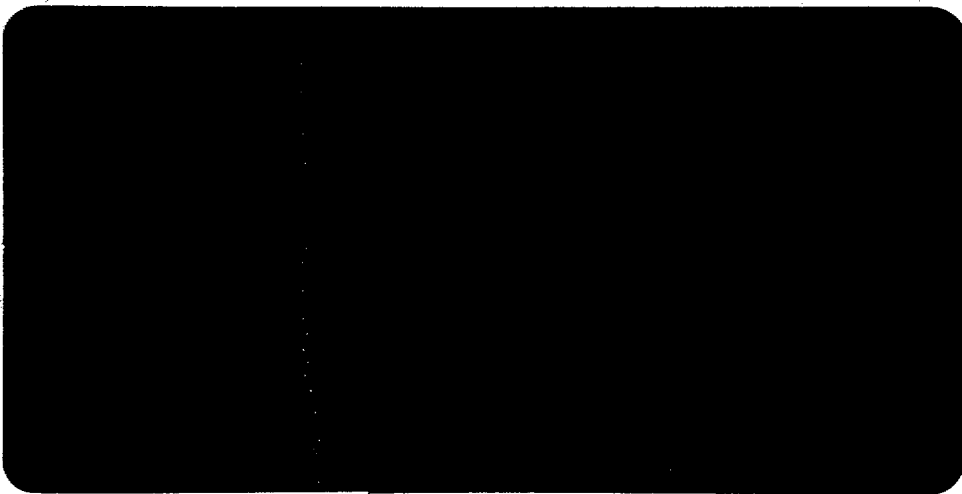


DEPT. NAT. RES & ENV



PE902399



WCR ONED-2A

(W907)

EXPLORATION

OIL and GAS DIVISION

W907

OME O - 2A

12 DEC 1985

WELL COMPLETION REPORT

PG/249/85

Ph. Baffray

Approved by 

Exploration Manager

Sydney

November, 1985

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RESUME

Omeo-2 a été foré pour confirmer la présence d'hydrocarbures qui avaient été décelés par Omeo-1 dans les réservoirs du "Latrobe Profond". Pour des raisons techniques ces niveaux n'avaient pas été testés.

Après trente huit jours de forage, Omeo-2 atteignit la profondeur finale de 3400m sans rencontrer d'hydrocarbure.

Aucune corrélation semble possible dans les niveaux profonds du Latrobe entre les deux puits d'Oméo, par suite de la discontinuité des sédiments continentaux déposés aux abords d'une faille majeure de croissance.

L'échec d'Oméo-2 témoigne de la grande difficulté qui réside dans l'exploration du thème "Latrobe-Profond", dont la géologie est complexe et pour lequel l'interprétation des données sismiques ne permet pas actuellement une définition correcte des pièges.

ABSTRACT

Omeo-2 was drilled to confirm the presence of hydrocarbons which were previously encountered by Omeo-1 in reservoirs of the Deep-Latrobe sequence, but which were not tested for technical reasons.

After thirty eight days of drilling, Omeo-2 reached the T.D. of 3400m, but failed to find hydrocarbon reservoirs.

No correlation is indicated between the two Omeo wells in the Deep-Latrobe. This is because of the discontinuity of the continental sediments deposited in the vicinity of a major growth fault.

The results of Omeo-1 confirm the problems and difficulties associated with exploration of the Deep-Latrobe play, where the very complex geology and the interpretation of the seismic data cannot provide a sufficiently accurate definition of the traps.

1. GENERAL DATA

- 1.1 Name : OMEO-2A
- 1.2 Type : Exploration Well
- 1.3 Permit : VIC/P 17 (See fig. 1 and 2)
- 1.4 Location : Intersection of seismic lines:
GA 81.32 and GA 84 A 407
Lat = $38^{\circ} 36' 21.864''$ S
Long = $147^{\circ} 42' 38.364''$ E
X = 561877.3 E
Y = 5726682.1 N (central meridian 147E)
(41.8m at a bearing of 39.3 deg. true from proposed)
- 1.5 Water Depth : 62m
- 1.6 Distances : - Port Welshpool = 105km
- Nearest Landfall (90 Mile beach) = 51km
- Nearest wells
. OMEO-1 at 0.9km to the S.E.
. TARRA-1 at 4km to the S/S.W.
- 1.7 Title Holders:
- | | |
|--|------------------|
| Elf Aquitaine Petroleum Australia Pty. Limited | |
| | (Operator) 52.5% |
| O.P.I.C. Australia Pty Ltd | 30.0% |
| Consolidated Petroleum | 12.5% |
| Santos Limited | 5.0% |
- 1.8 Rig : DIAMOND M EPOCH
Semi-submersible rig: KB = + 22m

1.9 Objectives : 1) Deep-Latrobe sandy reservoirs previously encountered with hydrocarbons shows in Omeo-1
2) Reservoirs at the Top Cretaceous
3) Top Latrobe Clastics reservoirs (because of the possible small closure at that level).

1.10 Total Depth : 3400m/KB (driller)
3403m/KB (logger)
(in the Latrobe Clastics Formation - Upper Cretaceous -)

1.11 Duration : Arrival on the wellsite : 10.05.85
Spud date Omeo-2 : 12.05.85.
Omeo-2A* : 15.05.85
T.D. reached : 20.06.85
Rig released : 24.06.85

1.12 Cost : \$9,180,000 (Excluding overheads and insurance)

* Respudding of Well (B.O.P. inclination)

2. OPERATIONS DATA

2.1 Drilling Data

Refer to the following appendices for detailed drilling data:

Appendix 1 = Positioning of the rig

Appendix 2 = Final technical report

The following summarises the well history:

OMEQ-2

Omeo-2 was spudded on May 12th, 1985 in a water depth of 62 m.

- . 26" hole
Depth = 84 - 293m
Casing 20" at 284m

- . When the wear bushing could not be run, it was noticed that the casing had tilted: Omeo-2 was therefore abandoned.

OMEQ-2A

After moving 30m, the well Omeo-2A was spudded on May 15th, 1985.

- . 26" Hole
Depth = 84 - 265m
Casing 20" at 249m
Mud type = Seawater with Hi-Vis Pills

- . 17 1/2" hole
Depth = 265 - 1068m
Casing 13 3/8" at 1062m
Mud Type = Seawater - Gel - Native clay
MW = 1.09 - 1.10 S.G.

- . 12 1/4" hole
Depth = 1068 - 2806m
Casing 9 5/8" at 2798m
Mud Type = Seawater - Polymer
MW = 1.12 S.G.

- . 8 1/2" hole
Depth = 2806 - 3400m (T.D.)
Casing = none run
Mud Type = Seawater - Polymer
MW = 1.16 - 1.17 S.G.

- . The well was plugged and abandoned on June 24th, 1985.

2.2 Wireline Logging

All wireline logging services were performed by Schlumberger, as summarised in the following table:

(A complete set of logs at a scale of 1/500 is included in this report.)

