PE806916

VIC P17

DATA

FOUND

806916 002

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

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DX 10512 North Sydney

OIL and GAS DIVISION
31 MAY 1983

Our ref: 5471:RL:JR

Your ref:

26th May, 1983.

The Designated Authority
Department of Minerals & Energy,
Princes Gate East,
151 Flinders Street,
MELBOURNE VIC 3000.

ATTENTION: Mr. I. Fraser.

Dear Sir,

RE: VIC/P17 Data Book.

Attached are two updating packages for the VIC/P17 permit Data Books sent to you on 19th April, 1983. These packages contain all the data as listed below, and are to be intercolated with the existing data under the section headings in which they are grouped.

In general this information is additional to that already contained in the Data Books. However, in some cases tables and diagrams have been updated and replace the pre-existing sheets. Updated sheets are noted in the appended list of contents.

Yours Sincerely,
AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.,

R. Laws,
EXPLORATION MANAGER.

Typed Sheets

A4 Diagrams

A4 Well Sections:

1:100,000 Scale Maps

Montages

Ariel	
Avon	
Edina	20579
Kyarra	21277
Moonta	
Omeo	20641
Tarra	21337
Wanda	
Wongala	

Additional Seismic Section:

Prospect	Seismic Lines
Ariel	GA81-27,30
Avon	GA81-45,72
Gurnard	GA81-4,15
Moonta	GA81-46,61
(ex Lagoonal Sand)	(replaces GA81-82)
Samson	GA81-15
Tarra	GA81-31,38
Wanda	GA81-25,42
Wyrallah	GA81-71,92

AUSTRALIAN AQUITAINE PETROLEUM PTY LIMITED

GIPPSLAND

VIC/P17

DATA BOOK

PG/180/82

NOVEMBER 1982

DISTRIBUTION

AAP

Manager EA (ANZ)	1
Manager AAP	1
Exploration Manager	1
Chief Geologist	1
Chief Geophysicist	1
Gippsland Team	6
Library	1
Spare	1

APPROVED: .....

PARTNERS

Agex	1
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Australian Occidental	2
Alliance	2
Department of Minerals and Energy (Victoria)	2

SNEA(P)

DIG AMA	4
DEX	2

CONTENTS

Regional

History of Exploration & Production

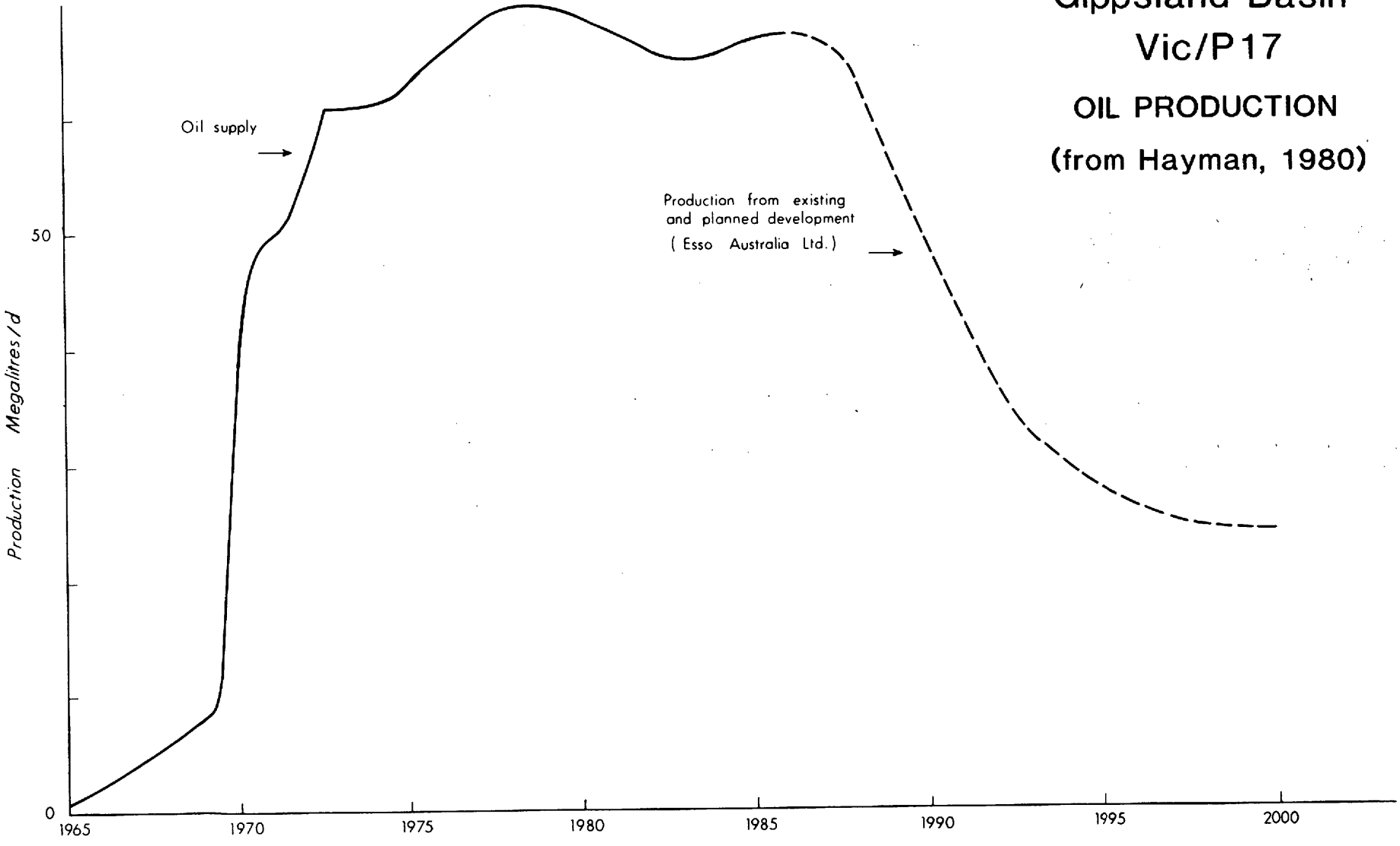
GIPPSLAND BASIN EXPLORATION HISTORY - TABLE 1

SIGNIFICANT DATES

1951 to 1957	B.M.R. runs regional gravity and aeromag.
1960	B.H.P. granted PEP 38 and 39 over the whole basin.
1961 to 1962	B.H.P. runs aeromag surveys.
1962 to 1963	B.H.P. reconnaiscance seismic surveys.
May 1964	Esso-B.H.P. Farmout Agreement.
1965	Barracouta, Marlin discoveries.
1966	Marlin delineation.
1967	Kingfish, Halibut discoveries.
1968	Tuna, Snapper discoveries.
1969	Mackerel discovery, Barracouta on production.
1970	Halibut, Marlin on production.
1971	Kingfish on production.
1972	Mackerel delineation wells.
1974	First major relinquishment.
1975	Shell relinquishment.
1976	Second round of relinquishments.
1978	Mackerel on production, Fortescue discovery.
1979	Tuna on production.
1980	Final relinquishments.

australian aquitaine petroleum pty. ltd.

Gippsland Basin
Vic/P17
OIL PRODUCTION
(from Hayman, 1980)



Author: K. LY	Date: APRIL 1982	Dwg No.: 20374	FIG-7.
Drafted by: J PENHEY	Report No: PG/164/82	Base Plan:	

Oil & gas Fields

This is Page Number **806916_012X**

This is an enclosure indicator page.

The page that follows this page is an uncatalogued fold-out (or A4 colour page) with page number:

806916_012Y

and is enclosed within the document PE806916 at this page.

Gippsland Basin, Victoria

Barracouta Gas & Oil Field

Owners
Esso Exploration and Prod. Aust. Inc. – 50% W.I. –Operator.
Hematite Petroleum Pty. Ltd. (B.H.P.) – 50% W.I.

Royalties and overrides
10% Royalty (6% to Victorian Government, 4% to Commonwealth Government); 2½% O.R.R to Lewis G. Weeks, and 1% O.R.R. to Victorian Government.

Lease No.
VIC/L1 and L2.

Location
16 mi (26 kms) offshore and 155 mi (249 kms) east of Melbourne.

Discovery well
Esso Gippsland Shelf No. 1 (Australia's first offshore well), later renamed "Barracouta No. 1"

Coordinates:	38° 16' 41" S; 147° 42' 45" E.
Discovery date:	Gas – February, 1965. Oil – September, 1968.
Elevation:	K.B. 31 ft (9.4 m)
Drilled by:	'Glomar III'
Water depth:	148 ft (45.1 m)
Total depth:	8,701 ft (2,652.1 m)

Productive interval and maximum flow rate
(Prod. Tests) 3,752 – 3,756' (4') (1 shot per ft):
FARO 6.85 MMcfd plus 10.7 BC/MMcfg, 28/64" t.c.
3,492 – 97' (5'):
FARO 5.69 MMcfd plus 14.8 BC/MMcfg, 30/64" t.c.

Method of location
Aeromagnetic survey, followed by reconnaissance and detailed reflection seismic surveys.

