable to eliminate the problem.

The LDTC-CNTH-GR-AMS log is similarly of good quality. Spectrum quality ratios for the LDTC lie within acceptable tolerances as do the QLS and QSS curves. A new short spacing detector crystal for the LDTC was installed in the tool before this logging job. It was noted on the CNTH Detector Calibration Summary that the NRAT was calibrated to a value of 2.187 instead of the correct value of 2.158. A playback with the correct value was compared with the original log and the difference in NPHI was insignificant. It was thus decided to keep the original film and tapes. The mud resistivity at T.D. measured with the AMS was .064 ohmm which was somewhat lower than the value of .073 ohmm calculated from mud resistivity measured at surface. The former value is considered more reliable as it comes from direct measurement downhole and it was used in the log analysis.

The DIT-GR was run free of charge for comparison with the Dual Laterolog. The ILM and ILD show a poor response in formations with a resistivity greater than about 50 ohmm. The ILM, and to a lesser extent the ILD, show spiking in high resistivity zones. The bed resolution of these tools is generally poorer than the Dual Laterolog. In saline water sands the SFL, ILM and ILD curves nearly overlie each other or in some cases the SFL is slightly higher than the ILM and ILD curves. Borehole corrections do not change this anomalous profile significantly. The ILM and ILD see lower resistivities in saline water sands than the LLS and LLD, for example .75 ohmm for the ILD and 1.5 ohmm for the LLD at 2000m KB. The poor performance of the induction tool at high resistivities such as occur in hydrocarbon zones means that the DITD is unsuitable for formation conditions found in the Gippsland Basin.

The DDBHC-GR log is of good quality with the normal and long spacing sonic curves generally in good agreement. Some cycle skipping occurs for both logs especially where the hole is rugose or washed-out.

LOG ANALYSIS

The following logs were used in the log analysis:

LLD	(Deep Laterolog)
LLS	(Shallow Laterolog)
MSFL	(Micro Spherically Focussed Log)
RHOB	(Density Log)
NPHI	(Neutron Porosity Log)
CALI	(Caliper Log)
GR	(Gamma-ray Log)

The LLD, LLS, MSFL, NPHI logs were corrected for borehole and environmental effects using the latest 1985 Schlumberger correction charts. The borehole corrected LLD, LLS and MSFL were combined to derive Rt and depth of invasion logs using chart Rint-9 from 1985 Schlumberger chartbook.

Coals and carbonaceous shales were eliminated from the log analysis by setting the density log (RHOB) over these intervals to one. A first approximation of formation salinities was carried out using PHIT, from density-neutron crossplot, and Rt in Archie's equation to derive Rwa. A initial estimate of VSH was derived from density-neutron separation and shale parameters picked from the logs. RHOB (coal corrected), NPHI (borehole corrected), Rt, MSFL (borehole corrected), salinity and the initial VSH estimate were input into a reiterative program using the Dual-Water model to calculate PHIE (effective porosity), SWE (effective water saturation), SXOE (effective water saturation of flushed zone), and VSH (volume of shale). The values of input parameters and equations used in these calculations are set out below.

Analysis Parameters

TD	3017m KB
Water Depth + KB	76m
Bit Size	12.25"
Mud Weight	9.5 ppg
a	1
m	2
n	2
Grain Density - lower limit	2.65 gm/cc
Grain Density - upper limit	2.67 gm/cc
Dry Shale Density	2.80 gm/cc
Mud Filtrate Density	1.005 gm/cc
Hydrocarbon Density (RHOH)	0.70 gm/cc for oil sands 0.25 gm/cc for gas sands
Bottom Hole Temperature	101.5° C
Sea Bottom Temperature	10.0° C
Rm	0.064 ohmm @ 101.5° C from AMS
Rmf	0.054 ohmm @ 101.5° C
Rmc	0.138 ohmm @ 101.5° C

Depth Interval (m)	RHOBSH (gm/cc)	NPHISH	RSH (ohm-m)
1330 - 1353	2.60	0.36	2.5
1353 - 1600	2.45	0.42	15
1600 - 2300	2.55	0.36	15
2300 - 2650	2.60	0.27	20
2650 - 2990	2.65	0.27	25

Apparent Formation Salinities

Depth Interval (mKB)	Salinity (ppm NaClequiv.)
1330 - 1411	20,000
1411 - 1485	4,000
1485 - 1500	4,500
1500 - 1573	5,000
1573 - 1650	7,000
1650 - 1704	6,500
1704 - 1755	15,000
1755 - 2525	20,000
2525 - 2990	25,000

The salinity profile for the well used in the log analysis is shown in figure 3.

Shale Volume

An initial estimate of VSH was calculated from density-neutron separation:

$$VSH = \frac{NPHI - \left(\frac{2.65 - RHOB}{1.65}\right)}{NPHISH - \left(\frac{2.65 - RHOBSH}{1.65}\right)} \qquad - 1$$

Total Porosity

Total porosity was initially calculated from a density-neutron logs using the following algorithms:

$$h = 2.71 - RHOB + NPHI\ (RHOF - 2.71) \qquad - 2$$

if h is greater than 0, then

apparent matrix density, $RHOMa = 2.71 - h/2$ — 3

if h is less than 0, then

apparent matrix density, $RHOMa = 2.71 - 0.64h$ — 4

$$\text{Total porosity:}\quad PHIT = \frac{RHOMa - RHOB}{RHOMa - RHOF} \qquad - 5$$

where RHOB = coal corrected bulk density in gms/cc
NPHI = environ. corrected neutron porosity in limestone porosity units.
RHOF = fluid density

Density readings were badly effected by washed out hole over the intervals:

1354.75 - 1355.75	1842.00 - 1844.00
1413.75 - 1415.00	2643.00 - 2646.50
1419.50 - 1427.00	2684.00 - 2686.00
1497.50 - 1500.00	2719.00 - 2721.00
1521.00 - 1522.00	2756.00 - 2762.00
1580.50 - 1581.50	2974.50 - 2975.50
1819.00 - 1821.00	

Over these intervals, RHOB was too low leading to calculated total porosities which were too high. A reasonable estimate of the true density was made for these intervals from surrounding depths where the hole was in good condition and Total Porosity was then calculated as outlined above.

Free Water Salinity

Apparent free water salinities are calculated using the following relationships:

$$Rw = \frac{Rt * PHIT^m}{a} \qquad -6$$

$$\text{Salinity (ppm)} = \left[\frac{300,000}{Rw\ (Ti + 7) - 1}\right]^{1.05} \qquad -7$$

where Ti = formation temperature in °F.

Bound Water Resistivities (Rwb) and Saturation of Bound Water (Swb)

Rwb and Swb were calculated using the following relationships:

$$Rwb = \frac{RSH * PHISH^m}{a} \qquad -8$$

where PHISH = total porosity in shale from density-neutron crossplots.
RSH = Rt in shales.

$$Swb = \frac{VSH * PHISH}{PHIT} \qquad -9$$

Water Saturations

Water saturations were determined from the Dual Water model using the following relationships:

$$\frac{1}{Rt} = SwT^n * \frac{PHIT^m}{aRw} + SwT^{(n-1)}\left(\frac{Swb * PHIT^m}{a}\left[\frac{1}{Rwb} - \frac{1}{Rw}\right]\right) \qquad -10$$

and

$$\frac{1}{Rxo} = SxoT^n * \frac{PHIT^m}{aRmf} + SxoT^{(n-1)}\left(\frac{Swb * PHIT^m}{a}\left[\frac{1}{Rwb} - \frac{1}{Rmf}\right]\right) \qquad -11$$

where SwT = total saturation in the virgin formation
SxoT = total saturation in the flushed zone
Rmf = resistivity of mud filtrate
n = saturation exponent

Hydrocarbon Corrections

Hydrocarbon corrections to the density and neutron logs were made using the following relationships:

$$RHOBHC = RHOB + 1.07\ PHIT\ (1\text{-}SxoT)\ [(1.11\text{-}0.15P)\ RHOF - 1.15\ RHOH] \quad \text{-12}$$

$$NPHIHC = NPHI + 1.3\ PHIT\ (1\text{-}SxoT)\ \frac{RHOF\ (1\text{-}P) - 1.5\ RHOH + 0.2}{RHOF\ (1\text{-}P)} \quad \text{-13}$$

where RHOBHC = hydrocarbon corrected RHOB
NPHIHC = hydrocarbon corrected NPHI
RHOH = hydrocarbon density (0.55 gms/cc for oil)
P = mud filtrate salinity in parts per unity

Grain Density

Grain density (RHOG) was calculated from the hydrocarbon corrected density and neutron logs using the following relationships:

$$RHOBC = \frac{RHOBHC - VSH * RHOBSH}{1 - VSH} \quad \text{-14}$$

$$NPHIC = \frac{PHINHC - VSH * NPHISH}{1 - VSH} \quad \text{-15}$$

and equations 2, 3 and 4 are then used to compute RHOG.

The calculated grain density was then compared to the upper and lower limits of the grain densities and if it fell within the limits, effective porosity (PHIE) and effective saturation (Swe) were calculated as follows:

$$PHIE = PHIT - (VSH * PHISH) \quad \text{-16}$$

$$Swe = 1 - \frac{PHIT}{PHIE}\ (1\text{-}SwT) \quad \text{-17}$$

If the calculated grain density fell outside the limits, VSH was adjusted in appropriate increments and PHIT, SwT, SxoT and RHOG recalculated.

COMMENTS ON LOG ANALYSIS

1. Over the analysed interval, RHOB, VSH, PHIE, SWE, SXOE have been set to values of 1, 0, 0, 1, and 1 respectively for all coals and carbonaceous shales.

2. The gas effect on the density and neutron logs is quite variable within the N-1 gas zone. Invasion is quite deep in this zone as the hole was open for about 11 days before logging. Consequently the density log appears to be largely unaffected by gas and with its depth of investigation of 6 inches is only "seeing" mud filtrate. The neutron tool has a deeper depth of invasion of 8-12 inches and responds to gas in the formation over most of the interval. This leads to lower than expected neutron porosities (4-17%) and gas cross-over. Over the intervals 1368-1374m, 1390-1393m and 1396.5-1403.5m KB, the gas effect on the neutron log is much less marked and this is interpreted to be due to deeper invasion in these intervals. The MSFL response provides supporting evidence for essentially total flushing of the invaded zone. The MSFL, which has a depth of investigation of 2 inches, reads almost exactly the same in the gas zone as in water zones below (1-2 ohmm) and hence SXOE is essentially 1 over much of the reservoir with all gas being flushed during invasion.

3. The OWC for the N-1 reservoir cannot be defined using wireline logs due to the presence of shaley sandstone in the interval 1409.5-1413m KB. RFT pressure data placed the contact at 1414m KB which is at the top of a definite water sand. Sidewall cores were shot at metre intervals from 1410.5m to 1413.5m KB to help define the contact. All of them showed fluorescence. The sidewall at 1413.5m showed 30% fluorescence but no cut, the others had 10-50% fluorescence and cut. The shows below 1410.5m KB are possibly residual and sidewall-core evidence is not definitive enough to determine the oil-water contact. For this log analysis, the OWC was placed at 1410.75m KB to be consistent with that seen in Snapper-5, the nearest well.

4. A salinity of 20,000 ppm NaCleq. was used within gas and oil zones of the N-1 reservoir consistent with salinities used in the log analysis of other Snapper wells (Henderson, 1984). From 1410.75m to 1755m KB, a series fresh water sands occur with salinities varying from 4,000-15,000 ppm NaCleq. The original saline waters in these sands has mixed with and been flushed by freshwater. Freshwater has penetrated Latrobe Group sandstones exposed onshore since the Pleistocene and moved offshore to flush permeable sands near the Top of Latrobe Group. Below 1755m KB, sands are undisturbed by freshwater influx and salinities reflect those of connate waters.

5. Four sands in the interval 2390.25m to 2486.25m KB calculate hydrocarbons with high water saturations (68-79%). Sidewall cores shot in two of these sands at 2435.2m and 2484.8m KB contained gas, mainly C1, and no liquid shows. The sands are interpreted to be gas bearing, but with the high water saturations, probably water productive.

6. Below 2605m KB, on the basis of the log analysis and mudlog shows, all sands are interpreted as hydrocarbon bearing. Sands with obvious density-neutron "gas" crossover are interpreted as gas bearing. An RFT test (run 2, seat 77) at 2818m KB recovered 55 $ft.^3$ gas and .75 litres of what was called oil at the wellsite. Work by Corelab on fluid preserved in the 10.4 litre chamber has shown that the liquid recovered is most likely a gas condensate. Sidewall cores shot in sands below 2605m KB contained gas with no liquid shows except for Tr.-20% blue-white fluorescence in those at 2640.3m, 2654m, 2659m and 2750m KB. Extracts from these sidewall cores were analysed by gas chromatography. The chromatograms indicate the presence of oily mature hydrocarbons in all four samples (T. Bostwick pers. comm.). Based on the RFT gas recovery from a sand with good mudlog liquid shows, all sands below 2605m KB are probably gas bearing.

7. Figure 4 shows an effective porosity vs. depth plot for the analysed interval. A listing by quarter metre intervals of all input and output parameters in the log analysis follows.

REFERENCES

Clavier, C., Coates, G., Dumonoir, J., 1977. The Theoretical and Experimental Bases for the "Dual Water" Model for the Interpretation of Shaley Sands. 52nd Annual Conference SPE of AIME, SPE Paper 6859.

Henderson, D.J., 1984. Snapper Field Log Analysis. EAL Report.

SNAPPER #6 TABLE 1

SUMMARY OF RESULTS FOR HYDROCARBON SANDS

Depth Interval (m KB)	Gross Thickness (m)	* Net Thickness (m)	*Porosity Average	* Swe Average	Fluid Type
1335.25 - 1336.00	0.75	0.50	.181 ± .030	.573 ± .10	Gas
1343.25 - 1344.00	0.75	0.50	.168 ± .041	.515 ± .09	Gas
1349.25 - 1353.00	3.75	2.75	.213 ± .030	.541 ± .10	Gas
1353.00 - 1361.50	8.50	8.25	.240 ± .041	.290 ± .07	Gas
1364.75 - 1367.00	2.25	2.25	.226 ± .025	.210 ± .05	Gas
1368.25 - 1373.25	5.00	5.00	.268 ± .010	.104 ± .03	Gas
1375.00 - 1378.25	3.25	3.25	.242 ± .022	.224 ± .06	Gas
1379.50 - 1403.50	24.00	24.00	.259 ± .023	.119 ± .03	Gas
					GOC @ 1403.50m
1403.50 - 1407.50	4.00	4.00	.291 ± .046	.122 ± .03	Oil
1409.75 - 1410.75	1.00	0.25	.134	.561	Oil
					OWC @ 1410.75m
1941.25 - 1948.50	7.25	4.50	.207 ± .040	.500 ± .09	Gas
2390.25 - 2393.25	3.00	3.00	.125 ± .013	.787 ± .09	Gas? Water Productive
2433.00 - 2437.00	4.00	2.50	.166 ± .014	.795 ± .09	Gas? Water Productive
2447.25 - 2455.75	8.50	6.25	.133 ± .017	.726 ± .09	Gas? Water Productive
2481.50 - 2486.25	4.75	2.25	.130 ± .015	.684 ± .10	Gas? Water Productive
2638.50 - 2641.75	3.25	1.50	.143 ± .009	.568 ± .10	Gas?
2648.25 - 2651.50	3.25	1.00	.124 ± .009	.486 ± .09	Gas?
2652.50 - 2655.50	3.00	2.50	.158 ± .016	.577 ± .10	Gas?
2657.00 - 2660.75	3.75	2.25	.124 ± .016	.791 ± .09	Gas? Water Productive
2663.50 - 2665.75	2.25	1.25	.127 ± .014	.414 ± .09	Gas?
2687.50 - 2696.00	8.50	4.75	.142 ± .028	.484 ± .09	Gas
2700.50 - 2706.75	6.25	2.50	.119 ± .013	.720 ± .09	Gas? Water Productive
2784.75 - 2750.50	1.75	1.50	.150 ± .015	.424 ± .09	Gas?
2771.25 - 2778.00	6.75	4.25	.138 ± .025	.617 ± .10	Gas?
2805.75 - 2811.75	6.00	2.50	.120 ± .015	.388 ± .08	Gas
2815.75 - 2818.75	3.00	2.50	.159 ± .019	.366 ± .08	Gas
2842.75 - 2848.00	5.25	3.75	.130 ± .018	.308 ± .08	Gas
2853.50 - 2855.00	1.50	1.25	.137 ± .017	.368 ± .08	gas
2863.00 - 2866.75	3.75	2.75	.133 ± .022	.255 ± .06	Gas

SNAPPER #6 TABLE 1 (Cont.)