DATE	TOOL TYPE	RUN NO.	FROM (m)	TO (m)	O.H. DIAM. (in.)	DEPTH DRILLER (m)	DEPTH LOGGER (m)	MAX T (°C)	MUD	
									TYPE	Fil.Sal. (g/l)
20-5-1985	ISF-SLS-GR-SP	1	1062	250	17 1/2"	1068	1064	49	BENTO	24
8-6-1985	ISF-MSFL-SLS-GR-CAL-SP	2	2802	1062	12 1/4"	2806	2803	92	BENTO	36
	LDL-CNL-GR-CAL	1	2792	2225	"	"	2795	102	"	"
	SHDT	1	2792	2250	"	"	2795	104	"	"
	CST	1	2776	2018	REC = 47 / 51					
20-6-1985	DLL-MSFL-GR-CAL-SP	3	3395	2798	8 1/2"	3400	3403	114	BENTO	28
	BHC-GR	3	3400	2798	"	"	"	119	"	"
	LDL-CNL-GR-CAL	2	3402	2798	"	"	"	122	"	"
	EPT-GR	1	3402	2798	"	"	"	122	"	"
	SHDT	2	3402	2798	"	"	"	129	"	"
	CST	2	3386	2824	REC = 26 / 30					
	VELOCITY SURVEY		260	3390	85 SHOTS / 21 LEVELS					

3. GEOLOGY

3.1 Stratigraphy (see enclosure 3 and appendices 3 and 4)

	Sea floor		(- 62m)
MIOCENE			
	Gippsland Formation		
	Upper Member	: 84m/KB	(- 62m)
	Lower Member	: 1397m/KB	(-1375m)
OLIGOCENE*			
	Lakes Entrance Formation	: 2181.5m/KB	(-2159.5m)
EOCENE			
	Gurnard Formation	: 2246m/KB	(-2224m)
	Latrobe Clastics	: 2347m/KB	(-2325m)
	PALEOCENE (Latrobe clastics)	: 2476m/KB	(-2454m)
UPPER CRETACEOUS (Latrobe clastics)			
	Maastrichtian	: 2701m/KB	(-2679m)
	Campanian	: 2964m/KB	(-2942m)
		: T.D. = 3400m/KB	

* The micropalaeontological study suggests that the top of the Early Miocene could be at a depth of 2215m/KB. However, to be consistent in the permit, and particularly with the well Omeo-1 which offers good electric correlations with Omeo-2 at this level, it was decided to keep the top Oligocene at the depth of 2181.5m/KB.

3.2 Lithology (see enclosures 4, 5 and 6)

- Gippsland Limestone Formation

Thickness = 1783.5m

Marine environment.

This is a transgressive sequence where sea level changes and structural movements, within the Miocene, produced a multiplicity of submarine channels. Slumping is common near the base. It has been subdivided into an Upper and a Lower Member.

. Upper Member (down to 1397m)

Dominantly composed of marl and calcareous shale with intercalations of limestone and calcarenite.

. Lower Member (1397-2181.5m). Calcareous claystone locally grading to siltstone near the base of the sequence, with minor intercalations of limestone and very fine argillaceous sandstone.

- Lakes Entrance Formation.

Thickness = 64.5m

Shelf and break of slope environments

As picked on the logs, the top of this formation corresponds to compact intercalation of marine calcareous shale which present good continuity between Omeo-1 and Omeo-2.

Within this formation, the facies are shaly and silty, with a dispersive clay fraction and a common occurrence of glauconite.

- Gurnard Formation.

Thickness = 101m

Shallow continental shelf environment

Mainly composed of glauconitic siltstone and sandstone, argillaceous and calcitic, with intercalations of calcareous claystone, soft, dispersive, with oxidised pyrite and glauconite.

The base of the transgressive formation is composed of a highly glauconitic conglomeratic sandstone overlying the eroded Latrobe clastics.

- Latrobe Clastics Formation.

This thick detritic formation was deposited from the Upper Cretaceous to the Early Eocene.

Two main units can be identified for a better understanding of the facies distribution.

. Top/Intra Latrobe

(Early Eocene - Paleocene - Maastrichtian).

Thickness = 617m

At the Omeo location, the sediments exhibit a good lateral continuity and it is relatively easy to follow the different beds between Omeo-1 and Omeo-2.

The sediments are dominantly prograding deltaic deposits (the top represents the onset of marginal marine conditions) with interludes of marsh facies.

The Eocene sands are clean, coarse to very coarse, subrounded and have very good porosity and excellent permeability. Deeper, the sands generally become finer and are often interbedded with the massive coaly and shaly Paleocene beds.

The Maastrichtian is composed of a complex system of fluvial, alluvial and delta plain deposits. Fine to medium pyritic sandstone and thinly bedded carbonaceous shale constitute much of the sequence. At 2852m, a 10 metres thick volcanic intercalation lies above the tight sandstone located at the base of the Maastrichtian.

Deep-Latrobe

(Campanian)

Thickness greater than 448m.

In Omeo-2, the Deep-Latrobe deposits correspond to the filling of the basin, where the sandstone and shale (about in equal quantities), present an increasing dip with depth.

The sandstone, medium to fine, are rather poorly cemented (average porosity of 12% at 3200m). The shaly intercalations are rarely thicker than 5 metres in a single bank. Coal is only present in minor stringers or laminated with shale.

3.3 Geophysical Results (see enclosures 7, 8 and appendix 5)

The following table shows the variance between the forecast and the actual well data:

SEISMIC HORIZON	PREDICTED FROM SEISMIC DATA		ACTUAL WELL DATA		
	MS t.w.t.	DEPTH m/SL	VELOCITY SURVEY		DEPTH m/SL
			MS t.w.t.	VA/SURFACE (Vi)	
Gippsland Limest. (Low. Memb.)			1080	2550 (2590)	-1375
Lakes Entrance			1686	2560 (3580)	-2159.5
Gurnard	1746	-2223	1722	2580 (3480)	-2224
Latrobe Clastics			1780	2610 (4000)	-2325
Purple horizon			1820	2640 (3320)	-2405
Green horizon			1985	2700 (4190)	-2679
Orange horizon	2090	-2848	2057	2750 (4140)	-2830
Turquoise horizon	2231	-3072			

- Nb: -
- . The differences in predicted and actual two-way-times are due to predicted times originating from minimum phase seismic data.
 - . Omeo-2 predicted depths were made using Omeo-1 interval velocities.
 - . As a result of tectonic events in the Deep Latrobe sequence, the smooth Turquoise horizon originally interpreted, has in fact, no geological significance.

3.4 Correlations with Omeo-1 / Geometry of the trap
(See enclosures 9, 10 and appendix 6).

PERIOD	OMEO-1			OMEO-2		
	m/KB	m/SL	THICKNESS (m)	m/KB	m/SL	THICKNESS (m)
MIOCENE (Up. memb.)	92	- 62	1329	84	- 62	1313
(Low. memb.)	1421	-1391	767	1397	-1375	784.5
OLIGOCENE (Lakes Entr.)	2188	-2158	64	2181.5	-2159.5	64.5
EOCENE (Gurnard)	2252	-2222	95	2246	-2224	101
(Top Latrobe clastics)	2347	-2317	121	2347	-2325	129
PALEOCENE	2468	-2438	219	2476	-2454	225
UPPER CRETACEOUS	2687	-2657	508	2701	-2679	702 T.D.=3400
EARLY CRETACEOUS (Strzelecki)	3195	-3165	184 T.D.=3379			

Omeo-2 is structurally 8 metres deeper than Omeo-1 at the top of the Latrobe Clastics Formation.

The formation thicknesses are equivalent in both wells and the correlations are good down to the base of the tight sandstone intercalation located below the Intra-Upper-Cretaceous Orange horizon. At this level, Omeo-2 is about 15m deeper than Omeo-1.

Below this point, no more correlation exists between the two wells.

- A strong tectonic regime affects the Omeo-1 location where a number of faults chop up the Deep-Latrobe sediments at the level of the hydrocarbon reservoirs identified as being Cenomanian/Turonian from a recent palynological re-evaluation. From 3195m/KB, the Omeo-1 well drilled through a very tight and faulted facies, dipping to the east and south, which corresponds to Strzelecki deposits, Neocomian to Aptian in age.
- In Omeo-2, the Strzelecki Formation has not been encountered: it is probably much deeper below the T.D. The oldest sediments in the well are Campanian in age. No big fault can be pointed out, and the dip of the Deep-Latrobe sediments, which gradually increases with depth, from 10 to 20° NE, indicates the filling of the basin on the downthrown side of the main fault.