FIELD DESCRIPTION AND DEVELOPMENT DATA

Estimated ultimate recoverable reserves (Victorian Ministry of Fuel and Power, 1972)
(Gas) 1.8 trillion CFG (50.9 billion m^3)
(NGL) 30,000,000 bbls (4.77 million kls)
(Oil) 7,000,000 bbls (1.11 million kls)

Productive area
(Gas) 21 ± sq mi; 13,440 acres; 54.4 sq kms *
(Oil) 2½ ± sq mi; 1,600 ± acres; 6.5 ± sq kms *
Length: 11 ± mi (17.7 kms) *
Width: 2 ± mi (3.2 kms) *

Total area of closure
About 34 sq mi (88 sq kms) *

Maximum vertical closure
600 ft (182.9 m) – top of Latrobe. % filled: 50 ± % *

Depth to top of pay zones
(Gas) -3,350 ft (-1,021.1 m)
(Oil) -4,450 ± ft (-1,356 m)

Interfaces
Gas/water contact: -3,775 ft (-1,150.6 m)
Oil/water contact: -4,565 ± ft (-1,391.4 ± m)

Total hydrocarbon column
(Gas) 480 ft (146.3 m)
(Oil) 115 ± ft (35.1 m)

Number of wells
(Wildcat wells) oil – nil, gas – 3, dry – nil; Total – 3.
(Platform wells) oil – 6, gas – 4, dry – nil; Total – 10.

Number of platforms and size
One, 10-conductor platform, 120' x 66' (36.6 x 20.1 m); standing 66 ft (20.1 m) above sea level. Pilings driven 200 ft (60.9 m) into sea-bed.

Well spacing
Approximately 320 acres (½ mile) for gas and oil.

GEOLOGICAL FACTORS

Producing zones and age
(Gas) *Nothofagidites goniatus* Zone of Latrobe Group – Late Eocene.
(Oil) *Malvacipollis diversus* Zone of Latrobe Group – Early Eocene.

Environment of deposition
Non-marine; alluvial-deltaic plain with multiple braided-stream systems and deltaic deposits.

Reservoir rock description
Sandstone; light grey, medium grained to granule size, sub-to well-rounded, well-sorted, 99% clear-milky quartz grains, dominately loose and unconsolidated; extremely porous; minor coal fragments and mica flakes; interbedded with shale, coal and siltstone.

Maximum reservoir thickness
(Eocene) Latrobe approximately 1,920 ft (585 m).

Source rock
(Gas) Lakes Entrance (Oligocene) marine shale, and intraformational shale and coal of Latrobe Group
(Oil) Shale and coal of Latrobe Group.

Cap rock
(Gas) Lakes Entrance Formation (Oligocene) marine mudstone.
(Oil) Interbedded shale and coal of Latrobe Group.

Type of trap (structural)
(Gas) Closed northeast-southwest trending anticline on Lakes Entrance-Latrobe (Oligocene-Eocene) unconformity surface. Very little erosion indicated.
(Oil) Intra-Latrobe structural closure – conformable with main structure.

Regional setting
Barracouta Field lies in the northwestern part of the offshore Gippsland Basin, situated upon a regional east-west basement ridge.

Relation to unconformities
Gas-pay lies directly below Eocene-Oligocene unconformity. Oil zone is not related to an unconformity.

Oldest formation penetrated
Lower Cretaceous (A-3 well, T.D. 11,775 ft, 3,589 m).

RESERVOIR DATA

Net pay thickness
(Gas) 353 ± ft (107.6 ± m) – No. 1 well
(Oil) 50 ± ft (15.2 ± m) – maximum

Number of reservoir beds
(Gas) One
(Oil) One

Barracouta Gas and Oil Field

Gippsland Basin, Victoria

Acre-feet
(Gas) average of 200 ft over 13,450 acres = 2,690,000 acre-ft *
(Oil) average of 30 ft over 1,600 ± acres = 48,000 acre-ft *

Porosity (intergranular)
(Oil and gas zones) 15 to 30% (average in gas reservoir about 30%)

Permeability
Up to 2,000 + md (average 1,000 ± md)

Water saturation
From less than 10% to 30% (average 20%)

Reservoir temperature
150°F (65.5°C) at 3,756 ft (1,114.8 m)

Initial reservoir pressure
1,693 psig at 3,810 ft (gradient 0.444 psi/ft)
2,195 + psig at 4,351 ft (gradient 0.504 + psi/ft) — Barracouta No. 1.

Probable drive mechanism
Strong water drive.

Recovery factor
(Based upon published reserves and assumed reservoir volumes)
(Gas) 0.670 ± MMcf/acre-ft *
(Oil) 150 ± bbls/acre-ft *
(NGL) 15 ± bbls cond/MMcfg

FLUID PROPERTIES

OIL (undersaturated)

Gravity:	63° API at 60°F
Base:	Paraffin
Sulphur (% wt):	0.23
Wax content (% wt):	0.14
Initial G.O.R.:	60 cu ft/bbl
Pour point:	-35°F (-37°C)
Viscosity:	0.74 cp

GAS (non-associated)

	% Volume (Prod. Test)		
Methane	86.7	Hexanes +	0.24
Ethane	6.15	Nitrogen*	1.30
Propane	2.83	Oxygen	0.10
Isobutane	1.00	Carbon dioxide	0.59
Butane	0.45	Hydrogen sulphide	48 ppm
Pentane	0.61	Specific gravity	0.661 *
Hexane	0.02	BTU/cu ft (gross)	1140 *

CONDENSATE

Gravity:	65.8 to 81.4° API at 60°F
bbls/MMcfg:	8.8 to 27.5 (average 15.1)
Specific gravity:	0.7165 to 0.6659

WATER
Latrobe Formation water directly underlying productive interval is fresh (1,400 ± ppm NaCl).

PRODUCTION DATA

Date production began
(Gas) March 7, 1969.
(Oil) October, 8, 1969.

Initial production
(Gas) up to 62.4 MMcfd (September, 1970).
(Oil) 5,500 BOPD (peak production rate 10,179 BOPD, September, 1970).

Current production (December 31, 1972)
(Gas) Field averaged 67.819 MMcfd (1.92 million m^3 per day) during December, 1972.
(Oil) Field averaged about 6,681 bbls per day (1,062 kls per day) during December, 1972.

Cumulative production (to December 31, 1972)
(Gas) 76,453 MMcf (2,165.1 million m^3).
(Oil) 6.681 million bbls (1.06 million kls).

Remaining recoverable reserves (to December 31, 1972)
(Gas) 1.723 trillion CF (48.8 billion m^3).
(Oil) 0.319 million bbls (0.051 million kls).

Delivery system
(Gas) 15.2 mi (24.4 kms) of 18 in (45.7 cm) diameter submerged pipeline to shore, then 15.2 mi of 18 in diameter pipline to Gippsland gas processing plant at Longford.
(Oil) 14 mi (22.5 kms) of 6 in (15.2 cm) pipline (submerged) to shore, then 19 mi (30.6 kms) of 6 in pipeline to crude stabilisation plant at Longford.

Number of wells currently producing (at December 31, 1972)
(Gas) Seven at an average rate of 9.7 MMcfd (0.27 million m^3 per day) per well.
(Oil) Three oil producers, (Six oil wells initially produced at individual average rates from 780 to 1,176 BOPD (124 to 187 kls per day) per well during January to May 1972. In June, three wells were recompleted as gas wells).
During December 1973, oil production averaged 2,227 BOPD (354 kls per day) per well.

LOGGING PROGRAMME

(Wildcat wells)
Induction Electrical, Sonic-Gamma Ray-Caliper, Microlaterlog, Laterolog, Continuous Dipmeter, Cement Bond Log, Gamma Ray-Collar Locator, and Velocity Survey.

COSTS

Barracouta No. 1 well cost A$2,376,378 (T.D. 8,701 ft), or A$273 per ft. This figures includes periods of blow-out, fishing and testing.

Barracouta platform cost about A$4,000,000.

REMARKS

1. Slight (non-commercial) hydrocarbon shows were logged in the No. 1 well at 7,834 – 7,846 ft (12 ft) and 8,687 – 8,693 ft (6 ft). Porosity in the zones was 19% and 17%, respectively.

2. No. 1 well blew-out while coring at about 4,351 ft (1,326.2 m), but was killed by closing B.O.P.'s and cementing through kill-lines. Approximately 25 days were spent fishing and preparing to resume drilling after blowout.

