AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

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SPEKE-1

W870

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OIL and GAS DIVISION

SPEKE NO. 1

WELL COMPLETION REPORT

16 AUG 1985

W870

VIC/P17

OFFSHORE GIPPSLAND BASIN

PG/226/84

V. Djokic
December, 1984

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* 2. RIG POSITIONING REPORT

* 3. OPERATIONAL REPORT OF SIDESCAN SONAR SEABED CLEARANCE SURVEY

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5. WELL-TO-SEISMIC TIE

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* Enclosures & attachments not on microfilm available on request

* * *

I. SUMMARY

Speke No. 1, the sixth well to be drilled in the Permit VIC/P17 by Australian Aquitaine Petroleum Pty Limited and its partners, was spudded on 14th June 1984, and reached a total depth of 2772m on 5th July 1984.

The well was located approximately 11km west of Bream-4A (oil and gas well) and 10km northeast of Bullseye-1 (dry well). It was drilled with the semi-submersible rig "Diamond M Epoch".

The well was designed to test the highest point of the top of Latrobe Formation structure. At the intra-Latrobe blue, purple and orange levels, the well was approximately one kilometre north of the high point but well within mapped structural closure.

Areal closure of the time structure at the top of Latrobe (brown horizon) and intra Latrobe blue, purple and orange levels was measured at 1.6km^2, 3.8km^2, 5.2km^2 and 2.5km^2 respectively.

Depth conversion prepared from normal move-out of stacking velocity data significantly increased these areas to 5.7km, 7.4km^2, 6.4km^2 and 4.9km^2 respectively.

The top of the Latrobe Group (Gurnard Fm) was intersected at 1820m K.B. with top of undifferentiated Latrobe Formation (coarse clastics) at 1860m K.B. 912m of Late Eocene to Late Cretaceous Latrobe sediments were penetrated. Drilling stopped at 2772m K.B. on 7th July, 1984 and the well was plugged and abandoned on 10th July, 1984.

No significant shows were encountered during drilling. Log interpretration and side wall cores showed that the main reservoirs at the top of the Latrobe Formation, as well as intra Latrobe sands, have good reservoir properties but are water saturated.

II. INTRODUCTION

Speke No. 1 was the fifth well drilled in permit VIC/P17 by Australian Aquitaine Petroleum Pty. Ltd. (25%) as Operator for :

Australian Occidental Pty. Ltd.	25.0% (10%)*
Agex Pty. Ltd.	12.5%
Consolidated Petroleum (Aust) N.L.	12.5%
Laurel Bay Petroleum Ltd.	00.0% (15%)*
Alliance Resources Ltd.	25.0%

Prior to drilling, the GA81A, GA83 seismic surveys were carried out and Edina No. 1, Omeo No. 1, Kyarra No. 1A, Tarra No. 1 and Wyrallah No. 1 were drilled by Australian Aquitaine Petroleum Pty. Ltd. and its co-venturers in the permit VIC/P17.

The GA81A Seismic Survey commenced on November 1, 1981, and was completed on November 26, 1981. A total of 3495 km of seismic was shot. This comprised a 1.5 x 1.5 km grid over much of the permit area, with a wider spaced grid over the western and southwestern part of the permit.

The GA82B Seismic Survey commenced on June 15, 1982, and was completed on June 18, 1982. A total of 403 km of seismic was shot.

The GA83 Seismic Survey was shot in April 1983, and a total of 217 km was recorded.

The first well, Edina No. 1 was spudded on September 26, 1982, and was plugged and abandoned on November 1, 1982, at a T.D. of 2549m.

Omeo No. 1 was spudded on November2, 1982, and was plugged and abandoned on February 10, 1983, at a T.D. of 3379m.

* Interest after farmin commitments fulfilled.

Kyrarra No. 1 was spudded on February 11, 1983, and was plugged and abandoned on February 28, 1983, at a T.D. of 1280m.

Tarra No. 1 was spudded on March 4, 1983, and was plugged and abandoned on April 21, 1983, at a T.D. of 2905m.

Wyrallah No. 1 was spudded on April 16, 1984, and was plugged and abandoned on April 24, 1984 at a T.D. of 1160m.

Based on the interpretation of these surveys and regional stratigraphic correlation of nearby wells (Bream No. 4A, Bulseye No. 1), Speke No. 1 well location was chosen at shotpoint 230 on line GA82B-211A.

The location was at 93 km East-North East of Port Welshpool where a supply and logistics base had been established by Aquitaine, in association with Phillips and Shell.

The semi-submersible rig, the "Diamond M Epoch" was contracted to carry out drilling operations and Speke No. 1 was spudded on June 14, 1984. The well was plugged and abandoned, as a dry hole, at a total depth of 2772m K.B., and the rig released on July 10, 1984.

III. WELL HISTORY

A. General Data

(i)	Well Name and Number	Speke No. 1
(ii)	Name and Address of Operator	Australian Aquitaine Petroleum Pty. Ltd., 99 Mount Street, North Sydney N.S.W.2060
(iii)	Name and Address of Title Holder/s	Australian Aquitaine Petroleum Pty. Ltd., 99 Mount Street, North Sydney N.S.W. 2060 Alliance Resources Ltd., 15th FLoor, Collins Tower, 35 Collins Street, Melbourne VIC 3000 Consolidated Petroleum (Aust.) N.L., Hartogen House, 15 Young Street, Sydney N.S.W. 2000 Agex Pty. Ltd., Level 16 - AGL Building, 111 Pacific Highway, North Sydney N.S.W. 2060
(iv)	Petroleum Title	Permit VIC/P17
(v)	District	Gippsland Basin, Victoria
(vi)	Location	S.P. 230, Line No. GA82B-211A Latitude 38°30'34.64"S Longitude 147°37'11.74"E Northings 5 737 442.7N Eastings 554 050.8E Zone 55 AMG

(vii)	Elevation	Water depth: 55m BMSL K.B. : 22m AMSL
(viii)	Total Depth	2772m K.B.
(ix)	Date Drilling Commenced	June 14, 1984
(x)	Date Total Depth Reached	July 7, 1984
(xi)	Date Well Abandoned	July 10,1984
(xii)	Drilling Time Days to T.D.	24 days
(xiii)	Status	Plugged and abandoned
(xiv)	Total Cost (by Technical Cost Control)	A$5,000,000

B. Drilling Data

(i) Drilling Contractor

Diamond M Drilling Company
459 Collins Street
Melbourne VIC 3000

(ii) Drilling Plant

Semi Submersible Rig
"Diamond M Epoch" designed to drill to a depth of 9000m in water depth 60 to 360m.

Power Two EMD-16-E-p diesel engines rated at 3070HP each driving EMD-2000KW AC generators plus one EMD-016E-8 diesel engine rated at 2200HP driving EMD-1500 KW AC generator.

Mooring Eight anchors 13.6 tons each, with 2000 feet of 2 3/4" chain per anchor.

Mast 1600 feet dynamic with load capacity of 450 tons (1,000,000Lb)

Draw works Oilwell E 3000 driven by two GE-752 DC motors with Baylor 7838 electric brake.

Mud Pumps Two Oilwell A-1700 PT triplex each driven by two GE-752 DC motors.

Drill String 5" Drill pipe, 6 1/4", 7 3/4" and 9 1/2" drill collars.

(iii) Subsea and Riser Equipment

Divert System-Regan KFDH with 8" diverter lines

Pin Connector - One (1) 30" Vetco

Flex Joint - Vetco 18 5/8" MR-4B connection

Riser Connector - Cameron collect 16 3/4" 5,000 PSI WC

Annular BOP's - Two (2) Hydril GL 16 3/4" 5,000 PSI WP

Ram Preventers - Two (2) Cameron double type "U" 16 3/4" 10,000 PSI WP

Wellhead Connector - Vetco H-4, 16 3/4" 10,0000

BOP Accumulator Unit - Koomey air-electric 660 gal., 3,000 PSI

Kill and Choke Valves - Two (2) 3 1/16" Vetco 10,000 PSI WP right angle; two (2) 3 1/6" Vetco 10,000 PSI WP straight through failsafe gate valves

Marine Riser - 1,000' Vetco 18 5/8" OD x 5/8" OD x 5/8" wall with MR-4B connectors and integral choke and kill lines

Riser Pup Joints - Ten (10), fifteen (15), twenty (20), thirty (30) and forty (40) feet long

Slip Joints - One (1) Vetco 45' stroke; one (1) 75' stroke both with dual packers

Riser Tensioning Units - Six (6) Western Gear single line units with 75' line travel and maximum single line load capacity of 53,878 lbs. tension for total tensioning capacity of 323,268 lbs.; can also be used as 50' line travel and maximum single line load capacity of 80,000 lbs.; total capacity of 480,000 lbs.

Guideline Tensioning Units - Four (4) Western Gear single line with 40' line travel and maximum line load capacity of 16,000 lbs. each.

(iv) Hole Size and Depth

77m RKB = Sea Bed

SIZE		INTERVAL
26"	TO	228m RKB
17 1/2	TO	1032m RKB
12 1/4	TO	1756m RKB
8 1/2	TO	2772m RKB

(v) Casing and Cementing Details

SIZE	WEIGHT	GRADE	SHOE DEPTH	CEMENT	CEMENTED TO
20"	133Lb/Ft	X56	218m	40T	Sea Bed
13 3/8"	68Lb/Ft	K55	1020m	50T	420m
9 5/8"	47Lb/Ft	N80	1744m	38T	970m

(vi) Drilling Fluid

26" Hole — High Viscosity spud mud, with returns to sea floor. Viscosity (Marsh) 100 +

17 1/2" Hole — Type: Sea water/ GEL

Average Properties:

S.G.	1.12
VIS (Marsh)	44
PV	9
YP	16
GEL	11(0') 14 (10')
PH	9.7
WL	Nil
Cl	19200ppm

12 1/2" Hole — Type: Low solids - Polymer

Average Properties:

S.G.	1.07
VIS (Marsh)	46
PV	9
YP	17
GEL	10 (0') 20 (10')
PH	9.6
WL	Nil
Cl	4500ppm
Solids	4
Sand	Tr

8 1/2" Hole — Type: Low solids - Polymer

Average Properties:

S.G.	1.13
VIS (Marsh)	49
PV	16
YP	10
GEL	4 (0') 16 (10')
PH	9.9
WL	Nil
Cl	12000ppm
Solids	6
Sand	0.25

(vii) Perforating and Shooting Record

Nil

(viii) Plug Back and Squeeze Job:

On Abandonment

Plug No.1 8 1/2" Hole	1980 - 2110m
Plug No.2 8 1/2" Hole/9 5/8 casing	1700 - 1800m
Plug No.3 9 5/8" casing	90 - 160m

(ix) Fishing Operation

Nil

(x) Side Track Hole

Nil

(xi) Communication

VHF + UHF Radio Link
Ship to Shore Telex
Telephone line with Facsimile

(xii) Base of Operation

Welshpool - Victoria

LOCATION

(i) SITE INVESTIGATION

After plugging the well, and prior to moving the rig from the location of Speke No. 1, divers inspected the sea floor within 30m of wellhead for any debris. No debris were found.

After the rig was moved, a side scan sonar survey was conducted by Racal-Decca Survey personnel to investigate the sea floor for any foreign objects that could be present in the area.

An area of approximately 6km^2 (2.5 x 2.5km) of sea floor around the wellhead was surveyed. This can be compared to the anchor pattern which was established on a 600m radius from the wellhead.

All relevant data from the survey are filed with Australian Aquitaine Petroleum Pty Limited, North Sydney office.

(ii) Anchoring Method

Rig anchors (8) positioned approximately 600m from rig (900m length of chain) marked by special buoys.

Transportation

From Welshpool Base to Rig

2 x Anchor handling, supply, towing vessel
1 x Standby vessel
2 x Bell 222 helicopters

C. Formation Sampling

(i) Ditch Cuttings

Logged samples were collected from rig shale shakers by the mud logging personnel (Geoservices). The samples were collected at 10m intervals from 20" casing depth 228m to 1756m and 3m intervals thereafter to total depth at 2772m.

Four sets of washed and dried, plus one set of washed and air dried, cuttings were collected. One complete set of washed and dried, plus one set of washed and air dried, were deposited with B.M.R. Core and Cuttings laboratory in Fyshwick, A.C.T. and another set of washed and dried with the Mines Department Store, Oil & Gas Division, Port Melbourne, Victoria.

Two complete sets of cuttings were kept by Aquitaine in their Artarmon store in Sydney. In addition, two sets of unwashed and air dried cuttings wre collected and kept by Aquitaine in their Artarmon store in Sydney.

(ii) Coring

Nil

(iii) Side Wall Cores

Side Wall Cores were taken with Schlumberger CSTU + CSTV Equipment.

Run No.	Interval	No. of Shots	Recovered	Misfire	Empty	% Recovery
1	1051-1712	30	29	-	1	97
2	1814-2675	30	26	-	4	87
3	1800-2750.5	51	37	13	1	72

Selected sidewall cores were sent to David Taylor (PALTECH) and Helene A. Martin (University of New South Wales) for Paleontological and Palynological analyses respectively.

Complete descriptions of sidewall cores are presented in appendix 2.

D. Logging and Surveys

SPEKE - 1

(i) Electric and Wireline Logging

Schlumberger ran the following logs:-

Logged Interval	Date	Logs Run	Additional Services
217-1031m	20/6/1984	DIL-SLS-GR-SP Caliper	-
1020-1736m	26/6/1984	DIL-GR-BHC-SP-CAL LDL-CNL-GR-CAL-HDT	CST No.1 (Shot 30 recovered 29)
1744-1984m	30/6/1984	DIL-MSFL-GR-SP-CAL BHC-GR-CAL	-
1744-2770m	06/7/1984	DIL-GR-BHC-SP-CAL LDL-CNL-GR-CAL-HDT	-
	07/7/1984	Velocity Survey	CST No. 2 (Shot 30, recovered 26) CST No. 3 (Shot 51, recovered 37) Computer process Log: CYBERDIP

Details of Log Interpretation are listed in Appendix No.3.

(ii) Mud Log and Composite Log

The ditch gas was continuously monitored by Geoservices. The Master Log prepared by Geoservices personnel is included in the enclosure No. 4 and the interpreted composite log prepared by Aquitaine is included in enclosure No.3.

(iii) Velocity Survey

A velocity survey was conducted by Schlumberger Seaco Pty. Ltd. shooting from 228m to 2750m.

The results are included in the Attachment No. 5.

(iv) Deviation Survey

The deviation of hole from vertical was measured by TOTCO Survey equipment.

Maximum deviation recorded was 3^{o} and details are listed in the final technical report Attachment No. 1 and plotted on Fig. No. 3.

(v) Navigation Survey

The rig was position using an "OASIS" and "JMR-4A" positioning system. Results are summarised in Attachment No. 2.

Testing

E. Nil.

IV. GEOLOGY

A. Previous Exploration and Surveys

The Gippsland Basin has been a target for oil exploration since the nineteen-thirties with early drilling activities concentrated in the onshore section of the basin where oil seeps are known. The first offshore drilling did not take place until 1965 when Esso drilled "Gippsland Shelf No. 1" which was renamed Barracouta No. 1. In this year both Barracouta and Marlin fields were discovered; the discovery wells were Gippsland Shelf No. 1 and No. 4 respectively.

Production from the Gippsland Basin is now entering its twelfth year. The Major oil and gas prospects have been defined and five oil and two gas fields have been developed. Further development of known fields is continuing and platforms are being designed or fabricated for Cobia, Fortescue, Flounder and Bream.

Exploration by Australian Aquitaine Petroleum and its partners commenced in November, 1981 after the granting of permit VIC/P17. During November the GA-81 seismic survey was carried out and a total of 3536 line km was shot.

This comprised a 1.5km x 1.5km grid over much of the permit area, with a wider spaced grid over the west and southwest part of the permit.

During June 1982, the GA-82 seismic survey was carried out and an additional 403km of seismic was shot.

In addition five wells, Edina No. 1 Omeo No. 1 Kyarra No. 1A, Tarra No. 1 and Wyralla No. 1 were drilled between September 1982 and April 1984.

During April 1983, the GA-83 seismic survey was carried out and an additional 217km of seismic was shot.

Based on interpretation of those surveys and regional stratigraphic correlation with nearby wells (Bream No. 4A, Bullseye No. 1) the Speke No. 1 well location was chosen at shotpoint 230 on line GA-82B-211A.

B. Regional Geology

The Gippsland Basin formed as the result of two separate phases of continental separation along new plate boundaries. Initial formation has been related to a phase of intra-cratonic rifting between the Tasmanian block and the Australian mainland which occurred between 140 and 100 MY BP (Elliot; 1972). This rift extended from the Otway Basin to the Bellona Gap on the Lord Howe Rise to the East.

The boundary of the Gippsland Basin is marked to the south by the marginal fault system which brings basement rocks of the Bassian Rise in contact with basinal sediments. The northern boundary is an unconformable contact between basin sediments and rocks of the Tasman Fold Belt, while the western boundary with the Otway Basin is marked by the Selwyn Fault on Mornington Peninsula.

Initial sedimentation occurred in the latest Jurassic and Early Cretaceous with a sequence of entirely non-marine greywackes, chloritic mudstones and occasional coals being deposited. Much of the coarse clastic component of these sediments was derived from contemporaneous acid to intermediate volcanics which are inferred to have southerly provenance. These sediments are collectively termed the Strzelecki Group and appear to have limited hydrocarbon source and reservoir potential.

The separation of the Lord Howe Rise and New Zealand from eastern Australia around 80 MY to 60 MY BP marked a general increase in the rate of subsidence within the Gippsland Basin. Fluviatile sedimentation continued in the Late Cretaceous but gave way to prograding deltaic complexes during the Palaeocene and Eocene.

Individual complexes have yet to be delineated by well and seismic data although Loutit and Kennett (1981) have related sedimentary cycles within the Gippsland Basin to global eustatic and sea level changes. These depositional cycles are recognisable from the Late

Cretaceous to Late Eocene Latrobe Group, through to the Oligocene to Early Miocene Lakes Entrance Formation (Figure 4). At the top of the Latrobe Group a regional transgression inundated the basin and caused the formation of a series of barrier systems during periods of stillstand. Associated with these barrier systems are glauconitic nearshore marine facies together with lagoonal and marsh facies in which coal-forming carbonaceous sediments were laid down. This transgressive sequence, which marks the final phase of Latrobe sedimentation, is termed the Gurnard Formation although this classification is still informal.