The two wells on the structure have highlighted the complexity of the Deep-Latrobe and Strzelecki geology in the vicinity of the Omeo NW-SE main fault.

The Deep Latrobe, which corresponds to the filling of the basin, where the sequence is often faulted and in contact with the Strzelecki tilted blocks, is a difficult environment for seismic interpretation.

This is the reason why the smooth Turquoise horizon originally picked in Omeo-1 at the level of the objective is not representative of the deep structure, and also why the map drawn (and valid) at the Orange horizon cannot be used for the definition of the geometry of deeper objectives (which cannot be assumed to be parallel to the Orange horizon.)

4. HYDROCARBON OCCURRENCE

4.1 Hydrocarbon Shows

4.1.1. During drilling (see enclosure 4)

- Gippsland Formation: very weak gas shows between 700 and 1700m. The background gas is lower than 0.5% total gas ($C_1 + C_2$ and traces C_3).
- Lakes Entrance Formation = No show.
- Gurnard Formation = No show.
- Top and Intra Latrobe Clastics Formation: rare gas peaks in front of coaly intercalations. The gas analyses indicate a large predominance of C_1 (about 95% of the total gas).
Very slow streaming white yellow cut and traces of fluorescences at the top of the Formation.
- Deep-Latrobe: succession of gas peaks mainly composed of C_1 between 2964 and 3400m (TD) the values slightly increase with depth (up to 4.45% total gas at 3382m), but the background gas remains nil.
From 3230 to 3400m: traces of fluorescence and locally traces of very slow cut (very pale yellow in color).

4.1.2. In sidewall-cores (See enclosure 6)

- Top Latrobe

Traces of hydrocarbon in only two samples.

2351m = Sandstones poorly cemented, white, locally light brown with traces of residual oil.

- . No direct fluorescence
- . Very slow crush cut with traces of white fluorescence.

2356 = Tight calcitic sandstone.

- . traces of very dull pale yellow fluorescence
- . slow crush cut (white fluorescence)

- Deep Latrobe

Presence of weak oil shows in some sidewall - cores between 3224 and 3366m.

3366m = Sandstone white to very light brown with silica cement.

- . light yellow direct fluorescence
- . slow cut and pale yellow fluorescence of the solvent after extraction

4.2 Reservoirs and fluids

All the reservoirs were encountered within the Latrobe Clastics Formation, from 2347 to 3400m/KB (T.D.).

In this thick sequence, which roughly corresponds to fluvial and deltaic deposits, four main reservoir-units are differentiated; two in the Upper Latrobe section (Top and Intra Latrobe) and two in the Deep-Latrobe section.

The reservoirs are composed of sandstone presenting good petrophysical characteristics, particularly near the top of the Latrobe Clastic Formation.

No hydrocarbon has been trapped within the reservoirs which are water saturated. The salinity of the formation water (obtained from electric logging) progressively decreases from 50g/l NaCl at the Top Latrobe, down to 6g/l NaCl in the deepest drilled levels.

Following the electric logs analysis, no doubt was left about the nature of the fluids. In the light of these results, there was not justification to carry out further testing.

The table (see following page) indicates the principal characteristics of the reservoirs.

LATROBE CLASTICS RESERVOIRS		DEPTH (m/KB)	GROSS PAY (m)	NET PAY (m)	Ø (%)	R _w (Ω.m)	SALINITY (g/l)	SW (%)	FLUID
TOP / INFRA LATROBE	EOCENE RES.	2347-2448	101	55	20-23	0.06 at 81°C	45-50	100	Water
	PALEOCENE RES.	2534-2667	133	45	18-21	0.057 at 85°C	45-50	100	Water
	MAASTRICHTIAN RES.	2701-2852	151	50	14-17	0.07 at 92°C (fr 2707 to 2803m)	37	100	Water
0.08 at 95°C (fr 2803 to 2852m)						25-30	100	Water	
DEEP LATROBE	CAMPANIAN RES.	2964-3400	436	220	11-13	0.12 at 104°C (fr 2964 to 3201m)	18	100	Water
0.18 at 108°C (fr 3201 to 3218m)						12	100	Water	
0.24 at 110°C (fr 3218 to 3280m)						8	100	Water	
0.31 at 112°C (fr 3280 to 3400m)						6	100	Water	

4.3 Source Rock Evaluation

Source rock evaluation of samples by Amdel laboratory is detailed in appendix 7 which includes total organic carbon, Rock-Eval pyrolysis, vitrinite reflectance and organic petrology analyses.

4.3.1. Source Rock Qualities

	NUMBER OF SAMPLES	AVERAGE TOC %	PERCENTAGE OF D.O.M.			HI
			Ex%	Vit.%	In.%	
PALEOCENE	6	1.73	27.5	27.5	45	120 - 300
PALEOCENE COAL	2	74.4	25*	27.5	47.5	240 - 260
MAASTRICHTIAN	4	0.53	23	12	65	25 - 250
CAMPANIAN	9	1.64	5	5	90	20 - 160

* The analysis indicated up to 40% of resinite among the exinite macerals in a coal sample at 2700m.

4.3.2. Maturity

The vitrinite reflectance data and Tmax values show that the sedimentary section of Omeo-2 is mature:

- for generation of light oil from resinite-rich D.O.M. (threshold VR = 0.45%) below 2500m depth.
- for gas generation from woody-herbaceous D.O.M. (threshold VR = 0.6%) below about 3050m.
- for oil generation from resinite-poor terrigenous organic matter (range VR = 0.7 - 1.2%) below about 3250m.

4.3.3 Source Rock Potential

- Paleocene

Some (4) samples have excellent source richness indicated by (S_1+S_2) of 8.6 - 207 kg of hydrocarbons/tonne of rock.

The best source potential for liquid hydrocarbons are the resinite-rich coals and the analysis indicates that the threshold for oil generation from these macerals has been reached.

The total thickness of coal intercalations is about 30m between 2450 and 2700m (including 15m between 2670 and 2700m).

- Cretaceous

Source quality is fair to poor in the Cretaceous. The majority of the D.O.M. in the sequence is inertinite (up to 90% in the Campanian), which suggests that the sediments are gas prone with gas generation commencing at about 3050m (VR = 0.6%).

Note: It is important to record that the Deep-Latrobe Sequence (Cenomanian/Turonian) of Omeo-1 was very rich in coaly intercalations between 3052 and 3120m i.e. very close to the main objective. These coal deposits, obviously considered to be a very interesting cretaceous source rock, were not encountered at the Omeo-2 location..

4.4 Evaluation of the Omeo Hydrocarbon Accumulation

As explained in paragraph 3.4, there is no correlation between Omeo-1 and Omeo-2 at the level of the Deep-Latrobe reservoirs. The thick shaly and coaly seal encountered in Omeo-1 just above the reservoirs with hydrocarbons shows was notably absent in the second well on the structure.

There is no hydrocarbons in Omeo-2.

The hydrocarbon accumulation in Omeo-1, probably corresponds to a very small quantity of hydrocarbon trapped in a wedge between two or more faults and beneath a good seal, presenting a very likely poor lateral extension.

The knowledge of the formation water salinities in Omeo-2, allows an estimation of the hydrocarbon saturation in Omeo-1, as set out in the following table.