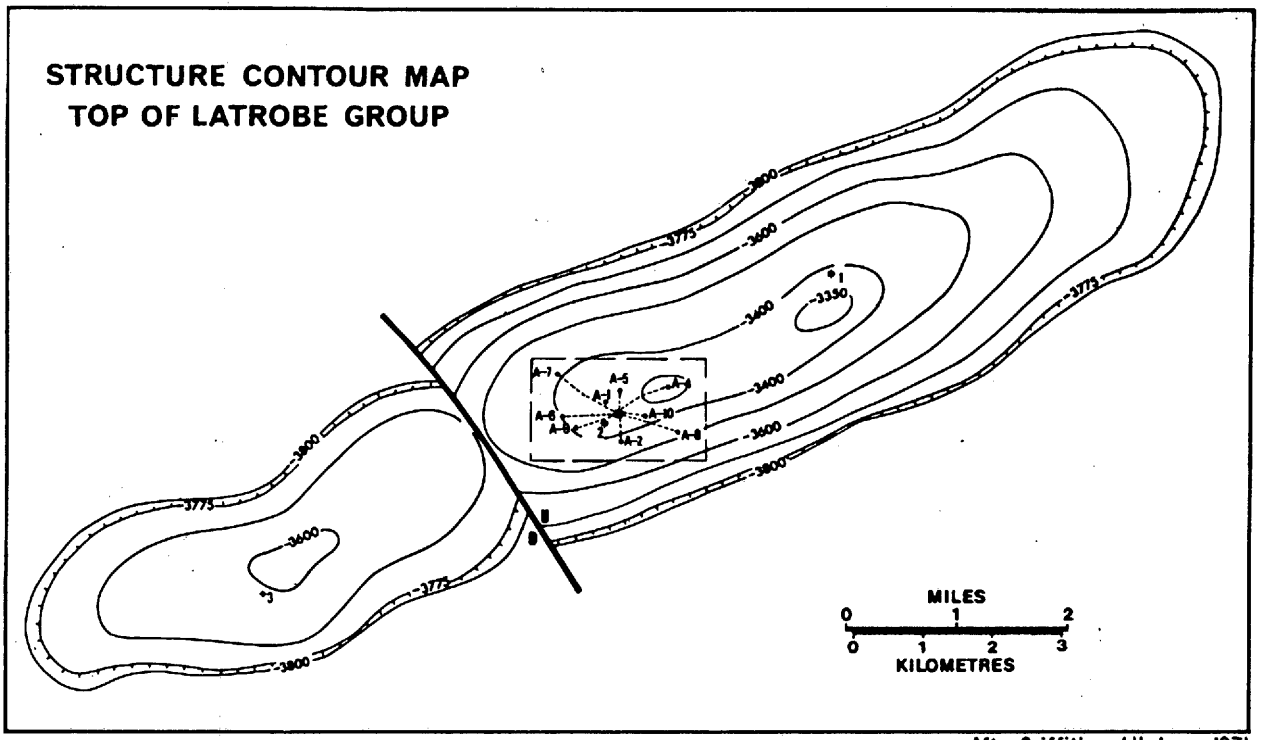
REFERENCES

Bureau of Mineral Resources, 1966.
Griffith, B.R. and E.A. Hodgson, 1971.
James, E.A. and P.R. Evans, 1971.
Ministry of Fuel and Power of Victoria, 1972.
Robinson, K. and W.J. Stewart, 1970.
Stewart, W.J., 1969.
Stratton, M.A., 1971 and 1972.
Student, B., 1970.
Victorian Mines Department, 1971.

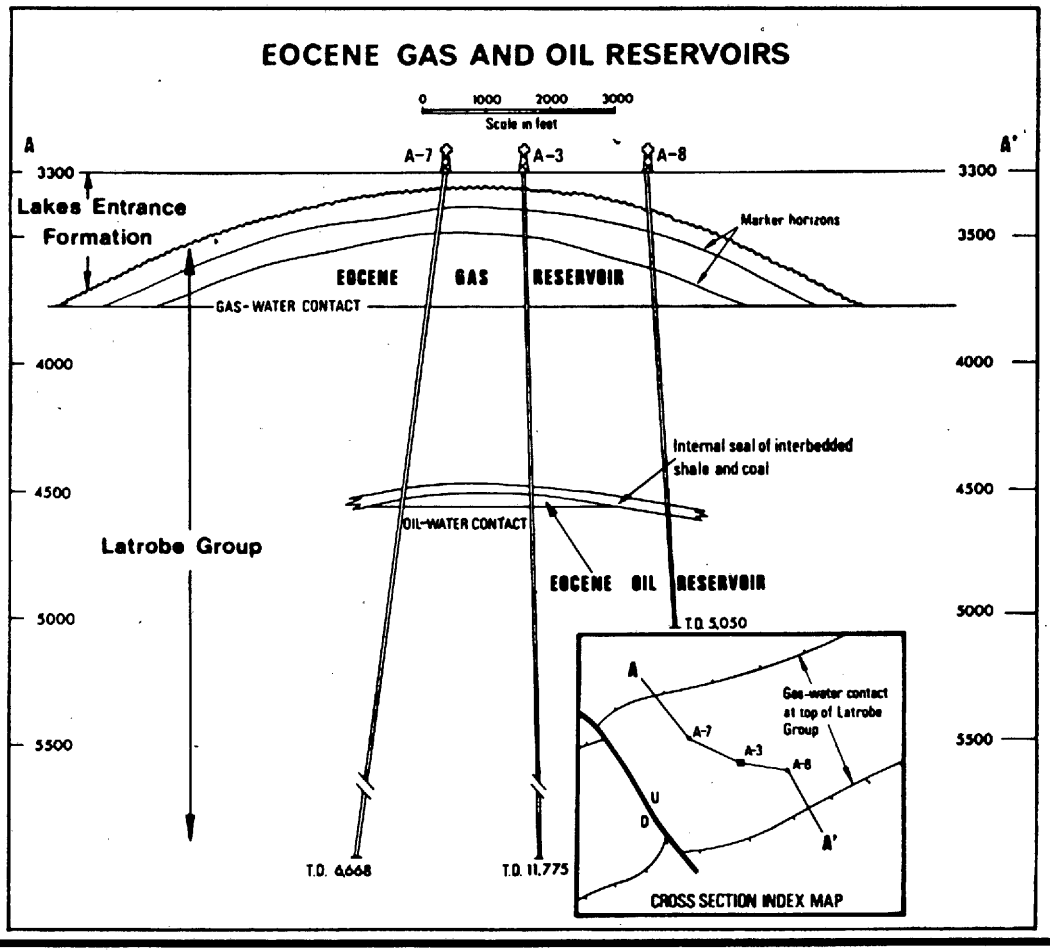
FOOTNOTES

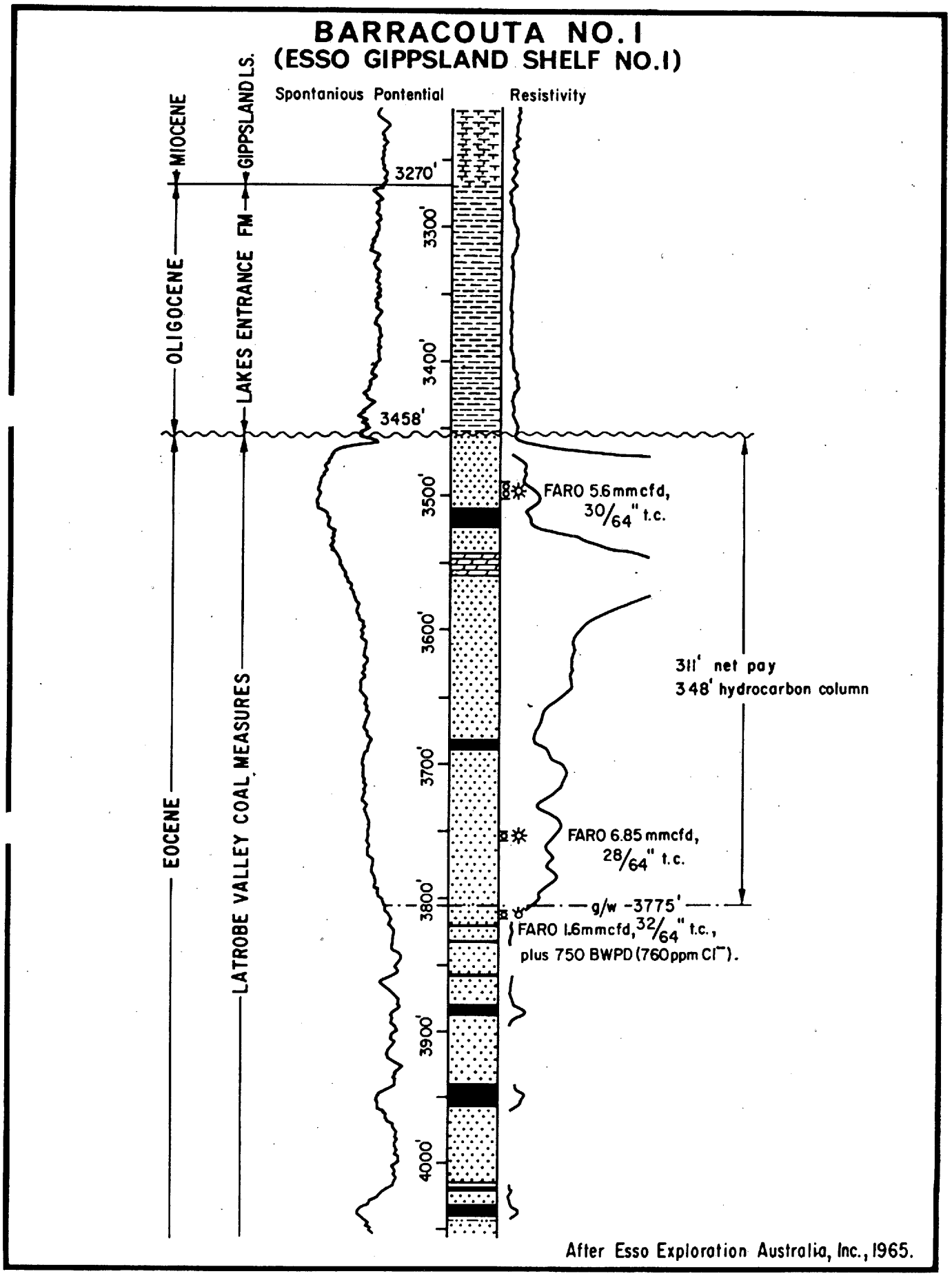
* Editor's estimate.

BARRACOUTA GAS AND OIL FIELD
GIPPSLAND BASIN, VICTORIA



After Griffith and Hodgson, 1971




BARRACOUTA NO. 1
(ESSO GIPPSLAND SHELF NO. 1)
Spontanious Pontential
Resistivity
MIOCENE
OLIGOCENE
EOCENE
GIPPSLAND LS.
LAKES ENTRANCE FM
LATROBE VALLEY COAL MEASURES
3270'
3300'
3400'
3458'
3500'
3600'
3700'
3800'
3900'
4000'
FARO 5.6 mmcfd, 30/64" t.c.
311' net pay
348' hydrocarbon column
FARO 6.85 mmcfd, 28/64" t.c.
g/w -3775'
FARO 1.6 mmcfd, 32/64" t.c., plus 750 BWPD (760 ppm Cl⁻).
After Esso Exploration Australia, Inc., 1965.