The Latrobe sequence, containing many channel, point bar and barrier sand bodies, is the primary reservoir sequence within the Gippsland Basin. Intra-Latrobe seals are formed by siltstones and coal sequences of the marsh facies while the top of the Latrobe Group is sealed by the glauconitic siltstone of the Gurnard Formation and the calcareous siltstones and claystones of the Lakes Entrance Formation.

During the Oligocene and into the Early Miocene, deposition of shales and marls occurred throught the basin and onlapped the basin margins and structural "highs". Miocene sedimentation gradually changed in style from the shales and marls of the Lakes Entrance Formation to the bryozoan limestones and marls of the Gippsland Limestone. This limestone sequence is characterised offshore by two major depositional features. On the southern platform a massive linear slump zone occurs which can be traced seismically for more than 130km. Over the remainder of the basin complex channelling is in evidence caused by structural movements and eustatic sea level changes.

The final period of basin development was marked by a return to continental clastic sedimentation in Southern Gippsland with marine sedimentation continuing on the continental shelf. The highland region north of the basin and the South Gippsland Hills along the western margin were uplifted during the Kosciusko uplift in the Late Pliocene.

C. (i) Regional Stratigraphy

The stratigraphy of the Offshore Gippsland Basin is summarised in Fig. 4.

Basement

The basement is composed of slightly metamorphosed Paleozoic sediments of the Tasman Geosyncline. These rocks are exposed in the Victorian Ranges to the north and form islands along the Bassian Rise to the south. The Geosyncline sediments are composed of deformed siltstones, shales, sandstones and igneous rocks of Ordovician and Silurian age which are overlain by Devonian - Carboniferous red beds made up of conglomerates, sandstones and pebbly sandstones with interbedded rhyolite, rhyodacite and trachyte.

Four wells (Groper 1, Groper 2, Bluebone 1 and Mullet 1) located along the southern margin of the basin reached basement rocks in granite and in red siltstones and sandstones, but the basin centre has never been reached by drilling.

Lower Cretaceous (Strzelecki Group)

The pre-rift Strzelecki Group represents the first sediments to have been deposited in the basin. The group consists of non-marine immature graywackes, shales and coals. The graywackes are medium-grained and composed of quartz, rock fragments and feldspar grains held together by abundant chloritic and kaolinite clay matrix and minor calcareous cement. The shales are micaceous and slightly carbonaceous. The rocks are interpreted to have been deposited in an alluvial fan and plain environment in a rapidly subsiding basin.

The sandstones contain much volcanic material and thus tend to have poor reservoir characteristics. The maximum thickness of the group is estimated to be more than 3,500m.

Upper Cretaceous to Eocene (Latrobe Group)

Latrobe Undifferentiated or Latrobe Coarse Clastics

This sequence refers to the Late Cretaceous-Eocene syn-rift and post-rift sediments onlapping the Strzelecki Group and containing major hdyrocarbon accumulations. The maximum thickness of the sequence is estimated to be approximately 5,000m.

Toward the end of Early Cretaceous the southeastern part of the basin was encroached by a marine shoreline, but the western and central basin was still largely a site of non-marine deposition. The syn-rift sediments of mainly Late Cretaceous age were deposited in alluvial plain and alluvial fan environments, and consist of quartzose sandstones, siltstones or mudstones and coal. The post-rift upper section of mainly Paleocene-Eocene age shows sandstone bodies embedded in deltaic and swamp deposits.

Gurnard Formation

This formation refers to the glauconitic sediments deposited in the Offshore Gippsland Basin during Mid to Late Eocene. Erosion on the north eastern side of the basin and on some anticlines (for example at Perch and Dolphin) at the end of Eocene possibly caused removal of these sediments which are now encountered only on the wells located in the southeastern and central basin. The sediments consist of impermeable glauconitic siltstones, mudstones or sandstones providing top seals for the Kingfish and Bream fields. The formation maximum thickness is about 100m.

Flounder Formation

This occurs only in the eastern side of the basin (outside of VIC/P17) and is composed of marginal marine to marine sediments which filled the channels cut during the Early Eocene time. The fill of up to 500m thick (as encountered at Flounder No.1) consists of clayey siltstone containing varying amounts of coarse clastics. The siltstone is grey-brown in colour, micaceous, pyritic and contains both benthonic and planktonic foraminifera.

Turrum Formation

This also occurs only in the eastern side of the basin where, during the Late Eocene, the area was eroded by the Marlin channel and later filled with marine shales of latest Eocene age. The shales are up to 350m thick, dark grey-brown in colour, slightly calcareous, slightly pyritic and micaceous.

Oligocene

The Oligocene has been known as the Lakes Entrance Formation. This formation refers to the calcareous mudstone (maximum thickness 500m) overlying the Latrobe Group. The mudstone is light-grey to light olive-green in colour, with a variable argillaceous and calcareous content. It contains marine fauna, and is slightly glauconitic and pyritic. On the basin margin the Oligocene is unconformably overlain by Early Miocene whereas in the basin centre the contact is often gradational.

Miocene

The Miocene has been known as the Gippsland Limestone and consists of limestones, marls and calcareous mudstones overlying conformably or unconformably the Oligocene Lakes Entrance Formation. Slumping and sub-marine channelling are common in the Miocene and are probably related to the tectonic and structural movements in the basin and sea level changes.

Pliocene-Recent

Up to 350m of marine calcarenites lie between the Miocene Gippsland Limestone and the sea floor. Stratigraphic data on this uppermost suggest that the lower part of the sequence may belong to the Late Miocene.

C. (ii) Stratigraphy of Sediments Penetrated

The regional stratigraphy of offshore Gippsland Basin is summarised in Figure 4.

The stratigraphy of sediments penetrated in Speke No. 1 are summarised Figure 6 and Table 1.

AGE		FORAM ZONULES		FORMATION		TOPS M.(K.B.)		THICKNESS M.		PALEO-ENVIRONMENT
PLIOCENE-RECENT				UNDIFFERENTIATED		77m (Sea Bed)		184m?		MARINE
MIOCENE	MID-LATE	C +0 E2		GIPPSLAND LIMESTONE FORMATION		261m?	261m?	1118?	1497	- MARINE - PROGREDATION OF OUTER SHELF OF SHELF EDGE
	EARLY	E H1				1379		346?		- MARINE - UPPER CONTINENTAL SLOPE - SHELF EDGE
OLIGOCENE	LATE?	ND (H_2)				1725?		33m?		- MARINE - UPPER CONTINENTAL SLOPE
				?						?
	EARLY	ND (J_2)		UPPER MBR	LAKES ENTRANCE FORMATION	1758	1758	50	62	- MARINE - RAPID TRANSGRESSION
EOCENE	LATE	K?		LOWER MBR (COLQUHOUN)		1808		12		SHALLOW MARINE
				?						?
	MID	N?	M. NA? L. NA?	GURNARD FM		1820	1820	202	40	SHALLOW MARINE NEAR SHORE
	EARLY	NFF	NFF Pa Md	UNDIFFERENTIATED	LATROBE GROUP	2022	1860	272	912+	NEAR SHORE DELTA PLAINE
PALEOCENE		NFF	L.b T.1 ?			2294		402		DELTA PLAINE
LATE CRETACEOUS			T.1			2969?		76+		NON MARINE

N.D. = UNSAMPLED - NO DATA
( ) = INFERRED
NFF = NO FOSSIL FOUND
MNa = MIDDLE N. asperus
LNa = LOWER N. asperus

Pa = P. asperopolus
Md = M. diversus
L.b = L. balmei
T.1 = T. longus

Pliocene to Recent (Undifferentiated) Sea Floor to 261m K.B.

Most of this section was drilled with no sample returns (Sea Floor to 228m K.B.)

This recent sediments comprised mainly of Calcarenite (up to 90%) medium grey-grey, becoming light grey with depth, fine-medium grained, calcite cement, firm-hard, with comm. fossil fragments (up to 20%) with traces of pyrite and dolomitic fragments. Minor Argillaceous Limestone (10-20%) ligh-medium grey, soft, generally washing out, embedded with fossil fragments, mainly forams, traces of siltstone and loose quartz grains.

Stratigraphic data on this sequence is lacking and the lower part of this sequence may be transitional into the Late Miocene - Gippsland limestone.

The base is tentatively picked at 261m based on decrease of calcarenite.

Miocene (Gippsland Limestone Fm) 261m to 1725m

Middle to Late Miocene (261-1379m) could be subdivided into Limestone Member and Marl Member.

Limestone Mbr (261-773m) is composed mainly of Argillaceous Limestone (up to 90%) light-grey becoming medium grey-grey with depth, soft, generally washing out, occasionally firm, grading to Marl towards the base, interbedded with Calcarenite light grey-grey, five-medium grained in dominantly very calcareous clay cement, soft, occasionally firm-hard, calcite cement, fossiliferous, fragments of clear-milky sparite inter-layered with calcarenite. Traces of siltstone, pyrite and white kaolinitic claystone.

Marl Mbr (773-1379m) is composed mainly of Marl, light grey grey, occasionally light brown, soft, sticky, becoming firmer with depth, occasionally silty and calcarenitic in part, with interbeds of Calcarenite light grey-grey, fine-medium grained, occasionally very fine, firm to hard, sparry calcite matrix with layers of soft, dispersive, calcareous clay matrix, slightly glauconitic in part, and Limestone, cloudy-white, honey brown, grey, grey brown, hard, microcristalline-cryptocrystalline often interlayered with calcarenite, minor siltstone dark grey- dark olive green calcareous cement. Traces of pyrite and glauconite in part.

Early Miocene (1379-1725m)

This sequence of Gippsland Limestone Formation is composed of interbedded :

Marl, light grey- medium grey, light brown, soft-firm, slightly silty and calcarenitic in part, occasionally glauconitic

Calcareous Shale, medium grey-grey, occasionally dark grey, subfissile-fissile, firm-hard, occasionally silty-sandy

Calcarenite, white, light-medium grey, grey, occasionally light brown, fine-medium grained, generally fine, glauconitic and pyrite in part with minor limestone (below 1460m), white buff occasionally light grey, firm-hard, sparitic, slightly glauconitic in part.

Oligocene (1725-1808m)

There were no samples (SWC) taken over interval 1712-1814m.

The identities of units within this sequence have been deduced from electric logs characters and a knowledge of the sequences in previously drilled wells, adjacent to Speke-1 (See Attachment No. 7).

Late Oligocene (1725-1758m)

This sequence has been interpreted as belonging to basal Gippsland Limestone FM.

It is composed of Calcareous Claystone, light grey-medium grey, soft, washing out and Shale, dark grey, greenish grey, fissile, calcareous, generally soft, slightly pyritic and glauconitic occasionally silty, trace of plant fossils with minor Calcarenite, white-buff, fine-medium grained, soft, clayey, decreasing with depth.

Lakes Entrance Fm - Early Oligocene (1758-1808) - Late Eocene (1808-1820).

Lakes Entrance Fm could be subdivided into Upper Member (Early oligocene) and Lower Member (Late Eocene).

Early Oligocene (1758-1808) Upper Mbr of Lakes Entrance Fm

This sequence unconformably underlays the Gippsland Limestone Formation and consists of Calcareous Claystone, white, light brown, light grey becoming greenish grey with depth, slightly silty in part, soft, washing out and Shale, medium-dark grey, light greenish grey, tending mottled in part, slightly silty, calcareous, fissile traces of coaly particles and glauconite increasing with depth.

Late Eocene (1808-1820) Lower Mbr of Lakes Entrance Fm.

This sequence consists of Calcareous Claystone white, greenish grey, soft washing out, Shale A/A becoming medium brown in part, less calcareous with minor Siltstone, medium grey to dark grey, carbonaceous, calcareous cement, argillaceous with traces of glauconite.

Middle Eocene (1820-2022m)

This sequence consists of two formations, the Gurnard and part of the undifferentiated Latrobe Fm.

Gurnard Formation (1820-1860m)

This sequence unconformably underlays the Lakes Entrance Formation of the Late Eocene and has been interpreted as being a marine transgressive sequence (see Attachment No. 7).

The sequence is composed of Shale, dark grey to dark grey green, becoming light greenish grey, medium red brown with depth, slightly calcareous, silty, fissile, soft-firm, galuconitic, traces of mica and pyrite at top becoming argillaceous with depth and grading in part to slightly calcareous claystone, soft, washing out, slightly oxidised, Siltstone, dark grey-dark grey green, soft, massive, carbonaceous, argillaceous, glauconitic and micaceous, calcareous cement grading to Sandstone with depth, grey-dark grey, red, brown, very fine-fine grained, subrounded-rounded, well sorted, glauconitic traces of carbonaceous material.

Top Latrobe Fm (1860-2022m?) - Mid Eocene

This sequence consists mainly of Sandstone white, light grey, occasionally light grey-grey brown, fine-medium occasionally medium-coarse, grained subangular-subrounded, moderately to well sorted, unconsolidated-poorly consolidated carbonaceous and argillaceous in part, slightly pyritic and micaceous in part with minor thin interbeds of Shale, light grey-medium grey firm, slightly silty, Claystone dark grey-grey, grey green, slightly carbonaceous, silty and Coal, subanthracite to anthracite, bright, brittle, occasionally wispy, traces of vitrinite, conchoidal fractures, rare pyrite dusting.

Early Eocene (2022-2294m) Intra Latrobe Fm

This sequence consists of interbedded sandstone, claystone, shale, coal and minor siltstone.

Sandstone, light grey-white, orange buff, greyish pink-grey brown, occasionally medium grey, fine-medium grained becoming subangular-angular with depth, well sorted at top, poorly sorted towards the base, unconsolidated - lightly cemented with clay matrix, with rare trace of mica, pyrite and glauconite.

Claystone, light grey-medium grey, soft, sticky at top becoming firm, massive in part, slightly silty with traces of mica and pyrite in part and carbonaceous fragments.

Shale, light grey, dark grey- dark grey green, occasionally grey brown, silty and carbonaceous in part.

Coal, brittle, bituminous - subanthracite, bright, occasionally dull, sub-conchoidal fractures with occasional laminae of shale, dark grey, carbonaceous.

Minor siltstone light grey-grey clay matrix, friable, with occasional clasts of sandstone, very hard, well cemented.

Paleocene (2294-2694m) Intra Latrobe Fm

This sequence of Latrobe Fm consists of Sandstone, white, light grey-grey, fine coarse grained subangular-subrounded occasionally angular, poorly-moderately sorted, poorly consolidated, argillaceous, soft-firm, traces of pyrite, mica and rare glauconite interbedded with Claystone, light grey-grey, firm massive-blocky, silty grading in part to argillaceous siltstone, trace of mica and carbonaceous material, Siltstone, light grey-grey occasionally laminated with grey claystone, soft-hard, clay matrix, with trace of mica and carbonaceous fragments.

Coal, sub-anthracite, brittle, bright conchoidal fractures, vitrinite bands present and
Shale, medium grey- dark grey, sub-fissile, silty and carbonaceous in part with occasional laminae of coal, rare trace of mica and pyrite.

Late Cretaceous (2696?-T.D. 2772m) Basal Latrobe Fm

The upper part (2629-2732m) of this sequence consists of Sandstone, light grey, occasionally grey, fine grained, with some medium-coarse grained beds, with very fine quartz matrix, subangular-subrounded, moderate-well sorted, generally clay matrix, firm, common laminae of dark grey carbonaceous clay, rare trace of pyrite and mica with interbeds of Coal sub-anthracite, brittle, bright with dull bands, sub-conchoidal fractures and minor Carbonaceous Shale, dark grey, sub-fissile-fissile, friable, trace of mica.

The lower part (2732-T.D. 2772m) of this sequence consists mainly of Shale, dark grey, laminated, silty in part, carbonaceous, firm hard, slightly micaceous, with minor interbeds of Sandstone, white-very light grey, medium grained, moderately-poorly sorted, angular-subangular, sparse white clay matrix with horizons of siliceous quartz sand aggregates (< 1mm) hard, angular, poorly sorted.

D. Structure

The SPEKE No.1 well was principally aimed at a Top Latrobe structure located on a southward plunging nose. The closed area was only 1.5km^2 in time; however, detailed velocity analyses were carried out in the Gippsland Limestones Formation (Miocene) with* analysis package (HVA) computed to the Brown and the Blue horizons. Velocity appeared to be faster on the sides of the structure and slower on the top. Actually the map resulting from time to depth conversion showed a much bigger structure (up to 5.7km^2) with a vertical closure of 40m at Top Latrobe. This was considered a risky but valid prospect.

Secondary targets were envisaged in the deeper intra-Latrobe reservoirs where seals are generally provided by swamp deposits, lignite and clay. The blue horizon and the purple horizon were supposed to have been generated by such coal measures, contrasting with sandstones. The major drawback was the strong network of faults, aligned NW-SE, which cut the structure with down-to-the-basin scarps of about 40 metres. There was only a little chance to encounter thick swamp deposits without any sand interbeds to seal the fault gaps.

SEISMIC HORIZONS	DEPTH IN METRES B.M.S.L.		VARIANCE
	PREDICTED	ACTUAL	
Brown	1821	1826	- 5m
Blue	2000	2046	- 46m
Purple	2120	2149	- 29m
Orange	2265	2290	- 25m
Top Cretaceous	2450	2675	-225m

* Western Geophysical Velocity

Most of the conclusions from the velocity analysis study come from the HVA to the blue horizon which is of a higher amplitude than the brown horizon. It is also the horizon where the descrepancy with the prediction is the greatest. The difference is therefore in the magnitude of the expected vertical closure on the depth maps. However actual elevations of horizons deeper than predicted cannot exclude the existence of a closed area at the top Latrobe and do not infer that the 1.5km^2 time closure is invalidated.

E. Reservoirs, Seals and Source Rocks properties

Reservoir Properties

In SPEKE No.1 a number of potential reservoirs were encountered from 1861m (Top of Latrobe Formation) as shown in the Table below:

INTERVAL	INTERVAL/THICKNESS	NET PAY	NET PAY/ INTERVAL THICKNESS	POROSITY
1861m-2022m	161m	105m	65%	22-25%
2022m-2294m	272m	182m	67%	18-20%
2294m-2415m	121m	35m	29%	18-20%
2415m-2548m	133m	70m	53%	15-18%
2548m-2696m	148m	30m	20%	15-17%
2696m-2772m(TD)	76m	10m	13%	13-16%

no permeabilities were measured as no cores were cut, however, the mud cake build up indicates that these sands have good permeability.