SUMMARY OF RESULTS FOR HYDROCARBON SANDS

Depth Interval (m KB)	Gross Thickness (m)	* Net Thickness (m)	*Porosity Average	* Swe Average	Fluid Type
2883.00 - 2890.50	7.50	2.75	.140 ± .023	.533 ± .09	Gas
2928.50 - 2929.25	0.75	0.75	.161 ± .020	.296 ± .07	Gas
2936.00 - 2937.75	1.75	1.50	.137 ± .020	.251 ± .06	Gas
2948.00 - 2953.75	5.75	2.25	.124 ± .015	.361 ± .08	Gas
2972.75 - 2976.75	4.00	2.00	.137 ± .009	.347 ± .08	Gas

* Net Thickness, Porosity Average and Swe Average refer to zones with calculated porosities in excess of 10%.

SNAPPER #6 TABLE 2

SUMMARY OF RESULTS FOR WATER SANDS

Depth Interval (m KB)	Gross Thickness (m)	* Net Thickness (m)	*Porosity Average	* Swe Average
1410.75 - 1426.50	15.75	15.75	.266 ± .042	0.919
1428.50 - 1434.25	5.75	4.25	.162 ± .036	0.992
1436.00 - 1438.75	2.75	2.75	.218 ± .070	1.046
1444.75 - 1454.75	10.00	9.00	.184 ± .056	0.880
1459.75 - 1463.25	3.50	3.00	.177 ± .038	0.921
1474.75 - 1483.25	8.50	8.00	.176 ± .019	0.888
1490.25 - 1499.25	9.00	8.50	.246 ± .059	0.951
1501.25 - 1514.00	12.75	11.00	.226 ± .026	1.027
1518.00 - 1551.75	33.75	31.50	.235 ± .050	0.961
1552.00 - 1556.00	4.00	3.00	.247 ± .023	1.016
1557.00 - 1562.00	5.00	4.00	.218 ± .048	1.062
1562.75 - 1571.00	8.25	7.50	.213 ± .055	1.029
1573.50 - 1603.50	30.00	28.50	.249 ± .046	0.988
1606.75 - 1641.00	34.25	34.00	.248 ± .036	0.989
1655.75 - 1684.00	28.25	25.00	.273 ± .033	0.978
1687.25 - 1703.25	16.00	15.00	.255 ± .038	0.959
1716.25 - 1717.75	1.50	1.50	.237 ± .022	0.983
1727.50 - 1730.50	3.00	2.50	.214 ± .037	0.984
1731.00 - 1733.00	2.00	1.50	.211 ± .040	1.049
1746.75 - 1748.25	1.50	1.50	.186 ± .012	1.190
1760.50 - 1766.00	5.50	4.25	.151 ± .026	1.086
1809.50 - 1813.00	3.50	2.25	.161 ± .042	1.081
1825.75 - 1834.00	12.50	7.75	.185 ± .034	1.041
1849.00 - 1859.25	10.25	10.00	.279 ± .019	0.992
1863.50 - 1865.25	1.75	1.50	.184 ± .031	1.231
1871.75 - 1877.75	6.00	5.50	.241 ± .037	1.028
1887.75 - 1890.25	2.50	1.50	.160 ± .041	1.269
1897.50 - 1905.50	8.00	7.75	.222 ± .042	1.085
1918.50 - 1922.00	3.50	3.25	.223 ± .059	0.992
1997.75 - 2000.75	3.00	3.00	.245 ± .030	1.047
2022.25 - 2024.25	2.00	1.50	.158 ± .024	1.133
2028.00 - 2031.00	3.00	1.25	.142 ± .011	1.154
2037.75 - 2039.50	1.75	0.75	.139 ± .008	0.917
2047.75 - 2051.75	4.00	3.25	.177 ± .022	0.994
2064.75 - 2068.75	4.00	2.75	.131 ± .023	0.965
2093.25 - 2097.25	4.00	2.50	.165 ± .033	1.160
2100.50 - 2107.75	7.25	4.50	.176 ± .033	1.009
2115.25 - 2121.50	6.25	4.75	.142 ± .024	1.055
2127.50 - 2132.25	5.00	2.75	.160 ± .042	0.970

SNAPPER #6 TABLE 2 (Cont.)

SUMMARY OF RESULTS FOR WATER SANDS

Depth Interval (m KB)	Gross Thickness (m)	* Net Thickness (m)	*Porosity Average	* Swe Average
2137.75 - 2140.50	2.75	1.00	.115 ± .013	1.002
2141.50 - 2145.75	4.25	1.75	.169 ± .034	1.118
2150.25 - 2152.75	2.50	1.25	.138 ± .018	1.061
2164.00 - 2167.25	3.25	2.75	.142 ± .020	0.966
2179.75 - 2184.00	4.25	2.00	.113 ± .008	0.967
2197.75 - 2202.25	4.50	2.25	.132 ± .019	0.891
2204.25 - 2206.00	1.75	1.75	.146 ± .012	0.995
2244.75 - 2246.75	3.00	2.75	.121 ± .010	0.912
2249.00 - 2253.25	4.25	2.75	.130 ± .017	0.980
2289.25 - 2292.25	3.00	2.75	.181 ± .034	0.941
2307.50 - 2317.25	9.75	6.00	.146 ± .022	0.802
2356.25 - 2358.75	2.50	2.50	.150 ± .024	0.912
2372.75 - 2374.75	2.00	2.00	.167 ± .018	0.964
2404.75 - 2409.00	4.25	1.25	.167 ± .028	1.081
2416.25 - 2420.00	3.75	1.50	.117 ± .008	0.806
2472.00 - 2475.75	3.75	2.00	.124 ± .020	0.880
2542.50 - 2560.25	17.75	14.75	.165 ± .027	0.920
2572.00 - 2573.75	1.75	1.00	.123 ± .015	0.995
2583.75 - 2587.75	4.00	3.75	.178 ± .027	0.989
2594.25 - 2604.25	10.00	8.75	.156 ± .019	0.945

* Net Thickness, Porosity Average and Swe Average refer to zones with calculated porosities in excess of 10%.