Golden Beach Discovery

Owners
B.O.C. of Australia Ltd. – 20% – Operator
Woodside Oil N.L. – 40%
Continental Oil Co. of Australia Ltd. – 20%
Planet Resources Group N.L. – 10%
Australian Oil and Gas Corporation Ltd. – 10%

Royalty
6% to Victorian Government, and 4% to Commonwealth Government.

Lease No.
VIC/P8.

Location
2.5 mi (4.0 kms) offshore, and 21.5 mi (34.6 kms) south-east of Sale, Victoria.

Discovery well
Golden Beach No. 1A

Coordinates:	38° 15' 32.6" S; 147° 25' 20.1" E.
Discovery date:	August, 1967
Elevation:	K.B. 42 ft (12.8 m)
Drilled by:	Zapata 'Investigator'
Water depth:	60 ft (18.3 m)
Total depth:	9,636 ft (2,937.1 m)

Productive interval and maximum flow rates
Prod. Test 2,142 – 2,147' (5'):
FARO 4.5 MMcfd, 1" t.c. 5/8" b.c.

Method of location
Reflection seismic.

GEOLOGICAL FACTORS

Producing zone
Latrobe Group

Age
Upper Eocene

Environment of deposition
Non-marine; fluvial-deltaic.

Reservoir rock description
Sandstone; quartzose, with good porosity and permeability.

Source rock
Probably intra-formational shale and coal of Latrobe Group.

Cap rock
Lakes Entrance Formation mudstone.

Type of trap
Structural; anticlinal closure.

Regional setting
In western portion of offshore Gippsland basin.

Relation to unconformities
Productive sand lies directly below the regional Eocene/Oligocene unconformity.

Oldest formation penetrated
Lower Cretaceous

FIELD DESCRIPTION AND DEVELOPMENT DATA

Estimated ultimate recoverable reserves
(Gas) 200 billion CF (5.66 billion m^3) – Stratton, 1972.
(NGL) N.A.

Productive area
8 sq mi; 5,100 acres; 20.7 sq kms *
Length: 4.5 mi (7.2 kms) *
Width: 1.8 mi (2.9 kms) *

Total area of closure
16 ± sq mi *.

Maximum vertical closure
500 ± ft (152.4 ± m). % filled: Less than 50% *

Depth to top of pay zone
2,105 ft (-2,063 ft, -628.8 m)

Interface
Gas-water contact 2,165 ft (-2,123 ft, -647.1 m)

Total hydrocarbon column
(Gas) 60 ft (18.3 m)

Number of wells
Gas – 1, dry – nil; Total – 1.

RESERVOIR DATA

Net pay of thickness
(Gas) 60 ft (18.3 m)

Number of reservoir beds
One

Acre-feet
40 ± ft average over 5,100 acres = 204,000 ± acre-ft *

Porosity (intergranular)
14 to 35%

Permeability
Good.

Water saturation
N.A.

Reservoir temperature
N.A.

Initial reservoir pressure
N.A.

Probable drive mechanism
Water drive (?)

Recovery factor
(Gas) 1.0 ± MMcf/acre-ft *
(NGL) N.A.

FLUID PROPERTIES

GAS (non-associated)

	% Volume (2,142–2,147')		
Methane	93.3	Hexanes +	–
Ethane	–	Nitrogen	6.3
Propane	–	Oxygen	0.2
Isobutane	–	Carbon dioxide	0.01
n-Butane	–	Hydrogen sulphide	nil
Isopentane	–	Specific gravity	0.58 *
n-Pentane	–	BTU/cu ft (gross)	942 *

CONDENSATE

None reported.

WATER

No data available; water in upper part of Latrobe Group probably very fresh.

PRODUCTION DATA

None, well shut-in.

COSTS

Not available.

REMARKS

1. Several minor gas shows were reported from 7 drill-stem tests in 4 sands between 8,300 ft (2,530 m) and 9,110 ft (2,776.7 m), but all zones were tight.
2. Golden Beach No. 1 well was not subsidized, consequently most well data are confidential.

REFERENCES

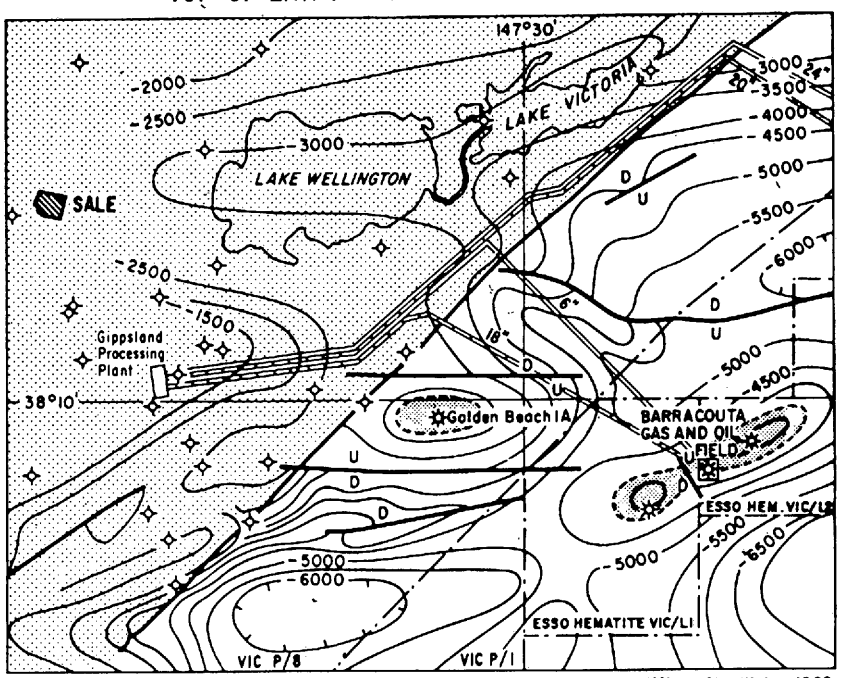
Konecki, M.A., and K. Blair, 1970.
Stratton, 1972.
Victorian Ministry of Fuel and Power, 1972.
Wales, D.W., 1969.

FOOTNOTES

* Editor's estimate.

GOLDEN BEACH GAS DISCOVERY
OFFSHORE GIPPSLAND BASIN, VICTORIA

STRUCTURE MAP
TOP OF LATROBE VALLEY COAL MEASURES



----- Productive limits of fields

18" Gas pipeline (18 inch)

6" Oil pipeline (6 inch)

Modified after Wales, 1969

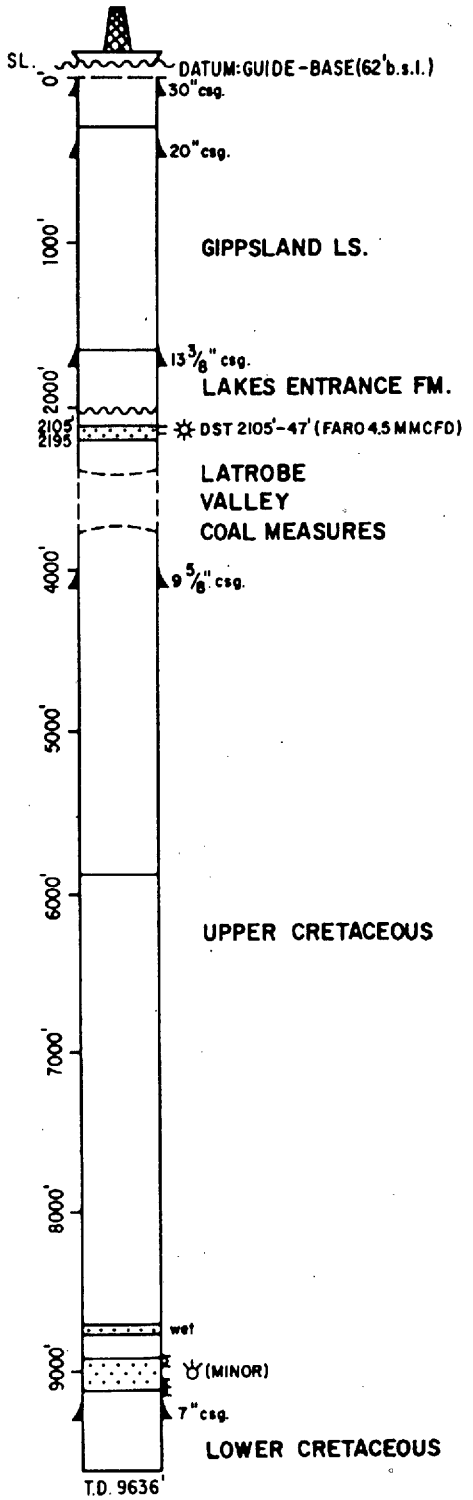
SCALE

0 5 10 MILES

0 5 10 15 20 KILOMETRES

CONTOUR INTERVAL 500 ft.

GOLDEN BEACH NO. 1A



After Woodside Director's Report, 1967

Gippsland Basin, Victoria

Halibut Oil Field

Owners
Esso Exploration and Prod. Aust. Inc. – 50% W.I. – Operator
Hematite Petroleum Pty. Ltd. (B.H.P.) – 50% W.I.