Seals Properties

The regional and excellent seal consists of the Lakes Entrance Formation calcareous claystones.

The Gurnard Formation which overlays the Latrobe clastics is also a very good seal, comprising calcareous claystones and glauconitic siltstones.

The Intra-Latrobe cap-rocks are numerous and would be efficient vertically. They are mainly provided by swamp deposits and channel levees. They are generally too thin and discontinuous for sealing fault scarps, stratigraphic plays and allowing a long range horizontal oil migration.

The best seals, thicker than 10m, are as listed below :

SEAL Top-base (metres RKB)	THICKNESS (Metres)
2065-2075	10
2110-2122	12
2148-2171	23
2200-2212	12
2215-2236	21
2250-2273	23
2293-2309	16
2393-2415	22
2589-2608	19
2637-2678	41
2685-2697	12
2732-2749	17
2759-2764	11

Source Rocks

Rock-eval pyrolysis analyses, maceral components determinations and percentage, and vitrinite measurements were carried out by AMDEL Laboratories.

The coal seams and shale encountered in the Latrobe Formation contain Type II and III organic matter derived from landplants. The best potential oil-prone bed was identified with a SWC sample at 2552.9m, showing TOC = 4.45%, S1 + S2= 18 kg HC/Tonne, and hydrogen index Hi = 373.

The exinite content varies from 5 to 20% of the maceral.

Maturation

The maximum vitrinite reflectance percentage, measured in SPEKE No.1, is only Ro = 0.63 from a sample at 2740m. This is above the onset of oil generation which is estimated at about Ro = 0.7 in this type of resinite-poor, woody, herbaceous organic components, in the Gippsland Basin.

F. Relevance to the Occurrence of Hydrocarbons

The gas readings obtained during drilling are plotted on the Geoservices Master Log, (Enclosure 4.).

Gippsland Limestone Fm (261m - 1758m)

The maximum gas reading over this section was 7.0% total gas (C_1 = 4.0, C_2 = 0.1%, C_3 = 0.1%) at 1176m associated with thin beds of quartz grains in soft weathered appearance matrix. In the rest of this section the gas readings range from Trace to - 0.5% total gas (C_1 only). No fluorescence was observed in cuttings.

Lakes Entrance Fm (1758-1820m)

No fluorescence or shows were observed over this section. The maximum gas reading was 0.05% total gas (C_1 only).

Gurnard Fm (1820-1860m)

The maximum gas reading over this section was 0.4% total gas (C_1 only with TR of C_2 and C_3). No fluorescence was observed in cuttings.

Latrobe Fm (1860-T.D.)

The main gas peaks over this section were at

2026 (T.G.=1.5% C_1=0.8% C_2=0.1% C_3=TR)
2035 (T.G.=1.6% C_1=0.9% C_2=0.05%)
2053 (T.G.=3.2% C_1=2.8% C_2=0.19% C_3=0.028%)
2170 (T.G.=6.5% C_1=3.0% C_2=0.28% C_3=0.08% C_4=TR)
2221 (T.G.=6.3% C_1=3.2% C_2=0.28% C_3=0.05%)
2299 (T.G.=6.5% C_1=3.5% C_2=0.28% C_3=0.05%)
2341 (T.G.=1.5% C_1=1.0% C_2=0.09%)
2359 (T.G.=3.43% C_1=2.75% C_2=0.16% C_3=0.06%)
2400 (T.G.=4.0% C_1=2.7% C_2=0.2% C_3=0.05%)
2555 (T.G.=1.9% C_1=1.5% C_2=0.13% C_3=0.07%)
2650 (T.G.=5.0% C_1=3.5% C_2=0.5% C_3=0.04%)
2668 (T.G.=8.0% C_1=3.8% C_2=0.26% C_3=0.12%)
2713 (T.G.=5.0% C_1=4.0% C_2=0.2% C_3=0.09%)
2767 (T.G.=1.4% C_2=0.6% C_2=0.07% C_3=0.03%)

All were associated with coal beds.

No fluorescence was observed in cutting, sidewall cores or drilling fluid over this interval with the exception of rare traces of dull brown fluorescence in coal cuttings (2647-2653m) with light brown cut and a milky light yellow fluorescence.

Log analyses indicate the absence of hydrocarbons with main reservoirs being water saturated.

G. Contribution To Stratigraphical Concept Resulting From Drilling And Conclusions

1. The Gippsland Limestone Fm (26lm?-1758m) is interpreted as being Late Oligocene to Late Miocene in age.

   It appears to have been uninterrupted in sedimentation from Early-Middle-Late Miocene, deposition on upper continental slope during Early Miocene with progradation of the Shelf Edge in the Middle Miocene. This pattern of shelf progradation is observed also in the nearby wells, with sedimentation on the Oligocene/Miocene boundary commencing in fairly deep water and rapidly shallowing during the Early Miocene.

2. The Lakes Entrance Formation (1758-1820m) is interpreted as being Early Oligocene-Late Eocene in age and disconformably underlies the late Oligocene sequence of the Gippsland Limestone Fm.

   The Early Oligocene (1758-1808m) sequence of the Lakes Entrance Fm (upper Mbr) was deposited in rapidly increasing water depth, truncated by the mid? to Late Oligocene hiatus (of the Cobia event) at 1758m.

   The Late Eocene (1802-1820m) sequence of Lakes Entrance Formation (Lower Mbr-Colquhoun Equiv.) was deposited in a shallow marine environment. The benthonic fauna is very similar to that of the Middle Eocene (Gurnard Fm) unit directly below, suggesting the repetition of paleoenvironment conditions after a hiatus of 2-3 million years (See Attachment 7).

3. Gurnard Fm (1820-186lm) is interpreted as being Middle Eocene in age, and disconformably underlies the Lakes Entrance Formation (Late Eocene). There is some contradictory evidence as to age of this formation (See Attachments 6 and 7).

A distinct intra Gurnard surface, shown by change in lithology, weathering evidence and log character occurs at 1848m. The upper part (1820-1848m) consists of shale, slightly silty, calcareous, glauconitic and silstone, grading to very fine sandstone, slightly carbonaceous, glauconitic, calcareous, possibly deposited in an estuarine environment during a marine transgressive phase.

The lower part (1848-1861m) consists of slightly calcareous and glauconitic shale, claystone and sandstone. Claystone is slightly oxidised at top. As there is no evidence of a faunal break it may indicate a surface corresponding to a stable sea level which was later buried by a transgressive phase of the upper unit.

4. Undifferentiated Latrobe Fm 1861-T.D. is interpreted as being Late Cretaceous - Middle Eocene in age, and it is sharply overlain by glauconitic sediments of the Gurnard Fm.

The Latrobe clastics are composed of sandstone with good porosity and probably good permeability interbedded with siltstone, claystone, shale and coal.

The sandstone encountered between 1861-1982m has been interpreted as a coastal barrier or delta front sands, whereas interbedded sandstone, siltstone, claystone, shale and coal of Paleocene - Early Eocene in age are believed to have been deposited in a delta plain environment.

The top of Late Cretaceous is proposed at 2696m. It is composed mainly of shale, sandstone and minor coal.

CONCLUSIONS

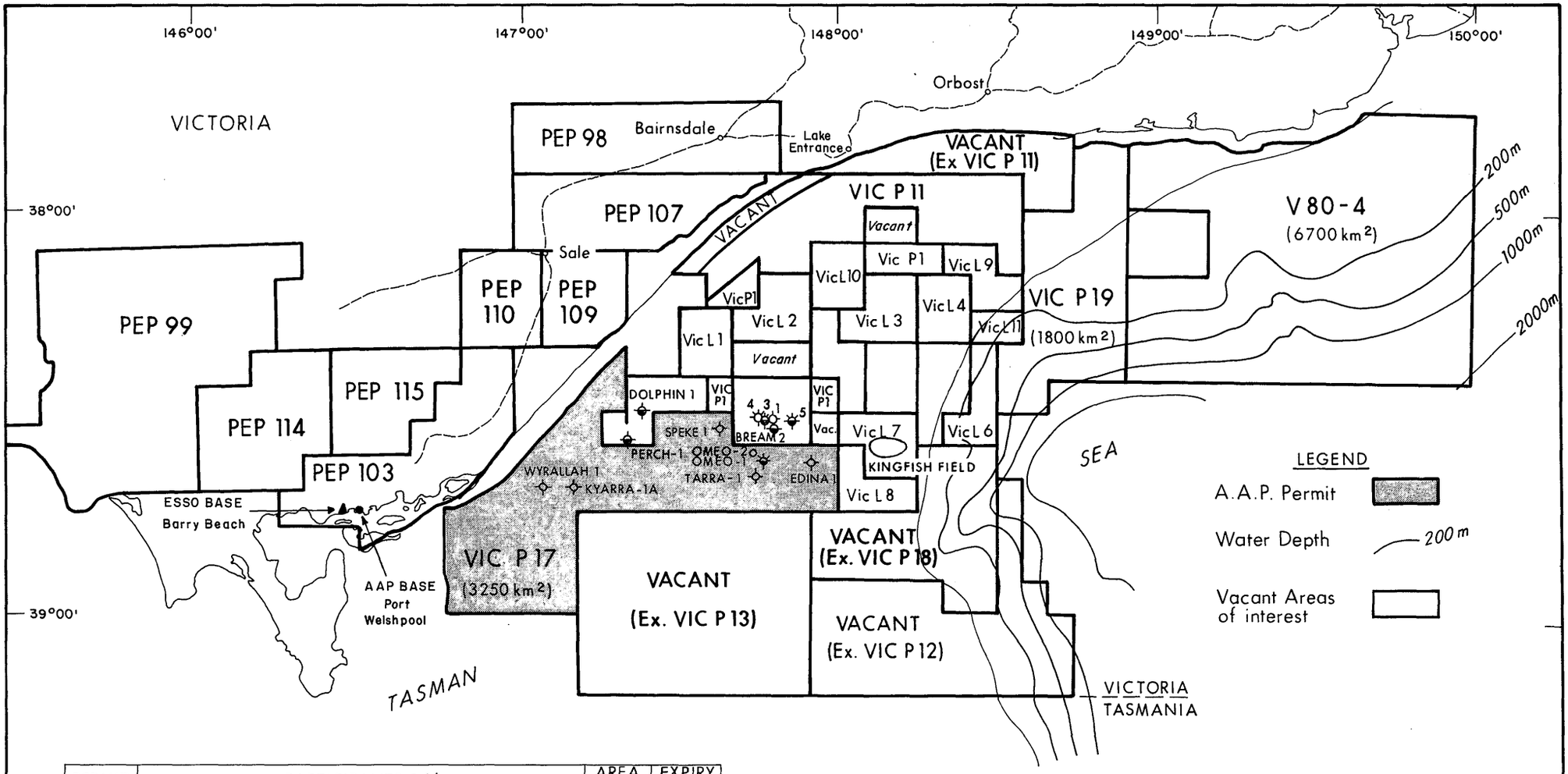
The SPEKE No.1 well was located at the northern boundary of the VIC/P17 permit on the edge of the Southern basin margin. there, oil migration was expected from the central basin main "kitchen". It was a good location to compensate a rather poor local oil generation since the coal measures, principally developed in the paleocene sediments are not matured. Moreover, the formation water salinity suggests that the SPEKE area is sheltered from the Victoria off-shore fresh-water washing. Good reservoirs (porosity about 22-25%) were encountered at the top of the Latrobe Clastics overlaid by Gurnard Formation and Lakes Entrance Formation good quality cap-rocks.

Unfortunately, the SPEKE structure is not as large as expected after the time to depth conversions but the seismic brown horizon was picked up correctly and encountered as predicted. Therefore the existence of the 1.5km^2 closed area at top Latrobe cannot be obviously invalided. However it can be observed that the SPEKE structure is a small top located very low on a southward plunging nose which is not the best position when an oil migration from the deep basin is considered.

No fluorescence and no significant gas shows were encountered. The well reached TD 2772m RKB in Late Cretaceous sediments and was plugged and abandoned.

SPEKE No.1 well was the 6th well drilled by the VIC/P17 Joint Venture and satisfies the 3rd year permit drilling committment.

* * * * *



PERMIT	PARTICIPANTS & %	AREA Km²	EXPIRY DATE
Vic P1	ESSO 50, BHP 50	1894	23/10/84
Vic P11	Gas & Fuel 33·3, Beach 33·3, Forminee 33·3	3451	7/8/84
Vic P12	Cultus 37·5, Archaean 17·5, York 17·5, Metramar 17·5, Sovereign 10	2670	7/1/85
Vic P13	Vacant Area (Ex Bass Strait Oil)	3605	
Vic P17	A.A.P. 82.5%, Alliance 5%, Cons. Pet. 12.5	3250	2/9/87
Vic P18	Vacant Area (Ex Phillips)	1470	
Vic P19	Shell 40, News Corp. 20, TNT 20, Crusader 15, Mincorp 5	1800	1/9/87
Vic L1-11	ESSO 50, BHP 50	3100	31/3/88
PEP 98	Mincorp, Southern Oil, Alan Robert Burns, Derek Rose Gascoine	1350	17/7/85
PEP 99	Victor Pet., Resources Ltd.	3605	10/9/85
PEP 103	ARGANAUT INTER CORP	1456	24/9/85
PEP 107	BEACH, GAS & FUEL, PAN PACIFIC, AOG	1400	1/11/85
PEP 109	HARTOGEN, CLUFF	550	4/9/86
PEP 110	HARTOGEN, CLUFF	400	4/9/86
PEP 114	BASS RESOURCES	1100	22/11/86
PEP 115	BASS RESOURCES	804	22/11/86

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GIPPSLAND BASIN

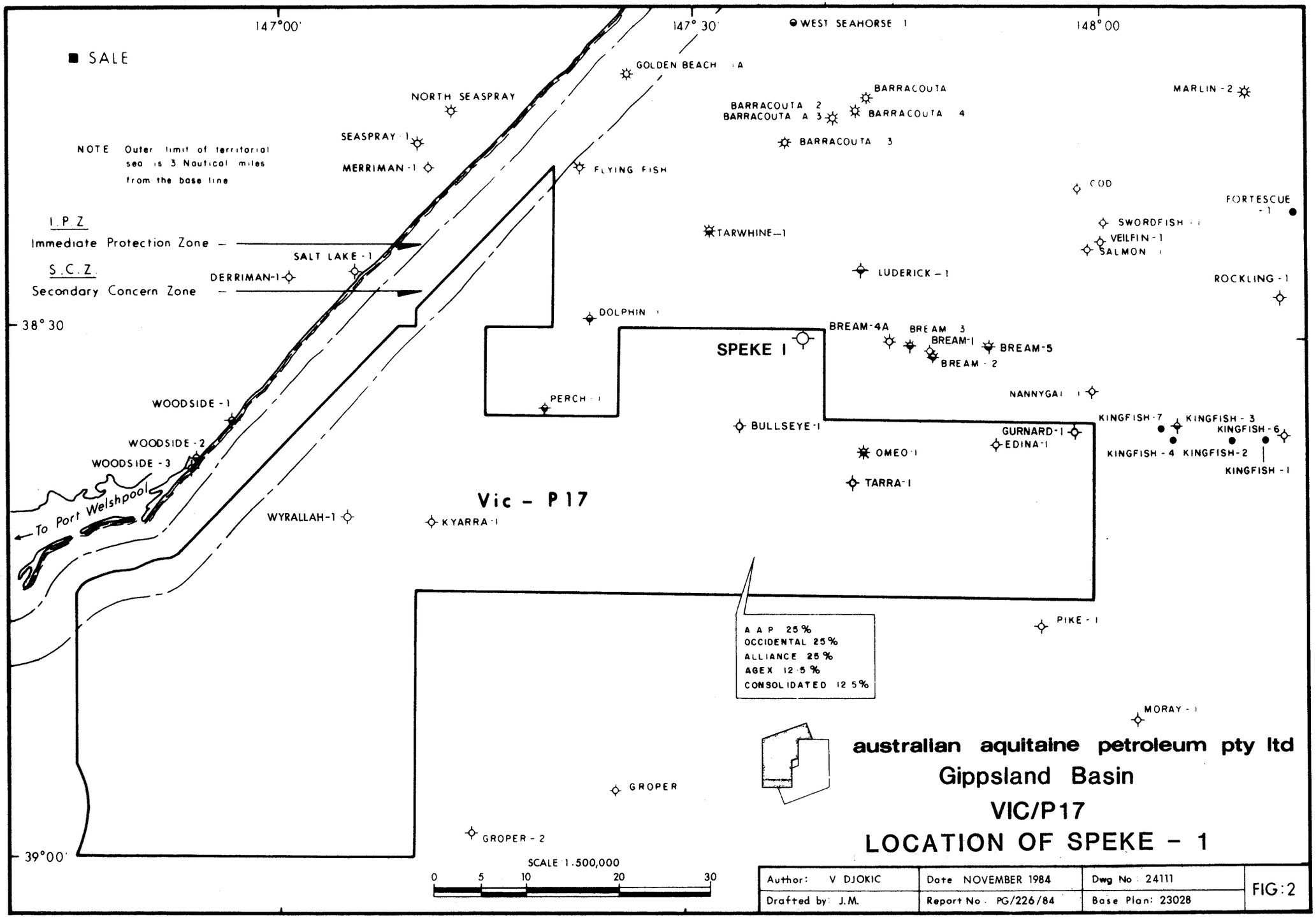
OFFSHORE PERMIT MAP

SCALE

Km 15 10 5 0 15 30 45 60 Km

Author: C. LAMBERT	Date: APRIL 1985	Dwg. No: 23403	Fig. 1
Drafted by: L.H.	Report No:	Base Plan: 22062	