SNAPPER-6

0=EXIT 1=NEXT PLOT 2=SECONDARY PLOT 3=DIG DEPTHS
2

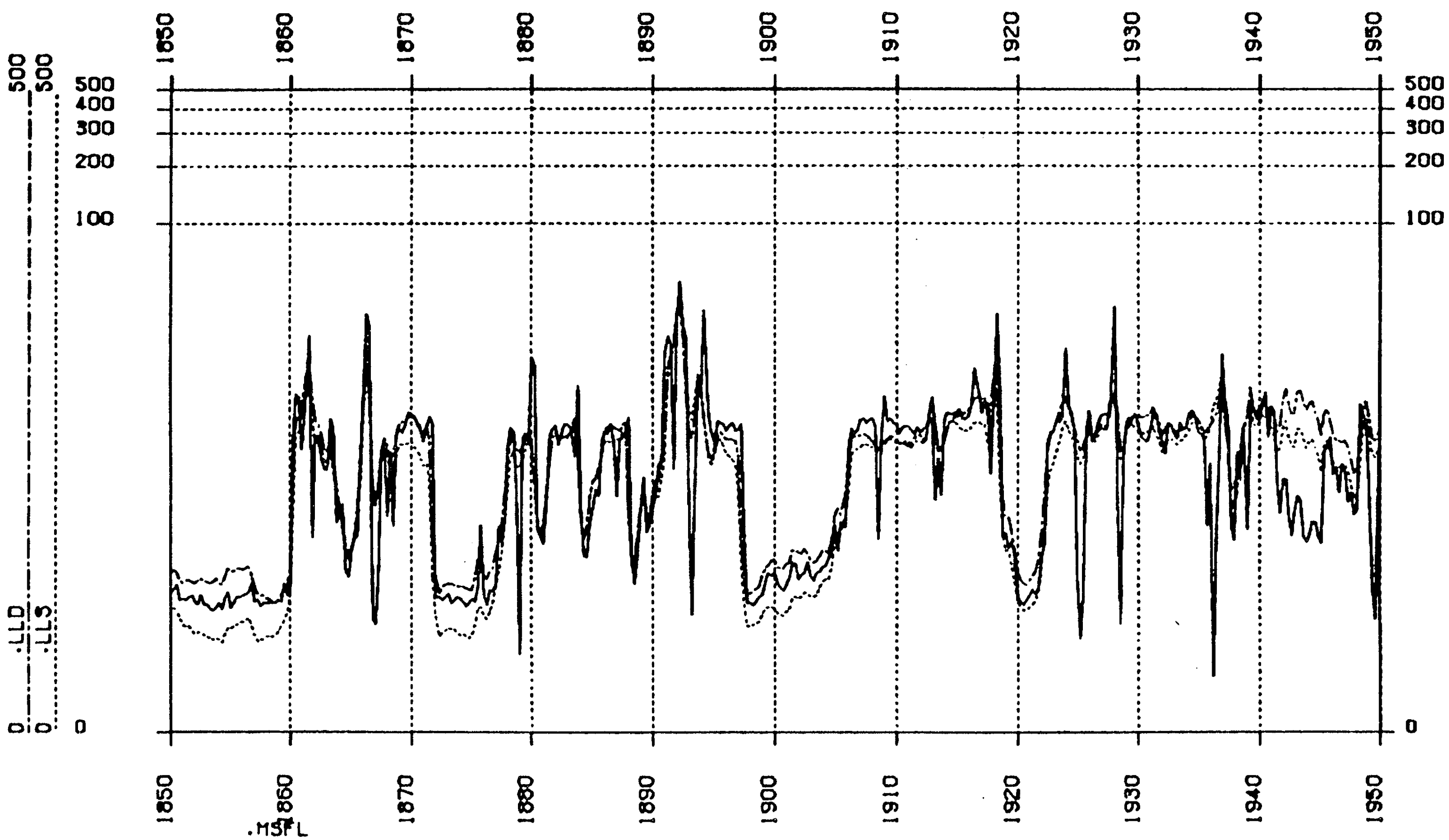

FIGURE 1 - RAW MSFL, LLS AND LLD CURVES

SNAPPER-6

0=EXIT 1=NEXT PLOT 2=SECONDARY PLOT 3=DIG DEPTHS
2

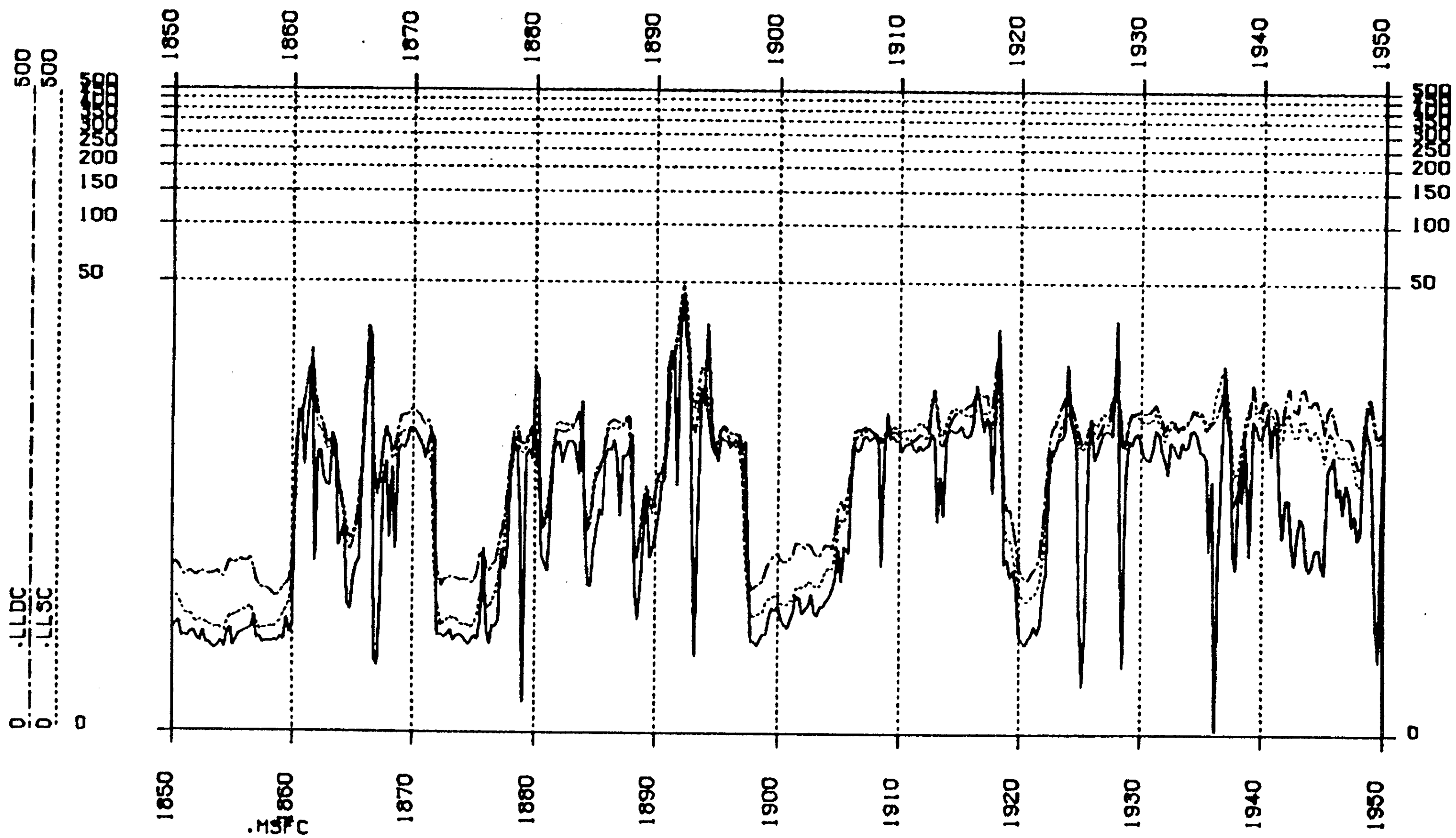

FIGURE 2 - BOREHOLE CORRECTED MSFL, LLS, LLD CURVES

SNAPPER-6

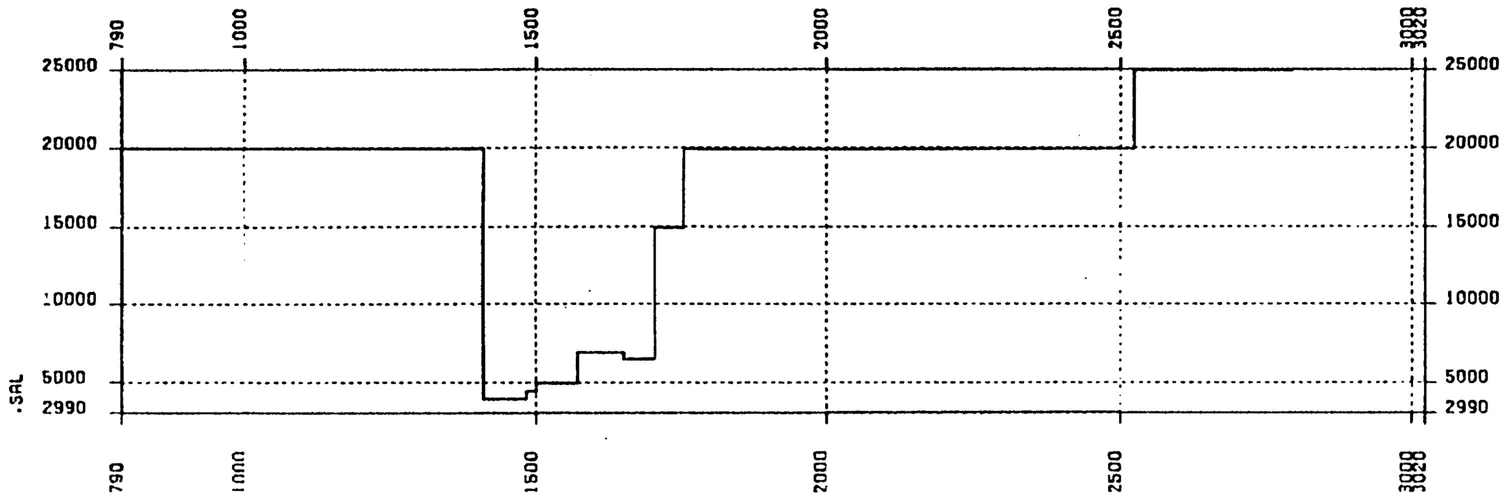

FIGURE 3 - SALINITY PROFILE USED IN LOG ANALYSIS

SNAPPER-6

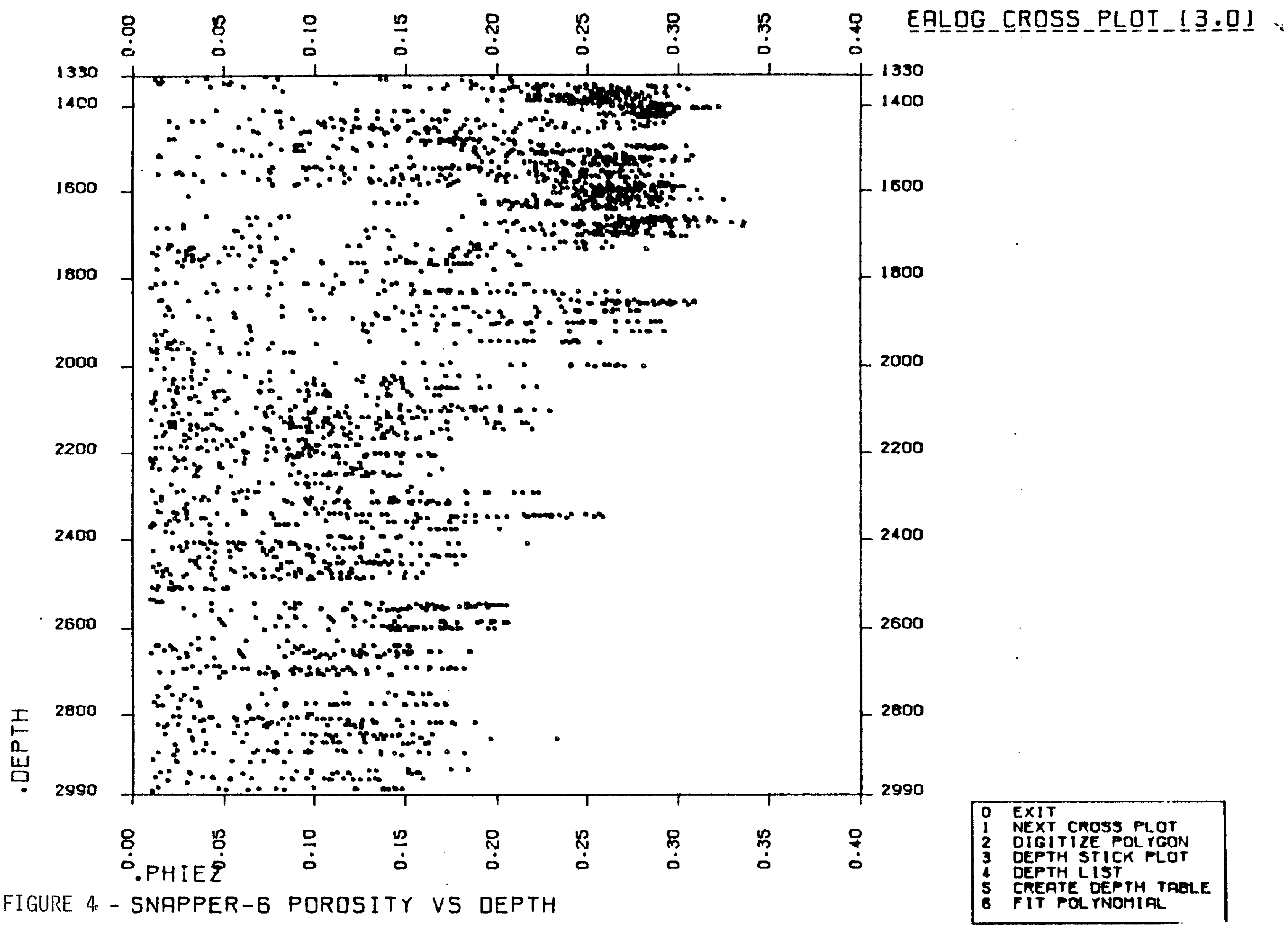

FIGURE 4 - SNAPPER-6 POROSITY VS DEPTH

PE601119

This is an enclosure indicator page.
The enclosure PE601119 is enclosed within the container PE902348 at this location in this document.

The enclosure PE601119 has the following characteristics:

ITEM_BARCODE =	PE601119
CONTAINER_BARCODE =	PE902348
NAME =	Quantitative Log Analysis
BASIN =	GIPPSLAND
PERMIT =	
TYPE =	WELL
SUBTYPE =	WELL_LOG
DESCRIPTION =	Quantitative Log Analysis
REMARKS =	
DATE_CREATED =	1/08/87
DATE_RECEIVED =	13/10/87
W_NO =	W925
WELL_NAME =	Snapper-6
CONTRACTOR =	ESSO
CLIENT_OP_CO =	ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

APPENDIX 4

SNAPPER-6 RFT REPORT

P.R. ETTEMA
Oct 1986

(0511F)

SNAPPER-6 RFT REPORT

SUMMARY

The Snapper-6 RFT survey was conducted over the period 11/01/86 to 15/01/86. Three samples were taken and a total of 130 pretests were attempted using the HP gauge. The primary objective of the Snapper-6 well was to test for oil legs beneath the intra-Latrobe gas encountered in Snapper-5. Secondary objectives were to confirm the lateral continuity of the Snapper Field intra-Latrobe M oil reservoir sands discovered by Snapper-5 and to delineate the Top of Latrobe N-1 oil column in the south-west.

The following is a brief summary of the results of the RFT program:

1. Intra-Latrobe Oil Legs

   The well did not intersect intra-Latrobe oil legs beneath the gas encountered in Snapper-5. The gas sands were not continuous and cannot be correlated over the distance of 2.2km between Snapper-5 and Snapper-6.

2. Snapper-5 M Oil Reservoirs

   As in 1. above, Snapper-6 did not prove the lateral continuity of the intra-Latrobe M oil reservoirs intersected by Snapper-5. Five of the six Snapper-5 M oil reservoirs are now areally limited by sand pinch-out or truncation to the crestal area around Snapper-5.

3. Top of Latrobe N-1 Oil Column

   The N-1 oil column was intersected gas on oil on rock with 3.7m of net oil sand in the interval 1382.8-1386.5m TVDSS. The oil column is consistent with the mapped Snapper oil column of 8m gross and GOC of 1382.0m TVDSS. The overlying gas cap consisted of 46.5m of net sand and an estimated gas column of 68.3m. The N-1 reservoir pressure at datum (1326m TVDSS) was 1949.0 psig. This is marginally lower than the SBHP measured in A-16 development well in February, 1985 (1953.0 psig) and is consistent with the observed trend of a slowing pressure decline in the N-1.

4. Intra-Latrobe Gas Sands 1900-2750m TVDSS

   Two independent gas sands were intersected in the above interval; one at 1920.0m TVDSS and one at 2669.0m TVDSS. The intersections were 4 and 3m net with gas columns of 15m and 26m respectively.

5. Intra-Latrobe Gas Sands 2750-3000m TVDSS

   A number of thin gas sands were intersected in this interval. Preliminary analysis shows these sands (and the two in 4. above) to be of low porosity and high water saturation. None of the gas sands can be directly correlated with any of the Snapper-5 reservoirs.

6. Aquifer Pressures

   From 1400 to 2700m TVDSS the water pretest points were drawndown between 80 and 30 psi relative to the original Gippsland gradient. Below 2700m TVDSS the reservoirs appear to be over-pressured with pressures up to 500 psi above the original Gippsland gradient.

RESULTS

The results of these tests are documented in the following attachments.

Table 1: Hydrocarbon Accumulations Confirmed by RFT
Table 2: RFT Pretests
Table 3: RFT Sample Data

Figure 1: RFT Overview Plot
Figure 2: N-1 Oil/Gas
Figure 3: Gas Accumulation (1920.0m TVDSS)
Figure 4: Gas Accumulation (2669.0m TVDSS)

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DISCUSSION

1. Top of Latrobe N-1 Oil Column; Figure 2

RFT data indicates a GOC at 1382.8m TVDSS and an OWC at 1393.7m TVDSS. The GOC is consistent with both the logs (1382.7m TVDSS) and the recognised field GOC at 1382.0m TVDSS.

The RFT OWC and GOC indicate an oil column of 10.9m which is 2.9m larger than the recognised maximum gross oil column of 8.0m. The resistivity log shows water as high as 1392.0m TVDSS (i.e. up to the base of the shale which extends from 1386.5 to 1392.0m TVDSS). The RFT OWC at 1393.7 is therefore inconsistent with the log interpretation. One explanation for this RFT/log anomaly is that there is differential pressure drawdown across the shale. This implies that the hydrocarbon pretests above the shale are not in perfect communication with the water pretests below and hence the RFT interpreted OWC is incorrect. It is likely that the gross oil column is 8m and that the OWC is at 1382.8 + 8.0 = 1390.8m TVDSS and is in the shale on the log (i.e. downstructure in the sand)

Sample 6/123 at 1385.9m TVDSS was used to test for oil vs. water because of a dip in the resistivity log between 1385.3 to 1387.0m TVDSS. Both chambers recovered significant volumes of oil with some gas but no water. This demonstrated low proved oil to 1386.5m TVDSS.

2. Intra-Latrobe Gas Sand (1920.0m TVDSS); Figure 3

Pretests 1/63 and 1/64 are part of a single gas accumulation. Using a gas gradient of 0.22 psi/m and extrapolating a 1.42 psi/m water gradient from pretest 1/61 yields a GWC at 1935m TVDSS and a 15m gas column.

3. Intra-Latrobe Gas Sand (2669.0m TVDSS); Figure 4

Pretest 1/30 was taken in a gas sand with a GWC at 2695m TVDSS and a column of 26m. Water pretest 1/31 and a gas gradient of 0.28 psi/m were used to calculate the contact and column data.

4. Intra-Latrobe Gas Sands (2750-3000m TVDSS)

A number of gas reservoirs were intersected in the interval 2750-3000m TVDSS. RFT pretests taken in this interval indicate overpressure and/or supercharging. No valid contact or column information can be interpreted from this pressure data. The gas sands are, at any rate, low quality with low porosities and high water saturations.

Sample 2/77 at 2797m TVDSS was used to test a gas?/oil? zone. The 45.5 litre container recovered 55 cf of gas, 0.75 litres condensate and 34 litres of filtrate. The 10.4 litre chamber was preserved for analysis. The condensate was identified as oil on the rig floor but subsequent analysis of the preserved sample indicated the sample was condensate.

Following what was thought to be a successful oil test at 2797m TVDSS, sample 3/110 was designed to test a similar sand at 2825m TVDSS. It recovered small amounts of gas and some filtrate in both chambers. No oil or condensate was recovered.

Table 1

SNAPPER-6

HYDROCARBON ACCUMULATIONS CONFIRMED BY RFT

Accumulation	Depth Interval in Snapper-6 (m SS)	GOC (m SS)	OWC (m SS)	GWC (m SS)	Oil Column (m)	Gas Column (m)	Net Oil Sand (m)	Net Gas Sand (m)	Comments
N-1	1382.8-1392.0	1382.8	1390.8[1]	-	8.0[1]	68.3	3.7	46.5	GOC from logs; confirmed by RFT. OWC - see note 1.
Gas Sand (1920.0m SS)	1920.0-1924.0	-	-	1935	-	15	-	4	GWC from RFT.
Gas Sand (2669.0m SS)	2669.0-2672.0	-	-	2695	-	26	-	3	GWC from RFT.

1. N-1 OWC based on a 8.0m TVD oil column. RFT pressure data indicated a 10.9m oil column but this is in conflict with log data and our current knowledge of the N-1.

(0511F:4)

Table 2

SNAPPER-6 RFT RESULTS

(KB 21m Above Sea Level)
(Pressures from HP gauge unless otherwise indicated)

KEY TO COMMENTS

OP	Overpressured	SF	Seal Failure
S	Sample	SG	Strain Gauge
SA	Sample Attempted	T	Tight
SC	Supercharged	V	Valid

Run/Pretest	Depth (m TVDSS)	Pressure (psia)	Comments
1/1	2931.5	4469.8	V, OP
1/2	2915.8	-	T
1/3	2915.0	-	SF
1/4	2916.0	-	SF
1/5	2916.0	-	SF
1/6	2864.8	4470.5	V, OP
1/7	2845.0	-	SF
1/8	2845.0	4254.0	V, OP
1/9	2864.8	-	SF
1/10	2864.8	-	SF
1/11	2864.0	4471.8	V, OP
1/12	2953.0	4778.0	SF
1/13	2953.0	4778.1	SF
1/14	2869.5	4435.3	V, OP
1/15	2833.5	4336.3	V, OP
1/16	2826.0	-	T
1/17	2825.0	4263.0	V, OP
1/18	2806.0	-	T
1/19	2805.5	-	T
1/20	2797.0	4138.9	V, OP
1/21	2790.0	4210.5	V, OP
1/22	2752.4	-	T
1/23	2753.4	4463.0	SF
1/24	2684.4	3954.9	V
1/25	2674.0	-	T
1/26	2674.5	-	SF
1/27	2674.5	-	SF
1/28	2674.3	-	SF
1/29	2674.3	-	SF
1/30	2670.5	3877.1	V
1/31	2639.0	3803.8	V
1/32	2633.5	3800.5	V
1/33	2619.5	3934.8	T, SC
1/34	2619.5	3935.5	T, SC
1/35	2619.2	3934.7	T, SC
1/36	2581.0	3715.3	V
1/37	2577.0	3708.7	V
1/38	2563.5	3688.7	V
1/39	2536.5	3652.7	V
1/40	2525.0	3635.1	V
1/41	2463.8	-	SF
1/42	2463.8	3549.4	V
1/43	2433.0	-	T
1/44	2432.8	3505.1	V
1/45	2414.0	3484.7	V
1/46	2396.0	3467.9	V
1/47	2753.5	4468	SG, SF
1/48	2953.0	4789	SG, SF
1/49	2387.5	-	SF