Royalties and overrides
10% Royalty (6% to Victorian Government, and 4% to Commonwealth Government); 2½% O.R.R. to Lewis G. Weeks, and 2½% O.R.R. to Victorian Government.

Lease No.
VIC/L5 and L6.

Location
38 mi (61.1 kms) offshore, and 196 mi (316 kms) east-southeast of Melbourne.

Discovery well
Halibut No. 1

Coordinates:	38° 23' 56" S; 148° 18' 59" E.
Discovery date:	July, 1967.
Elevation:	K.B. 31 ft (9.4 m)
Drilled by:	'Glomar III'
Water depth:	238 ft (72.5 m)
Total depth:	10,011 ft (3,051 m)

Productive interval and maximum flow rates
(Prod. Test) 7,800 – 7,804' (4'):
FARO up to 3,280 BOPD (43.8° API), ½" t.c.

Method of location
Reflection seismic.

FIELD DESCRIPTION AND DEVELOPMENT DATA

Estimated ultimate recoverable reserves (Victorian Ministry of Fuel and Power, 1972)

(Oil)	440 million bbls (70 million kls)
(Associated Gas)	0.03 trillion CF (0.85 billion m^3)

Productive area
10.4 sq mi; 6,670 acres; 26.9 sq kms.
Length: 3.8 mi (6.1 kms)
Width: 3.7 mi (6.0 kms)

Maximum vertical closure
500 ± ft (152 m) on top of Latrobe. Approximately 100% filled.

Depth to top of pay zone
7,381 ft (-7,350 ft, -2,240 m)

Interface
Oil/water contact: 7,887 ft (-7,856 ft, -2,395 m)

Total hydrocarbon column
(Oil) 507 ft (154 m)

Number of wells
(Wildcat wells) oil – 1, dry – nil; Total – 1
(Platform wells) oil – 19, gas – nil, dry – 1, junked – 1; Total – 21.

Number of platforms and size
One, 24-conductor platform, 142' x 118' (43.3 x 35.9 m) total height is 649 ft (197.8 m); and main deck stands 70 ft (21.3 m) above sea level.

Well spacing
Wells designed to drain various sand units at their highest structural position, just down dip from their truncated edge at the Latrobe unconformity surface.

GEOLOGICAL FACTORS

Producing zone
Malvacipollis diversus Zone of Latrobe Group.

Age
Early Eocene

Environment of deposition
Fluvial (non-marine) – delta plain sequence; massive braided stream deposits (30 to 200 ft thick), point-bars, stream-mouth bars and crevasse sandstones.

Reservoir rock description
Sandstone; very fine to coarse grained quartz, friable, excellent porosity and permeability.

Source rock
Intra-Latrobe shale and coal; and possibly Oligocene, Lakes Entrance Formation.

Cap rock
Lakes Entrance Formation (Oligocene) marine mudstones.

Type of trap
Southwestward plunging Eocene nose was deeply eroded (in an updip direction at Latrobe unconformity) by Lakes Entrance mudstones, thus forming a closed structural high on the Lakes Entrance-Latrobe (Oligocene-Eocene) unconformity surface.

Regional setting
Central portion of offshore Gippsland basin.

Relation to unconformities
Producing horizons are sealed updip by a regional unconformity.

Oldest formation penetrated
Latrobe Group (Eocene and Paleocene) 2,500 + ft (762 + m) penetrated.

RESERVOIR DATA

Net pay thickness
(Oil) 209 ft (63.7 m) in No. 1 well (Franklin and Clifton, 1971).

Number of reservoir beds
Nine

Acre-feet
(6,670 acres x 120 * ± ft average net pay) = 800,000 ± acre-ft *

Porosity (intergranular)
18% to 22% (average 20%)

Permeability
Average 1,600 md, with some measured permeabilities over 3 darcies.

Water saturation
15% to 20% (average 18 ± %)

Reservoir temperature
220°F (104°C) at 7,700 ft (2,347 m)

Initial reservoir pressure
3,415 psig at 7,700 ft subsea (0.443 psi/ft gradient)

Probable drive mechanism
Strong water drive.

Recovery factor
550 ± bbls/acre-ft * (based upon reported reserves, and Editor's estimate of reservoir volume).

FLUID PROPERTIES

OIL (undersaturated)

Gravity:	43.8° API at 60°F
Base:	Paraffin
Sulphur (% wt):	0.11
Wax content (% wt):	26.8
Initial G.O.R.:	90 cu ft/bbl
Pour point:	+ 54°F (+12.2°C)
Viscosity:	3.02 cp at 100°F
Bubble point:	280 psig
Salt content:	0.85 lb/bbl

WATER

No data.

PRODUCTION DATA

Date production began

March 13, 1970.

Initial production

50,000 BOPD (7,948 kls per day) increasing to 223,576 BOPD (35,542 kls per day) in December, 1970.

Current production

Field averaged 162,943 BOPD (25,903 kls per day) during December, 1972.

Cumulative production (to December 31, 1972)

166,501,919 bbls (26,468,810 kls)

Remaining recoverable reserves (to December 31, 1972)

273,498,081 bbls (43,477,989 kls)

Delivery system

By 24 in (60.9 cm) undersea pipeline 47 mi (76 kms) to shore, then by 26 in (66.0 cm) onshore pipeline 35 mi (56 kms) to a common gas processing and crude stabilisation plant at Longford.

Number of wells currently producing (at December 31, 1972)

19 at an average rate of 8,576 BOPD (1,363 kls per day) per well during December, 1972.

Pressure maintenance and secondary recovery

None

COST

Not available, see Barracouta and Marlin.

REMARKS

1. Halibut No. 1 well was not subsidized, consequently most well and field data are confidential.

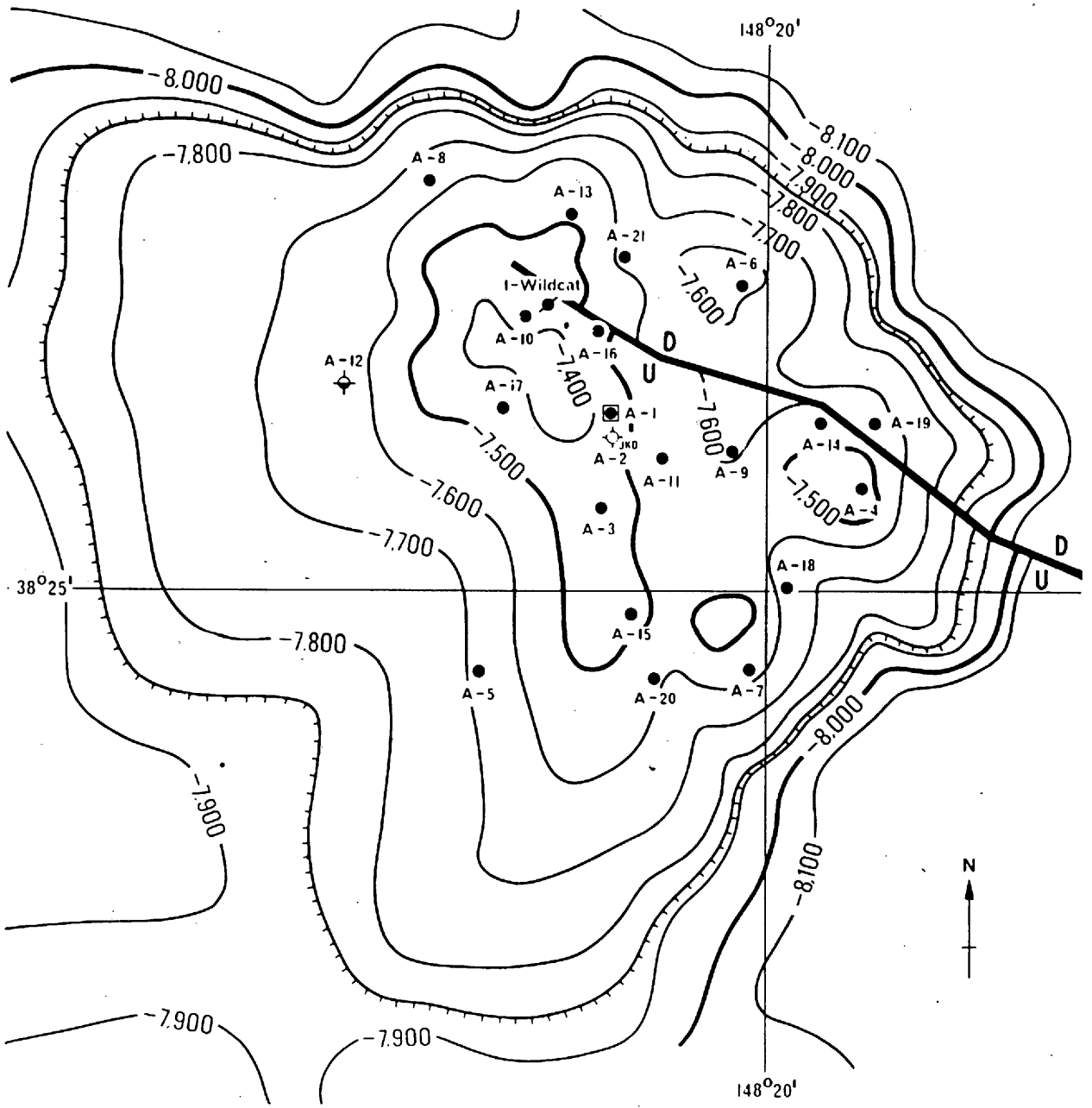
REFERENCES

Franklin, E.H. and B.B. Clifton, 1971.
Griffith, B.R. and E.A. Hodgson, 1971.
James, E.A. and P.R. Evans, 1971.
Ministry of Fuel and Power of Victoria, 1971 and 1972.
Robinson, K. and W.J. Stewart, 1970.
Stewart, W.J., 1969.
Stratton, M.A., 1971 and 1972.
Student, B., 1970.
Victorian Mines Department, Annual Report 1972.