4.5./62



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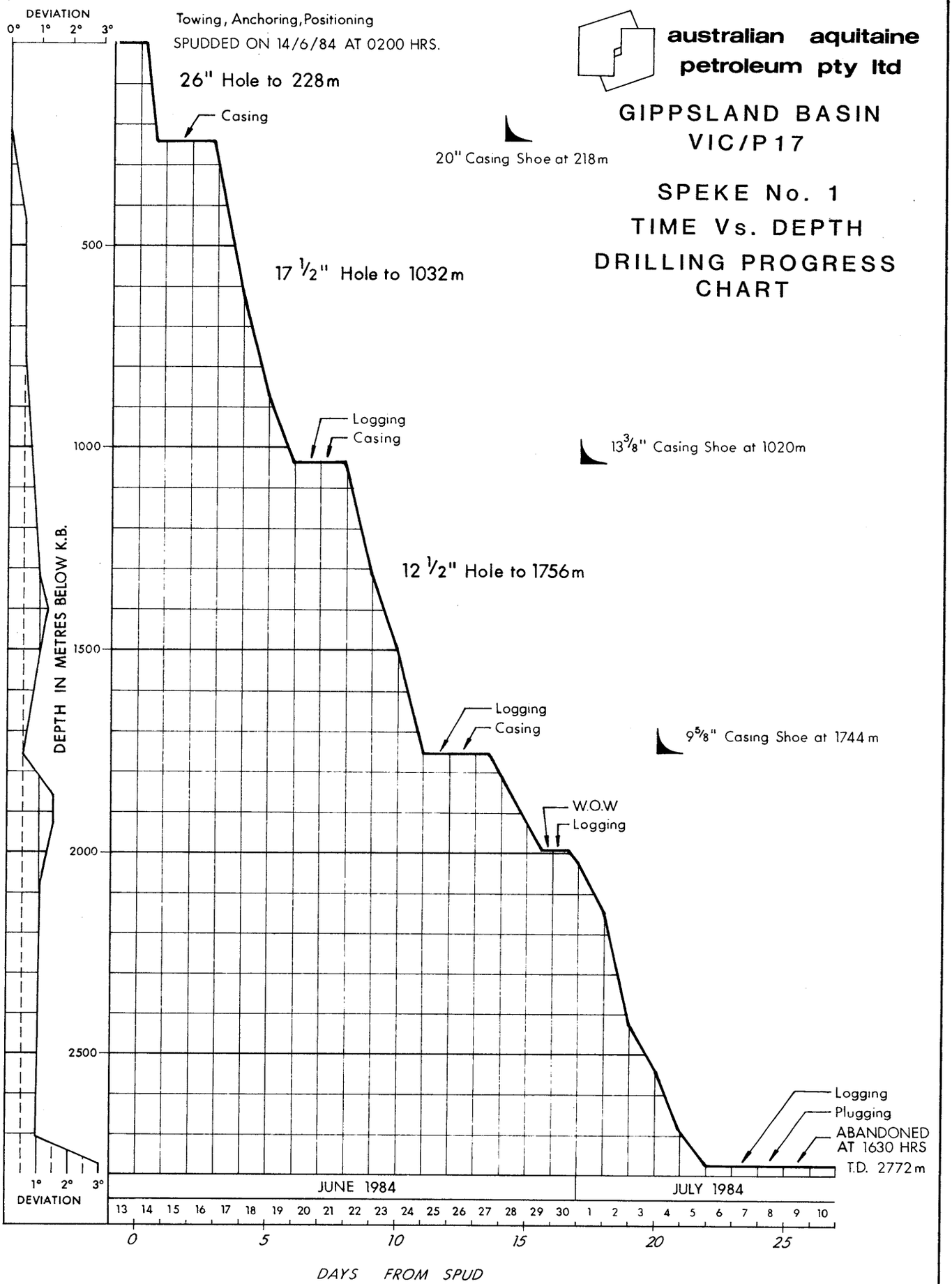
Gippsland Basin

VIC/P17

LOCATION OF SPEKE - 1

Author: V DJOKIC	Date NOVEMBER 1984	Dwg No: 24111	FIG:2
Drafted by: J.M.	Report No: PG/226/84	Base Plan: 23028	



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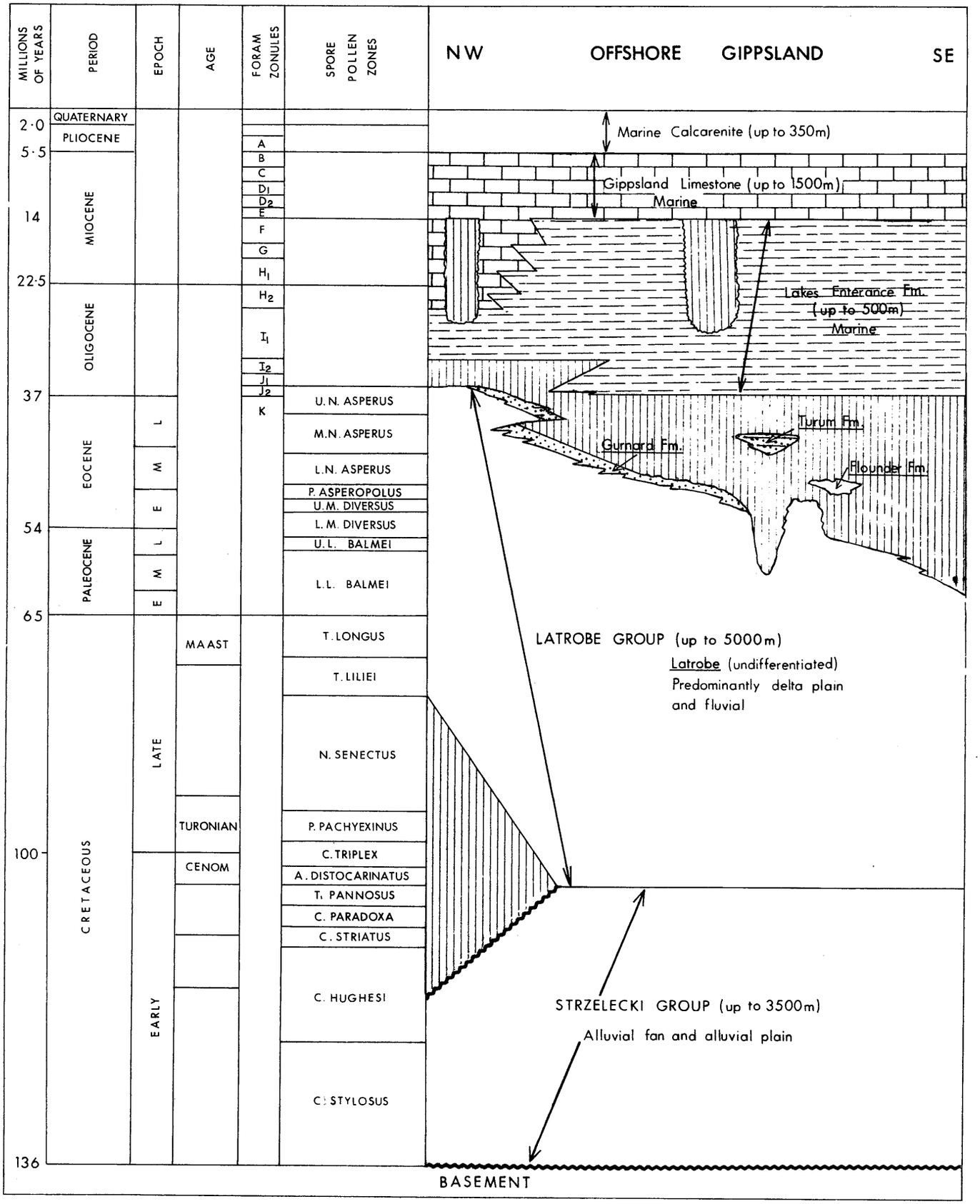
GIPPSLAND BASIN
VIC/P17

SPEKE No. 1
TIME Vs. DEPTH
DRILLING PROGRESS CHART

Author: J. DJOKIC	Date: NOVEMBER 1984	Drawing No: 24112	Fig. 3
Drafted by: J.MARMENT	Report No: PG/226/84	Base Plan:	



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Gippsland Basin VIC/P17

STRATIGRAPHY

OFFSHORE GIPPSLAND BASIN

FIG.4

N.B. MODIFIED FROM THRELFALL ET AT., 1976

Report No: GP/226/84 Date: NOVEMBER 1984 Dwg No: 20375

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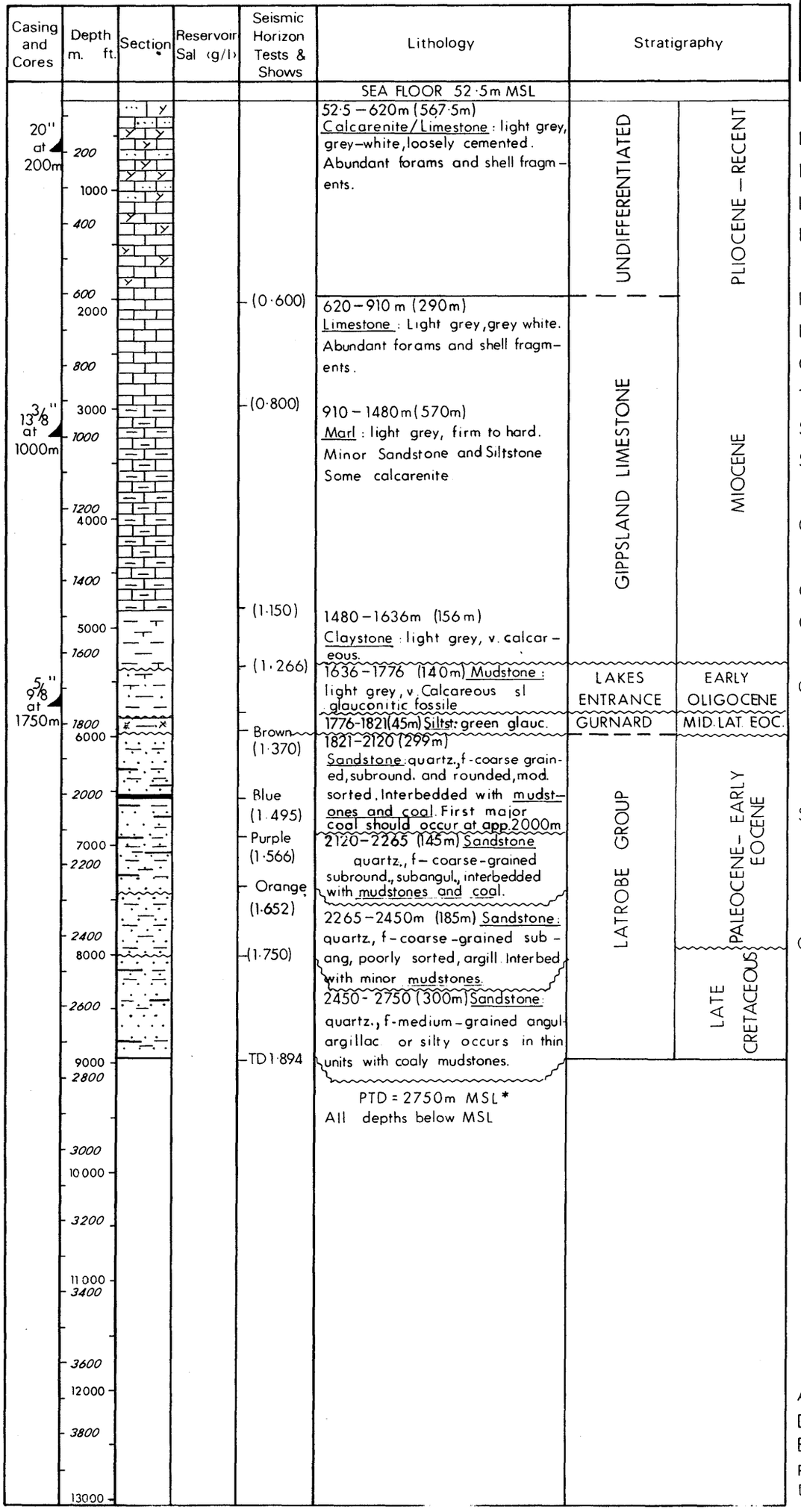
SPEKE NO 1

PREDICTED SECTION



Permit VIC/P17

Location SP230 line GA82B-211

Latitude 38° 30' 34·2"S

Longitude 147°37'10·7"E

Rig Diamond M. Epoch.

K.B. 23m

G.L. 52·5m

T.D. 2750m *

Status New Field Wildcat

Spudded March, 1984

Operator AAP

Cost $5·7 Millions

Cost/ft.

Objectives Top Latrobe Brown and Intralatrobe Blue, Purple and Orange.

Structure Speke

Comments

* PTD OF 2750m BMSL. THE STRZELECKI FORMATION MAY BE ENCOUNTERED AT ANY STAGE BELOW 2450m BMSL., BUT MOST LIKELY AT AROUND 2700m BMSL.

Author: K. Ly

Date: 22·12·83

Base Map No 9112

Reference No.

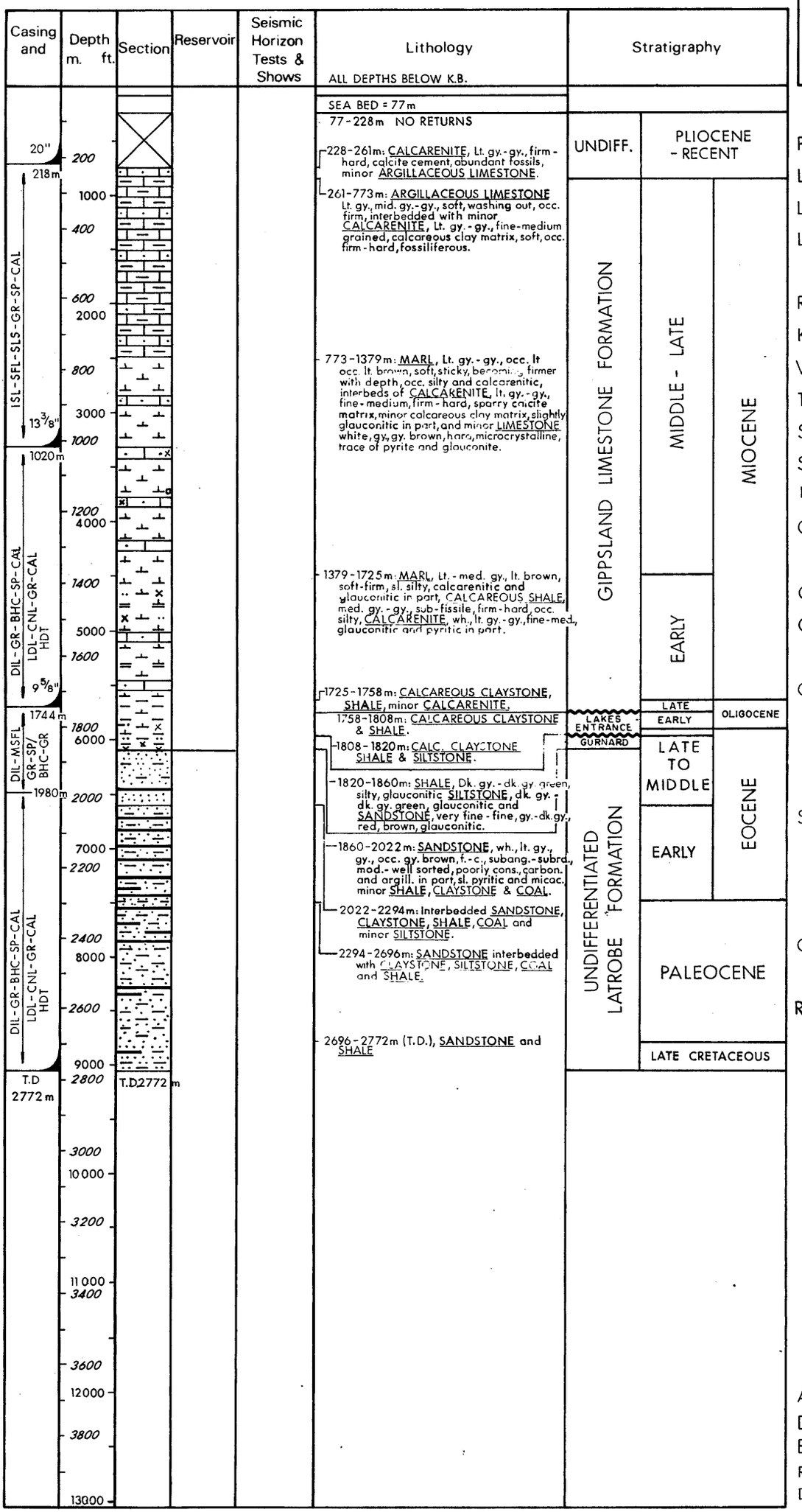
Dwg No 23066

FIG.5

australian aquitaine petroleum pty ltd

SPEKE 1

COMPLETED SECTION



Permit: VIC P17

Location: SP 230, LINE GA83B-211A

Latitude: 38° 30' 34·64" S

Longitude: 147° 37' 11·79" E

Rig: DIAMOND M EPOCH

K.B.: 22m AMSL

W.D.: 55m BMSL

T.D.: 2772m (7/7/84)

Status: Plugged & Abandoned

Spudded: 14/6/84

RIG RELEASED: 10/7/1984

Operator: AAP

Cost: $ 5 000 000 Approx.