.../2

Run/Pretest	Depth (m TVDSS)	Pressure HP (psia)	Comments
1/50	2387.5	-	T
1/51	2387.3	3839.2	SC
1/52	2371.5	3405.2	V
1/53	2353.5	-	T
1/54	2353.3	3394.7	V
1/55	2321.5	3342.7	V
1/56	2269.5	3277.6	V
1/57	2230.0	3218.6	V
1/58	2122.5	3058.9	V
1/59	2080.5	3009.9	V
1/60	2030.0	2938.5	V
1/61	1979.0	2838.9	V
1/62	1927.0	-	T
1/63	1926.5	2774.8	V
1/64	1920.8	2773.3	V
1/65	1899.5	2724.2	V
1/66	1878.0	2712.5	V
1/67	1852.0	2636.3	V
1/68	1835.0	2610.8	V
1/69	1808.6	2580.1	V
1/70	1769.8	-	T
1/71	1769.6	-	T
1/72	1747.1	2481.6	V
1/73	1726.8	2459.0	V
1/74	1710.5	2432.7	V
1/75	1707.3	2427.7	V
1/76	1696.0	2412.0	V
2/77	2797.0	4140	SG, S
3/78	1351.0	-	T
3/79	1351.0	2161	SC
3/80	1368.0	1973.0	SC
3/81	1351.5	2307	SC
3/82	1351.5	2341	SG, SC
3/83	1348.0	1966.7	V
3/84	1381.0	1971.9	V
3/85	1380.0	1972.1	SC
3/86	1378.0	1971.4	V
3/87	1384.0	1973.4	V
3/88	1401.0	2017.0	SC
3/89	1417.0	2016.4	V
3/90	1432.0	2039.1	V
3/91	1401.0	-	SC
3/92	1397.0	1987.7	V
3/93	1390.0	1981.8	SC
3/94	1390.3	-	SC
3/95	1390.1	1981.8	SC
3/96	1390.5	1982	SC
3/97	1386.5	-	SF
3/98	1386.5	1975.8	V
3/99	1386.0	1975.4	V
3/100	1392.5	-	SF
3/101	1392.5	-	SF
3/102	1392.2	-	SF
3/103	1392.0	-	SF
3/104	1391.8	-	SF
3/105	1390.7	1980	SC
3/106	2826.0	4275	SG, OP
3/107	2825.0	4271	SG, OP
3/108	2824.5	4286	SG, OP
3/109	2823.5	4311	SG, OP
3/110	2825.0	4261	SG, OP
4/111	1390.0	1978	SG, T
4/112	1390.2	1975	SG, T
4/113	1390.4	1974	SG, T
4/114	1391.8	-	SF

.../3

Run/Pretest	Depth (m TVDSS)	Pressure HP (psia)	Comments
5/115			
5/116			
6/117	1386.5	-	SF
6/118	1386.5	-	SF
6/119	1386.4	-	SF
6/120	1386.4	1988	SG, SC
6/121	1386.1	-	SF
6/122	1386.1	-	SF
6/123	1385.9	1972	SG, V
6/124	1403.7	2160	SC
6/125	1403.7	-	SC
6/126	1401.2	1993.5	V
6/127	1395.0	1984.9	V
6/128	1384.0	1972.9	V
6/129	1383.0	-	SF
6/130	1383.0	-	SF

Table 3

SNAPPER-6 RFT SAMPLES

RFT No.	Depth[5] (mSS)	Temp. (°C)	Chamber Size (L)	Choke Size (mm)	Fill Time (min)	Sample SI Pressure (psia)	Sample Surface Pressure (psig)	Sample Contents Gas (ft^3)	Sample Contents Oil (L)	Sample Contents Water (L)	Sample Contents Cond. (L)	Oil Description API @ 15°C	Oil Description Pour Point (°C)	Water Type	Cond. API @ 15°C
2/77	2797.0	117.8	45.4	1.02	69[1]	4127	1400	55	0	34	0.75	-	-	Filt.	52
			10.4	1.02	20[1]	4122	Preserved chamber RFS-AE1220								
3/110	2825.0[2]	110.6	45.4	1.02	75[1]	4226	100	0.35	0	9	0	-	-	Filt.	-
			10.4	1.02	22[1]	4227	0	0	0	1.75	0	-	-	Filt.	-
6/123	1385.9[3]	-[4]	45.4	1.02	1	1888	400	21.5	5.75	21.5[3]	0	42.5	-[4]	Mud	-
			10.4	1.02	6	-[4]	1200	18.8	8	0	0	41.1	-[4]	-	-

Notes:

1. Both chambers in RFTs 2/77 and 3/110 were not filled at time of sealing.
2. The large chamber in RFT 3/110 was first opened at 2823.4m TVDSS for 3 minutes. The formation was tight and it is unlikely that any flow occurred.
3. The large chamber in RFT 6/123 was first opened at 1386.1m TVDSS and partially filled with mud. The tool was then moved to 1385.9m TVDSS where the small chamber was filled. The large chamber was then re-opened at this depth and filled.
4. Data not on RFT Sample Test Report.
5. KB = SS + 21m.

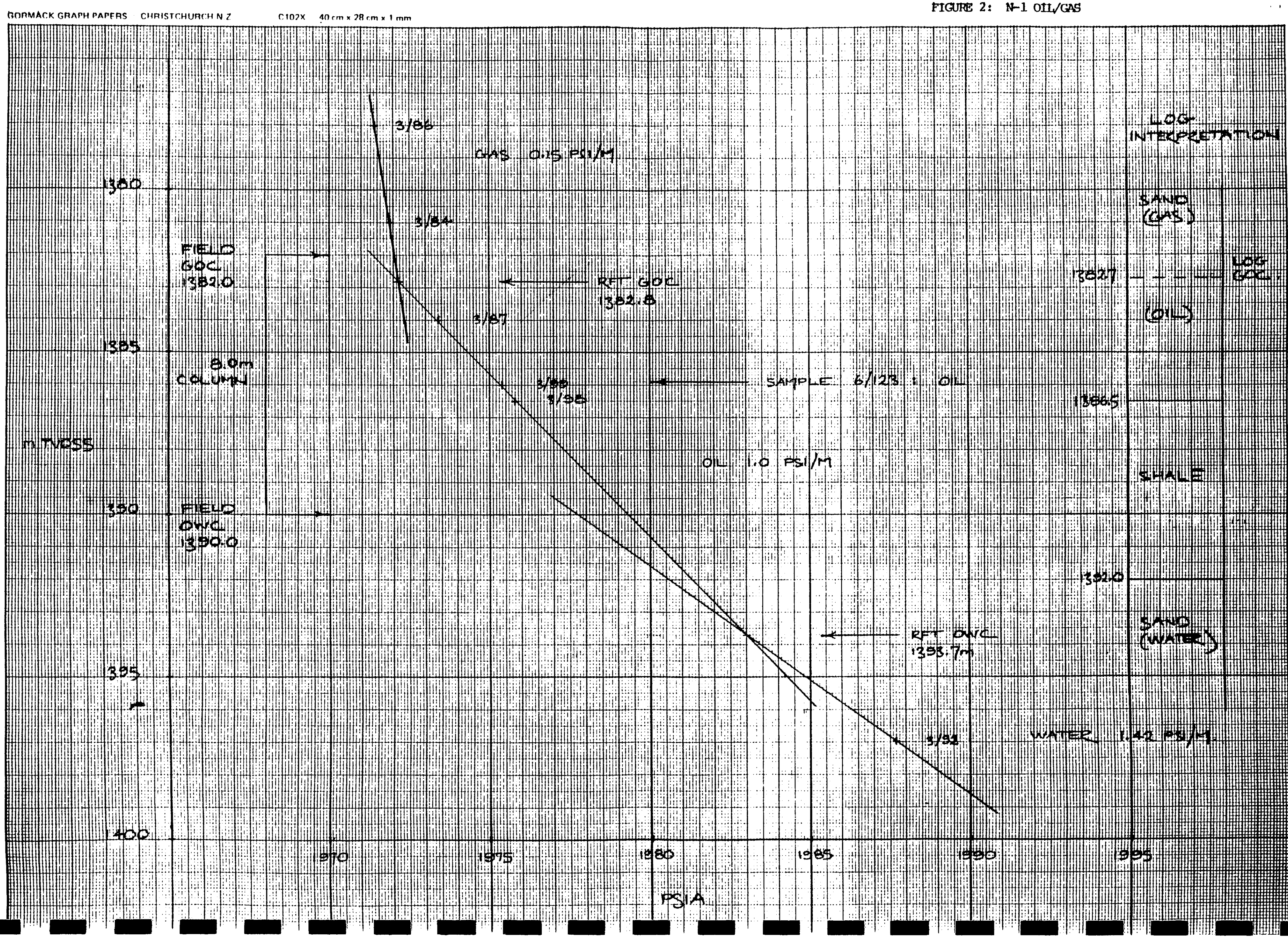
PE902349

This is an enclosure indicator page.
The enclosure PE902349 is enclosed within the container PE902348 at this location in this document.

The enclosure PE902349 has the following characteristics:

ITEM_BARCODE =	PE902349
CONTAINER_BARCODE =	PE902348
NAME =	Snapper 6 RFT Survey Overview
BASIN =	GIPPSLAND
PERMIT =	
TYPE =	WELL
SUBTYPE =	RFT
DESCRIPTION =	Snapper 6 RFT Survey Overview
REMARKS =	
DATE_CREATED =	11/1/86-15/1/86
DATE_RECEIVED =	13/10/87
W_NO =	W925
WELL_NAME =	Snapper-6
CONTRACTOR =	ESSO
CLIENT_OP_CO =	ESSO

(Inserted by DNRE - Vic Govt Mines Dept)


GORMACK GRAPH PAPERS CHRISTCHURCH N Z C102X 40 cm x 28 cm x 1 mm
3/86
GAS 0.15 PSI/M
3/84
FIELD GOC 1382.0
RFT GOC 1382.8
3/87
8.0m COLUMN
3/88
3/98
SAMPLE 6/123 : OIL
m TVDSS
OIL 1.0 PSI/M
FIELD OWC 1390.0
RFT OWC 1393.7m
3/91
WATER 1.42 PSI/M
LOG INTERPRETATION
SAND (GAS)
1382.7
LOG GOC
(OIL)
1386.5
SHALE
1392.0
SAND (WATER)
1380
1385
1390
1395
1400
1970
1975
1980
1985
1990
1995
PSIA

GORMACK GRAPH PAPERS · CHRISTCHURCH N Z   C102X   40 cm x 28 cm x 1 mm

FIGURE 3: GAS ACCUMULATION (1920.0m TVDSS)

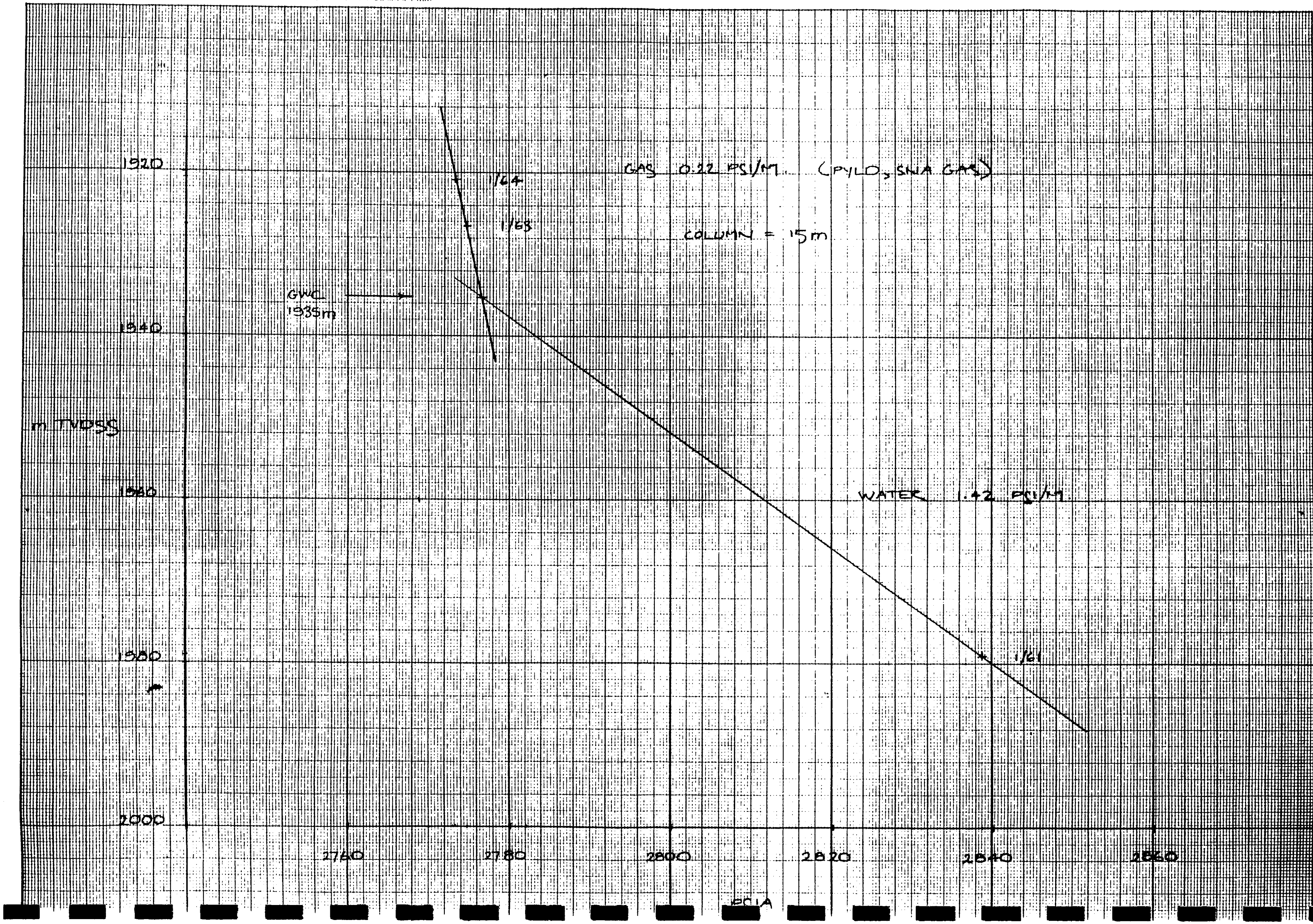
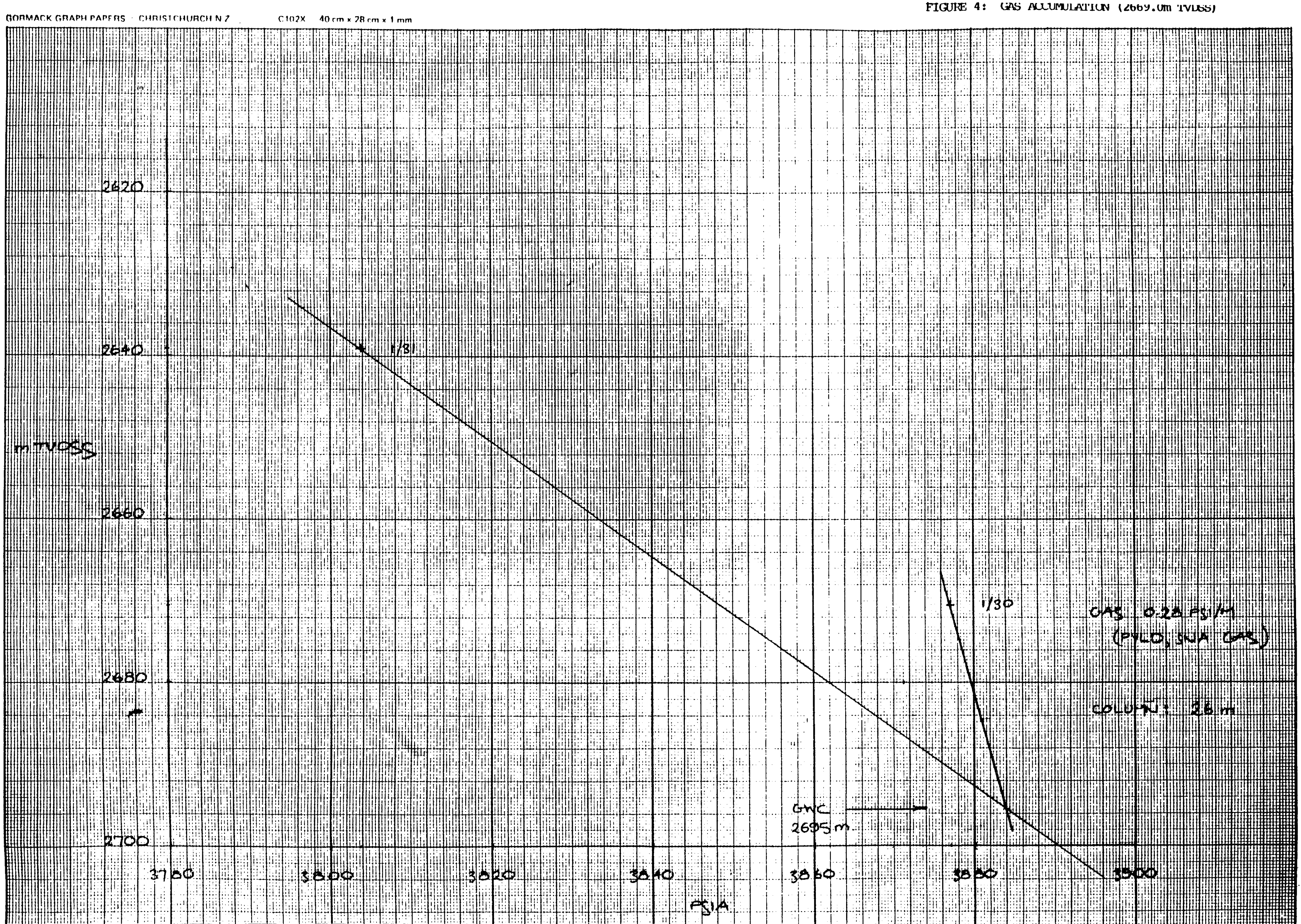