FOOTNOTES

* Editor's estimate.

HALIBUT OIL FIELD
GIPPSLAND BASIN, VICTORIA



STRUCTURE MAP
LAKES ENTRANCE – LATROBE UNCONFORMITY

LEGEND

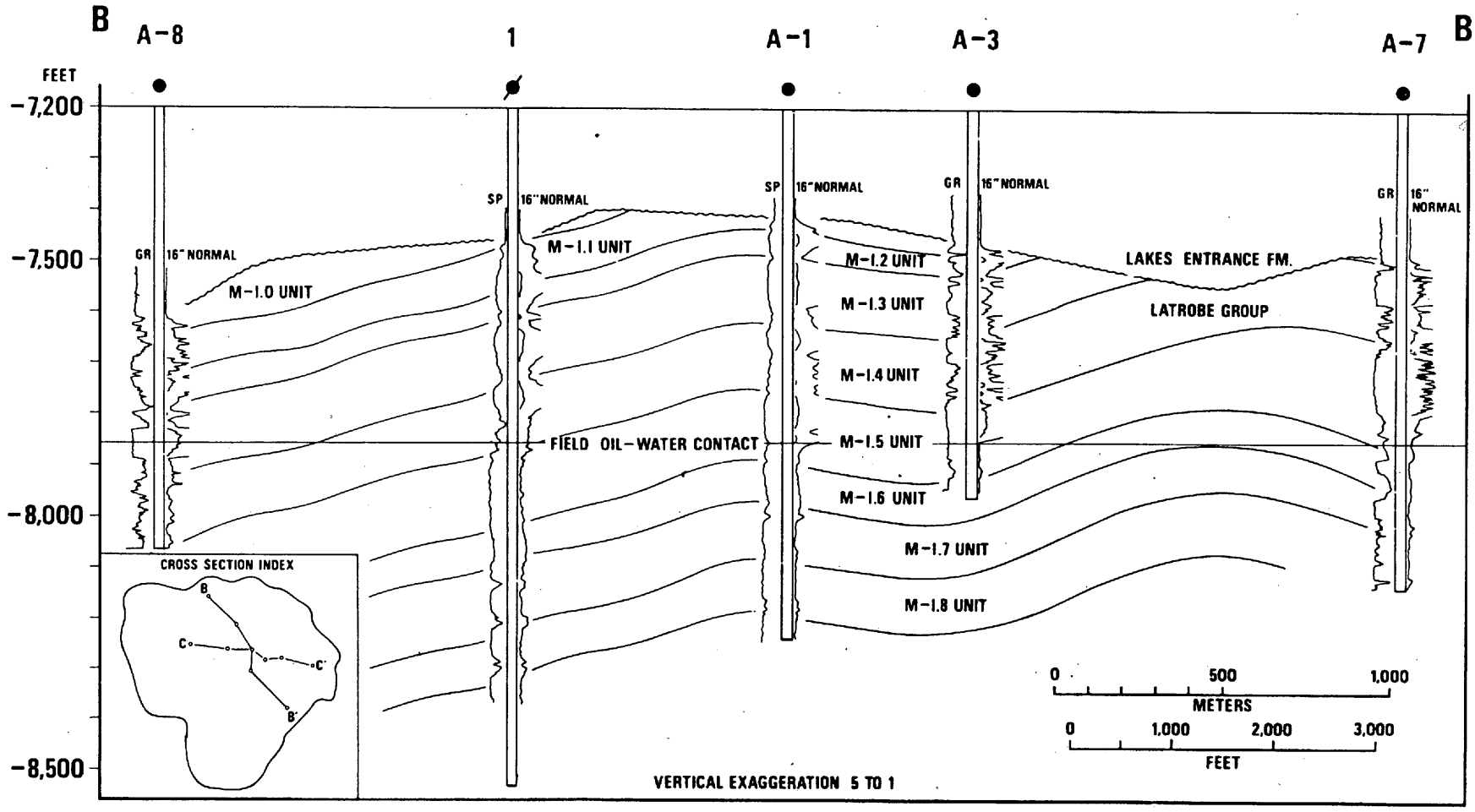
- Halibut A platform
- Abandoned oil well
- Producing oil well
- Abandoned well with show of oil
- Junked and abandoned well
- Oil-water contact
- Line of fault

contour interval 100'

Scale of miles: 0 – 1; 0 – 2 kilometers

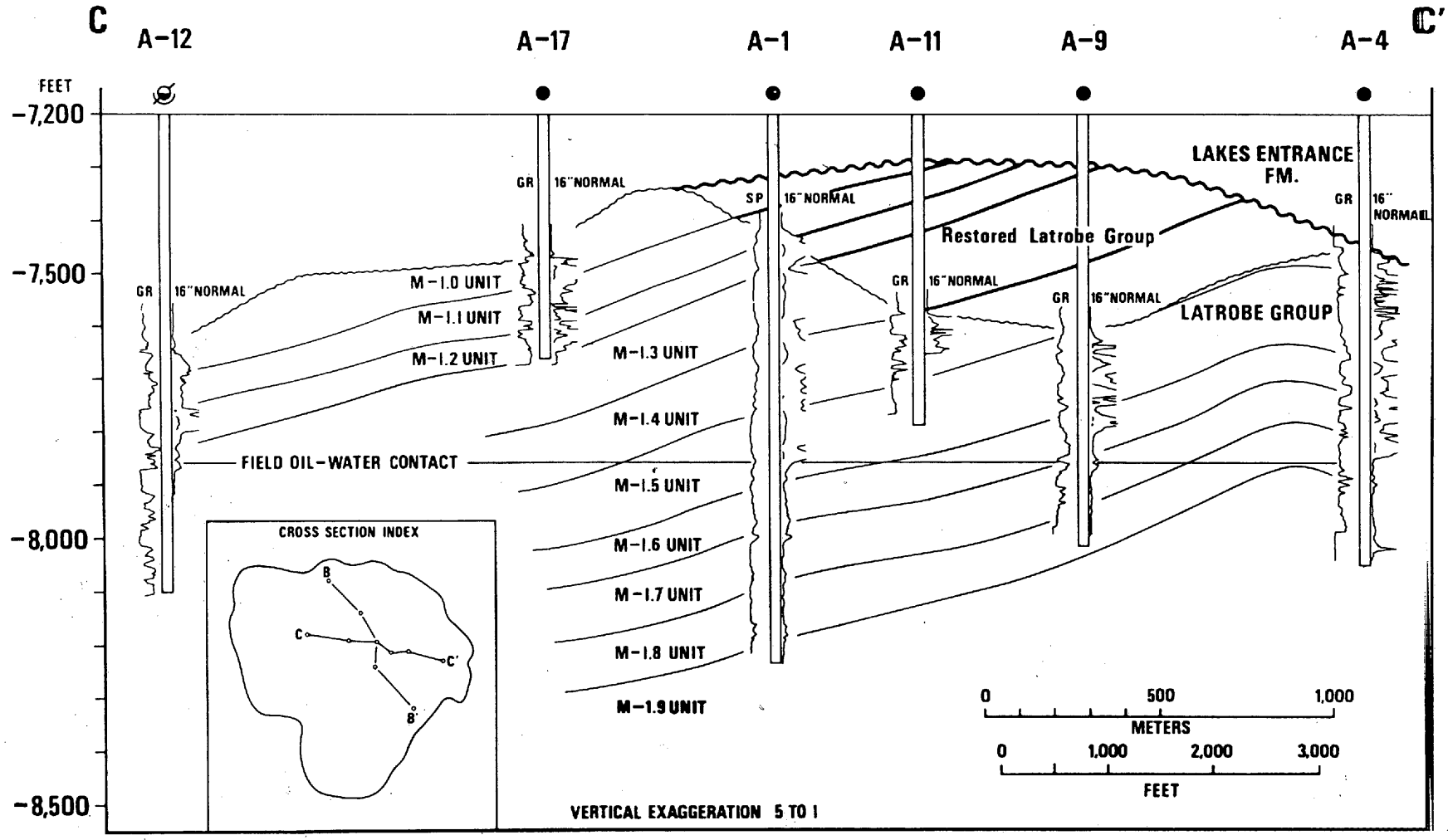
After Griffith and Hodgson, 1971

HALIBUT OIL FIELD
STRUCTURAL CROSS-SECTION B–B′



After Franklin and Clifton, 1971

HALIBUT OIL FIELD
STRUCTURAL CROSS-SECTION C–C'



After Franklin and Clifton, 1971

Gippsland Basin, Victoria

Kingfish Oil Field

Owners
Esso Exploration and Prod. Aust. – 50% W.I. – Operator
Hematite Petroleum Pty. Ltd. (B.H.P.) – 50% W.I.

Royalties and overrides
10% Royalty (6% to Victorian Government, 4% to Commonwealth Government); 2½% O.R.R. to Lewis G. Weeks and 2½% O.R.R. to Victorian Government.

Lease No.
VIC/L7 and L8.

Location
48 mi (77.2 kms) offshore, and 193 mi (310 kms) east-south-east of Melbourne.