Cost/m.: $ 1804

Objectives: TOP LATROBE & INTRA LATROBE RESERVOIR

Structure: TOP LATROBE FORMED BY ROLLOVER ON SOUTHWARD PLUNGING STRUCTURAL NOSE INTRA LATROBE - FAULT EFFECT

Comments: STRZELECKY NOT PENETRATED

Results:

1) NO OIL SHOWS
2) MINOR GAS SHOWS ASSOCIATED WITH BROWN COAL SEAMS
3) LOG ANALYSES INDICATE THE RESERVOIRS TO BE WATER SATURATED WITH 38-45 g/L NaCl EQUIVALENT

Author: J. DJOKIC

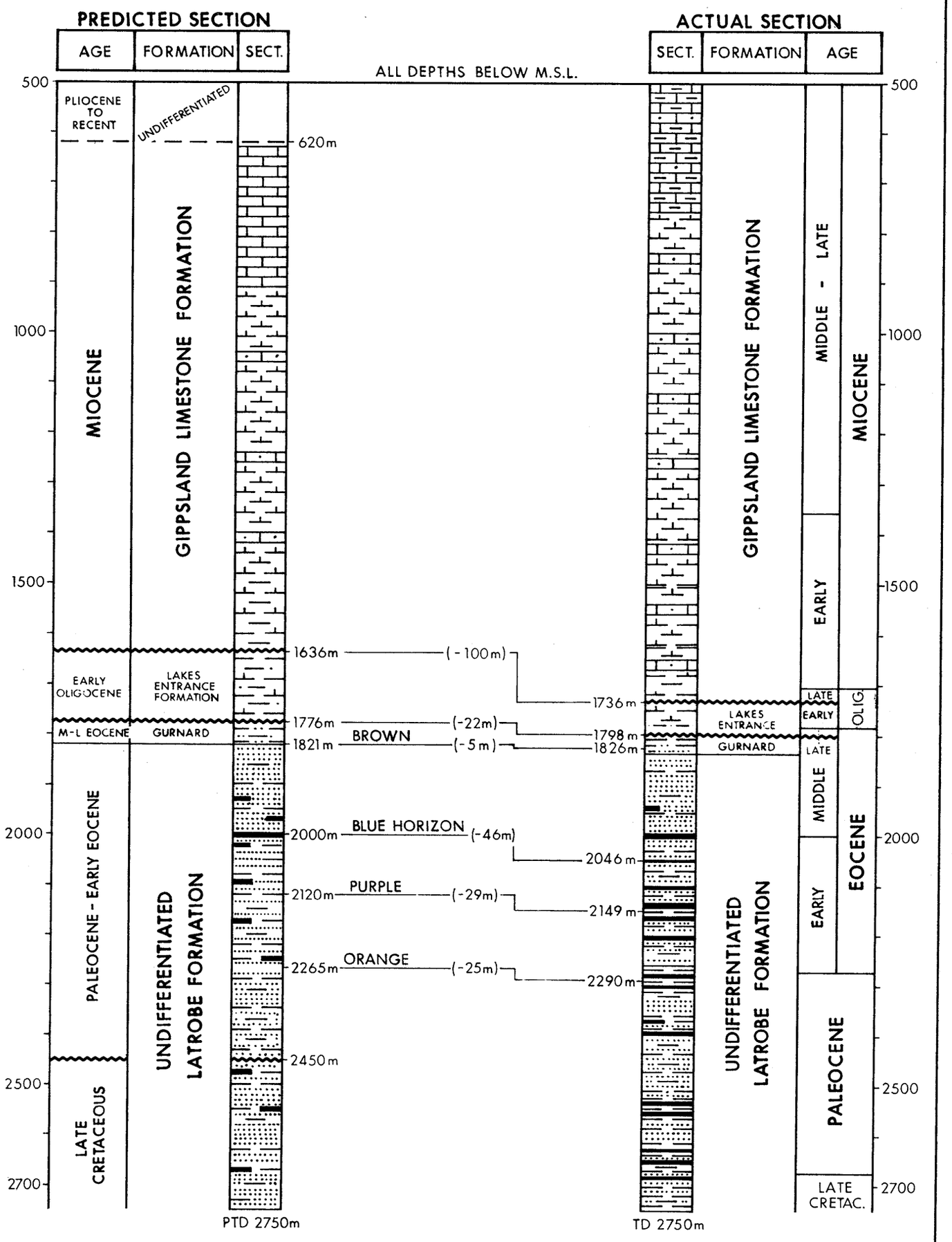
Date: NOV. 1984

Base Map No 9112

Reference No.

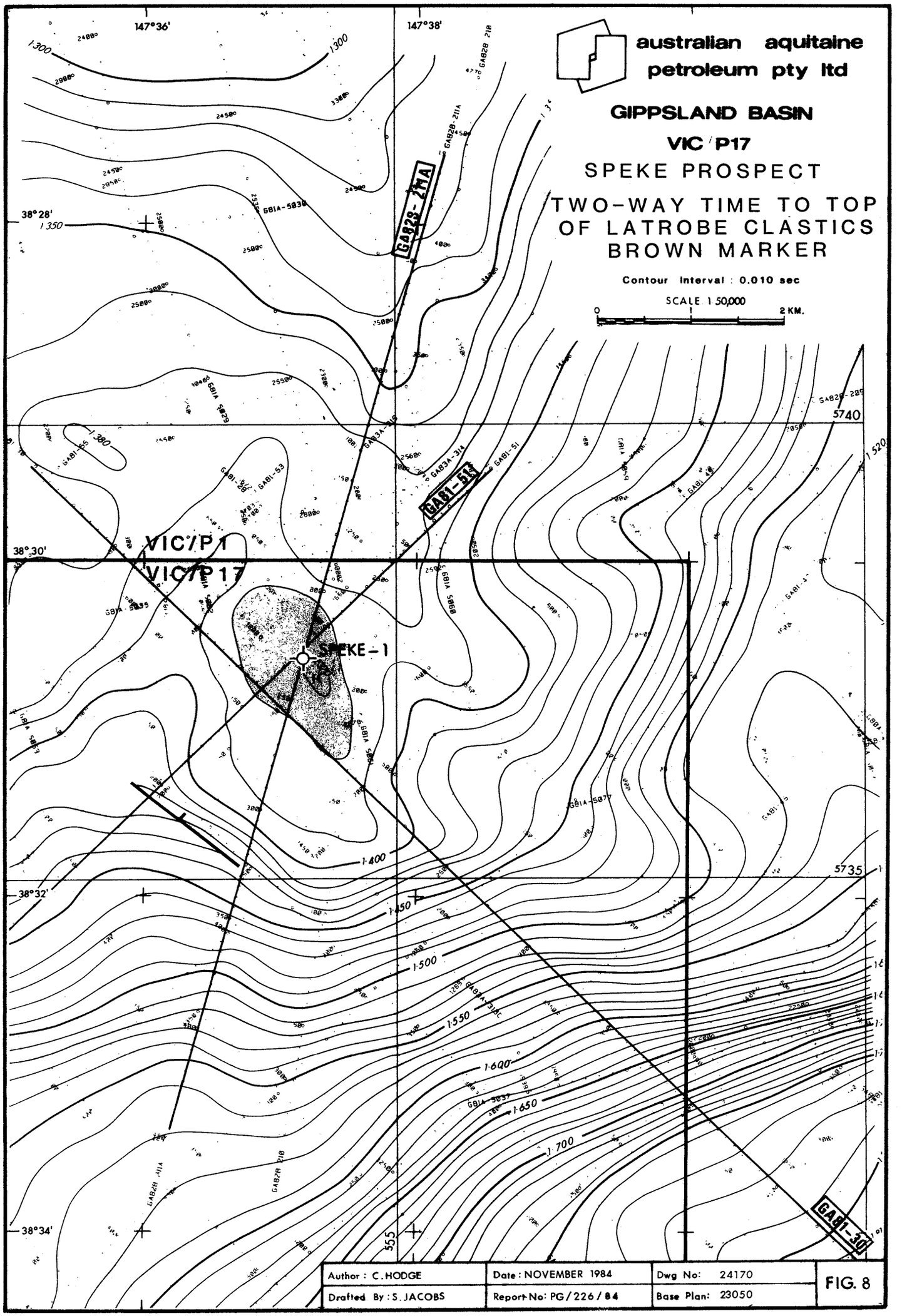
Dwg. No.: 24113

FIG. 6



GIPPSLAND BASIN
VIC/P17
SPEKE No. 1
Comparison of Predicted to Actual Drilled Section

Author: J. DJOKIC	Date: NOVEMBER 1984	Dwg. No.: 24114	FIG. 7
Drawn: J.M.	Report No.: PG/226/84	Base Plan:	


147°36'
147°38'
38°28'
38°30'
38°32'
38°34'
australian aquitaine petroleum pty ltd
GIPPSLAND BASIN
VIC/P17
SPEKE PROSPECT
TWO-WAY TIME TO TOP OF LATROBE CLASTICS BROWN MARKER
Contour Interval : 0.010 sec
SCALE 1:50,000
0
2 KM.
VIC/P1
VIC/P17
SPEKE-1
GA828-211A
GA83A-314
GA81-53
GA81-30
1.300
1.350
1.380
1.400
1.450
1.500
1.550
1.600
1.650
1.700
1.520
5740
5735
355
Author : C.HODGE
Date : NOVEMBER 1984
Dwg No: 24170
Drafted By : S.JACOBS
Report No: PG/226/84
Base Plan: 23050
FIG. 8

APPENDIX I

CUTTING SAMPLE DESCRIPTION

Seafloor to 228m K.B. : No samples

228m - 261m : CALCARENITE (90-60%): Med. grey-grey, becoming light grey to medium grey with depth, fine to medium grained, generally fine, calcite cement, firm to hard with common fossil fragments (10-20%), mainly coral debris, fine trace of pyrite and dolomitic fragments decreasing with depth.

ARGILLACEOUS LIMESTONE (10-20%): Light-medium grey, soft, generally washing out, embedded with fossil fragments, mainly forams. Traces of siltstone, grey-dark grey, argillaceous, non-calcareous and loose quartz grains, opaque, medium to coarse, subangular.

$CaCO_3$ = 77-87%.
$CaMg(CO_3)_2$ = 3-11%.

261 - 347m : ARGILLACEOUS LIMESTONE (50%): Light grey, soft, washing out, interbedded with

CALCARENITE (20-30%): Light grey, medium grey, fine grained, occasionally medium, calcite cement, hard, slightly argillaceous in part with abundant fossil fragments, mainly coral debris (20-40%), and minor siltstone (Tr-5%): grey-dark grey, firm, slightly argillaceous, non-calcareous.

$CaCO_3$ = 70-80%.

347 - 408m : ARGILLACEOUS LIMESTONE (60-70%): Light grey, becoming light to medium grey below 390m, soft, washing out, common fossil fragments (10-20%), forams, molluscs, coral and

CALCARENITE (20%): Light to medium grey, fine to medium grained, sparry calcite cement (40%), becoming very argillaceous with depth.

$CaCO_3$ = 75-80%.

408 - 480m : ARGILLACEOUS LIMESTONE (60-80%): Light to medium grey, soft, washing out, decrease of fossil fragments (Tr-10%), and

CALCARENITE: Medium grey to grey, fine to medium grained, in dominantly very calcareous claystone cement, soft, dispersive, minor sparry calcite matrix, traces of siltstone and pyrite in calcarenite.

$CaCO_3$ = 80-85%.

480 - 580m : ARGILLACEOUS LIMESTONE (55-75%): Light grey soft, washing out and

CALCARENITE: Light grey to grey, fine-med. grained, subrounded, sparry calcite matrix and white-light grey calcareous clay matrix. Fragments of clear to milky sparite interlayered with calcarenite, fossiliferous.

Traces of pyrite dusting on sparite fragments.

$CaCO_3$ = 80-85%.

580m - 610m : ARGILLACEOUS LIMESTONE (50-70%): Light grey-med. grey, soft, dispersive, minor grey to dark grey, firm, and

CALCARENITE: Light to medium grey, fine grained calcite cement, generally firm-hard, occ. soft-firm in calcareous clay matrix.

Fine trace of white kaolinitic claystone.

$CaCO_3$ = 85-88%.

610 - 692m : ARGILLACEOUS LIMESTONE (50-90%): Light grey to medium grey, soft, sticky, and

CALCARENITE: Light grey-med. grey, fine to medium grained in calcareous clay matrix, soft-firm, decreasing with depth, with minor CALCARENITE: med. grey, very fine grained, in calcitic matrix, hard.

Decrease of fossil fragments (TR-5%).

$CaCO_3$ = 75-85%.

692 - 773m : ARGILLACEOUS LIMESTONE (50-90%): Light grey-grey, soft to firm, sticky, dispersive in part; CALCARENITE: (10-30%): Light-med. grey, fine to med. grained, firm to hard, matrix dominantly micrite, fossiliferous, some fragments display clear to milky sparry calcite matrix. Minor SILTSTONE: grey-green grey, calcareous, and LIMESTONE (10-15%) below 710m, clear-white, honey brown, hard, micro-cryptocrystalline.

$CaCO_3$ = 75-83%

773m - 830m : ARGILLACEOUS LIMESTONE grading to MARL (70-80%): medium grey-grey, white-light grey in part, soft, sticky, dispersive in part.

CALCARENITE (15-25%): medium grey-grey, fine-med. grained, in calcareous matrix, mostly micrite, firm-hard, sometimes sparry calcite and less commonly soft, dispersive, white-light grey, calcareous clay matrix minor
LIMESTONE: cloudy-white, honey, brown, micro-cryptocrystalline, often interlayered with calcarenite. Moderately fossiliferous ($< 5\%$), trace of fine grained pyrite aggregates.

$CaCO_3$ = 55-70%.

830m - 877m MARL (70%): Generally as above, interbedded with CALCARENITE, as above, becoming more firm with increase in sparry calcite.

Traces of siltstone, dark grey to dark olive grey-green, calcareous cement.

$CaCO_3$ - 60-70%.

877m - 956m : MARL: Light grey to grey, becoming medium grey to grey with depth, soft, sticky, silty, calcareous clay matrix decreasing below 910m and becoming firmer, interbedded with CALCARENITE: medium grey to grey, fine grained, sparry calcite matrix with layers of soft, dispersive calcareous clay matrix, minor LIMESTONE: decreasing with depth; white to off-white, occasionally brown, hard, cryptocrystalline, SILTSTONE: dark grey to dark olive-green, calcareous cement, traces of SANDSTONE below 890m, white to light grey, fine grained poorly sorted, hard, calcareous cement and pyrite.

$CaCO_3$ = 45-65%.

956 - 1061m : MARL: Light grey to grey, silty, occasionally calcarenitic, soft, calcareous clay matrix becoming firm in parts, minor sparry calcite, with minor LIMESTONE, as above, becoming reddish-brown, slightly dolomitic towards the base, and SILTSTONE, as above. Tr. of pyrite and fine traces of glauconite.

$CaCO_3$ = 55-60%.

1061m - 1186m : MARL: Light to medium grey, occ. light brown, generally firm, silty in part, with fragments of CALCARENITE, light grey to grey, very fine grained, firm to hard, slightly glauconitic in part, weakly bioclastic, minor sparry calcite infillings, and LIMESTONE: grey, occ. white, grey-brown, hard, cryptocrystalline. Tr. of weathered material, soft, embedded with quartz grains, clear, angular below 1170m.

$CaCO_3$ = 55-70%.

1186m 1261m : MARL/CALCAREOUS CLAYSTONE: Light grey to grey-brown, slightly silty, soft-firm, weakly fissile in part, with calcarenite fragments, light-med. grey, slightly argillaceous, firm, with occ. carbonaceous specks, slightly fossiliferous in part, occ. glauconitic, very fine grained, with interbeds of LIMESTONE: white, grey-dark grey, hard, cryptocrystalline, occ. sparry calcite, and traces of siltstone, grey to medium grey, soft, calcareous clay matrix.

$CaCO_3$ = 65-80%.

1261m - 1379m : MARL/CALCAREOUS CLAYSTONE: Light to medium grey, soft, dispersive, grading in part to very CALCAREOUS SHALE/SHALY LIMESTONE: light grey to grey, minor green-grey, firm to moderately hard, sub-fissile to fissile, comm. fragments of CALCARENITE: light grey to medium grey, fine grained firm to moderately hard, glauconitic in part, occ. light grey, fine grained, soft, dispersive, calcareous clay matrix.

Trace LIMESTONE: grey, hard, cryptocrystalline, and sparry calcite.

$CaCO_3$ = 50-70%.

1379m - 1414m — MARL/CALCAREOUS CLAYSTONE: light grey, light brown slightly silty, soft-firm;
CALCAREOUS SHALE: medium grey, sub-fissile to fissile, argillaceous, firm, minor CALCARENITE: light to medium grey, light beige, occ. light brown, fine grained, blocky, glauconitic, increasing with depth, trace disseminated pyrite.

$CaCO_3$ = 60-70%

1414m - 1537m : Interbedded sequence of

MARL: Light grey, medium grey, soft, slightly silty and calcarenitic in part, occ. glauconitic

CALCARENITE: grey, firm, fissile, sandy-silty

CALCARENITE: white, light to medium grey, grey, fine grained, comm. sparry calcite, glauconitic and pyritic in part, and

LIMESTONE: (below 1460m): white, off-white, occ. light grey, firm to hard, sometimes brittle, sparitic, slightly glauconitic in part.

$CaCO_3$ - 70-85%.

1537m - 1623m : MARL: Light grey, light brown, firm, slightly silty, interbedded with :

CALCAREOUS SHALE: grey to dark grey, firm to hard, fissile

CALCARENITE: white, light brown to buff, fine to medium grained, silty finely glauconitic in parts, weakly bioclastic, firm-hard, occ. white, very soft, and minor LIMESTONE: white to buff, sparitic.

$CaCO_3$ = 60-70%.

1623m - 1690m : CALCAREOUS CLAYSTONE: Light grey-med. grey, dull, brownish yellow, soft, washing out, interbedded with :

CALCAREOUS SHALE: Medium grey-greenish grey, fissile, soft to firm, traces of coaly fossils and pyrite, and minor CALCARENITE: white to buff, medium grained, bioclastic in part, traces of coal, forams, and glauconite.

$CaCO_3$ = 45-50%.

1690m - 1758m : CALCAREOUS CLAYSTONE: Light-medium grey, soft, washing out, and

SHALE: dark grey, greenish brown, fissile, calcareous generally soft, slightly pyritic and glauconitic, occ. silty, tr. of plant fossils, with minor CALCARENITE: white buff, fine-medium grained, soft, clayey, decreasing with depth.

$CaCO_3$ = 20-25%.

1758m-1785m : CALCAREOUS CLAYSTONE: White, light brown, light grey, slightly silty, soft, washing out, and

SHALE: medium grey, light greenish grey, tending mottled, slightly silty, increasing with depth, calcareous, glauconitic, increase of coaly particles, fissile.

$CaCo_3$ = 20%.

1785m - 1808m : CALCAREOUS CLAYSTONE: White, greenish grey, soft, washing out, and

SHALE: medium grey, light greenish grey, tending mottled, slightly silty, increasing with depth, calcareous, glauconitic, increase of coaly particles, fissile.

$CaCO_3$ = 20%.

1808m - 1820m : Generally as above, with SHALE: becoming medium brown in part, less calcareous with minor SILTSTONE: medium grey to dark grey, carbonaceous, calcareous cement, argillaceous, with trace of glauconite.

$CaCO_3$ = 15-18%.

1820m - 1848m : SHALE: Dark grey to dark grey-green, occ. light greenish-grey, med. brown, soft-firm, fissile, carbonaceous in part, slightly silty, glauconitic, calcareous, traces of mica and pyrite.

SILTSTONE: dark grey-dakr grey-green, soft, massive, carbonaceous, argillaceous, glauconitic, micaceous, calcareous cement grading to very fine sandstone, white, red, brown, glauconitic.

$CaCO_3$ = 15-17%.