Note: Three different formation water salinities (18, 12 and 6 g/l NaCl) have been chosen to calculate the water saturations:

12 g/l NaCl seems to be the correct value in Omeo-1; this value, obtained in Omeo-2 at an equivalent depth, is in good accordance with the concept of probable communications of aquifers through the faults.

<u>OMEQ-1 RESERVOIRS EVALUATION</u>						
Reservoirs				Formation Water Salinity		
				18g/l	12g/l*	6g/l**
Interval (m/KB)	Tot. pay (m)	Net Pay (m)	ϕ (%)	SW (%)	SW (%)	SW (%)
3073-3082	9	6	14	40	48	63
3090-3098	8	6	12	63	80	100
3100-3107	7	5	12.5	70	90	110(?)
3120-3128	8	7	13	43	53	70
3130-3137	7	5	15	60	73	100
3141-3152	11	3	11	80	100	120(?)
3154-3160	6	1(?)	10	90	100	-
3171-3181	10	1(?)	9	90	100	-

* The value of 12 g/l NaCl is taken as the optimum to determine R_w :
 $R_w = 0.18 \Omega \cdot m$ at $105^\circ C$ (at about 3100m/KB).

** The most pessimistic choice of 6 g/l NaCl (which seems hardly likely to be true) would indicate that some hydrocarbons are still present in Omeo-1.

5. CONCLUSIONS

Omeo-2, located at 900m from Omeo-1, was primarily designed to test the Deep-Latrobe reservoirs previously encountered with hydrocarbon shows in Omeo-1 between 3073 and 3181m/KB, but which were not tested.

Omeo-2 was expected to reach these reservoirs at about 3070m/KB.

The well drilled through more than 1000m of the Latrobe Clastics Formation and encountered several sandy reservoirs with good petrophysical characteristics; the total net pay is 370m. However, the lack of shows during drilling and the log analysis indicate that all the reservoirs are filled with water.

No correlation has been drawn between Omeo-1 and Omeo-2 at the level of the objective, and Omeo-2 failed to find either sufficient seal or hydrocarbon reservoir.

The hydrocarbon accumulation of OMEO is probably very small and limited to the immediate vicinity of Omeo-1.

The well has been plugged and abandoned.

Omeo-2 has demonstrated that the structural map of the Orange horizon cannot be applied to deeper horizons closer to the reservoirs.

Because of the complex geology of the Deep-Latrobe, interpretation of the seismic data cannot provide an accurate definition of traps, thus increasing the risk factor in the exploration of this play-concept in the VIC/P17 permit.

FIGURES AND ENCLOSURES

		<u>Dwg. No.</u>	<u>Scale</u>
Fig.1	Location map	19944	1/3000,000
Fig.2	VIC/Pl7 Permit map	25055	1/500,000
Encl.3	Completed section	25056	1/10,000
Encl.4	Master log		1/500
Encl.5	Composite log	25037	1/500
Encl.6	Sidewall-core description		
Encl.7	Seismic well data	25285	
Encl.8	Interpreted seismic line GA81-32	25403	
Encl.9	Correlations between Omeo-1 and Omeo-2 in the Deep Latrobe	25154	1/500
Encl.10	Omeo block diagram		

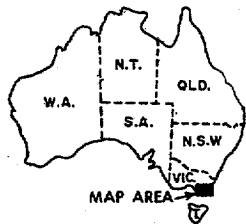
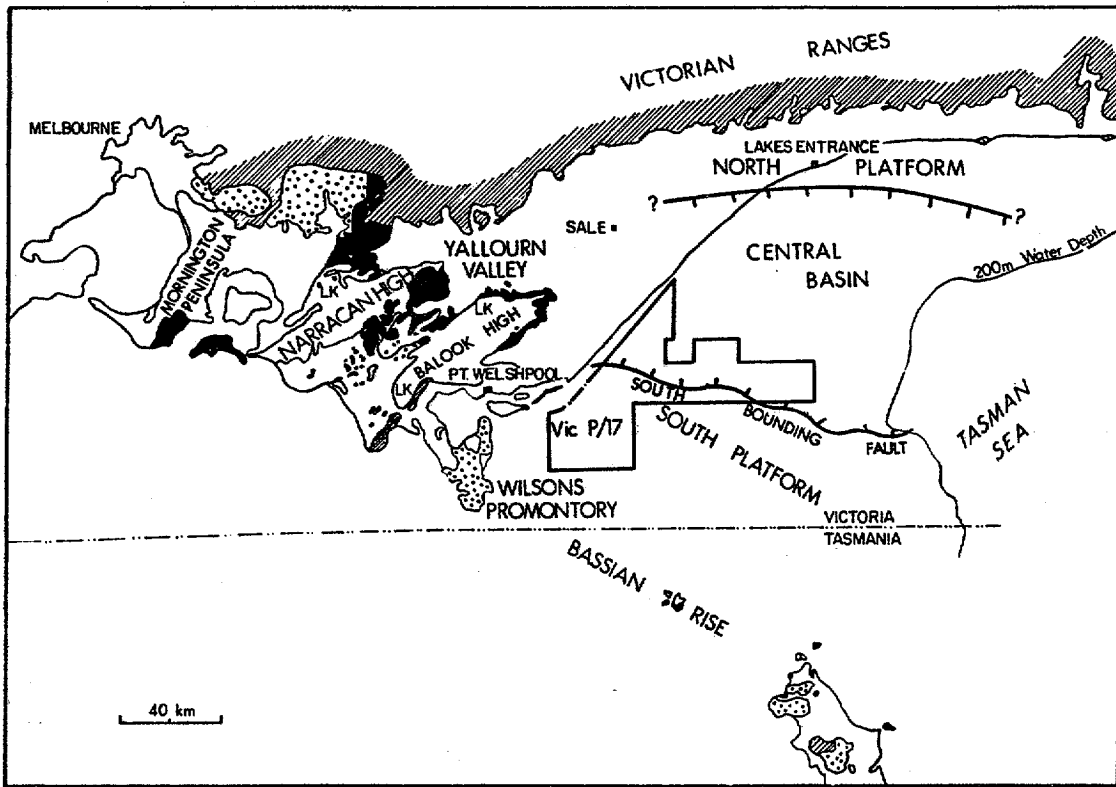
APPENDICES

Author





App.1.	Supervision report on the positioning of the rig	ECL Astralia Pty Limited
App.2	Final Technical Report	Drilling Dept. E.A.P.A.
App.3	Foraminiferal sequence	David Taylor
App.4	Stratigraphic palynology	Helene A. Martin
App.5	Velocity survey report	S.S.L.
App.6	Dipmeter interpretation	Schlumberger
App.7	Source rock evaluation	Andel

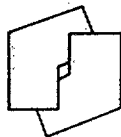
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LEGEND

-  PALAEOZOIC GRANITES
-  PALAEOZOIC METASEDIMENTS
-  VOLCANICS
-  L. CRETACEOUS - STRZELECKI GP.