Discovery well
Kingfish No. 1

Coordinates:	38° 35' 50" S; 148° 12' 35" E.
Discovery date:	May, 1967.
Elevation:	K.B. 31 ft (9.4 m)
Water depth:	250 to 260 ft (76 to 79 m) for field.
Total depth:	8,451 ft (2,576 m)
Drilled by:	'Glomar III'

Productive interval and maximum flow rate
(Prod. Test) 7,584 – 7,592' (8'):
FARO 1,500 BOPD (49° API), 5/8" t.c., low G.O.R.

Method of location
Reflection seismic.

FIELD DESCRIPTION AND DEVELOPMENT DATA

Estimated ultimate recoverable reserves (Victorian Ministry of Fuel and Power, 1972)
(Oil) 1,060 million bbls (168.5 million kls) – proved and probable.
(Associated Gas) 0.25 trillion CF (7.0 billion m^3)

Productive area
28 sq mi; 17,920 acres; 74.5 sq kms *
Length: 8 mi (12.9 kms) *
Width: 3.5 mi (5.6 kms) *

Total area of closure
28 ± sq mi (74.5 sq kms)

Maximum vertical closure
270 ft (82.3 m) at top of Latrobe.

Depth to top of pay zone
-7,296 ft (-2,223.8 m)

Interface
Oil/Water contact: -7,566 ft (-2,306.1 m)

Total hydrocarbon column
(Oil) 270 ft (82.3 m)

Number of wells
(Wildcat wells) oil – 3, dry – nil; Total – 3.
(Platform wells) "A" Platform: 21 oil producers.
"B" Platform: 21 oil producers.

Number of platforms and sizes
Two, 21-conductor platforms, each 172' x 66' (52.4 x 20.1 m); total height 702 ft (214 m); main deck stands 72 ft (21.9 m) above sea level.

Well spacing
Approximately 320 acres; drainage in main reservoir is from 1,800 to 2,000 ft spacing.

GEOLOGICAL FACTORS

Producing zone
Malvacipollis diversus Zone of Latrobe Group (M – 1 reservoir).

Age
Lower Eocene

Environment of deposition
Inter-deltaic nearshore; includes braided-stream complexes, lateral beaches, intercalated clastic and organic flood plain deposits, and widespread marine transgression facies.

Reservoir rock description
Sandstone; fine to coarse grained quartz, clean, friable to unconsolidated.

Source rock
Intra-Latrobe shale and coal, and possibly Lakes Entrance Formation (Oligocene) marine mudstone.

Cap rock
Lakes Entrance Formation (Oligocene) marine mudstone.

Type of trap
Structural-stratigraphic; large anticlinal closure at Latrobe (Eocene-Oligocene) unconformity surface, with porous Latrobe sands at angular (sub-conformable) contact with sealing marl and mudstone of the Lakes Entrance Formation.

Regional setting
Located in central portion of offshore Gippsland Basin.

Relation to unconformities
Production lies directly beneath Latrobe-Lakes Entrance (Eocene-Oligocene) unconformity.

Deepest formation penetrated
Upper Cretaceous Latrobe Group.

RESERVOIR DATA

Net pay thickness
(Oil) maximum 200 ± ft (61 m) *; average 120 ± ft (36.6 m) *
Kingfish Nos. 1, 2 and 3 wells contained 114 ft (34.7 m), 188 ft (57.3 m), and 99 ft (30.2 m) net oil sand above the same oil-water contact, respectively.

Number of reservoir beds
In order of 9 or 10

Acre-feet
Average 120 ft net pay * x 16,000 acres = 1,920,000 acre-ft. *

Porosity (intergranular)
17% to 22% (average 20%)

Permeability
50 to 1,000 + md

Water saturation
Less than 11% to 42% (average 15%)

Kingfish Oil Field — Gippsland Basin, Queensland

Reservoir temperature
215°F (101.7°C) at 7,500 ft (2286.0 m)

Initial reservoir pressure
3,303 psig at 7,500 ft (0.440 psi/ft gradient)

Probable drive mechanism
Strong water drive.

Recovery factor
(Oil) 550 ± bbls/acre-ft* (Based upon announced reserves and Editor's estimate of reservoir volume).

FLUID PROPERTIES

OIL (undersaturated)

Gravity:	47° API at 60°F
Base:	Paraffin
Sulphur (% wt):	0.13
content (% wt):	13.0
al G.O.R.:	363 cu ft/bbl
ur point:	+ 60°F (+15.6°C)
iscosity:	2.15 cp at 100°F
Bubble point:	853 psig

WATER
No data

PRODUCTION DATA
(Field declared commercial in May, 1968).

Date production began
"A" Platform: April 21, 1971.
"B" Platform: November 1, 1971.

Initial production
113,719 BOPD (18,078 kls per day)

Current production
During December 1972:
"A" Platform averaged 159,989 BOPD (25,433 kls per day)
"B" Platform averaged 74,846 BOPD (11,898 kls per day)

Cumulative production (to December 31, 1972)
,268,207 bbls (16,098,606 kls).

Remaining recoverable reserves (to December 31, 1972)
958.73 million bbls (152.4 million kls)

Delivery system
15.7 mi (25.3 kms) of 20 in (50.8 cm) diameter submerged pipeline to Halibut Field, then 47 mi (75.6 kms) of 24 in (61.0 cm) diameter submerged pipeline to shore; then 35 mi (56.3 kms) of 26 in (66.0 cm) onshore pipeline to Gippsland gas processing and crude stabilisation plant at Longford.

Number of wells currently producing (at December 31, 1972)

"A" Platform:	20 wells at an average rate of 7,999 BOPD (1,272 kls per day) per well during December, 1972.
"B" Platform:	20 wells at an average rate of 3,742 BOPD (595 kls per day) per well during December, 1972. Production from "B" Platform is lower than from "A" Platform due to equipment limitations.

Pressure maintenance and secondary recovery
None

COSTS

Not available, see Barracouta and Marlin.

REMARKS

1. Kingfish No. 1 well was not subsidized, consequently most well and field data are confidential.

REFERENCES

Bein, J., B.R. Griffith, and A.K. Svalbe, 1973.
Griffith, B.R. and E.A. Hodgson, 1971.
James, E.A. and P.R. Evans, 1971.
Ministry of Fuel and Power of Victoria, 1971 and 1972.
Robinson, K. and W.J. Stewart, 1970.
Stewart, W.J., 1969.
Stratton, M.A., 1971 and 1972.
Victorian Mines Department, Annual Report, 1972.

FOOTNOTES

* Editor's estimate.

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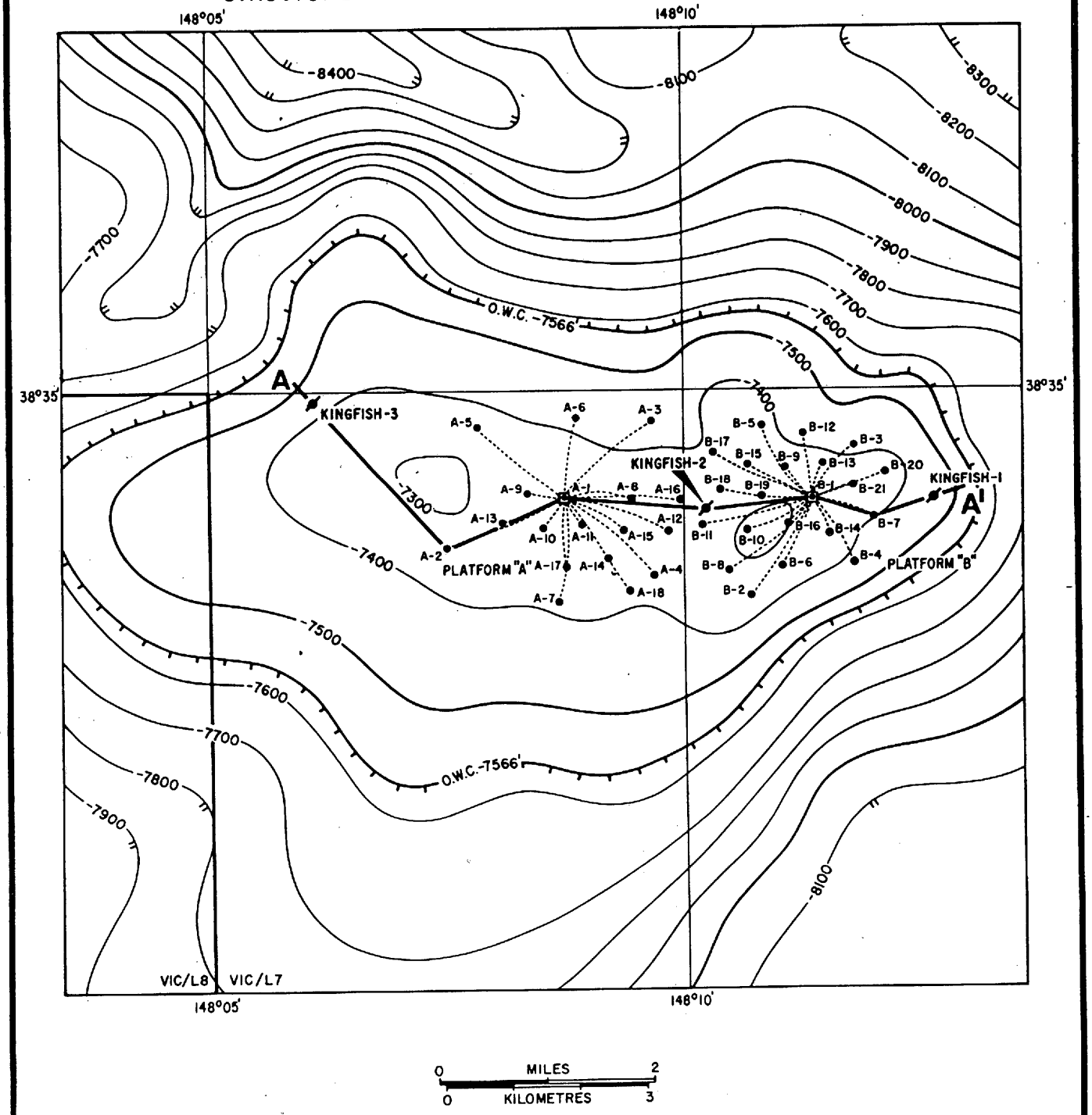
KINGFISH OIL FIELD