1848m - 1860m : SHALE: Medium red-brown, greenish grey, fissile, slightly calcareous, silty, glauconitic, argillaceous, grading in part to slightly CALCAREOUS CLAYSTONE: soft, washing out, slightly oxidised at top and SANDSTONE: dark grey, brown, fine-grained, subrounded to rounded well sorted, silty, poorly laminated, traces of carbonaceous material, glauconitic.

$CaCO_3$ = 15%.

1860m - 1896m : SANDSTONE: white - very light grey, medium-coarse grained, grain size decreasing with depth, subangular sub-rounded, moderately sorted, becoming poorly sorted towards the base, unconsolidated, with very fine sand matrix. Slightly micaceous below, 1875m.

1896m - 1911m : SANDSTONE: Light grey-grey brown, fine medium grained, occ. coarse grains, subrounded, moderately to well sorted, silty, carbonaceous and argillaceous in part, traces of glauconite and mica.

1911m - 1942m : SANDSTONE: Light grey, medium-coarse grained, sub-angular-subrounded, moderately well sorted, unconsolidated in dominantly very fine sand matrix, slightly argillaceous in part, interbeds of minor SHALE: light grey-medium grey, firm, slightly, silty, traces of glauconite, and CLAYSTONE: dark grey-dark grey green, slightly carbonaceous and glauconitic, silty.

1942m - 1949m : SANDSTONE: Grey, fine-grained, subangular-subrounded, well sorted, poorly consolidated, in dominantly clay matrix, calcareous, micaceous, with traces of carbonaceous material.

1949m - 1982m : SANDSTONE: Light grey, medium to coarse grained, becoming fine to medium with depth, moderately-well sorted, subangular-subrounded, unconsolidated, slightly argillaceous in part, with rare pyrite dustings on some grains.

1982m - 2022m : SANDSTONE: White - light grey, fine to medium grained subrounded-rounded, moderately-well sorted, unconsolidated, slighlty argillaceous in part, pyrite and iron oxide dusting on grains common, traces of mica, minor interbeds of COAL, (1983m - 1994m), subanthracite to anthracite, bright, brittle, occ. wispy traces of vitrinite, conchoidal fracture, rare pyrite dusting.

CLAYSTONE: Light grey - grey, occ. kaolinitic, slightly calcareous and silty in part, firm - brittle, and SHALE: light grey, buff - dark grey, slightly carbonaceous, silty, with traces of mica and pyrite.

2022m - 2041.5m: Interbedded sequence of coal, sandstone, claystone and shale. Coal: brittle, subanthracite, bright, wispy vitrinite present, concoidal, fracture, traces of pyrite. SAND, light grey, fine grained, subangular, well sorted, unconsolidated, with rare fragments of silty size milky quartz and chert, traces of mica. CLAYSTONE: light grey-medium grey, very soft, sticky, occ. silty, traces glauconite. SHALE: dark grey to dark grey green, carbonaceous, occ. slightly calcareous.

2041.5m -2050.5m : SANDSTONE : White - orange buff, medium-grained, subrounded-rounded, very well sorted, clean, unconsolidated, rare traces of glauconite.

2050.5m-2160m : Interbedded:

COAL : brittle, bituminous to sub-anthracite, bright, wispy vitrinite present. SILTSTONE: Light grey - grey, clay matrix, friable, occ. clasts of sandstone, very hard, well cemented, rare traces of glauconite and mica. CLAYSTONE: Light grey, massive, firm, slightly silty with traces of pyrite and mica present. SANDSTONE: Very fine to medium grained, silty, subangular-angular, poorly sorted, friable, lightly cemented and minor SHALE: Light grey, dark grey, silty and slightly carbonaceous.

2160m - 2171m : COAL : Subanthracite, subconchoidal fracture, bright with small interbed of SHALE: dark grey, carbonaceous.

2171m - 2198m : SANDSTONE : Light grey, - white, occ. medium grey, med. coarse-grained, becoming finer towards the base, subangular-subrounded, poorly sorted, lightly cemented in clay matrix, interbedded with minor SHALE : Dark grey, dark grey brown, slightly carbonaceous in part, COAL: as above and CLAYSTONE: Light grey, soft, sticky, washing out, occ. traces of white kaolinitic claystone.

2198m - 2271m : Interbedded:

CLAYSTONE : Light grey-grey, massive, firm, traces of mica and rare carbonaceous fragments, silty to sandy in part SANDSTONE : Pinky grey to grey brown, light grey, buff, med. coarse grained, subangular-angular, argillaceous, poorly-moderately sorted, traces of pyrite and mica, occ. limonitic stains and COAL : Dull, subanthracite, brittle with bright vitrinite bands with conchoidal fracture.

2271m - 2294m : SANDSTONE : White - light grey, med.-grained, angular-subangular, moderately-well sorted, partly consolidated, sparse clay matrix, traces of mica and carbonaceous material.

2294m - 2351m : Interbedded:

SANDSTONE : White - light grey, fine -coarse, coarsening downwards (channeling effects) angular-subrounded, poorly-moderately sorted, clay matrix, soft, traces of mica, pyrite and rare glauconite, SILTSTONE : Grey - med. grey, occ. laminated with grey claystone, firm-hard, clay matrix, traces of mica and carbonaceous material, COAL : Sub-anthracite, brittle, bright conchoidal frac., vitrinite bands present and minor SHALE : dark grey, carbonaceous associated with coal.

2351m - 2415m : Interbedded:

SANDSTONE : Light grey - grey becoming white-light grey with depth, fine-grained, occ. coarse, subangular-subrounded, well moderately sorted becoming poorly sorted towards the base, soft-firm, argillaceous matrix, occ. laminae of carbonaceous material, traces of mica and pyrite CLAYSTONE : Grey - medium grey, firm, massive, silty, grading in part to argilllaceous siltstone, traces of carbonaceous material and mica, COAL : as above.

2415m - 2440m : SANDSTONE : White, medium-grained, subangular-subrounded, poorly sorted, argillaceous in part, poorly consolidated, traces of mica, glauconite and pyrite with minor interbeds of SILTSTONE : light-medium grey, soft, very argillaceous.

2440m - 2570m: SANDSTONE : White-light grey, medium coarse-grained, angular-subangular, poorly sorted, poorly consolidated sparse of clay matrix with minor grey - medium grey, fine-grained, subrounded, well sorted, argillaceous matrix, traces of pyrite and mica and occ. carbonaceous particles interbedded with minor CLAYSTONE : Light grey, blocky with traces of mica and carbonaceous fragments, SHALE : Grey - medium grey, dark grey, sub-fissile, silty and carbonaceous in part, with occ. laminae of coal.

2570m - 2637m : Interbedded:

SHALE : Grey - dark grey, occ. dark grey green, firm-hard, moderately to poorly laminated, silty, carbonaceous in part, traces of pyrite and rare mica, SANDSTONE : White, light grey-grey, medium to coarse-grained, occ. fine, subangular-subrounded, poorly-moderately sorted, clean unconsolidated at top becoming argillaceous with depth, traces of mica, pyrite and rare carbonaceous fragments and minor SILTSTONE : light grey - grey, argillaceous, massive occ. very poorly laminated.

2637m - 2696m : Interbedded:

SILTSTONE : Light grey, argillaceous, generally massive, soft, SANDSTONE : Grey-medium grey, very fine-grained, occ. coarse grains, subrounded, well sorted, argillaceous matrix, friable, traces of mica, carbonaceous fragments and rare glaconite SHALE : Grey - dark grey, occ. dark grey green, carbonaceous, sub-fissile to fissile, friable, traces of mica and COAL : brittle, sub-anthracite, dull with bright fragments, sub-conchoidal fractures.

2696m - 2732m : SANDSTONE : Light grey, occ. grey, fine-grined, with same medium to coarse grain beds, with very fine quartz matrix,subangular to subrounded, moderately to well sorted becoming poorly sorted with depth, clay matrix, generally firm, comm. dark grey laminae of carbonaceous clay, rare traces of pyrite and mica, with interbeds of COAL, sub-anthracite, brittle, bright with dull bands, sub-conchoidal fractures, strongly cleated with minor CARBONACEOUS SHALE, as above.

2732m - T.D. : (2770.5m) Mainly SHALE : dark grey, laminated, silty in part, carbonaceous, firm-hard, slightly micaceous in part with minor interbeds of SANDSTONE : white - very light grey, medium-grained, moderately to poorly sorted, angular - subangular, sparse white clay matrix, with horizons of siliceous quartz sand aggregates (< 1mm) hard, angular poorly sorted.

APPENDIX II

SIDEWALL CORE DESCRIPTION

australian aquitaine petroleum pty ltd

DESCRIPTION DES CLABS
DESCRIPTION OF SIDE WALL SAMPLES

SONDAGE *WELL*	Speke No. 1	DESCENTE N° *RUN N°*	1
PERMIS *PERMIT*	VIC/P17	PAGE N°	2
PAYS *COUNTRY*	Australia	DATE	25.6.84

Cie Operatrice *Company*	AAP
Nbre clabs demandés *requested*	30
Nbre clabs récupérés *recovered*	29
Nbre balles tirées *shot*	30
Nbre balles perdues *lost*	Nil
Nbre balles pleines *full*	29
Récupération *Recovery*	97 %
Examinés par *Examined by*	J. Lee.

Trace Faible Fort *Strong*

N°	PROF *DEPTH*	REC		DESCRIPTION	FLUORESCENCE de l'échantillon *of sample:*	CC: 4
20	1284.5	100		Claystone: light grey/brown, v.calcareous, soft-firm, trace trace fossils (forams), sl. silty, trace glauconite?? (dk.green per No. 6), mottling.	Nil	
21	1241.0	75		Claystone: light grey, v. calcareous, soft, clayey, sl. silty.	Nil	
22	1211.0	75		Claystone: lt. grey/brown, v. calcareous, tending shaley, sl. silty (weakly fissile)	Nil	
23	1204.0	0		Nil recovery - bullet broken	Nil	
24	1174.0	75		Claystone/marl: lt. grey-brown, light grey to brown, v. calcareous, soft to firm, slightly silty.	Nil	
25	1150.0	100		Claystone/Marl: lt. grey/brown, tending shaley (weakly fissile) slightly silty, v.calcareous, minor sparry limestone infilling c.f. No. 17, firm-moderately hard.	Nil	
26	1125.0	100		Claystone: lt. grey/brown, minor carbonate (limestone) infillings (c.f. No. 25), firm-mod. hard, v.calcareous, sl. silty.	Nil	
27	1108.0	75		Claystone: lt. grey/brown, v.calcareous, firm, sl. silty.	Nil	
28	1075.0	75		Claystone lt. grye/brown firm-soft v. calcarceous sl. silty.	Nil	
29	1061.5	25		Claystone/clay lt. grey, with fragment of rel. hard calcarenite, lt. grey glauconitis m.g. weakly bioclastic.	Nil	
30	1051.0	75		Marl: lt. grey/brown, firm trace poorly preserved limey fossils, hematitic joint plane, sl. silty.	Nil	

elf aquitaine

DESCRIPTION DES CLABS
DESCRIPTION OF SIDE WALL SAMPLES

SONDAGE : *WELL :*	SPEKE 1	DESCENTE N° : *RUN N° :*	2
PERMIS : *PERMIT :*	VIC/P17	PAGE N° :	1
PAYS : *COUNTRY :*	Australia	DATE :	07.07.84

Cie opératrice/*Company :*	AAP
Nbr clabs demandés/*requested :*	30
Nbr clabs récupérés/*recovered :*	26
Nbr balles tirées/*shot :*	30
Nbr balles perdues/*lost :*	NIL
Nbr balles pleines/*full :*	26
Récupération/*Recovery :*	87%
Examinés par : *Examined by :*	G. BARNES

1 : Trace/*Trace* 2 : Faible/*Fair* 3 : Fort/*Strong*

N°	PROF. *DEPTH*	REC %		DESCRIPTION	FLUORESCENCE de l'échantillon : *of sample :* 1	2	3	CCl 4 1	2	3
1	2675	60		Sst., qtz., slightly argil., gry to mdm. gry, v.fine grn., well strd., trcs. mica and glauc. commn. Friable.						
2	2671.5	50		Sst., qtz, gry to mdm. gry, as above. Rare trcs. of carbonac. material present, micaceous.						
3	2667	70		Shale, gry to dk. gry, carbonaceous in part., sub-fissile, friable, 1-2mm whispy lam. of sub vitrinitic coal pres.						
4	2648.5	40		Sst., qtz, gry to mdm. gry, v. fine grn., well srtd., subr., with argillaceous matrix, trcs. mica, rare carbonaceous frags.						
5	2624	40		Sst., qtz, lte. gry to gry, v. fine grn., well srtd., argil. matrix, lam. of dk gry, silts. pres., trcs. mica.						
6	2607.2	NIL		No recovery						
7	2586.5	30		Sst., qtz, wht. to v; lt. gry., mdm. to crs. grn., prly srtd., subang., clean, unconsol., trcs. mica present						
8	2526 ·	50		Shale, gry to mdm. dk gry, silty in part, sub-fissile						
9	2481.2	NIL		No recovery						
10	2464 ·	30		Sst., qtz., wht. to v. lt. gry, crs. to mdm. grn., v. prly srtd., angular with sparse clay matrix, prly consol.						
11	2459 ·	40		Clyst., lt. gry, blocky with rare trcs. of mica and coal frags.						
12	2451.5.	40		Sand., qtz., wht., mdm. to crs. grn., ang., prly srtd., trcs pyrite, rare clasts shales, prly consol., sparse clay matrix						
13	2441.5.	50		Sst., qtz, gry to mdm. gry, fine grn., well srtd., subr., argillaceous matrix, abndant trcs. py., coal whips & mica.						
14	2434 ·	30		Sst., qtz., wht, mdm. grn., subang. to subr., prly srtd., prly consol., trcs py. commn glauc., mica.						
15	2403	NIL		No recovery						
16	2336 ·	70		Sand., qtz, wht., fine to mdm. grn., ang. to subr., prly srtd., sparse clay matrix, rare py., glauc. v. clean.						
17	2304 ·	40		Silts., mdm. to dk grey, firm to hard intercalated with gry clyst., v. sticky.						
18	2265.5	40		Clyst., lt. gry, silty in part, firm, Interlaminated sandy horizons, rare trcs of mica.						
19	2260.5	100		Coal, brittle, dull with rare bright vitrinitic bands.						

4 B SI RGM 86

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DESCRIPTION DES CLABS
DESCRIPTION OF SIDE WALL SAMPLES

SONDAGE : WELL :	SPEKE 1	DESCENTE N° : RUN N° :	2
PERMIS : PERMIT :	VIC/P17	PAGE N° :	2
PAYS : COUNTRY :	Australia	DATE :	07.07.84

Cie opératrice/Company :	AAP
Nbr clabs demandés/requested :	30
Nbr clabs récupérés/recovered :	26
Nbr balles tirées/shot :	30
Nbr balles perdues/lost :	NIL
Nbr balles pleines/full :	26
Récupération/Recovery :	87%
Examinés par : Examined by :	G. BARNES

1 : Trace/Trace 2 : Faible/Fair 3 : Fort/Strong

N°	PROF. DEPTH	REC %		DESCRIPTION	FLUORESCENCE de l'échantillon : of sample : 1 2 3	CCl 4 1 2 3
20	2073.5	60		Clyst., lt. gry, massive, firm, slitly silty, trcs of py. and rare mica.		
21	2070	30		Slts., lt. gry to gry., clay matrix, friable, occ. clasts. of qtz. sst. v. hard, well cemented. rare trcs of glauc. and mica, present		
22	2052	100		Coal, bright, brittle, conchoidal fracture., sub-anthracite.		
23	2045	50		Sand., qtz, wht. to orange buff, mdm. grn., subr. to rnd., v. well srtd., very clean, rare trcs glauc.		
24	1994.5	30		Shale, lt. gry, buff to dk. gry., slightly carbonaceous, trcs of mica, coaly laminations present, silty.		
25	1907.5	70		Sand., qtz, gry to gry bron., fine grn., rnd to subr., well srtd., silty, carbonaceous, trcs of glauc. mica.		
26	1875.5	NIL		No recovery		
27	1853	50		Sand., qtz., dk gry, brn., fine grn., br. to rnd., well srtd., silty, patches of carb. matr., prly consol.		
28	1835	100		Silts., argil., glauconitic, dk gry to dk. gry. green, soft, massive, carbonaceous, abundant trcs. mica, silty calcareous cement.		
29	1825	100		Shale, slightly slty, glauconitic, dk gry to dk gry green, soft to firm, carbonaceous, trcs of mica and pyrite, calcareous cement.		
30	1814	60		Silts., argil., mdm. gry to dk gry., carb., trcs. glauc. calcareous cement, biogenic carbonate present as burrow infil.		