FIGURE 4: GAS ACCUMULATION (2669.0m TVDSS)



RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 11/1/86 & 12/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat	RFT TYPE	Depth m MDKB	Depth m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe	
1/1	Pretest	2952.5	2931.5	4760.0/4747 32.82	9.4	11:29	3758.2	4469.8/4443 30.82	8.9	107.7	11:43	4761.0/4745 32.83	9.4	Valid	L
1/2	Pretest	2936.8	2915.8	4734.5/4719 32.64	9.4	11:54	23.2					4739.0/4718 32.67	9.4	Abort. Tight.	L
1/3	Pretest	2936.0	2915.0	4734.4/4717 32.64	9.4	12:02	3674.2					4734.2/4716 32.64	9.4	Abort. Seal Failure.	L
1/4	Pretest	2937.0	2916.0	4736.5/4719 32.66	9.4	12:10	46.6							Tight/Seal Failure.	L
1/5	Pretest	2937.0	2916.0	4736.5/4719 32.66	9.4	12:16	77.8							Tight/Seal Failure.	L
1/6	Pretest	2885.8	2864.8	4647.5/4635 32.04	9.4	12:39	4314.7	4470.5/4444 30.82	9.1	103.9	1:05	4650.6/4636 32.04	9.4	?Supercharged. DD PERM = 26.5	L
1/7	Pretest	2866.0	2845.0	4619.4/4605 31.85	9.4	1:20	3996.5							Abort/Decreasing Fm Press.	L
1/8	Pretest	2866.0	2845.0	4618.4/4605 31.84	9.4	1:29	3976.6	4254.0/4239 29.33	8.7	103.4	1:36	4620.0/4605 31.85	9.4	Valid	L

RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 12/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat / RFT TYPE	Depth m MDKB	m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe
1/9 Pretest	2885.8	2864.8	4653.5/4637 32.08	9.4	1:58	1009.7							Abort. ?Blocked Probe L
1/10 Pretest	2885.8	2864.8	4652.8/4637 32.08	9.4	2:02	530.1				2:15			Abort. Not Valid. L
1/11 Pretest	2885.0	2864.0	4650.6/4634 32.06	9.4	2:23	2440.4	4471.8/4445 30.83	9.1	104.0	2:29	4649.7/4635 32.06	9.4	Valid. ?Supercharged. DD PERM = ?1.6 md L
1/12 Pretest	2974.0	2953.0	4781.4/4772 32.97	9.4	2:59	2530.08	4778.0/4766 32.94	9.4	107.8	3:05	4782.2/4771 32.97	9.4	Valid? DD PERM = ?1.2 md L
1/13 Pretest	2974.0	2953.0	4782.2/4771 32.97	9.4	3:07	1358.3	4778.1/4766 32.94	9.5	107.8	3:11	4782.6/4770 32.97	9.4	Valid. ?Supercharged/ Pressured. L
1/14 Pretest	2890.5	2869.5	4653.1/4642 32.08	9.4	3:39	1561.8	4435.3/4422 30.58	9.0	106.1	4:03	4654.3/4642 32.09	9.4	Valid. DD PERM = ?1.0 md L
1/15 Pretest	2854.5	2833.5	4584.8/4585 31.61	9.4	4:10	25.57	4336.3/4326 29.9	8.9	104.6	4:29	4596.6/4586 31.69	9.4	Valid. Poss.supercharged DD PERM = 0.7 md L
1/16 Pretest	2847.0	2826.0	4583.1/4575 31.61	9.4	4:35	11.6			104.1	4:37	- /4576		Valid/Tight L

RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 12/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat	RFT TYPE	Depth m MDKB	Depth m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe	
1/17	Pretest	2846.0	2825.0	4585.6/4573 31.62	9.4	4:41	11.0	4263.0/4252 29.39	8.8	104.0	4:53	4584.9/4573 31.61	9.41	Valid/Tight	L
1/18	Pretest	2827.0	2806.0	4552.6/4545 31.39	9.4	5:01	9.87			103.9	5:02	4556.4/4545 31.42	9.4	Very tight	L
1/19	Pretest	2826.5	2805.5	4553.6/4545 31.40	9.4	5:07	13.1			103.8	5:08	4562.1/4545 31.45	9.4	Very tight	L
1/20	Pretest	2818.0	2797.0	4543.1/4532 31.32	9.4	5:15	3316.1	4138.9/4127 28.54	8.6	103.8	5:17	4542.1/4533 -	-	Valid DD PERM = ?4.0 md	L
1/21	Pretest	2811.0	2790.0	4529.5/4529 31.23	9.4	5:23	1146.9	4210.5/4198 29.03	8.8	103.7	5:34	4532.1/4533 31.25	9.4	Valid DD PERM = 1.35 md	L
1/22	Pretest	2773.4	2752.4	4468.1/4460 30.81	9.4	5:45	11.1			103.0	5:47			Very tight. Aborted.	L
1/23	Pretest	2774.4	2753.4	4472.5/4460 30.84	9.4	5:53	43.9	4463.0/4452 30.77	9.5	103.0	5:59	4471.8/4461 30.83	9.4	Valid. Supercharged.	L
1/24	Pretest	2705.4	2684.4	4362.7/4354 30.08	9.4	6:16	9.1	3954.9/3942 27.27	8.6	102.3	6:24	4368.0/4354 30.12	9.43	Tight/Valid.	L

RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 12/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat RFT TYPE	Depth m MDKB	Depth m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe	
1/25 Pretest	2695.0	2674.0	4351.3/4339 30.00	9.4	6:35	10.5			102.3	6:34			Very tight/aborted	L
1/26 Pretest	2695.5	2674.5	4353.5/4340 30.02	9.4	6:43				101.9	6:45			Seal Failure	L
1/27 Pretest	2695.5	2674.5	4353.1/4341 30.01	9.4	6:46				101.9	6:48			Seal Failure	L
1/28 Pretest	2695.3	2674.3	4352.1/4340 30.01	9.4	6:53				101.9	6:54			Seal Failure	L
1/29 Pretest	2695.3	2674.3	4352.3/4340 30.01	9.4	6:55				101.9	6:57			Seal Failure	L
1/30 Pretest	2691.5	2670.5	4346.2/4335 29.97	9.4	7:04	3802.2	3877.1/3868 26.73	8.5	101.9	7:07	4346.3/4334 29.97	9.4	Valid test DD PERM = 55.07 md	L
1/31 Pretest	2660.0	2639.0	4295.5/4283 29.62	9.4	7:21	719.5	3803.8/3790 26.23	8.4	101.6	7:28	4296.2/4282 -	-	Valid	L
1/32 Pretest	2654.5	2633.5	4290.0/4274 29.43	9.4	7:38	3485.5	3800.5/3787 26.20	8.4	10.16	7:45	4288.3/4274 -	-	Valid DD PERM = 10.5 md	L

RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 12/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat / RFT TYPE	Depth m MDKB	m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (Include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe	
1/33 Pretest	2640.5	2619.5	4267.8/4251 29.31	9.4	7:56	206.3	3934.8*/3919 27.02	8.7	101.6	8:01			Tight/Supercharged. *Unstabilised.	L
1/34 Pretest	2640.5	2619.5	4267.9/4251 29.31	9.4	8:02	134.4	3935.5*/3919 27.02	8.7	101.6	8:05	Unstab./4251		Tight/Supercharged. *Unstab.	L
1/35 Pretest	2640.2	2619.2	4269.5/4251 29.44	9.4	8:11	238.0	3934.7/3916 27.13	8.8	101.6	8:13	- /4250		Tight/Supercharged.	L
1/36 Pretest	2602.0	2581.0	4206.0/4190 29.00	9.4	8:26	3503.5	3715.3/3698 25.62	8.4	101.4	8:40	4209.6/4191		Valid DD PERM = 17 md	L
1/37 Pretest	2598.0	2577.0	4199.5/4184 28.95	9.4	8:44	3479.1	3708.7/3695 25.57	8.4	101.2	8:52	4201.8/4185		Valid DD PERM = 16.0 md	L
1/38 Pretest	2584.5	2563.5	4178.0/4163 28.81	9.4	9:03	3351.9	3688.7/3674 25.43	8.4	101.0	9:10	4178.8/4163		Valid DD PERM = 9.8 md	L
1/39 Pretest	2557.5	2536.5	4136.6/4120 28.52	9.5	9:23	1630.3	3652.7/3638 25.18	8.4	103*	9:28	4138.0/4120 28.53	9.5	Valid	L
1/40 Pretest	2546.0	2525.0	4117.1/4102 28.39	9.4	9:36	3514.6	3635.1/3623 25.06	8.4	103.4	9:52	4118.8/4103 28.40	9.5	Valid DD PERM = 34.2 md	L

RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 12/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat RFT TYPE	Depth m MDKB	Depth m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (Include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe
1/41 Pretest	2484.8	2463.8	4023.1/4007 27.74	9.5									Seal failure L
1/42 Pretest	2484.8	2463.8	4023.1/4007 27.74	9.5	10:07	2545.7	3549.4/3534 24.47	8.4	102.5	10:11	4023.6/4007 27.74	9.5	Valid L
1/43 Pretest	2454.0	2433.0	3972.5/3959 27.63	9.5	10:22				101.5	10:24	3976.4/3960 27.42	9.5	Very tight Abandoned L
1/44 Pretest	2453.8	2432.8	3972.1/3961 27.39	9.5	10:30	3456.2	3505.1/3495 24.17	8.4	101.5	10:45	3972.8/3963 27.39	9.5	Valid DD PERM = 67.5 L
1/45 Pretest	2435.0	2414.0	3941.1/3929 27.17	9.5	10:50	8.4	3484.7/3473 24.03	8.4	100.8	11:05	3943.1/3929 27.19	9.5	Tight. Valid L
1/46 Pretest	2417.0	2396.0	3915.1/3902 26.99	9.5	11:16	10.0	3467.9/3458 23.91	8.5	100.5	11:20	3915.8/3902 27.00	9.5	Valid. Supercharged. L
1/47 Pretest	2774.5	2753.5	- /4465 30.79	9.4	11:50	2231.0	- /4453 30.70	9.5*	106.3	11:53	- /4465 30.79	9.4	Valid. Supercharged. Strain gauge only. * Temp. re-calibrated DDM PERM = 2 md L

RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 12/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat / RFT TYPE	Depth m MDKB	m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe
1/48 Pretest	2974.0	2953.0	- /4779 32.95	9.5	12:07	4160.0	- /4774 32.92	9.5	113.3	12:10	- /4475 32.92	9.4	Strain gauge only. Valid. DD PERM = 6 md L
1/49 Pretest	2408.5	2387.5	3901.3/3889 26.90	9.5	1:00				100.7	1:02	- /3891		Tight then seal failure. L
1/50 Pretest	2408.5	2387.5	3901.3/3889 26.90	9.5	1:02				100.7	1:05	3905.6/3892 26.93	9.5	Very tight. Aborted. L
1/51 Pretest	2408.3	2387.3	3901.3/3891 26.90	9.5	1:10		*3839.2/3830 36.47	9.4	100.7	1:13	3900.8/3891 26.90	9.5	*Unstab. Supercharged. L
1/52 Pretest	2392.5	2371.5	3875.4/3867 26.72	9.5	1:28	1321.5	3405.2/3394 23.48	8.4	100.6	1:40	3876.8/3866 26.73	9.5	Valid L
1/53 Pretest	2374.5	2353.5	3846.7/3836 26.52	9.5	1:54	10.0			100.3	1:56			Very tight. Abort L
1/54 Pretest	2374.3	2353.3	3846.8/3836 26.52	9.5	2.02	3296.2	3394.7/3386 23.41	8.4	100.3	2.16	3846.9/3837 26.52	9.5	Valid DD PERM = 33.5 L
1/55 Pretest	2342.5	2321.5	3796.8/3786 26.18	9.5	2.35	3172.0	3342.7/3333 23.05	8.4	100.0	2.40	3796.2/3786 26.17	9.5	Valid L

WELL: SNAPPER-6
DATE: 12/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat / RFT TYPE	Depth m MDKB	m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig / MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig / MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig / MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe
1/56 Pretest	2290.5	2269.5	3713.2/3705 25.60	9.5	3:00	2771.8	3277.6/3267 22.6	8.4	99.4	3:13	3714.4/3704 25.61	9.5	Valid L
1/57 Pretest	2251.0	2230.0	3651.0/3643 25.17	9.5	3:35	2444.8	3218.6/3210 22.19	8.4	98.6	3:40	3650.9/3643 25.17	9.5	Valid L
1/58* Pretest	2143.5	2122.5	3481.8/3474 24.01	9.5	4:07	2042.66	3058.9/3049 21.09	8.4	94.7	4:12	3481.6/3474 24.00	9.5	Valid (* calibrated) L
1/59 Pretest	2101.5	2080.5	3413.2/3403 23.53	9.5	4:30	2809.6	3009.9/3001 20.75	8.4	94.3	4:33	3413.9/3404 23.54	9.5	Valid DD PERM = 16.5 L
1/60 Pretest	2051.0	2030.0	3330.0/3325 22.96	9.5	4:46	2575.1	2938.5/2932 20.26	8.4	93.5	5:00	3333.0/3325 22.98	9.5	Valid DD PERM = 9.1 L
1/61 Pretest	2000.0	1979.0	3247.7/3244 22.39	9.5	5:14	2716.9	2838.9/2834 19.57	8.4	92.6	5:30	3251.0/3245 22.41	9.5	Valid DD PERM = 39 md L
1/62 Pretest	1948.0	1927.0	3167.6/3161 21.84	9.5	5:49	3.0			92.0				Very tight. Aborted L
1/63 Pretest	1947.5	1926.5	3168.7/3162 21.85	9.5	5:58	2470.5	2774.8/2769 19.13	8.4	92.0	06:01	3168.7/3162 21.85	9.5	Valid DD PERM = 14 md L

RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 12/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat	RFT TYPE	Depth m MDKB	Depth m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe	Probe
1/64	Pretest	1941.8	1920.8	3159.2/3152 21.78	9.5	6:08	2442.9	2773.3/2767 19.12	8.4	91.9	6:12	3159.9/3151 21.79	9.5	Valid DD PERM = 12 md	L
1/65	Pretest	1920.5	1899.5	3123.6/3117 21.54	9.5	6:16	2715.6	2724.2/2718 18.78	8.4	91.7	6:26	3125.0/3117 21.55	9.5	Valid. DD PERM = 384 md	L
1/66	Pretest	1899.0	1878.0	3089.5/3083 21.30	9.5	6:25	2575.8	2712.5/2706 18.70	8.4	91.4	6:44	3091.0/3083 21.31	9.5	Valid. DD PERM = 24 md	L
1/67	Pretest	1873.0	1852.0	3048.1/3041 21.02	9.5	6:56	2450.4	2636.3/2631 18.18	8.3	91.1	7:05	3049.7/3042 21.03	9.5	Valid DD PERM = 24 md	L
1/68	Pretest	1856.0	1835.0	3020.6/3015 20.83	9.5	7:14	2531.9	2610.8/2606 18.00	8.3	90.9	7:28	3022.9/3018 20.84	9.5	Valid DD PERM = 52.3 md	L
1/69	Pretest	1829.6	1808.6	2979.1/2974 20.54	9.5	7:42	1860.4	2580.1/2572 17.79	8.3	90.0	7:51	2980.4/2973 20.55	9.5	Valid DD PERM = 6 md	L
1/70	Pretest	1790.8	1769.8	2917.1/2912 20.11	9.5	8:10	10.0			89.3	8:11			Very tight. Aborted.	L
1/71	Pretest	1790.6	1769.6	2917.7/2912 20.12	9.5	8:17	10.0			89.3	8:17			Very tight. Aborted.	L

RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 12/1/86 & 13/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat	RFT TYPE	Depth m MDKB	Depth m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig	Initial Hydrostatic MPa/g	Initial Hydrostatic ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig	Formation Pressure MPa/g	Formation Pressure ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig	Final Hydrostatic MPa/g	Final Hydrostatic ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe	
1/72	Pretest	1768.1	1747.1	2879.9/2875	19.86	9.5	8:27	1691.4	2481.6/2476	17.11	8.3	89.3	8:37	2880.6/2875	19.86	9.5	Valid	L
1/73	Pretest	1747.8	1726.8	2847.1/2842	19.63	9.5	8:49	1957.2	2459.0/2454	16.95	8.3	89.0	8:57	2848.1/2843	19.64	9.5	Valid	L
1/74	Pretest	1731.5	1710.5	2821.4/2816	19.45	9.5	9:10	597.5	2432.7/2426	16.77	8.3	88.6	9:15	2821.6/2816	19.45	9.5	Valid	L
1/75	Pretest	1728.3	1707.3	2816.7/2811	19.42	9.5	9:22	2407.0	2427.7/2424	16.74	8.3	88.5	9:27	2816.4/2811	19.42	9.5	Valid	L
1/76	Pretest	1717.0	1696.0	2797.2/2793	19.29	9.5	9:36	456.0	2412.0/2408	16.63	8.3	88.3	9:38	2797.8/2793	19.29	9.5	Valid	L
2/77	Sample	2818.0	2797.0	- /4537	31.28	9.4	0:27	3623.0	- /4125	28.44	8.6	117.8	2:02	- /4528	31.22	9.4	Valid, good P.T., sample taken	M
3/78	Pretest	1372.0	1351.0	2284.3/2267	15.75	9.7	4:16	1255.2					4:20				Aborted - length of time to stabilise	M
3/79	Pretest	1372.0	1351.0	2285.5/2266	15.76	9.7	4:21	853.3	2161.0/2142	14.90	9.3		4:38	2286.5/2267	15.76	9.7	Aborted. Supercharged. Length of time to stabilize.	M

WELL: SNAPPER-6
DATE: 13/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat	RFT TYPE	Depth m MDKB	Depth m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe	
3/80	Pretest	1389.0	1368.0	2315.6/2295 15.97	9.7	4:46	1895.5	1973.0/1953 13.60	8.4	71.1	4:55	2315.8/2295 15.97	9.7	Supercharged. Pressure too high.	M
3/81	Pretest	1372.5	1351.5	2287.6/2267 15.77	9.7	5:02		2307 & changing 15.94	9.9	71.1	5:04	2287.6/2267 15.77	9.7	Aborted. Supercharged. Pressure increased from hydrostatic when set	M
3/82	Pretest	1372.5	1351.5	2287.6/2267 15.77	9.7	5:06		2326 & changing 16.04	10.1		5:14	2287.6/2267 15.77	9.7	Aborted - as above. supercharged.	M
3/83	Pretest	1369.0	1348.0	2281.8/2262 15.73	9.7	5:19	1943.0	1966.7/1946 13.56	8.5	71.1	5:23	2282.0/2261 15.73	9.7	Supercharged.	M
3/84	Pretest	1402.0	1381.0	2338.1/2317 16.12	9.7	5:31	1885.3	1971.9/1952 13.60	8.3	71.2	5:36	2338.0/2316 16.12	9.7	Valid	M
3/85	Pretest	1401.0	1380.0	2336.2/2315 16.11	9.7	5:42	1845.6	1972.1/1951 13.60	8.3		5:51			Abort. Not stabilized. Pressure too low.	M
3/86	Pretest	1399.0	1378.0	2332.8/2311 16.08	9.7	5:58	1725.4	1971.4/1950 13.59	8.3	71.2	6:02	2332.8/2311 16.08	9.7	Valid	M
3/87	Pretest	1405.0	1384.0	2342.8/2321 16.15	9.7	6:10	1916.1	1973.4/1953 13.61	8.3	71.3	6:13	2343.0/2321 16.15	9.7	Valid	M

WELL: SNAPPER-6
DATE: 13/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat	RFT TYPE	Depth m MDKB	Depth m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe
3/88	Pretest	1422.0	1401.0	2371.6/2350 16.35	9.7	6:31	1111.5	2017.0/1995 13.91	8.4	71.8	6:36	2371.8/2349 16.35	9.7	Supercharged. M
3/89	Pretest	1438.0	1417.0	2398.8/2377 16.54	9.7	6:47	1700.0	2016.4/1996 13.90	8.3	72.1	6:52	2398.8/2377 16.54	9.7	Valid M
3/90	Pretest	1453.0	1432.0	2424.6/2402 16.72	9.7	7:01	1884.5	2039.1/2019 14.06	8.3	72.35	7:05	2424.6/2403 16.72	9.7	Valid M
3/91	Pretest	1422.0	1401.0	2370.5/2350 16.34	9.7	7:15	1460.1				7:17			Aborted. Pressure too high. M
3/92	Pretest	1418.0	1397.0	2363.5/2343 16.30	9.7	7:26	1961.7	1987.7/1968 13.70	8.3	72.2	7:29	2363.6/2343 16.30	9.7	Valid M
3/93	Pretest	1411.0	1390.0	2351.4/2330 16.21	9.7	7:36	728.9	1981.8/1960 13.66	8.3	72.1	7:41	2351.7/2330 16.21	9.7	Supercharged M
3/94	Pretest	1411.3	1390.3	2351.9/2330 16.22	9.7	7:46		- /2365 16.31	9.9					Abort. Pressure increased from hydrostatic. M
3/95	Pretest	1411.1	1390.1	2351.0/2330 16.21	9.7	7:51	1080.2	1981.8/1960 13.66	8.3	72.1	7:56	2351.2/2330 16.21	9.7	Supercharged. M

RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 13/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat	RFT TYPE	Depth m MDKB	Depth m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe
3/96	Pretest	1411.5	1390.5	2351.8/2331 16.22	9.7	8:60	617.4	1982.0/ - 13.67	8.3		8:05	2352.0/2330 16.22	9.7	Not stabilised. Supercharged. M
3/97	Pretest	1407.5	1386.5	2345.0/2323 16.17	9.7	8:13				71.8	8:14			Seal Failure. (Pressure & Hydrostatic) M
3/98	Pretest	1407.5	1386.5	2345.0/2323 16.2	9.7	8:16	1722.75	1975.8/1956 13.6	8.3	71.8	8:19	2345.2/2324 16.17	9.7	Slightly Supercharged. M
3/99	Pretest	1407.0	1386.0	2344.0/2323 16.16	9.7	8:29		1975.4/1956 13.6	8.3	71.8	8:32	2344.2/2323 16.16	9.7	Valid. Good Perm. M
3/100	Pretest	1413.5	1392.5	2354.9/2333 16.24	9.7	8:47				71.6	8:48			Seal Failure. Done to check apparent deep OWC. M
3/101	Pretest	1413.5	1392.5	2355.1/2333 16.24	9.7	8:49				71.6	8:50	- /2333		Seal failure. M
3/102	Pretest	1413.2	1392.2	2354.5/2332 16.23	9.7	8:53				71.6	8:58	- /2333		Seal failure. M
3/103	Pretest	1413.0	1392.0	2354.3/2332 16.23	9.7	9:02					9:05			Seal failure. M

RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 13/1/86 - 14/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat RFT TYPE	Depth m MDKB	Depth m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe
3/104 Pretest	1412.8	1391.8	2353.9/2332 16.23	9.7	9:07					9:08			Seal failure. M
3/105 Pretest	1411.7	1390.7	2351.7/2330 16.21	9.7	9:13		1980/ - 13.75						Supercharged - Pretest to check packer. M
3/106 Sample	2847.0	2826.0	- /4708 32.46	9.7	10:23	793.0	- /4260 29.37	8.8	110.6	10:34	- /4707 32.45	9.7	Supercharged. Aborted. Very tight. M
3/107 Sample	2846.0	2825.0	- /4706 32.45	9.7	10:39	1587.0	- /4256 29.34	8.8	110.6	10:48	- /4706 32.45	9.7	Aborted. Possibly super charged. Very tight. M
3/108 Sample	2845.5	2824.5	- /4705 32.44	9.7	10:53	1346.0	- /4271 29.45	8.8	110.6	11:02	- /4705 32.44	9.7	Aborted. Very tight. Supercharged. M
3/109 Sample	2844.5	2823.5	- /4704 32.43	9.7	11:06	1223.0	- /4296 29.62	8.9	110.6	11:11	- /4703 32.43	9.7	Aborted. Very tight. Supercharged. M
3/110 Sample	2846.0	2825.0	- /4705 32.44	9.7	11:17	763.0	- /4246 29.28	8.8	110.6	1:01	- /4700 32.41	9.7	Very tight. M
4/111 Sample	1411.0	1390.0	- /2324 16.02	9.7	4:03	188.0	- /1963 13.53	8.3	74.69	4:09	- /2323 16.02	9.7	Aborted. Very tight. M

RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 14/1/86 - 15/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat RFT TYPE	Depth m MDKB	Depth m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe
4/112 Pretest	1411.2	1390.2	- /2324 16.02	9.7	4:14	56.0	- /1960 13.51	8.3	74.7	4:18	- /2324 16.02	9.7	Aborted. Very tight. M
4/113 Pretest	1411.4	1390.4	- /2325 16.03	9.7	4:22	177.0	- /1959 13.51	8.3	74.7	4:25	- /2324 16.02	9.7	Aborted. Very tight. M
4/114 Pretest	1412.8	1391.8	- /2327 16.04	9.7	4:34					4:36	- /2327 16.04	9.7	Aborted. No seal. M
5/115 Pretest	1407.5	1386.5	- /2311 15.93	9.6	7:23					7:24			No seal. M
5/116 Pretest	1407.5	1386.5	- /2311 15.93	9.6	7:25					7:26			No seal. M
6/117 Pretest	1407.5	1386.5	* - /2349 16.20	9.8	9:55					9:56	- /2349 16.20	9.8	No Seat. *High hydrostatic. M
6/118 Pretest	1407.5	1386.5	- /2349 16.20	9.8	9:57					9:59	- /2349 16.20	9.8	No seat. M
6/119 Pretest	1407.4	1386.4	- /2349 16.20	9.8	10:02					10:03	- /2349 16.20	9.8	No seat. M

RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 15/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat / RFT TYPE	Depth m MDKB	Depth m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe
6/120 Pretest	1407.4	1386.4	- /2349 16.20	9.8	10:03	1152.0	- /1973 13.60	8.3		10:07	- /2349 16.20	9.8	Supercharged. Opened 12 gal. chamber. Seal failed. M
6/121 Pretest	1407.1	1386.1	- /2348 16.19	9.8	10:29					10:30	- /2348 16.19	9.8	No seat. M
6/122 Pretest	1407.1	1386.1	- /2348 16.19	9.8	10:31					10:32	- /2345 16.17	9.8	Seal failure. M
6/123 Sample	1406.9	1385.9	- /2349 16.20	9.8	10:36	1899.0	- /1957 16.19	9.8		10:46	- /2348 16.19	9.8	Valid pretest. Opened 2-3/4 gal. chamber; 12 gal. chamber reopened M
6/124 Pretest	1424.7	1403.7	2397.4/2378 16.53	9.8	11:58	1730.2	2160.0/2144 14.89	9.0		12:02	2397.6/2378 16.53	9.8	Aborted. Pressure too high. M
6/125 Pretest	1424.7	1403.7	2397.6/2378 16.53	9.8	12:03	1816.9				12:05	2397.8/2379 16.53	9.8	Aborted. Pressure too high. M
6/126 Pretest	1422.2	1401.2	2393.5/2375 16.50	9.8	12:10	1968.5	1993.5/1975 13.74	8.3	74.9	12:13	2393.6/2373 16.50	9.8	Valid. M

RFT PRESSURE DATA

WELL: SNAPPER-6
DATE: 15/1/86

GEOLOGIST/ENGINEER: S. WATTS/P. FELL/K. FAGG

RFT No. Run/Seat / RFT TYPE	Depth m MDKB	Depth m TVDSS KB=21	Initial Hydrostatic HP / RFT gauge psia / psig MPa/g	ppg	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig MPa/g	ppg	Temp °C	Time Retract	Final Hydrostatic HP psia / psig MPa/g	ppg	Comments (include Probe type) DD = Drawdown L = Long nose probe M = Martineau probe
6/127 Pretest	1416.0	1395.0	2383.0/2363 16.43	9.8	12:20		1984.9/1966 13.69	8.3	74.6	12:23	2383.0/2363 16.43	9.8	Valid M
6/128 Pretest	1405.0	1384.0	2363.0/2343 16.30	9.8	12:29	1947.1	1972.9/1954 13.60	8.3	74.5	12:39	2363.8/2343 16.30	9.8	Valid M
6/129 Pretest	1404.0	1483.0	2362.4/2342 16.29	9.8	12:39					12:40	2362.5/2342 16.29	9.8	Seal failure. M
6/130 Pretest	1404.0	1483.0	2362.5/2342 16.29	9.8	12:41					12:42			No seat. M

RFT SAMPLE TEST REPORT

WELL : SNAPPER-6

OBSERVER : S. WATTS   DATE : 13/01/86   RUN NO. : 2

	CHAMBER 1 (45.4 lit.)		CHAMBER 2 (10.4 lit.)	
SEAT NO.	77		77	
DEPTH	2818.0	m	2818.0	m
A. RECORDING TIMES				
Tool Set	00:26	hrs	-	hrs
Chamber Open	00:32	hrs	01:42	hrs
Chamber Full	-	hrs	-	hrs
Fill Time	-	mins	-	mins
Finish Build Up	-	hrs	-	hrs
Build Up Time	-	mins	-	mins
Tool Retract	-	hrs	02:02	hrs
Total Time	1 hr 9	mins	20	mins
B. SAMPLE PRESSURE				
Initial Hydrostatic	4537	psig	-	psig
Initial Form'n Press.	4125	psig	-	psig
Initial Flowing Press.	30	psig	1377	psig
Final Flowing Press.	3500	psig	3641	psig
Final Formation Press.	4112	psig	4107	psig
Final Hydrostatic	-	psig	4528	psig
C. TEMPERATURE				
Max. Tool Depth	2833	m	2833	m
Max. Rec. Temp	117.8	deg C	117.8	deg C
Length of Circ.	1.5	hrs	1.5	hrs
Time/Date Circ. Stopped	10:30 hrs	11/01/86	10.30 hrs	11/01/86
Time since Circ.	37 hrs	30 mins	37:30	hrs
D. SAMPLE RECOVERY				
Surface Pressure	1400	psia	SAMPLE	psia
Amt Gas	55.0	cu ft	PRESERVED	cu ft
Amt Oil	-	lit		lit
Amt Water (Total)	34.0	lit		lit
Amt Others (Condensate)	0.75	lit		lit
E. SAMPLE PROPERTIES				
Gas Composition				
C1	369152	ppm		ppm
C2	23076	ppm		ppm
C3	20874	ppm		ppm
C4	4834	ppm		ppm
C5	840	ppm		ppm
C6+	90	ppm		ppm
CO2/H2S	10/10	%/ppm		%/ppm
Condensate Properties	52.2 deg API@ 15.5	deg C	deg API@	deg C
Colour	TAN BROWN (SL. GREEN TINGE)			
Fluorescence	BRIGHT BLUISH WHITE			
GOR	11600			
Pour Point	WELL BELOW ROOM TEMP.			
Water Properties				
Resistivity	0.212 ohm-m @ 21.5	deg C	ohm-m @	deg C
NaCl Equivalent	32000	ppm		ppm
Cl-titrated	22000	ppm		ppm
Tritium	3016	DPM		DPM
pH	-			
Est. Water Type	FILTRATE			
F. MUD FILTRATE PROPERTIES				
Resistivity	0.221 ohm-m @ 19	deg C	ohm-m @	deg C
NaCl Equivalent	30000	ppm		ppm
Cl-titrated	23000	ppm		ppm
pH	-			
Tritium (in Mud)	3360	DPM		DPM
G. GENERAL CALIBRATION				
Mud Weight	9.5	ppg	9.5	ppg
Calc. Hydrostatic	4578	psi	4578	psi
Serial No. (Preserved)	-		RFS AE 1220	
Choke Size/Probe Type	.040" / MARTINEAU		.040" / MARTINEAU	
REMARKS	45.4 LITRE CHAMBER DID NOT BUILD UP. TIGHT.		10.4 LITRE CHAMBER DID NOT FILL. SAMPLE PRESERVED.	