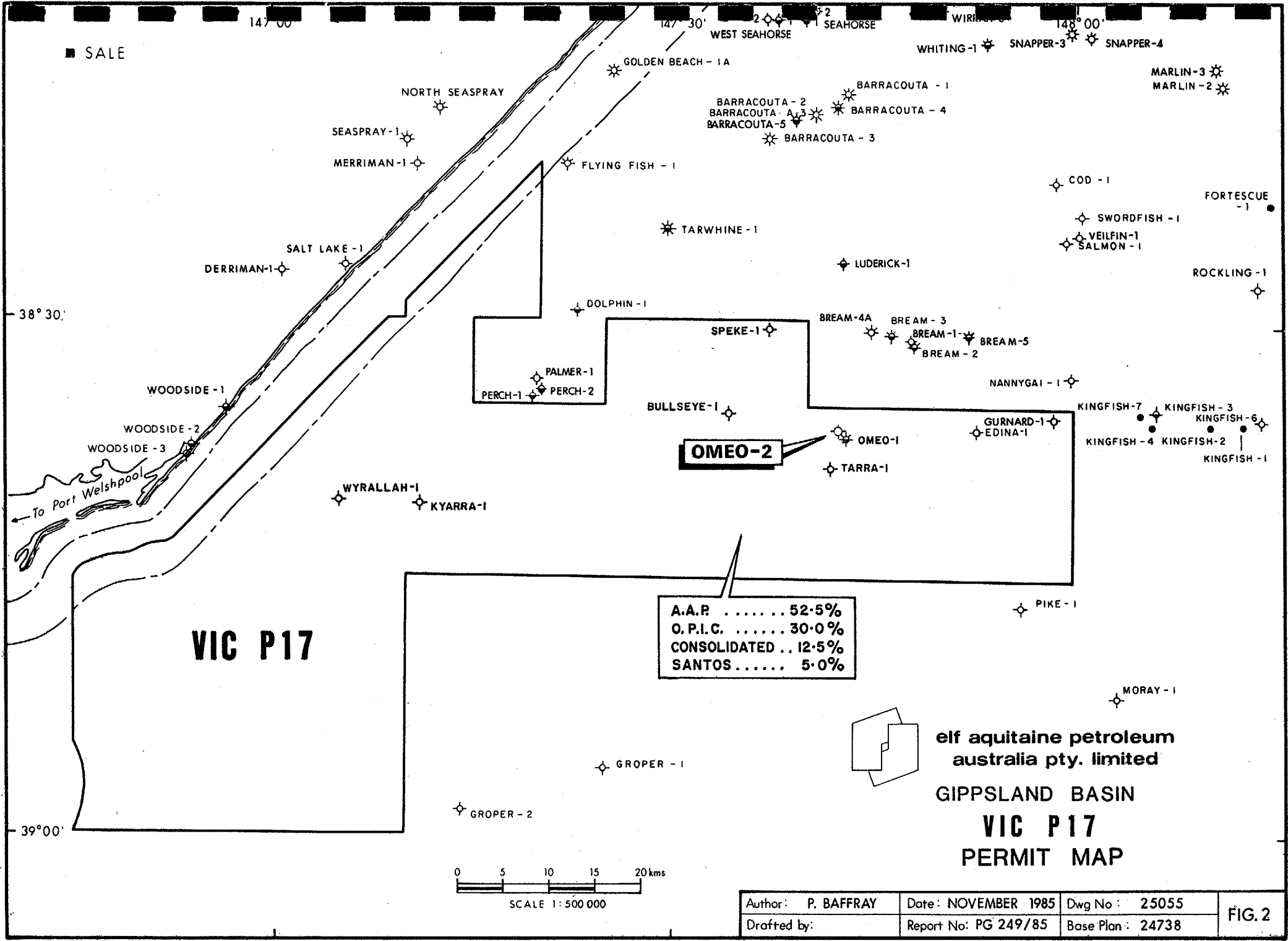
**elf aquitaine petroleum
australia pty. limited**

**GIPPSLAND BASIN
Vic P/17**

LOCATION MAP

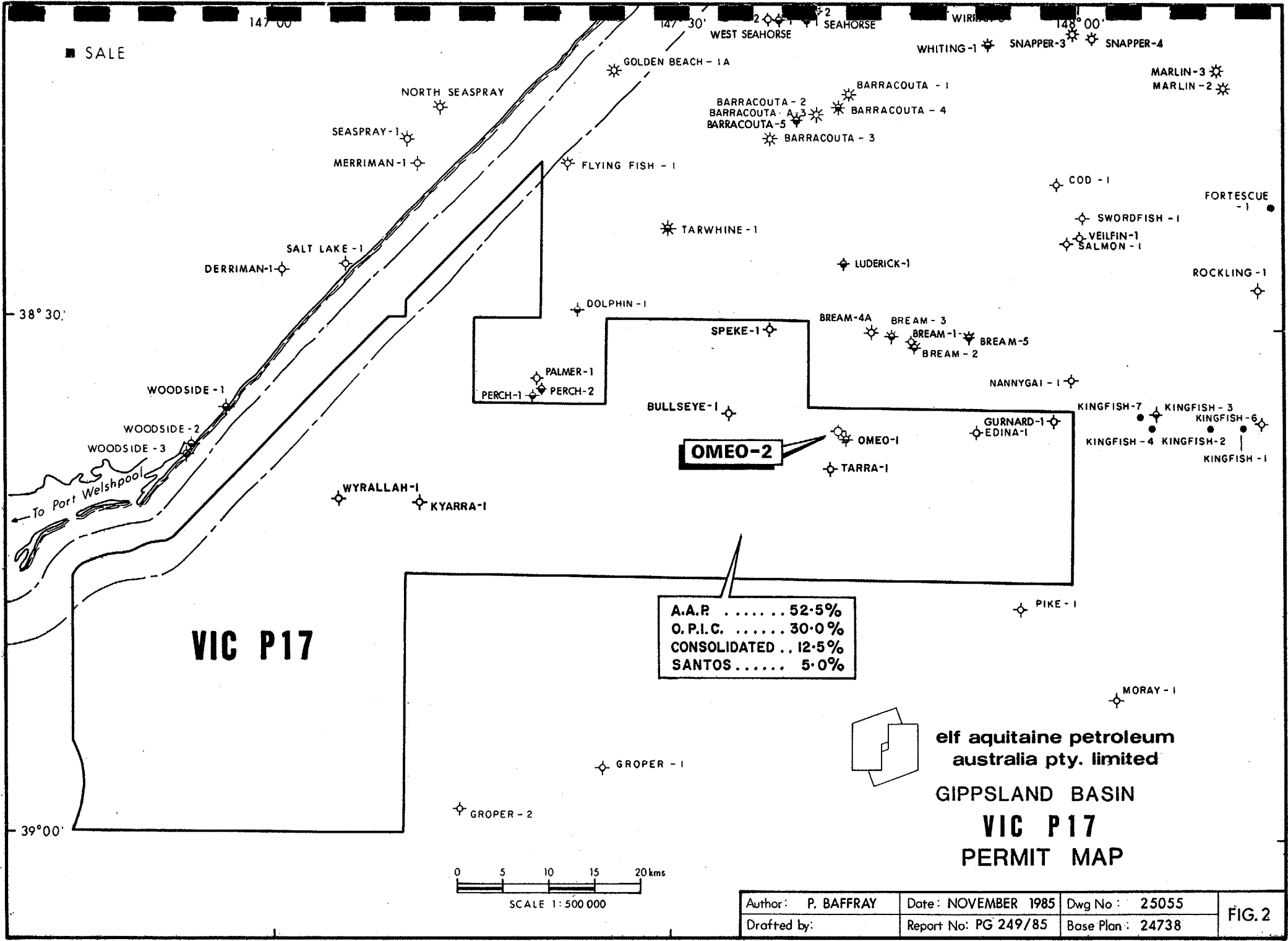
Author: GIPPSLAND TEAM	Date: NOVEMBER 1985	Dwg. No.: 19944
Drafted by: R.E.	Report No.: PG 249/85	Base Plan:

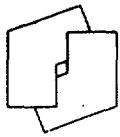
FIG. 1



A.A.P	52.5%
O.P.I.C.	30.0%
CONSOLIDATED	12.5%
SANTOS	5.0%

■ SALE





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 petroleum pty ltd

12 DEC 1985

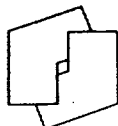
Encl. 6a

OMEQ-2A W.C.R.		Cie opératrice/Company SCHLUM. Nbr clabs demandés/requested 51 Nbr clabs récupérés/recovered 48 Nbr balles trouvées/shot 51 Nbr balles perdues/lost 3 Nbr balles pleines/full 47 Récupération/recovery 92%	
DESCRIPTION DES CLABS DESCRIPTION OF SIDE WALL SAMPLES			
SONDAGE WELL	OMEQ-2A	BESICENTE N RUN N	1
PERMIS PERMIT	VIC. P. 17	PAGE N	1
PAYS COUNTRY	AUSTRALIA	DATE	8/06-85
		Examines par Examined by BAFFRAY	

1 Trace/Trace 2 Fable/Faw 3 Fort/Strong

N°	PROF DEPTH	REC %	Ca CO ₃	DESCRIPTION	FLUORESCENCE			
					de l'échantillon of sample			
					1	2	3	4
1	2776	25	1.2	SILTSTONE GREY TO LIGHT GREY, ARGILLACEOUS, PYRITIC TRACES OF COAL.				
2	2773	40	1.2	SANDSTONE VERY LIGHT GREY, COARSE GRAINED, ANGULAR, POORLY CEMENTED, LOCALLY SLIGHTLY ARGILLACEOUS.				
3	2766	30	1.2	SANDSTONE LIGHT GREY, FINE GRAINED, SUBANGULAR, POORLY CEMENTED PYRITIC.				
4	2759	30	0.0	SILTSTONE TO VERY FINE SANDSTONE LIGHT GREY, ARGILLACEOUS, PYRITIC, TRACES OF COAL.				
5	2751	40	0.3	SANDSTONE VERY LIGHT GREY, COARSE GRAINED, ANGULAR, POORLY CEMENTED.				
6	2744	30		COAL				
7	2737	30	0.0	SILTSTONE TO VERY FINE SANDSTONE, LIGHT GREY, ARGILLACEOUS, PYRITIC.				
8	2730	30	0.1	SANDSTONE VERY LIGHT GREY, MEDIUM TO COARSE GRAINED, ANGULAR POORLY CEMENTED.				
9	2721	30	2.8	SILTSTONE LIGHT GREY, ARGILLACEOUS, SLIGHTLY CALCITIC, TRACES OF COAL.				
10	2712	30	0.1	SANDSTONE LIGHT GREY, MEDIUM TO COARSE GRAINED, WITH COAL STRINGERS.				
11	2705	30	0.2	MIXED COAL AND SHALE DARK GREY, SILTY (TRACE OF FLUORESCENCE VERY DULL PALE YELLOW ON EXTRACTION)				
12	2700.5	100		COAL BRITTLE.				
13	2696	25	0.0	SHALE DARK BROWN-GREY MICACEOUS, SLIGHTLY SILTY, FIRM.				
14	2689	25	2.8	SILTSTONE TO VERY FINE SANDSTONE, LIGHT GREY, PYRITIC, ARGILLACEOUS.				
15	2681.5	100		COAL				
16	2679	30	0.0	SHALE DARK BROWN-GREY MICACEOUS, SILTY, FIRM (TRACE OF WHITE FLUORESCENCE ON EXTRACTION)				
17	2674	30	0.0	SHALE DARK BROWN-GREY, MICACEOUS, SILTY.				
18	2669	30	1.6	SANDSTONE VERY LIGHT GREY, MEDIUM GRAINED, SUBROUNDED SUBANGULAR, POORLY CEMENTED.				
19	2662	0		LOST				

Imp. 5644 B SNEALPI RUM 909 00M '46



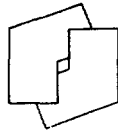
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petroleum pty. ltd

				Cie opératrice/Company: SCHLUM. Nbr clabs demandés/requested: 51 Nbr clabs récupérés/recovered: 48 Nbr balles triées/lost: 51 Nbr balles perdues/lost: 3 Nbr balles pleines/ful: 47 Récupération/Recovery: 92%
DESCRIPTION DES CLABS DESCRIPTION OF SIDE WALL SAMPLES				
SONDAGE WELL: OMEO-2-	DESCENTE N RUN N: 1			Examnés per Examined by: P. B. BRERAY
PERMIS PERMIT: VIC. P. 17	PAGE N: 2			
PAYS COUNTRY: AUSTRALIA	DATE: 8/06-85			

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

N°	PROF. DEPTH	REC %	Ca CO ₃	DESCRIPTION	FLUORESCENCE				
					de l'échantillon of sample			COI	
					1	2	3	1	2
20	2657	30	0.0	SILTY SHALE DARK BROWN-GREY, MICACEOUS, SOFT.					
21	2647	50	0.5	SILTSTONE TO VERY FINE SANDSTONE, LIGHT GREY, PYRITIC, ARGILLACEOUS, WITH VERY FINE LAMINATIONS OF COAL.					
22	2639	30	0.1	SHALE DARK BROWN-GREY, SILTY, WITH STRINGERS OF COAL.					
23	2631	0		LOST					
24	2609	40	2.8	SILTSTONE, LIGHT GREY, VERY ARGILLACEOUS, WITH THIN LAMINATIONS OF COAL.					
25	2602	50	0.1	SHALE DARK BROWN-GREY, SILTY, WITH STRINGERS OF COAL.					
26	2596	30	0.1	SANDSTONE VERY LIGHT GREY, COARSE GRAINED, ANGULAR, POORLY CEMENTED.					
27	2566	50	0.1	SHALE DARK GREY BROWNISH LAMINATED.					
28	2541	0		LOST					
29	2528	40	0.0	SHALE DARK GREY, LOCALLY SLIGHTLY SILTY, COMPACT.					
30	2515	25	0.0	SILTY SHALE, DARK BROWN-GREY, MICACEOUS.					
31	2501	20	0.1	SHALE DARK GREY, LOCALLY SILTY.					
32	2495	25	0.1	SILTSTONE DARK BROWN, VERY ARGILLACEOUS, FIRM, TRACES OF COAL. (TRACE OF WHITE FLUORESCENCE ON EXTRACTION)					
33	2475	30		COAL					
34	2460	25	0.1	SHALE GREY, LOCALLY SLIGHTLY SILTY.					
35	2445	25	0.1	SANDSTONE WHITE TO VERY LIGHT GREY, COARSE GRAINED, SUBANGULAR, POORLY CEMENTED.					
36	2417	30	0.1	SANDSTONE WHITE, FINE TO COARSE GRAINED, SUBANGULAR, POORLY CEMENTED.					
37	2402	20	20.2	CALCAREOUS SHALE LIGHT GREY, LOCALLY COMPACT.					
38	2376	0		EMPTY					

IMP. 3644 B SNEAIP. RUM 958.0M 146



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Eml. 6b

DESCRIPTION DES CLABS DESCRIPTION OF SIDE WALL SAMPLES		Cie opératrice/Company SPES	
		Nbr clabs demandés/requested 30	Nbr clabs récupérés/recovered 27
SONDAGE WELL OME O - 2 -	DESCENTE N RUN N 2	Nbr balles tirées/shot 30	Nbr balles perdues/lost 3
PERMIS PERMIT VIC. P. 17	PAGE N 1	Nbr balles pleines/full 26	Récupération/Recovery 86%
PAYS COUNTRY AUSTRALIA	DATE 21/06-1985	Examinés par Examined by P.H. BAFFRAY	