Imp. 5544 B SNEA(P) - RGM 959 004 146

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DESCRIPTION DES CLABS
DESCRIPTION OF SIDE WALL SAMPLES

SONDAGE : *WELL* :	SPEKE 1
PERMIS : *PERMIT* :	VIC/P17
PAYS : *COUNTRY* :	Australia
DESCENTE N° : *RUN N°* :	2 "A"
PAGE N° :	1
DATE :	07.07.84

Cie opératrice/*Company* :	AAP
Nbr clabs demandés/*requested* :	51
Nbr clabs récupérés/*recovered* :	37
Nbr balles tirées/*shot* :	38
Nbr balles perdues/*lost* :	NIL
Nbr balles pleines/*full* :	37
Récupération/*Recovery* :	72%
Examinés par : *Examined by* :	G. BARNES

1 : Trace/*Trace* 2 : Faible/*Fair* 3 : Fort/*Strong*

N°	PROF. *DEPTH*	REC %		DESCRIPTION	FLUORESCENCE de l'échantillon : *of sample* : 1	2	3	CCl4 1	2	3
1	2750.5	30	.	Sst. . qtz, white, to v. light grey, mdm grn., mod. to prly srtd., ang. to subang., crs. grn. agg. of py., sparse white clay matrix						
2	2740	30	.	Shale, dk. gry, laminated, silty in part, carbonaceous, trcs of mica commn, firm to hard.						
3	2725.5	<10	.	NB. Poor sample recovery; Sand, qtz, wht to gry. mdm, to crse grn, subang., prly srtd., wht. clay matrix, patches of finer grn., carb. silts, prly consol.						
4	2717	30	.	Sst., qtz, lte grey to grey, f.g., subrd., mod. well sorted, wht. clay matrix, interbedded with dk. grey carbonaceous clyst.						
5	2712.5	80	.	Coal., sub anthracite, brittle, bright with dull bands, sub conchoidal fract., strongly cleated.						
6	2709	20		Sand, qtz, v. lte gry., f. grn., subrnd., well srtd. sprse cly, matrix, prly consol. trcs. mica.						
7	2704.5	10		Sand., qtz., wht. to v.lte gry., mdm to crs., grn., ang. to subang. mod. srting, matrix of v.fine sand.						
8	2698.1	20		Sst., qtz, gry, fine grn., mod. well srtd., subrnd., well srtd., thin laminae - .5m., carb. clay, clay matrix, firm to hard in part.						
9	2688	20	.	Shale., carbonaceous, dk.grey to dk grey grn., fissile, abundant trcs. of mica.						
10	2660.1	100	.	Coal, brittle, dull with bright frag., prly cleated sub anthracite.						
11	2648.5	NIL		No Recovery						
12	2646	20	.	Silts., argillaceous, lte gry., v.prly lam., to massive, soft slightly puggy.						
13	2634	20	.	Sand., qtz, wht to v. lte gry, crse grn, ang. prly srtd., v. sparse clay matrix, prly consol. trcs of mica and py.						
14	2624	NIL		Misfire						
15	2616.8	20	.	Shale, gry to dk. gry, carbon. in part, slightly silty, prly laminated, firm to hard.						
16	2613.8	30	.	Sand., qtz, wht to lte gry, mdm. to crse grn., subang. to subrnd., v. prly srtd., trcs of mica and py. present						
17	2607.2	NIL		Misfire						

Imp. 5044 S SNEA(P) FORM 959

elf aquitaine

DESCRIPTION DES CLABS
DESCRIPTION OF SIDE WALL SAMPLES

SONDAGE : *WELL :*	SPEKE 1	DESCENTE N° : *RUN N° :*	2'A'
PERMIS : *PERMIT :*	VIC/P17	PAGE N° :	2
PAYS : *COUNTRY :*	Australia	DATE :	07.7.84

Cie opératrice/*Company :*	
Nbr clabs demandés/*requested :*	
Nbr clabs récupérés/*recovered :*	
Nbr balles tirées/*shot :*	
Nbr balles perdues/*lost :*	
Nbr balles pleines/*full :*	
Récupération/*Recovery :*	
Examinés par : *Examined by :*	----------

1 : Trace/*Trace* 2 : Faible/*Fair* 3 : Fort/*Strong*

N°	PROF. *DEPTH*	REC %		DESCRIPTION	FLUORESCENCE de l'échantillon : *of sample :*			CCI 4		
					1	2	3	1	2	3
18	2606	20		Sand., qtz., lte grey to grey., v.fine grn., subang., to subr., med. sorted, soft, friable, clay matrix, frags. of carbonaceous material, traces of mica and py.						
19	2599	40		Shale, gry. to mdm. gry, sub fissile, prly lamin., silty in part, slightly carbonaceous, trcs mica.						
20	MISFIRE									
21	2575	30		Shale, silty, gry to drk grey grn., fissile, mod. laminated, firm to hard, trcs. mica and rare py.						
22	2552.9	50		Shale, carbonaceous, gry to dk. gry., sub fissile, well lamin., argillaceous, whispy coal laminae present						
23	MISFIRE									
24	2506	40		Sand., qtz, white to lte gry, mdm. to crs., grn., ang, to subang., prly srtd, prly consol., trcs. py. and mica.						
25-30	MISFIRE									
31	2390.6	70		Sand., qtz. white to v; lte gry., fine to crs. grn., subr. to subang., prly sorted, sprse white clay matrix, prly consol., thin laminae of carbonaceous mat., trcs mica and py.						
32	2377.9	50		Sand., qtz., white to v. lte gry., fine grn., subang., mod. well srtd, prly consol. white clay matrix, patches of grey clyst., trcs py and mica present						
33	2370	60		Sand., qtz., white to lte grey, buff, v.fine grn., subang. to subr., well srtd, argillaceous matrix, abnd. frag. carbonaceous mat., trcs of mica and py.						
34	2367	100		Coal, sub anthracite, brittle, bright conchoidal frac., abndnt vitrinite bands.						
35	2361	30		Claystone, gry to mdm. grey, slightly silty, firm, massive, trcs of carbonaceous material and mica.						
36	2351.9	30		Sst., qtz., lte gry to grey, v. fine grn., subang. to subr., well sorted, soft to firm, abund. clay matrix, thin laminae of carbonaceous material, trcs of mica.						

elf aquitaine

DESCRIPTION DES CLABS
DESCRIPTION OF SIDE WALL SAMPLES

SONDAGE : *WELL :*	SPEKE 1	DESCENTE N° : *RUN N° :*	2'A'
PERMIS : *PERMIT :*	VIC/P17	PAGE N° :	3
PAYS : *COUNTRY :*	Australia	DATE :	07.7.84

Cie opératrice/*Company :*	AAP
Nbr clabs demandés/*requested :*	51
Nbr clabs récupérés/*recovered :*	37
Nbr balles tirées/*shot :*	38
Nbr balles perdues/*lost :*	NIL
Nbr balles pleines/*full :*	37
Récupération/*Recovery :*	72%
Examinés par : *Examined by :*	G. BARNES

1 : Trace/*Trace* 2 : Faible/*Fair* 3 : Fort/*Strong*

N°	PROF. *DEPTH*	REC %		DESCRIPTION	FLUORESCENCE de l'échantillon : *of sample :*			CCl 4		
					1	2	3	1	2	3
37	2345	60		Sand., qtz., white to v. lte gry, fine to crs. grn., ang. to subang., prly sorted, sparse clay matrix, soft, rare trcs. mica						
38	2325	50		Siltstone, qtz, grey to mdm. grey, prly laminated, whispy, carbonaceous frag. (rootlets?), clay matrix, trcs. mica.						
39	2285	30		Sand., qtz., white to lte grey, medium grn., ang., mod. well sorted, pryl. consol., sparse clay matrix, trcs. mica and carbonaceous material.						
40	2216	90		Coal., dull, sub anthracite, bright vitrinite bands with conchoidal frac.						
41	2213	20		Sand., qtz., pinky grey to grey brwn;, buff, mdm. to crs. grn., arg., prly srtd., prly consol., trcs. py and mica, slight limonitic stain?						
42	2204	40		Clyst., gry to lte grey, massive, firm, trcs. of mica and rare carbonaceous frags.						
43	2165.5	80		Coal, sub anthracite, subconchoidal fracture, bright bands.						
44	2127.5	20		Sand., qtz, white, mdm. grey, subr., mod. well srtd., prly consol., clay matrix, trcs. of mica.						
45	2046	NIL		Misfire						
46	1946	70		Sand., qtz, grey, fine grn., subang. to subr., well srtd, sparse clay matrix, micaceous, trcs. carbonaceous mat.						
47	1865	60		Sand., qtz, white, mdm to crs. grn., subang. to subr., md. sorted in matrix of v. fine grn. qtz., and sparse clay, prly consol.						
48	1875	NIL		Misfire						
49	1848.5	70		Shale, brn. to black brn., sandy in part, partly oxidized, carbonaceous, trcs. of mica.						
50	1825	50		Sand., qtz, white to v. lte. grey, mdm. to crs. grn., arg., mod. well srtd., matrix of v. fine grn. qtz., soft, prly consol., rare frags. of carbonaceous mat.						
51	1800	NIL		Misfire						

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DESCRIPTION DES CLABS
DESCRIPTION OF SIDE WALL SAMPLES

SONDAGE *Well*	Speke No. 1	DESCENTE N° *RUN N°*	1
PERMIS *PERMIT*	VIC/P17	PAGE N°	1
PAYS *COUNTRY*	Australia	DATE	25.6.84

Compagnie *Operating Company*	AAP
Nbre balles demandées *requested*	30
Nbre balles récupérées *recovered*	29
Nbre balles tirées *shot*	30
Nbre balles perdues *lost*	Nil
Nbre balles pleines *full*	29
Récupération *Recovery*	97 %
Examinée par *Examined by*	J. Lee.

Trace Trace 2 Faible Fair 3 Fort Strong

N°	PROF *DEPTH*	REC		DESCRIPTION	FLUORESCENCE de l'échantillon *of sample*	CC: 4 1 2 3
1	1712.0	100		Claystone: medium grey, with carbonaceous, woody plant fragments, very calcareous, slightly silty, soft, clayey.	Nil	
2	1705.5	75		Claystone: medium grey, v. calcareous, trace plant debris, silty, soft to firm.	Nil	
3	1700.0	50		Claystone: light grey, v. calcareous, with minor calcarenite, white-buff, soft, clayey.	Nil	
4	1678.0	50		Claystone: grey/brown - greenish/brown, mottled with relatively abundant coaly plant debris, sl.silty, v. calcareous, soft-firm	Nil	
5	1675.0	75		Claystone: medium grey, v.calcareous, sl.sandy, soft-firm.	Nil	
6	1649.9	50		Claystone/Marl: grey/brown, slightly mottled, greenish-brown, v.calcareous, bioclastic (forams), sl. silty.	Nil	
7	1625.0	75		Claystone: light grey, with sl. more shaley fragments, soft to firm, sl. silty, v.calcareous.	Nil	
8	1615.0	75		Marl: light grey/brown, v. calcareous, firm, slightly silty.	Nil	
9	1603.0	100		Marl: light grey/brown, v. calcareous, firm, sl. silty (per No. 8).	Nil	
10	1563.5	100		Marl: grey/brown, v. calcareous, firm, with more shaley inter-bed, sl. silty.	Nil	
11	1536.0	75		Claystone: white - light grey, mottled, glauconitic, v.calcar-eous, soft-clayey with limestone granules, sl. silty.	Nil	
12	1480.0	75		Claystone/Marl: v. calcareous, soft-firm, sl. silty, med. grey/brown.	Nil	
13	1449.5	75		Marl: v. calcareous, med. grey, firm, tending sparitic, v. sl. sandy, firm.	Nil	
14	1427.0	100		Marl: v. calcareous, med. grey, sl. silty, firm.	Nil	
15	1399.0	75		Marl: light grey to brown, v. calcareous, sl. silty, firm.	Nil	
16	1380.0	75		Claystone/Marl: lt. grey/brown, v. calcareous, slightly silty, soft - firm	Nil	
17	1352.9	75		Marl: light grey with white spa-ry calcite, vuggy, lensoidal (vadose?), concretions, sl. silty.	Nil	
18	1349.0	75		Marl: light grey, v. calcareous, v. silty, tending shaley, firm-hard.	Nil	
19	1331.0	75		Claystone: light grey/brown, v. calcareous, soft (clayey) to firm, sl. silty.	Nil	

SPEKE NO. 1

A P P E N D I X III

LOG ANALYSES - FORMATION

SPEKE NO. 1

Log Analyses - Formation Evaluation

Sandy reservoirs have been encountered in the Latrobe Formation which was designed as the main objective.

The top of the Latrobe Formation was intersected at 1860m (-1838m/sl); it is capped by the Gurnard Formation and the Lakes Entrance Formation which provides a good vertical shaly seal. 912m of Latrobe sediments were penetrated before drilling was stopped at 2772m.

The lithology is principally composed of:

- Sandstone: light grey-white coarse to fine grained, subangular, poorly consolidated, slightly argillaceous in part traces of mica and pyrite and

- Interbeds of:
. Shale: grey, firm, slightly silty with traces of glauconite.
. Claystone: light grey, slightly carbonaceous.
. Siltstone: grey, clay matrix, well cemented.
. Coal: bright, brittle.

Two main intervals (from 1860 to 2023m and from 2416 to 2568m) have a predominantly detritic lithology.

Log interpretation and sidewall cores showed that the sandstones have good reservoir properties, particularly at the top of the formation; they became fine grained and more compact with depth. However, no occurrence of hydrocarbon were encountered and all reservoirs are water saturated. (The average salinity of water is about 40 grammes per litre).

The Table below indicates the main characteristics of the reservoir:

LOG INTERVAL	THICKNESS (H_r)	NET PAY (H_u)	Hu/Hr	POROSITY	Sw	CALCULATED SALINITY
1860 - 2023m	163m	130m	0,8	22 - 27%	100%	45g/l
2023 - 2416m	393m	125m	0,3	18 - 22%	100%	40g/l
2416 - 2568m	152m	100m	0,65	15 - 18%	100%	38g/l
2568 - 2770	202m	30m	0,15	13 - 17%	100%	

A P P E N D I X IV

WEEKLY WELL SUMMARY

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

WEEKLY WELL SUMMARY

WELL NAME: ..... SPEKE NO. 1 (SPK1)..... REPORT NO.: .....ONE.....

PERIOD: FROM: ....13.6.1984..... TO: .....19.6.1984.....

All depths relate to Rotary Kelly Bushings at zero tide datum (Low Water Indian Springs) which is ..77.... metres above seabed.

HOLE	SIZE	36"	26"	17½"	12¼"	8½"	
	DEPTH (m)	N/A	228				
CASING	SIZE	N/A	218				
	DEPTH (m)						

DATE	DEPTH AT 2400 HRS.	PROGRESS	REMARKS
13.6.84	--	--	SEMI-SUBMERSIBLE RIG "DIAMOND M EPOCH" ON TOW TO SPK #1 LOCATION. DROP NO. 7 ANCHOR AT 0500, NO. 4 AT 1615 - TENSION TEST ANCHORS - BALLASTING - POSITIONING - SURVEY BOTTOM W/SOLUS RUN TGB.
14.6.84	228m	151m 11 hrs.	RIH 26" BHA. SPUD WELL AT 0200 HRS, DRILL 26" HOLE TO 228M. DROP AND RECOVERY SURVEY - RUN 20" CSG. - SHOE AT 218M - RIG UP CMT LINE - FLUSH AND TEST TO 2000 PSI - CHANGE OUT 1 VALVE.
15.6.84	228m	--	CMT. 20" CSG. W/40T CLASS "G" + 3.8%. PRE-HYDRATED GEL + 2% $CACL_2$ SLURRY. FLUSH WELL HEAD - PULL R/TOOL - MAKE UP 17½" BHA. RUN TEST BOP (IN PROGRESS).
16.6.84	260m	32m 1½ hrs.	TEST BOP - RAMS - C & K VALVES - CHOKE MANIFOLD - RUN W/BUSHING. RIH W/BITS 17½" - TEST CSG - TAG CMT 210M AND SET PLUG AND TEST KELLY VALVE AND STP PIPE MANIFOLD TO 5000 PSI - WOC - TEST SHEAR RAMS, DRILL OUT CMT - DRILL AHEAD IN 17½" FROM 228-260M.
17.6.84	618m	358m 19 hrs.	DRILLING 17½" HOLE 260M - 437M. CIRCULATE BOTTOM UP - DROP SURVEY - POOH. M/UP NEW BIT RIH - WASH FILL FROM 425M - 437M. DRILL FROM 437M - 618M.
18.6.84	884m	266m 19½hrs.	DRILLING FROM 618M - 755M. CIRCULATE BOTTOM UP - DROP SURVEY - RETRIEVE SURVEY - RIH - WASH DOWN 730-755M. DRILLING FROM 755M-884M.

19.6.84	1032m	148m 15 hrs.	BREAK CIRC. AT 731M. - OK - RIH - OK WASH DOWN LAST 2 SINGLES. DRILLING FROM 884 - 1032M - CIRCULATE - SHORT TRIP TO 218 - OVERDRILL + 25T FROM 998 TO 869M. RIH - OK - CIRCULATE - DROP SURVEY. POOH.

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

TIME SUMMARY

WELL NAME: ...SPEKE NO. 1..... PERIOD: FROM: .13.6.1984..... TO: .19.4.1984.....

TIME ANALYSIS (HOURS)		FOR WEEK	TOTAL
D:	MOVING		
D1	Moving of rig, rigging up/down, anchoring	21	21
D2	Waiting on weather during moving		
D3	Other waiting time		
F:	DRILLING - CASING		
F1	Drilling on bottom, incl. connection time	66	66
F2	Trips for new bit		
F3	Ancillary Drilling Operations, incl. Totco, reaming, hole cleaning, testing BOP or casing.	21.5	21.5
F4	Casing and Cementing	46.5	46.5
G:	FORMATION SURVEYS		
G1	Coring		
G2	Related Coring Operations, incl. tripping etc.		
G3	Tests and associated operations		
G4	Electric Logging Operations	8	8
A:	INTERRUPTION OF OPERATIONS UNDER F OR G		
A1	Stuck Pipe and Fishing Operations		
A2	Mud-Losses, Flows, Treatment		
A3	Waiting on Weather		
A4	Other waiting time - Repairs		
C:	COMPLETION - PLUGGING		
C1	Completion, Stimulation, Production Tests		
C2	Abandonment of Well		
C3	WOW during completion, plugging, testing		
C4	Other Waiting time		
	TOTAL TIME:	163 hrs	163 hrs

DOWN TIME: HOURS NIL PERCENTAGE 0

[redacted]STR[redacted]N A[redacted]CAIN[redacted]ETRO[redacted]M PT[redacted]LTD[redacted]

WE[illegible]LY SUMMARY - BITS AND MUD

BIT AND CORE RECORD

BIT NO.	SERIAL NO.	MAKE	TYPE	NOZZLES	FROM	TO	METRES	HOURS	m/h	CONDITION
1	52837	VAR	L3A	3 x 20	77	228	151	11	13.72	PREVIOUSLY USED WAH1
2	52747	VAR	L3A	3 x 18	228	437	209	10.5	19.90	3 - 5 - T
3	XC5026	SM	DSJ	3 x 18	437	1032	595	44.5	13.37	

MUD PRODUCT

CHEMICAL	UNIT KG	CONSUMPTION		STOCK	CHEMICAL	UNIT KG	CONSUMPTION		STOCK
		WEEK	CUMULATIVE				WEEK	CUMULATIVE	
CEMENT "G"	KG	49,000							
BARYTES	"	31,000							
BENTONITE	"	35,000							
CAUSTIC	"	1,610							
SODA ASH	"	1,420							
$CACL_2$	"	80							
LIME	"	525							
DEXTRID	"	800							
CELPOL	"	825							
CONDET	"	400							
CMC LV	"	350							

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

WEEKLY WELL SUMMARY

WELL NAME: .....SPEKE NO. 1..... REPORT NO.: .....TWO.....