RFT SAMPLE TEST REPORT

Well : SNAPPER-6

OBSERVER : P. FELL   DATE : 13/01/86   RUN NO. : 3

	CHAMBER 1 (45.4 lit.)	CHAMBER 2 (10.4 lit.)
SEAT NO.	3/106; 3/107; 3/108	
DEPTH	2847.0 2846.0 2845.5m	m
A. RECORDING TIMES		
Tool Set	22:23 22:39 22:53 hrs	hrs
Chamber Open	22:29 22:39 22:53 hrs	hrs
Chamber Full	- - - hrs	hrs
Fill Time	- - - mins	mins
Finish Build Up	- - - hrs	hrs
Build Up Time	- - - mins	mins
Tool Retract	22:34 22:48 23:02 hrs	hrs
Total Time	39 mins	mins
B. SAMPLE PRESSURE		
Initial Hydrostatic	4708 4706 4705 psig	psia
Initial Form'n Press.	4260 4256 4279 psig	psia
Initial Flowing Press.	13 10 10 psig	psia
Final Flowing Press.	- - - psia	psia
Final Formation Press.	- - - psia	psia
Final Hydrostatic	4707 4706 4705 psig	psia
C. TEMPERATURE		
Max. Tool Depth	2847.0 m	m
Max. Rec. Temp	110.6 deg C	deg C
Length of Circ.	2.5 hrs	hrs
Time/Date Circ. Stopped	10:30 hrs 13/01/86	hrs / /
Time since Circ.	11 hrs 33 mins	hrs
D. SAMPLE RECOVERY		
Surface Pressure	psia	psia
Amt Gas	cu ft	cu ft
Amt Oil	lit	lit
Amt Water (Total)	lit	lit
Amt Others	lit	lit
E. SAMPLE PROPERTIES		
Gas Composition		
C1	ppm	ppm
C2	ppm	ppm
C3	ppm	ppm
C4	ppm	ppm
C5	ppm	ppm
C6+	ppm	ppm
CO2/H2S	%/ppm	%/ppm
Oil Properties	deg API@ deg C	deg API@ deg C
Colour		
Fluorescence		
GOR		
Pour Point		
Water Properties		
Resistivity	ohm-m @ deg C	ohm-m @ deg C
NaCl Equivalent	ppm	ppm
Cl-titrated	ppm	ppm
Tritium	DPM	DPM
pH		
Est. Water Type		
F. MUD FILTRATE PROPERTIES		
Resistivity	ohm-m @ deg C	ohm-m @ deg C
NaCl Equivalent	ppm	ppm
Cl-titrated	ppm	ppm
pH		
Tritium (in Mud)	DPM	DPM
G. GENERAL CALIBRATION		
Mud Weight	9.5 ppg	ppg
Calc. Hydrostatic	4,614 psi	psi
Serial No. (Preserved)	-	
Choke Size/Probe Type	.040" / MARTINEAU	
REMARKS NOTE: SEE ATTACHED	VERY TIGHT ABORTED	NOT OPENED

RFT SAMPLE TEST REPORT

Well : SNAPPER-6

OBSERVER : P. FELL

DATE : 13,14/01/86 RUN NO. : 3

	CHAMBER 1 (45.4 lit.)			CHAMBER 2 (10.4 lit.)	
SEAT NO.	3/109	3/110		3/110	
DEPTH	2844.5	2846.0	m	2846.0	m
A. RECORDING TIMES					
Tool Set	23:06	23:17	hrs		hrs
Chamber Open	23:08	23:19	hrs	00:37	hrs
Chamber Full	-	-	hrs	-	hrs
Fill Time	-	-	mins	-	mins
Finish Build Up	-	-	hrs	-	hrs
Build Up Time	-	-	mins	-	mins
Tool Retract	23:11	00:34	hrs	01:01	hrs
Total Time	05	77	mins	24	mins
B. SAMPLE PRESSURE					
Initial Hydrostatic	4704	4705	psig		psia
Initial Form'n Press.	4296	4246	psig	4211	psig
Initial Flowing Press.	4	9	psig	22	psig
Final Flowing Press.	6	29	psig	32	psig
Final Formation Press.	-	4211	psig	4212	psig
Final Hydrostatic	4703		psig	4700	psig
C. TEMPERATURE					
Max. Tool Depth	2847		m		m
Max. Rec. Temp	110.6		deg C	110.6	deg C
Length of Circ.	2.5		hrs	2.5	hrs
Time/Date Circ. Stopped	10:30 hrs	13/01/86		10:30 hrs	13/01/86
Time since Circ.	12 hrs	36 mins		14:07	hrs
D. SAMPLE RECOVERY					
Surface Pressure	LESS THAN 100		psia	-	psia
Amt Gas	0.35		cu ft	NOT MEASURABLE	cu ft
Amt Oil	-		lit	-	lit
Amt Water (Total)	9.0		lit	1.75	lit
Amt Others	-		lit	-	lit
E. SAMPLE PROPERTIES					
Gas Composition					
C1	169,164		ppm	152,248	ppm
C2	24,614		ppm	23,890	ppm
C3	10,626		ppm	9,715	ppm
C4	1,824		ppm	948	ppm
C5	201		ppm	358	ppm
C6+	-		ppm	79	ppm
CO2/H2S	1.5% / -		%/ppm	1% / -	%/ppm
Oil Properties	deg API@		deg C	deg API@	deg C
Colour					
Fluorescence					
GOR					
Pour Point					
Water Properties					
Resistivity	0.228 ohm-m @	20 deg C		0.248 ohm-m @	20 deg C
NaCl Equivalent	30,000		ppm	25,000	ppm
Cl-titrated	22,000		ppm	22,000	ppm
Tritium	3,077		DPM	3,087	DPM
pH					
Est. Water Type	FILTRATE			FILTRATE	
F. MUD FILTRATE PROPERTIES					
Resistivity	0.221 ohm-m @	19 deg C		0.221 ohm-m @	19 deg C
NaCl Equivalent	30,000		ppm	30,000	ppm
Cl-titrated	23,000		ppm	23,000	ppm
pH	9.5			9.5	
Tritium (in Mud)	3,227		DPM	3,227	DPM
G. GENERAL CALIBRATION					
Mud Weight	9.5		ppg	9.5	ppg
Calc. Hydrostatic	4613		psi	4613	psi
Serial No. (Preserved)					
Choke Size/Probe Type	.040" / MARTINEAU			.040" / MARTINEAU	
REMARKS	VERY TIGHT ABORTED	VERY TIGHT SEALED PREMATURELY		VERY TIGHT, NOT ENOUGH GAS TO REGISTER ON SURFACE GAUGE	

RFT SAMPLE TEST REPORT

Well : SNAPPER-6

OBSERVER : P. FELL   DATE : 14/01/86   RUN NO. : 4

	CHAMBER 1 (45.4 lit.)	CHAMBER 2 (10.4 lit.)
SEAT NO.	4/111 4/112 4/113	
DEPTH	1411.0 1411.2 1141.4m	m
A. RECORDING TIMES		
Tool Set	04:03 04:14 04:22 hrs	hrs
Chamber Open	04:08 04:16 04:24 hrs	hrs
Chamber Full	- - - hrs	hrs
Fill Time	- - - mins	mins
Finish Build Up	- - - hrs	hrs
Build Up Time	- - - mins	mins
Tool Retract	04:09 04:18 04:25 hrs	hrs
Total Time	mins	mins
B. SAMPLE PRESSURE		
Initial Hydrostatic	2324 2324 2325 psig	psia
Initial Form'n Press.	1963 1960 1959 psig	psia
Initial Flowing Press.	0 0 0 psig	psia
Final Flowing Press.	- - - psig	psia
Final Formation Press.	- - - psig	psia
Final Hydrostatic	2324 2324 2324 psig	psia
C. TEMPERATURE		
Max. Tool Depth	1412.8 m	m
Max. Rec. Temp	74.69 deg C	deg C
Length of Circ.	2.5 hrs	hrs
Time/Date Circ. Stopped	10:30 hrs 13/01/86	hrs / /
Time since Circ.	17 hrs 33 mins	hrs
D. SAMPLE RECOVERY		
Surface Pressure	psia	psia
Amt Gas	cu ft	cu ft
Amt Oil	lit	lit
Amt Water (Total)	lit	lit
Amt Others	lit	lit
E. SAMPLE PROPERTIES		
Gas Composition		
C1	ppm	ppm
C2	ppm	ppm
C3	ppm	ppm
C4	ppm	ppm
C5	ppm	ppm
C6+	ppm	ppm
CO2/H2S	%/ppm	%/ppm
Oil Properties	deg API@ deg C	deg API@ deg C
Colour		
Fluorescence		
GOR		
Pour Point		
Water Properties		
Resistivity	ohm-m @ deg C	ohm-m @ deg C
NaCl Equivalent	ppm	ppm
Cl-titrated	ppm	ppm
Tritium	DPM	DPM
pH		
Est. Water Type		
F. MUD FILTRATE PROPERTIES		
Resistivity	ohm-m @ deg C	ohm-m @ deg C
NaCl Equivalent	ppm	ppm
Cl-titrated	ppm	ppm
pH		
Tritium (in Mud)	DPM	DPM
G. GENERAL CALIBRATION		
Mud Weight	9.5 ppg	ppg
Calc. Hydrostatic	2287 psi	psi
Serial No. (Preserved)		
Choke Size/Probe Type	0.040" / MARTINEAU	
REMARKS	VERY TIGHT ABORTED	NOT OPENED

RFT SAMPLE TEST REPORT

Well : SNAPPER-6

OBSERVER : P. FELL DATE : 14/01/86 RUN NO. : 4

	CHAMBER 1 (45.4 lit.)		CHAMBER 2 (10.4 lit.)	
SEAT NO.	4/114			
DEPTH	1412.8	m		m
A. RECORDING TIMES				
Tool Set	04:34	hrs		hrs
Chamber Open		hrs		hrs
Chamber Full		hrs		hrs
Fill Time		mins		mins
Finish Build Up		hrs		hrs
Build Up Time		mins		mins
Tool Retract	04:36	hrs		hrs
Total Time	02	mins		mins
B. SAMPLE PRESSURE				
Initial Hydrostatic	2327	psig		psia
Initial Form'n Press.		psia		psia
Initial Flowing Press.		psia		psia
Final Flowing Press.		psia		psia
Final Formation Press.		psia		psia
Final Hydrostatic	2327	psig		psia
C. TEMPERATURE				
Max. Tool Depth	1412.8	m		m
Max. Rec. Temp	74.69	deg C		deg C
Length of Circ.	2.5	hrs		hrs
Time/Date Circ. Stopped	10:30 hrs	13/01/86	hrs	/ /
Time since Circ.	18 hrs	04 mins		hrs
D. SAMPLE RECOVERY				
Surface Pressure		psia		psia
Amt Gas		cu ft		cu ft
Amt Oil		lit		lit
Amt Water (Total)		lit		lit
Amt Others		lit		lit
E. SAMPLE PROPERTIES				
Gas Composition				
C1		ppm		ppm
C2		ppm		ppm
C3		ppm		ppm
C4		ppm		ppm
C5		ppm		ppm
C6+		ppm		ppm
CO2/H2S		%/ppm		%/ppm
Oil Properties	deg API@	deg C	deg API@	deg C
Colour				
Fluorescence				
GOR				
Pour Point				
Water Properties				
Resistivity	ohm-m @	deg C	ohm-m @	deg C
NaCl Equivalent		ppm		ppm
Cl-titrated		ppm		ppm
Tritium		DPM		DPM
pH				
Est. Water Type				
F. MUD FILTRATE PROPERTIES				
Resistivity	ohm-m @	deg C	ohm-m @	deg C
NaCl Equivalent		ppm		ppm
Cl-titrated		ppm		ppm
pH				
Tritium (in Mud)		DPM		DPM
G. GENERAL CALIBRATION				
Mud Weight	9.6	ppg		ppg
Calc. Hydrostatic	2313	psi		psi
Serial No. (Preserved)				
Choke Size/Probe Type	0.040" / MARTINEAU			
REMARKS	NO SEAL		NOT OPENED	

RFT SAMPLE TEST REPORT

Well : SNAPPER-6

OBSERVER : K. FAGG, P. FELL DATE : 14/01/86 RUN NO. : 5

	CHAMBER 1 (45.4 lit.)			CHAMBER 2 (10.4 lit.)	
SEAT NO.	5/115	5/116			
DEPTH	1407.5	1407.5	m		m
A. RECORDING TIMES					
Tool Set	07:23	07:25	hrs		hrs
Chamber Open			hrs		hrs
Chamber Full			hrs		hrs
Fill Time			mins		mins
Finish Build Up			hrs		hrs
Build Up Time			mins		mins
Tool Retract	07:24	07:26	hrs		hrs
Total Time		03	mins		mins
B. SAMPLE PRESSURE					
Initial Hydrostatic	2311	2311	psig		psia
Initial Form'n Press.			psia		psia
Initial Flowing Press.			psia		psia
Final Flowing Press.			psia		psia
Final Formation Press.			psia		psia
Final Hydrostatic	2311	2311	psig		psia
C. TEMPERATURE					
Max. Tool Depth			m		m
Max. Rec. Temp			deg C		deg C
Length of Circ.			hrs		hrs
Time/Date Circ. Stopped	10:30 hrs		13/01/86	hrs	/ /
Time since Circ.	20 hrs		53 mins		hrs
D. SAMPLE RECOVERY					
Surface Pressure			psia		psia
Amt Gas			cu ft		cu ft
Amt Oil			lit		lit
Amt Water (Total)			lit		lit
Amt Others			lit		lit
E. SAMPLE PROPERTIES					
Gas Composition					
C1			ppm		ppm
C2			ppm		ppm
C3			ppm		ppm
C4			ppm		ppm
C5			ppm		ppm
C6+			ppm		ppm
CO2/H2S			%/ppm		%/ppm
Oil Properties		deg API@	deg C	deg API@	deg C
Colour					
Fluorescence					
GOR					
Pour Point					
Water Properties					
Resistivity		ohm-m @	deg C	ohm-m @	deg C
NaCl Equivalent			ppm		ppm
Cl-titrated			ppm		ppm
Tritium			DPM		DPM
pH					
Est. Water Type					
F. MUD FILTRATE PROPERTIES					
Resistivity		ohm-m @	deg C	ohm-m @	deg C
NaCl Equivalent			ppm		ppm
Cl-titrated			ppm		ppm
pH					
Tritium (in Mud)			DPM		DPM
G. GENERAL CALIBRATION					
Mud Weight		9.6	ppg		ppg
Calc. Hydrostatic		2305	psi		psi
Serial No. (Preserved)					
Choke Size/Probe Type	0.040" / MARTINEAU				
REMARKS	TOOL STUCK FOR 30 MINS. NO SEAL			NOT OPENED	