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

N	PROF DEPTH	REC %	Ca CO ₃	DESCRIPTION	FLUORESCENCE					
					de l'échantillon of sample				CCI 4	
					1	2	3	1	2	3
1	3386	30	4-4	SANDSTONE WHITE, FINE TO MEDIUM GRAINED, SUBANGULAR SUBROUNDED, SILICA CEMENT. OFTEN COMPOSED OF VERY VERY FINE GRAINS.						
2	3381	80	-	CLAYSTONE BROWN TO LIGHT BROWN, LOCALLY SLIGHTLY SILTY, SOFT.						
3	3370	70	-	CLAYSTONE BROWN TO LIGHT BROWN, FIRM.						
4	3366	50	2-2	SANDSTONE WHITE TO VERY LIGHT BROWN, MEDIUM GRAINED, SUBROUNDED, SILICA CEMENT A/A LOCALLY SLIGHTLY ARGILLACEOUS. A LIGHT YELLOW, BY PLACES; SLOW CUT; A WHITE TO PALE YELLOW.						
5	3354	50	-	SANDSTONE WHITE, FINE TO MEDIUM GRAINED, SUBROUNDED SUBANGULAR, SILICA CEMENT SLIGHTLY ARGILLACEOUS, WITH PRESENCE OF COAL STRINGERS AND ORGANIC MATTER.						
6	3324	60	-	SANDSTONE WHITE TO TRANSPARENT, MEDIUM GRAINED, SUBROUNDED SUBANGULAR, MINOR SILICA CEMENT A/A.						
7	3315	30	0-1	SHALE TO CLAYSTONE, LIGHT BROWN GREY, VERY SILTY, FIRM.						
8	3295	30	-	SANDSTONE WHITE, FINE GRAINED, SUBANGULAR, SILICA CEMENT A/A. LIGHT YELLOW DIRECT FLUO. BY PLACES; TRACES OF CUT WHITE TO VERY LIGHT YELLOW.						
9	3284	20	11-15	SANDSTONE LIGHT GREY, FINE TO VERY FINE GRAINED, SLIGHTLY ARGILLACEOUS AND CALCITIC CEMENT, COMPACT.						
10	3263	50	0-1	SHALE TO CLAYSTONE DARK GREY, VERY SILTY, FIRM, WITH PYRITIC STRINGERS.						
11	3234			LOST						
12	3224	60	-	SANDSTONE WHITE TO TRANSPARENT, FINE TO MEDIUM GRAINED, SUBANGULAR, SILICA CEMENT A/A.						
13	3220			SHALE TO CLAYSTONE, BROWN GREY, SILTY TO VERY SILTY, FIRM.						
14	3209	0		EMPTY.						
15	3203	30	-	SHALE TO CLAYSTONE, BROWN GREY, SILTY TO VERY SILTY, FIRM.						
16	3180	40	-	SANDSTONE WHITE TO TRANSPARENT, FINE TO MEDIUM GRAINED, SUBANGULAR, SILICA CEMENT A/A.						
17	3166	70	-	SHALE TO CLAYSTONE, BROWN GREY, SILTY, FIRM.						
18	3138	70	-	ARGILLACEOUS SILTSTONE TO VERY SILTY SHALE, DARK GREY, COMPACT, HARD, RICH IN ORGANIC MATTER AND TRACES OF COAL.						
19	3110	40	-	SANDSTONE WHITE, FINE TO MEDIUM GRAINED, SUBANGULAR, SILICA CEMENT A/A.						

PE906950

This is an enclosure indicator page.
The enclosure PE906950 is enclosed within the
container PE902399 at this location in this
document.

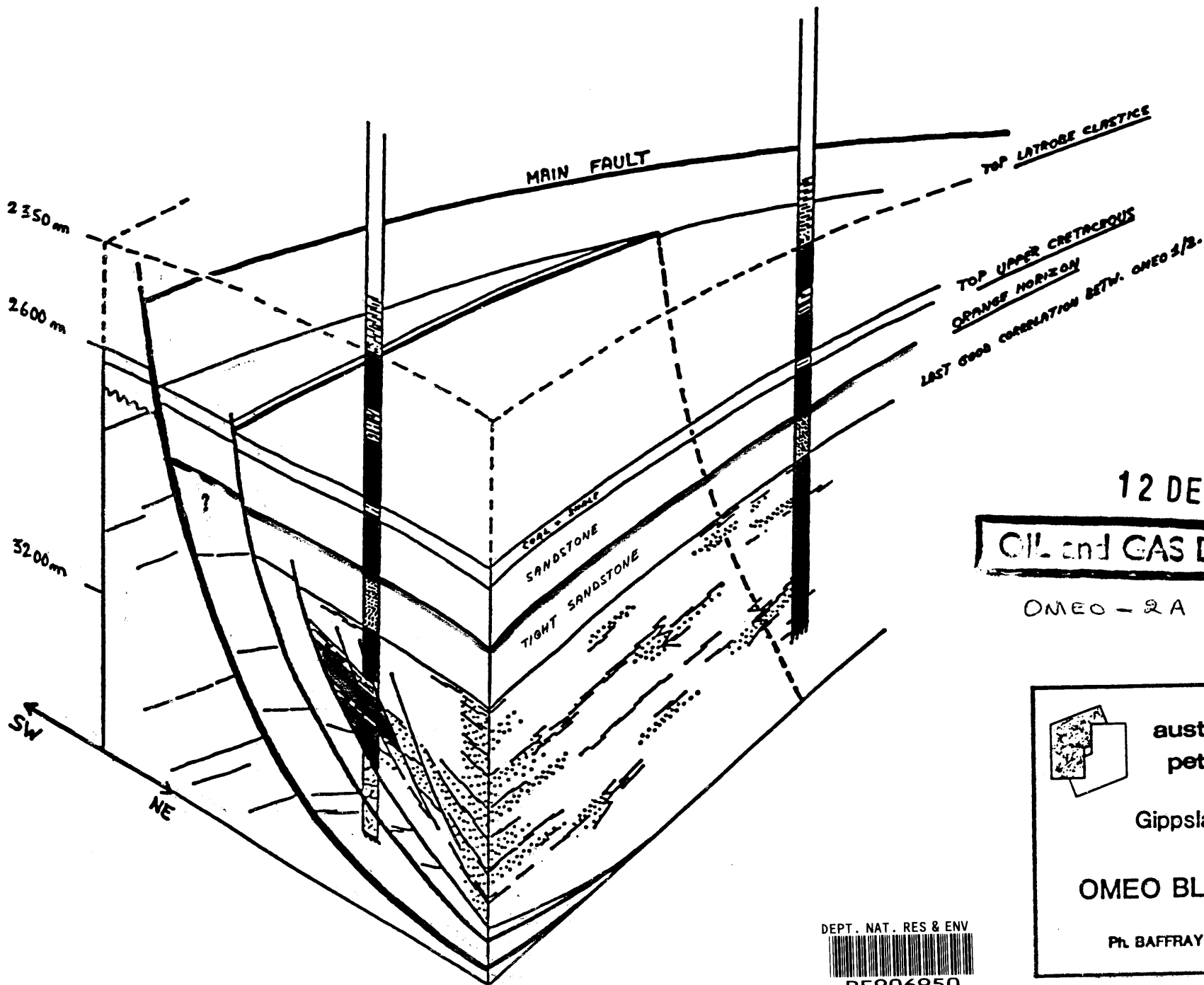
The enclosure PE906950 has the following characteristics:

- ITEM_BARCODE = PE906950
- CONTAINER_BARCODE = PE902399
- NAME = Block Diagram
- BASIN = GIPPSLAND
- PERMIT = VIC/P17
- TYPE = WELL
- SUBTYPE = DIAGRAM
- DESCRIPTION = Block Diagram (enclosure from WCR) for
Omeo-2A
- REMARKS =
- DATE_CREATED =
- DATE_RECEIVED = 12/12/85
- W_NO = W907
- WELL_NAME = OMEO-2A
- CONTRACTOR = AUSTRALIAN AQUITAINE PTY LTD
- CLIENT_OP_CO = ELF AQUITAINE PETROLEUM AUSTRALIA PTY
LTD

(Inserted by DNRE - Vic Govt Mines Dept)

OME0-1-

OME0-2A



12 DEC 1985

OIL and GAS DIVISION

OME0-2A W.C.R.