PERIOD: FROM: .....20.6.1984..... TO: .....26.6.1984.....

All depths relate to Rotary Kelly Bushings at zero tide datum (Low Water Indian Springs) which is ...77... metres above seabed.

HOLE	SIZE	36"	26"	17½"	12¼"	8½"	
	DEPTH (m)	N/A	228	1032	1756		
CASING	SIZE INCHES	N/A	20	13 3/8	9 5/8		
	DEPTH (m)	N/A	218m	1020m	1744		

DATE	DEPTH AT 2400 HRS.	PROGRESS	REMARKS
20.6.84	1032m	--	LOGGING - RUN 13 3/8" CASING AT 1020M.
21.6.84	1041m	9m	RUN 13 3/8" CASING - CEMENT JOB. DRILL OUT CEMENT - DRILLING TO 1041M
22.6.84	1314m	273m	DRILLING TO 1042M - L.O.T.: SG = 1.74 CHANGE BIT - DRILLING TO 1314M - SHORT TRIP SURVEY AT 1315M = 1°
23.6.84	1496m	182m	SHORT TRIP - DRILLING TO 1415M - CIRC - SURVEY AT 1415 = 1¼° - CHANGE BIT DRILLING FROM 1415 TO 1496M
24.6.84	1756m	260m	DRILLING TO 1702m - SHORT TRIP DRILLING TO 1756M
25.6.84	1756m	--	SHORT TRIP - LOGGING - CONTROL TRIP BEFORE CASING
26.6.84	1756m	--	CONTROL TRIP - RUN 9 5/8" CASING AT 1744M CEMENT JOB - RUN SEAL ASSEMBLY NEGATIVE PRESSURE TEST OF SEAL ASSY. RETRIEVE SEAL ASSY.

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

TIME SUMMARY

WELL NAME: SPEKE NO. 1 PERIOD: FROM: 20.6.84 TO: 26.6.84

TIME ANALYSIS (HOURS)		FOR WEEK	TOTAL
D:	MOVING		
D1	Moving of rig, rigging up/down, anchoring		21
D2	Waiting on weather during moving		
D3	Other waiting time		
F:	DRILLING - CASING		
F1	Drilling on bottom, incl. connection time	48½	114.5
F2	Trips for new bit	12½	12.5
F3	Ancillary Drilling Operations, incl. Totco, reaming, hole cleaning, testing BOP or casing.	10½	32.0
F4	Casing and Cementing	67½	114
G:	FORMATION SURVEYS		
G1	Coring		
G2	Related Coring Operations, incl. tripping etc.		
G3	Tests and associated operations		
G4	Electric Logging Operations	29	37
A:	INTERRUPTION OF OPERATIONS UNDER F OR G		
A1	Stuck Pipe and Fishing Operations		
A2	Mud-Losses, Flows, Treatment		
A3	Waiting on Weather		
A4	Other waiting time - Repairs		
C:	COMPLETION - PLUGGING		
C1	Completion, Stimulation, Production Tests		
C2	Abandonment of Well		
C3	WOW during completion, plugging, testing		
C4	Other Waiting time		
	TOTAL TIME:	168	331

DOWN TIME: HOURS NIL PERCENTAGE 0

[redacted]

WEEKLY SUMMARY - BITS AND MUD

BIT AND CORE RECORD

BIT NO.	SERIAL NO.	MAKE	TYPE	NOZZLES	FROM	TO	METRES	HOURS	m/h	CONDITION
4	RS26059	REED	S11	--	1032	1042	10	2	5	2-2-I
5	5483JE	HUG	X3A	3 x 13	1042	1415	373	23	16.2	5-8-I
6	CK9947	SMI	SDS	3 x 13	1415	1756	341	25.5	13.4	5-4-I

MUD PRODUCT

CHEMICAL	UNIT KG	CONSUMPTION		STOCK	CHEMICAL	UNIT KG	CONSUMPTION		STOCK
		WEEK	CUMULATIVE				WEEK	CUMULATIVE	
CEMENT "G"	KG	107,000	156,000		BICARBONATE	KG	160	160	
BARYTES	KG	67,500	98,500		Q.BROXIN	KG	1520	1520	
BENTONITE	KG	5,750	40,750		DEFOAMER	L	60	60	
CAUSTIC	KG	710	2,320						
SODA ASH	KG	800	2,220						
$CACL_2$	KG	0	80						
LIME	KG	0	525						
DEXTRID	KG	3,410	4,235						
CELPOL	KG	280	1,105						
CONDET	KG	0	400						
CMC LV	KG	530	880						

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

WEEKLY WELL SUMMARY

WELL NAME: ...SPEKE NO. 1 (SPK1)..... REPORT NO.: ..THREE.....

PERIOD: FROM: ..27.6.1984..... TO: .....3.7.1984.....

All depths relate to Rotary Kelly Bushings at zero tide datum (Low Water Indian Springs) which is .77..... metres above seabed. (WATER DEPTH 55M)

HOLE	SIZE	36"	26"	17½"	12¼"	8½"	
	DEPTH (m)	N/A	228	1032	1756	2534	
CASING	SIZE	N/A	20"	13 3/8"	9 5/8"	--	
	DEPTH (m)	N/A	218	1020	1744	--	

DATE	DEPTH AT 2400 HRS.	PROGRESS	REMARKS
27.6.84	1811M	55M 6 HRS.	TEST BOP - CHANGE BHA - RIH 8½" - DRILL OUT CMT - COLLAR 1708 - SHOE 1744 - REAM RAT HOLE TO 1756M - DRILL - CIRC - "D" TEST = 1.82 DRILL TO 1811M.
28.6.84	1926M	115M - 14.5 HR	DRILL TO 1861M - CIRC - DROP SURVEY - POOH - RECOVER SURVEY - RIH W/BIT NO. 8 - DRILL 1861 - 1868M - DRILLING BREAK AT 1864M - CIRC FOR SAMPLE - DRILL TO 1926M - DROP SURVEY - POOH TO CHECK BHA.
29.6.84	1991M	65M 7.5 HRS	POOH/RETRIEVE SURVEY - RIH W/BIT NO. 9 - DRILL 1926 TO 1991M - POOH FOR WOW TO SHOE - HANG OFF DRILL STRING IN W/HEAD - WOW.
30.6.84	2022M	31M 3.5 HRS	WOW - POOH HANG OFF TOOL RIH - CIRC - POOH FOR LOGGING - RIG UP SCHLUMBERGER - LOG FROM 1984 - 1744M - DRILL 1991 - 2022M.
1.7.84	2149M	127M 16 HRS.	DRILL FROM 2022 - 2063M - DRILLING BREAK - CIRC FOR SAMPLE - DRILL FROM 2063 - 2071M POOH - CHANGE BIT NO. 11 - RIH - DRILL FROM 2071 - 2092 - DRILLING BREAK - CIRC FOR SAMPLE DRILL FROM 2092 - 2149M.
2.7.84	2420M	271M 24 HRS.	DRILL FROM 2149 - 2420M
3.7.84	2534M	114M 11 HRS.	CIRCULATE - DROP SURVEY - POOH - CHANGE BIT - RIH NO. 12 - DRILL FROM 2420 - 2534M.

TIME SUMMARY

WELL NAME: SPEKE NO. 1 PERIOD: FROM: 27.6.84 TO: 3.7.84

TIME ANALYSIS (HOURS)		FOR WEEK	TOTAL
D:	MOVING		
D1	Moving of rig, rigging up/down, anchoring	0	21
D2	Waiting on weather during moving		
D3	Other waiting time		
F:	DRILLING - CASING		
F1	Drilling on bottom, incl. connection time	82.5	197.0
F2	Trips for new bit	34.0	46.5
F3	Ancillary Drilling Operations, incl. Totco, reaming, hole cleaning, testing BOP or casing.	6.0	38.0
F4	Casing and Cementing	17.0	131.0
G:	FORMATION SURVEYS		
G1	Coring		
G2	Related Coring Operations, incl. tripping etc.	3.5	3.5
G3	Tests and associated operations		
G4	Electric Logging Operations	9.5	46.5
A:	INTERRUPTION OF OPERATIONS UNDER F OR G		
A1	Stuck Pipe and Fishing Operations		
A2	Mud-Losses, Flows, Treatment		
A3	Waiting on Weather	15.5	15.5
A4	Other waiting time - Repairs		
C:	COMPLETION - PLUGGING		
C1	Completion, Stimulation, Production Tests		
C2	Abandonment of Well		
C3	WOW during completion, plugging, testing		
C4	Other Waiting time		
	TOTAL TIME:	168	499

DOWN TIME: HOURS 15.5 PERCENTAGE 0.031

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WEEKLY SUMMARY - BITS AND MUD

BIT AND CORE RECORD

BIT NO.	SERIAL NO.	MAKE	TYPE	NOZZLES	FROM	TO	METRES	HOURS	m/h	CONDITION
7	402YA	HUG	X3A	3 x 14	1756	1861	105	13	8.07	5 - 7 - I
8	CE3642	SMI	SDGH	3 x 11	1861	1926	65	7.5	8.66	6 - 2 - 1/16
9	BV6302	SMI	SDGH	3 x 13	1926	1991	65	7.5	8.66	4 - 2 - 1/16
10	CH0889	SMI	SVH	3 x 13	1991	2071	80	12.5	6.40	6 - 4 - 0/8
11	78555	HUG	J22	3 x 12	2071	2420	349	31	11.25	3 - 5 - 7/6
12	783KL	HUG	J22	3 x 12	2420	2692	272	33	8.24	5 - 8 - 0

MUD PRODUCT

CHEMICAL	UNIT KG	CONSUMPTION		STOCK	CHEMICAL	UNIT KG	CONSUMPTION		STOCK
		WEEK	CUMULATIVE				WEEK	CUMULATIVE	
CEMENT "G"	KG	0	156,000		BICARBONATE	KG	400	560	
BARYTES	KG	0	98,500		Q.BROXIN	KG	125	1,645	
BENTONITE	KG	2,560	43,310		DE FOAMER	L	0	60	
CAUSTIC	KG	930	3,250						
SODA ASH	KG	520	2,740						
$CACL_2$	KG	0	80						
LIME	KG	0	525						
DEXTRID	KG	2,570	6,805						
CELPOL	KG	930	2,035						
CONDET	KG	0	400						
CMC LV	KG	400	1,280						

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

TIME SUMMARY

WELL NAME: ...SPEKE NO. 1..... PERIOD: FROM: ..4.7.1984..... TO: ..10.7.1984.....

TIME ANALYSIS (HOURS)		FOR WEEK	TOTAL
D:	MOVING		
D1	Moving of rig, rigging up/down, anchoring	13.0	34.0
D2	Waiting on weather during moving		
D3	Other waiting time		
F:	DRILLING - CASING		
F1	Drilling on bottom, incl. connection time	36.5	233.5
F2	Trips for new bit	8.5	55.0
F3	Ancillary Drilling Operations, incl. Totco, reaming, hole cleaning, testing BOP or casing.	3.0	41.0
F4	Casing and Cementing	0.0	131.0
G:	FORMATION SURVEYS		
G1	Coring		
G2	Related Coring Operations, incl. tripping etc.	0.0	3.5
G3	Tests and associated operations		
G4	Electric Logging Operations	36.0	82.5
A:	INTERRUPTION OF OPERATIONS UNDER F OR G		
A1	Stuck Pipe and Fishing Operations		
A2	Mud-Losses, Flows, Treatment	12.0	12.0
A3	Waiting on Weather	0.0	15.5
A4	Other waiting time - Repairs		
C:	COMPLETION - PLUGGING		
C1	Completion, Stimulation, Production Tests		
C2	Abandonment of Well	51.5	51.5
C3	WOW during completion, plugging, testing		
C4	Other Waiting time		
	TOTAL TIME:	160.5	659.5

DOWN TIME: HOURS 12 PERCENTAGE 0.075

TOTAL DOWN TIME HOURS: 37.5 TOTAL PERCENTAGE: 0.057

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

WEEKLY WELL SUMMARY

WELL NAME: .....SPEKE NO. 1 (SPK 1)..... REPORT NO.: ....FOUR.....

PERIOD: FROM: ....4.7.1984..... TO: .....10.7.1984.....

All depths relate to Rotary Kelly Bushings at zero tide datum (Low Water Indian Springs) which is ...77... metres above seabed. (WATER DEPTH 55M)

HOLE	SIZE	36"	26"	17½"	12¼"	8½"	
	DEPTH (m)	N/A	228	1032	1756	2772	
CASING	SIZE	N/A	20"	13 3/8"	9 5/8"	--	
	DEPTH (m)	N/A	218	1020	1744	--	

DATE	DEPTH AT 2400 HRS.	PROGRESS	REMARKS
4.7.1984	2690M	156M 21.5hrs	DRILLING - SHORT TRIP TO 2007 - DRILL TO 2690M.
5.7.1984	2772M	82M 15 HRS.	DRILLING - TRIP FOR NEW BIT - DRILLING TO 2772M.
6.7.1984	2772M	--	CIRCULATE - SHORT TRIP TO CSG SHOE - CIRCULATE DROP SURVEY - LOGGING
7.7.1984	2772M	--	LOGGING - RIH TUBING/DP - SET - CEMENT PLUG 2110 - 1980M AND 1800 - 1700M - LAYDOWN DP - TEST PLUG TO 1000 PSI - OK.
8.7.1984	2772M	--	LAYDOWN DP - CUT 9 5/8" CSG AT 130M & PULL OUT CUT 13 3/8" CSG AT 120M.
9.7.1984	2772M	--	RETRIEVE 13 3/8" CSG - SET CEMENT PLUG NO. 3 - PULL BOP - CUT 20" CSG - RETRIEVE 20" CSG - TGB AND PGB.
10.7.1984	2772M	--	LAYDOWN DRILL PIPE/DRILL COLLARS - DEBALLASTING PULL ANCHORS - RIG RELEASED AT 1630 HRS.

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WEEKLY SUMMARY - BITS AND MUD

BIT AND CORE RECORD

BIT NO.	SERIAL NO.	MAKE	TYPE	NOZZLES	FROM	TO	METRES	HOURS	m/h	CONDITION
13	KC4089	SMI	F3	3 x 12	2692	2772	80	14.5	5.51	1 - 3 - I

MUD PRODUCT

CHEMICAL	UNIT KG	CONSUMPTION		STOCK	CHEMICAL	UNIT KG	CONSUMPTION		STOCK
		WEEK	CUMULATIVE				WEEK	CUMULATIVE	
CEMENT "G"	KG	35,600	191,600		BICARBONATE	KG	0	560	
BARYTES	KG	0	98,500		Q.BROXIN	KG	120	1,765	
BENTONITE	KG	5,000	48,310		DE. FOAMER	L	0	60	
CAUSTIC	KG	140	3,390						
SODA ASH	KG	200	2,940						
$CACL_2$	KG	0	80						
LIME	KG	0	525						
DEXTRID	KG	440	7,245						
CELPOL	KG	0	2,035						
CONDET	KG	0	400						
CMC LV	KG	0	1,280						

PE902464

This is an enclosure indicator page.
The enclosure PE902464 is enclosed within the container PE902463 at this location in this document.

The enclosure PE902464 has the following characteristics:

ITEM_BARCODE	= PE902464
CONTAINER_BARCODE	= PE902463
NAME	= GA82B Seismic Survey
BASIN	= GIPPSLAND
PERMIT	= VIC/P17
TYPE	= SEISMIC
SUBTYPE	= SECTION
DESCRIPTION	= GA82B Seismic Survey line GA82B-211A (enclosure from WCR) for Speke-1
REMARKS	=
DATE_CREATED	= 30/11/84
DATE_RECEIVED	= 16/08/85
W_NO	= W870
WELL_NAME	= Speke-1
CONTRACTOR	= Australian Aquitane Petrol
CLIENT_OP_CO	= AUSTRALIAN AQUITAINE PETROL

(Inserted by DNRE - Vic Govt Mines Dept)

PE902466

This is an enclosure indicator page.
The enclosure PE902466 is enclosed within the container PE902463 at this location in this document.

The enclosure PE902466 has the following characteristics:

ITEM_BARCODE	= PE902466
CONTAINER_BARCODE	= PE902463
NAME	= GA81 Seismic Survey
BASIN	= GIPPSLAND
PERMIT	=
TYPE	= SEISMIC
SUBTYPE	= SECTION
DESCRIPTION	= GA82B Seismic Survey line GA81-51 (enclosure from WCR) for Speke-1
REMARKS	=
DATE_CREATED	= 30/11/84
DATE_RECEIVED	= 16/08/85
W_NO	= W870
WELL_NAME	= Speke-1
CONTRACTOR	= Australian Aquitane Petrol
CLIENT_OP_CO	= AUSTRALIAN AQUITAINE PETROL

(Inserted by DNRE - Vic Govt Mines Dept)

PE601199

This is an enclosure indicator page.
The enclosure PE601199 is enclosed within the container PE902463 at this location in this document.

The enclosure PE601199 has the following characteristics:

ITEM_BARCODE	= PE601199
CONTAINER_BARCODE	= PE902463
NAME	= Composite Well Log
BASIN	= GIPPSLAND
PERMIT	= VIC/P17
TYPE	= WELL
SUBTYPE	= COMPOSITE_LOG
DESCRIPTION	= Composite Well Log (enclosure from WCR) for Speke-1
REMARKS	=
DATE_CREATED	= 31/10/84
DATE_RECEIVED	= 16/08/85
W_NO	= W870
WELL_NAME	= Speke-1
CONTRACTOR	= Australian Aquitane Petrol
CLIENT_OP_CO	= AUSTRALIAN AQUITAINE PETROL

(Inserted by DNRE - Vic Govt Mines Dept)

PE601201

This is an enclosure indicator page.
The enclosure PE601201 is enclosed within the container PE902463 at this location in this document.

The enclosure PE601201 has the following characteristics:

ITEM_BARCODE	= PE601201
CONTAINER_BARCODE	= PE902463
NAME	= Masterlog
BASIN	= GIPPSLAND
PERMIT	= VIC/P17
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Masterlog geological evaluation (enclosure from WCR) for Speke-1
REMARKS	=
DATE_CREATED	= 5/07/84
DATE_RECEIVED	= 16/08/85
W_NO	= W870
WELL_NAME	= Speke-1
CONTRACTOR	= GEOSERVICES
CLIENT_OP_CO	= AUSTRALIAN AQUITAINE PETROL

(Inserted by DNRE - Vic Govt Mines Dept)