RFT SAMPLE TEST REPORT

Well : SNAPPER-6

OBSERVER : K. FAGG, P. FELL DATE : 15/01/86 RUN NO. : 6

	CHAMBER 1 (45.4 lit.)			CHAMBER 2 (10.4 lit.)	
SEAT NO.	6/117	6/118			
DEPTH	1407.5	1407.5	m		m
A. RECORDING TIMES					
Tool Set	09:55	09:57	hrs		hrs
Chamber Open			hrs		hrs
Chamber Full			hrs		hrs
Fill Time			mins		mins
Finish Build Up			hrs		hrs
Build Up Time			mins		mins
Tool Retract	09:56	09:59	hrs		hrs
Total Time	01	02	mins		mins
B. SAMPLE PRESSURE					
Initial Hydrostatic	2349	2349	psig		psia
Initial Form'n Press.	-	-	psig		psia
Initial Flowing Press.	-	-	psig		psia
Final Flowing Press.	-	-	psig		psia
Final Formation Press.			psig		psia
Final Hydrostatic	2349	2349	psig		psia
C. TEMPERATURE					
Max. Tool Depth			m		m
Max. Rec. Temp			deg C		deg C
Length of Circ.	3		hrs		hrs
Time/Date Circ. Stopped	04:00 hrs		15/01/86	hrs	/ /
Time since Circ.	5 hrs	55	mins		hrs
D. SAMPLE RECOVERY					
Surface Pressure			psia		psia
Amt Gas			cu ft		cu ft
Amt Oil			lit		lit
Amt Water (Total)			lit		lit
Amt Others			lit		lit
E. SAMPLE PROPERTIES					
Gas Composition					
C1			ppm		ppm
C2			ppm		ppm
C3			ppm		ppm
C4			ppm		ppm
C5			ppm		ppm
C6+			ppm		ppm
CO2/H2S			%/ppm		%/ppm
Oil Properties	deg API@		deg C	deg API@	deg C
Colour					
Fluorescence					
GOR					
Pour Point					
Water Properties					
Resistivity	ohm-m @		deg C	ohm-m @	deg C
NaCl Equivalent			ppm		ppm
Cl-titrated			ppm		ppm
Tritium			DPM		DPM
pH					
Est. Water Type					
F. MUD FILTRATE PROPERTIES					
Resistivity	ohm-m @		deg C	ohm-m @	deg C
NaCl Equivalent			ppm		ppm
Cl-titrated			ppm		ppm
pH					
Tritium (in Mud)			DPM		DPM
G. GENERAL CALIBRATION					
Mud Weight	9.6		ppg		ppg
Calc. Hydrostatic	2305		psi		psi
Serial No. (Preserved)					
Choke Size/Probe Type	0.040" / MARTINEAU				
REMARKS	NO SEAL	NO SEAL		CHAMBER NOT OPENED	

RFT SAMPLE TEST REPORT

Well : SNAPPER-6

OBSERVER : K. FAGG, P. FELL   DATE : 15/01/86   RUN NO. : 6

	CHAMBER 1 (45.4 lit.)			CHAMBER 2 (10.4 lit.)	
SEAT NO.	6/119	6/120			
DEPTH	1407.4	1407.4	m		m
A. RECORDING TIMES					
Tool Set	10:02	10:03	hrs		hrs
Chamber Open		10:12	hrs		hrs
Chamber Full		-	hrs		hrs
Fill Time		-	mins		mins
Finish Build Up		-	hrs		hrs
Build Up Time		-	mins		mins
Tool Retract	10:03	10:17	hrs		hrs
Total Time	01	14	mins		mins
B. SAMPLE PRESSURE					
Initial Hydrostatic	2349	2349	psig		psia
Initial Form'n Press.	-	1973	psig		psia
Initial Flowing Press.	-	1332	psig		psia
Final Flowing Press.	-	-	psig		psia
Final Formation Press.	-	-	psig		psia
Final Hydrostatic	2349	2349	psig		psia
C. TEMPERATURE					
Max. Tool Depth			m		m
Max. Rec. Temp			deg C		deg C
Length of Circ.	3		hrs		hrs
Time/Date Circ. Stopped	04:00 hrs		15/01/86	hrs	/ /
Time since Circ.	5 hrs	55	mins		hrs
D. SAMPLE RECOVERY					
Surface Pressure			psia		psia
Amt Gas			cu ft		cu ft
Amt Oil			lit		lit
Amt Water (Total)			lit		lit
Amt Others			lit		lit
E. SAMPLE PROPERTIES					
Gas Composition					
C1			ppm		ppm
C2			ppm		ppm
C3			ppm		ppm
C4			ppm		ppm
C5			ppm		ppm
C6+			ppm		ppm
CO2/H2S			%/ppm		%/ppm
Oil Properties		deg API@	deg C	deg API@	deg C
Colour					
Fluorescence					
GOR					
Pour Point					
Water Properties					
Resistivity		ohm-m @	deg C	ohm-m @	deg C
NaCl Equivalent			ppm		ppm
Cl-titrated			ppm		ppm
Tritium			DPM		DPM
pH					
Est. Water Type					
F. MUD FILTRATE PROPERTIES					
Resistivity		ohm-m @	deg C	ohm-m @	deg C
NaCl Equivalent			ppm		ppm
Cl-titrated			ppm		ppm
pH					
Tritium (in Mud)			DPM		DPM
G. GENERAL CALIBRATION					
Mud Weight	9.6		ppg		ppg
Calc. Hydrostatic	2305		psi		psi
Serial No. (Preserved)					
Choke Size/Probe Type	0.040" / MARTINEAU				
REMARKS	NO SEAL	SEAL FAILURE		CHAMBER NOT OPENED	

RFT SAMPLE TEST REPORT

Well : SNAPPER-6

OBSERVER : K. FAGG, P. FELL DATE : 15/01/86 RUN NO. : 6

	CHAMBER 1 (45.4 lit.)				CHAMBER 2 (10.4 lit.)	
SEAT NO.	6/121	6/122	6/123		6/123	
DEPTH	1407.1	1407.1	1406.9m		1406.9	m
A. RECORDING TIMES						
Tool Set	10:29	10:31	10:36	hrs	* 10:36	hrs
Chamber Open	-	-	10.45	hrs	10:40	hrs
Chamber Full	-	-	10.45	hrs	10:40	hrs
Fill Time	-	-	LESS THAN 6 sec		LESS THAN 6 sec	mins
Finish Build Up	-	-	-	hrs	-	hrs
Build Up Time	-	-	-	mins	-	mins
Tool Retract	10.30	10.32	10.48	hrs	10.43	hrs
Total Time	01	01	03	mins	07	mins
B. SAMPLE PRESSURE						
Initial Hydrostatic	2348	2348	2349	psig	2349	psig
Initial Form'n Press.	-	-	1957	psig	1957	psig
Initial Flowing Press.	-	-	934	psig	552	psig
Final Flowing Press.	-	-	1888	psig	1914	psig
Final Formation Press.	-	-	1953	psig	1954	psig
Final Hydrostatic	2348	2348	2348	psig	-	psia
C. TEMPERATURE						
Max. Tool Depth				m		m
Max. Rec. Temp				deg C		deg C
Length of Circ.		3		hrs	3	hrs
Time/Date Circ. Stopped	04:00 hrs		15/01/86		04:00 hrs	15/01/86
Time since Circ.	6 hrs		36 mins		6:36	hrs
D. SAMPLE RECOVERY						
Surface Pressure		400		psig	1200	psig
Amt Gas		21.5		cu ft	18.8	cu ft
Amt Oil		5.75		lit	8.0	lit
Amt Water (Total)		-		lit	-	lit
Amt Others MUD		21.5		lit	-	lit
E. SAMPLE PROPERTIES						
Gas Composition						
C1		442,983		ppm	511,539	ppm
C2		24,816		ppm	37,450	ppm
C3		13,971		ppm	13,971	ppm
C4		3,740		ppm	3,625	ppm
C5		700		ppm	756	ppm
C6+		117		ppm	180	ppm
CO2/H2S		2%/11ppm		%/ppm	1.5%/10ppm	%/ppm
Oil Properties		42.5 deg API@ 15.6 deg C			41.1 deg API@ 15.6 deg C	
Colour		DARK BROWN			DARK BROWN	
Fluorescence		BLUE-WHITE			BLUE-WHITE	
GOR		594.5			373.7	
Pour Point		20°C			21°C	
Water Properties						
Resistivity		ohm-m @		deg C	ohm-m @	deg C
NaCl Equivalent				ppm		ppm
Cl-titrated				ppm		ppm
Tritium				DPM		DPM
pH						
Est. Water Type		MUD				
F. MUD FILTRATE PROPERTIES						
Resistivity		0.221 ohm-m @		19 deg C	0.221 ohm-m @	19 deg C
NaCl Equivalent		35,000		ppm	35,000	ppm
Cl-titrated		23,000		ppm	23,000	ppm
pH		9.5			9.5	
Tritium (in Mud)				DPM		DPM
G. GENERAL CALIBRATION						
Mud Weight		9.6		ppg	9.6	ppg
Calc. Hydrostatic		2,304		psi	2,304	psi
Serial No. (Preserved)						
Choke Size/Probe Type		0.040" / MARTINEAU			0.040" / MARTINEAU	
REMARKS		45.4lt CHAMBER PARTIALLY FILLED WITH MUD FROM SAMPLE 6/120 @ 1407.4M			* OPENED 10.4lt CHAMBER FIRST	

NOTE: For sample runs 3 - 6, calculated hydrostatic pressure, from mud weight measured at the flowline, is less than measured hydrostatic pressure. However, RFT strain gauge and HP gauge measurements are consistent with each other, and the tool seems to be operating correctly. The discrepancy could be due to differences between the weight of mud in the hole and the mud weight measured at the flowline.

ENCLOSURES

PE902350

This is an enclosure indicator page.
The enclosure PE902350 is enclosed within the container PE902348 at this location in this document.

The enclosure PE902350 has the following characteristics:

ITEM_BARCODE = PE902350
CONTAINER_BARCODE = PE902348
NAME = Schematc Structural Cross Section
BASIN = GIPPSLAND
PERMIT =
TYPE = WELL
SUBTYPE = CROSS_SECTION
DESCRIPTION = Schematc Structural Cross Section
REMARKS =
DATE_CREATED = 1/08/86
DATE_RECEIVED = 13/10/87
W_NO = W925
WELL_NAME = Snapper-6
CONTRACTOR = ESSO
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE902351

This is an enclosure indicator page.
The enclosure PE902351 is enclosed within the container PE902348 at this location in this document.

The enclosure PE902351 has the following characteristics:

ITEM_BARCODE =	PE902351
CONTAINER_BARCODE =	PE902348
NAME =	Structure Map Top of Latrobe Group
BASIN =	GIPPSLAND
PERMIT =	
TYPE =	SEISMIC
SUBTYPE =	HRZN_CONTR_MAP
DESCRIPTION =	Structure Map Top of Latrobe Group, Top of N-1.0 Unit (enclosure from WCR) for Snapper-6
REMARKS =	
DATE_CREATED =	1/02/86
DATE_RECEIVED =	13/10/87
W_NO =	W925
WELL_NAME =	Snapper-6
CONTRACTOR =	ESSO
CLIENT_OP_CO =	ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE902352

This is an enclosure indicator page.
The enclosure PE902352 is enclosed within the container PE902348 at this location in this document.

The enclosure PE902352 has the following characteristics:

ITEM_BARCODE =	PE902352
CONTAINER_BARCODE =	PE902348
NAME =	Structure Map P asperolpoulos Seismic marker
BASIN =	GIPPSLAND
PERMIT =	
TYPE =	SEISMIC
SUBTYPE =	HRZN_CONTR_MAP
DESCRIPTION =	Structure Map P asperolpoulos Seismic marker, Top of N-1.4 Unit (enclosure from WCR) fro Snapper-6
REMARKS =	
DATE_CREATED =	1/02/86
DATE_RECEIVED =	13/10/87
W_NO =	W925
WELL_NAME =	Snapper-6
CONTRACTOR =	ESSO
CLIENT_OP_CO =	ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE902353

This is an enclosure indicator page.
The enclosure PE902353 is enclosed within the container PE902348 at this location in this document.

The enclosure PE902353 has the following characteristics:

ITEM_BARCODE =	PE902353
CONTAINER_BARCODE =	PE902348
NAME =	Structure Map upper M diversus Seismic marker
BASIN =	GIPPSLAND
PERMIT =	
TYPE =	SEISMIC
SUBTYPE =	HRZN_CONTR_MAP
DESCRIPTION =	Structure Map upper M diversus Seismic marker, Top of N-1.9 Unit (enclosure from WCR) for Snapper-6
REMARKS =	
DATE_CREATED =	1/02/86
DATE_RECEIVED =	13/10/87
W_NO =	W925
WELL_NAME =	Snapper-6
CONTRACTOR =	ESSO
CLIENT_OP_CO =	ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE902354

This is an enclosure indicator page.
The enclosure PE902354 is enclosed within the container PE902348 at this location in this document.

The enclosure PE902354 has the following characteristics:

ITEM_BARCODE =	PE902354
CONTAINER_BARCODE =	PE902348
NAME =	Structure Map top of L-1 Coal unit
BASIN =	GIPPSLAND
PERMIT =	
TYPE =	SEISMIC
SUBTYPE =	HRZN_CONTR_MAP
DESCRIPTION =	Structure Map top of L-1 Coal unit
REMARKS =	
DATE_CREATED =	1/02/86
DATE_RECEIVED =	13/10/87
W_NO =	W925
WELL_NAME =	Snapper-6
CONTRACTOR =	ESSO
CLIENT_OP_CO =	ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE601121

This is an enclosure indicator page.
The enclosure PE601121 is enclosed within the container PE902348 at this location in this document.

The enclosure PE601121 has the following characteristics:

ITEM_BARCODE = PE601121
CONTAINER_BARCODE = PE902348
NAME = Mud Log - Corelab Grapholog
BASIN = GIPPSLAND
PERMIT =
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mud Log - Corelab Grapholog
REMARKS =
DATE_CREATED = 11/01/86
DATE_RECEIVED = 13/10/87
W_NO = W925
WELL_NAME = Snapper-6
CONTRACTOR = Core Labs Australia
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE601120

This is an enclosure indicator page.
The enclosure PE601120 is enclosed within the container PE902348 at this location in this document.

The enclosure PE601120 has the following characteristics:

ITEM_BARCODE =	PE601120
CONTAINER_BARCODE =	PE902348
NAME =	Well Completion Log
BASIN =	GIPPSLAND
PERMIT =	
TYPE =	WELL
SUBTYPE =	COMPLETION_LOG
DESCRIPTION =	Well Completion Log
REMARKS =	
DATE_CREATED =	24/12/85
DATE_RECEIVED =	13/10/87
W_NO =	W925
WELL_NAME =	Snapper-6
CONTRACTOR =	ESSO
CLIENT_OP_CO =	ESSO

(Inserted by DNRE - Vic Govt Mines Dept)