ENCL. 10



australian aquitaine
petroleum pty ltd

Gippsland Basin VIC P17

OME0 BLOCK DIAGRAM

PH. BAFFRAY / CL LAMBERT

.07.85

DEPT. NAT. RES & ENV



PE906950

PE601155

This is an enclosure indicator page.
The enclosure PE601155 is enclosed within the
container PE902399 at this location in this
document.

The enclosure PE601155 has the following characteristics:

- ITEM_BARCODE = PE601155
- CONTAINER_BARCODE = PE902399
- NAME = Master Mud Log
- BASIN = GIPPSLAND
- PERMIT = VIC/P17
- TYPE = WELL
- SUBTYPE = MUD_LOG
- DESCRIPTION = Mud Log (enclosure from WCR) for
Omeo-2A
- REMARKS =
- DATE_CREATED = 20/06/85
- DATE_RECEIVED = 12/12/85
- W_NO = W907
- WELL_NAME = Omeo-2A
- CONTRACTOR = Elf Aquitaine Petroleum Australia
- CLIENT_OP_CO = Elf Aquitaine Petroleum Australia

(Inserted by DNRE - Vic Govt Mines Dept)

PE604556

This is an enclosure indicator page.
The enclosure PE604556 is enclosed within the
container PE902399 at this location in this
document.

The enclosure PE604556 has the following characteristics:

- ITEM_BARCODE = PE604556
- CONTAINER_BARCODE = PE902399
- NAME = Mud Log
- BASIN = GIPPSLAND
- PERMIT = VIC/P17
- TYPE = WELL
- SUBTYPE = MUD_LOG
- DESCRIPTION = Exlog Mud Log (enclosure from WCR) for
Omeo-2A
- REMARKS =
- DATE_CREATED = 15/05/85
- DATE_RECEIVED = 18/09/86
- W_NO = W907
- WELL_NAME = OMEO-2A
- CONTRACTOR = EXLOG
- CLIENT_OP_CO = ELF AQUITAINE PETROLEUM AUSTRALIA PTY
LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE601158

This is an enclosure indicator page.
The enclosure PE601158 is enclosed within the
container PE902399 at this location in this
document.

The enclosure PE601158 has the following characteristics:

ITEM_BARCODE = PE601158
CONTAINER_BARCODE = PE902399
NAME = Composite Well Log
BASIN = GIPPSLAND
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = COMPOSITE_LOG
DESCRIPTION = Composite Well Log (enclosure from Well
Summary) for Omeo-2A
REMARKS =
DATE_CREATED = 30/11/85
DATE_RECEIVED = 12/12/85
W_NO = W907
WELL_NAME = Omeo-2A
CONTRACTOR = Elf Aquitaine Petroleum Australia
CLIENT_OP_CO = Elf Aquitaine Petroleum Australia

(Inserted by DNRE - Vic Govt Mines Dept)

PE603566

This is an enclosure indicator page.
The enclosure PE603566 is enclosed within the
container PE902399 at this location in this
document.

The enclosure PE603566 has the following characteristics:

- ITEM_BARCODE = PE603566
- CONTAINER_BARCODE = PE902399
- NAME = Synthetic Seismogram
- BASIN = GIPPSLAND
- PERMIT = VIC/P17
- TYPE = WELL
- SUBTYPE = SYNTH_SEISMOGRAM
- DESCRIPTION = Seismic Well Data (synthetic
seismogram), enclosure from WCR, for
Omeo-2A
- REMARKS =
- DATE_CREATED = 30/11/85
- DATE_RECEIVED = 12/12/85
- W_NO = W907
- WELL_NAME = OMEO-2A
- CONTRACTOR =
- CLIENT_OP_CO = AUSTRALIAN AQUITAINE PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE902401

This is an enclosure indicator page.
The enclosure PE902401 is enclosed within the
container PE902399 at this location in this
document.

The enclosure PE902401 has the following characteristics:

ITEM_BARCODE = PE902401
CONTAINER_BARCODE = PE902399
NAME = Time/Depth curve
BASIN = GIPPSLAND
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Time/Depth curve (enclosure from WCR)
for Omeo-2A
REMARKS =
DATE_CREATED = 30/06/85
DATE_RECEIVED = 27/08/85
W_NO = W907
WELL_NAME = Omeo-2A
CONTRACTOR = Elf Aquitaine Petroleum Australia
CLIENT_OP_CO = Elf Aquitaine Petroleum Australia

(Inserted by DNRE - Vic Govt Mines Dept)

PE906848

This is an enclosure indicator page.
The enclosure PE906848 is enclosed within the
container PE902399 at this location in this
document.

The enclosure PE906848 has the following characteristics:

- ITEM_BARCODE = PE906848
- CONTAINER_BARCODE = PE902399
- NAME = Interpreted Seismic Line GA81-32
- BASIN = GIPPSLAND
- PERMIT = VIC/P17
- TYPE = SEISMIC
- SUBTYPE = SECTION
- DESCRIPTION = Interpreted Seismic Section Line
GA81-32, Post Drill (enclosure from
WCR) for omeo-2A
- REMARKS =
- DATE_CREATED = 30/09/85
- DATE_RECEIVED =
- W_NO = W907
- WELL_NAME = OMEO-2 & 2A
- CONTRACTOR =
- CLIENT_OP_CO = ELF AQUATAINE AUSTRALIA PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE900466

This is an enclosure indicator page.
The enclosure PE900466 is enclosed within the
container PE902399 at this location in this
document.

The enclosure PE900466 has the following characteristics:

ITEM_BARCODE = PE900466
CONTAINER_BARCODE = PE902399
NAME = Spore/Pollen/Dinoflagellate
Distribution Chart
BASIN = GIPPSLAND
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Spores, Pollen and Dinoflagellates
Range Chart, Identified in Australian
Aquitane Petroleum (enclosure from WCR)
for Omeo-2A
REMARKS =
DATE_CREATED = 31/08/85
DATE_RECEIVED =
W_NO = W907
WELL_NAME = OMEO-2 &2A
CONTRACTOR =
CLIENT_OP_CO = AUSTRALIAN AQUATAINE PETROLEUM PTY LTD

PE601156

This is an enclosure indicator page.
The enclosure PE601156 is enclosed within the
container PE902399 at this location in this
document.

The enclosure PE601156 has the following characteristics:

- ITEM_BARCODE = PE601156
- CONTAINER_BARCODE = PE902399
- NAME = Correlations in Deep Latrobe btwn Omeo
1 & Omeo 2
- BASIN = GIPPSLAND
- PERMIT = VIC/P17
- TYPE = WELL
- SUBTYPE = WELL_LOG
- DESCRIPTION = Correlatons in Deep Latrobe btwn Omeo 1
& Omeo 2 (enclosure from WCR) for
Omeo-2A
- REMARKS = no scale given
- DATE_CREATED = 30/11/85
- DATE_RECEIVED = 12/12/85
- W_NO = W907
- WELL_NAME = Omeo-2A
- CONTRACTOR = Elf Aquitaine Petroleum Australia
- CLIENT_OP_CO = Elf Aquitaine Petroleum Australia

(Inserted by DNRE - Vic Govt Mines Dept)