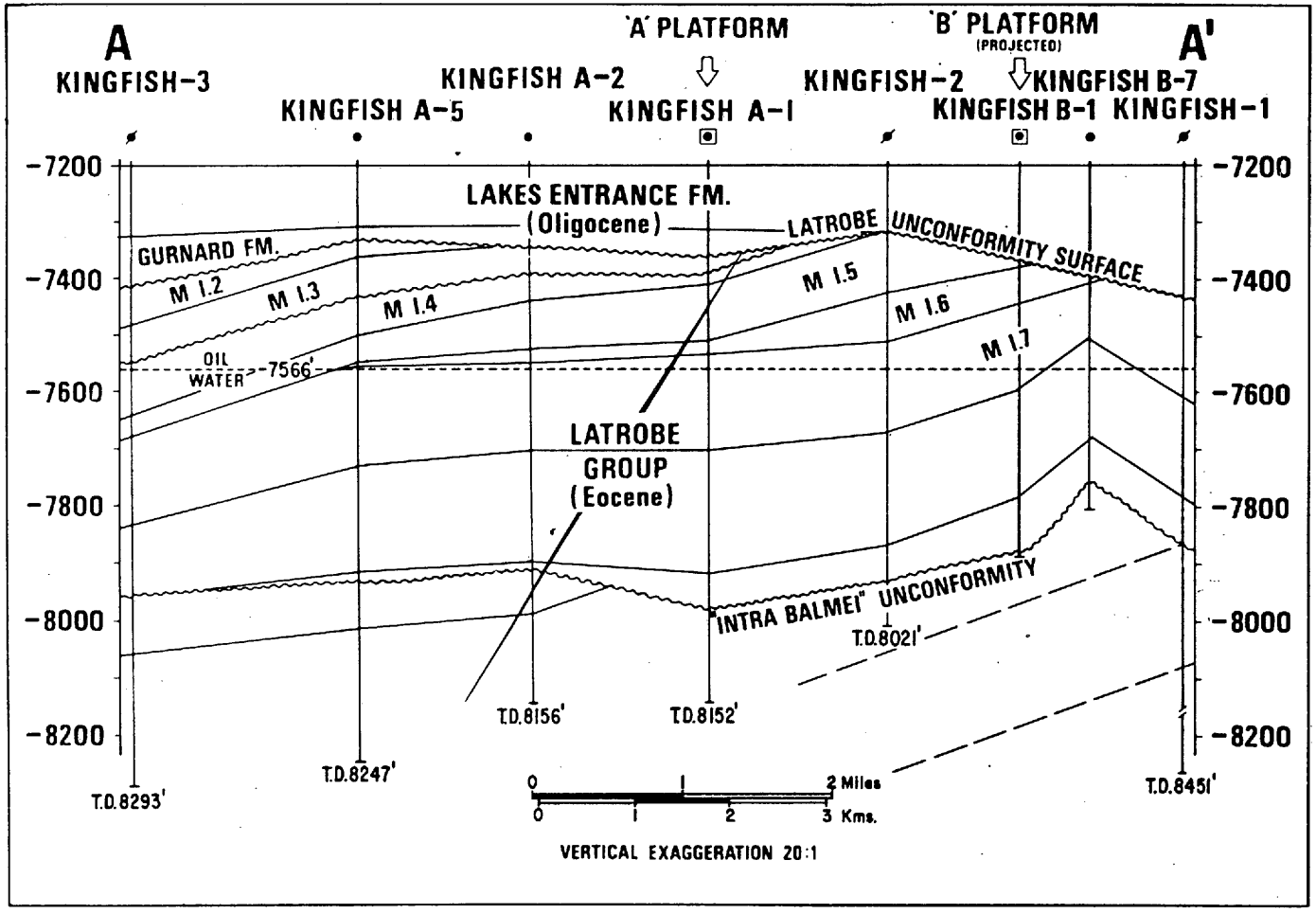
GIPPSLAND BASIN, VICTORIA

STRUCTURE MAP ON LATROBE UNCONFORMITY SURFACE



After Griffith and Hodgson, 1971, and Bein, et al., 1973.

KINGFISH OIL FIELD
STRUCTURE CROSS-SECTION A–A'

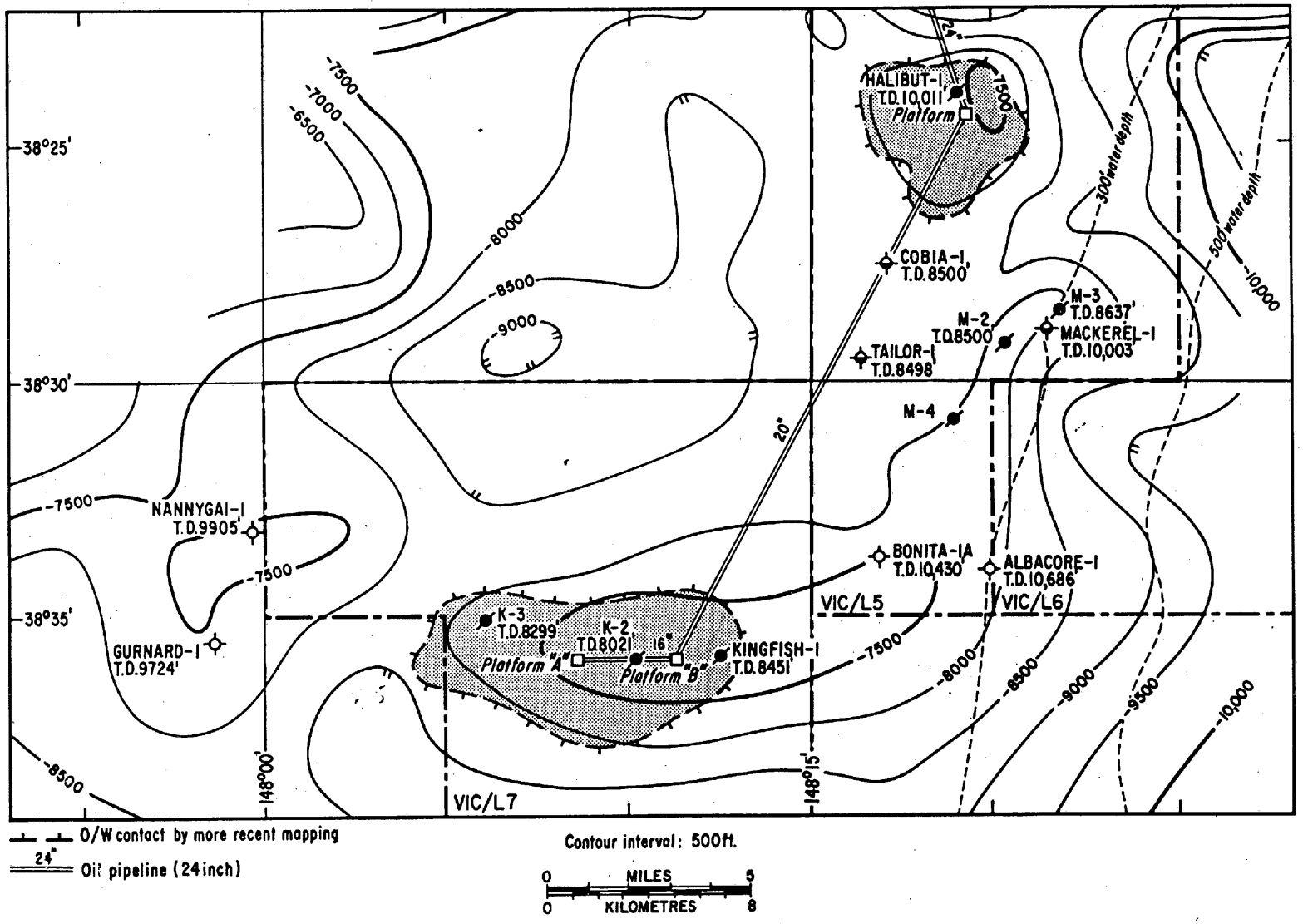


After Griffith and Hodgson, 1971; and Bein, et al., 1973.

KINGFISH-MACKEREL-HALIBUT OIL FIELDS

GIPPSLAND BASIN, VICTORIA

STRUCTURE MAP: TOPOGRAPHIC SURFACE AT TOP OF LATROBE DELTAIC COMPLEX



After Eastern Bass Strait Marine Seismic Survey, 1967

Gippsland Basin, Victoria

Lakes Entrance Oil Field

Owners

Woodside-Burmah Oil N.L.	– 60% – Operator
Planet Resources Group N.L.	– 11.64%
Australian Oil & Gas Corp. Ltd.	– 11.14%
Endeavour Oil N.L.	– 10.0%
Genoa Oil N.L.	– 2.5%
Pexa Oil N.L.	– 2.5%
Murumba Oil N.L.	– 1.03%
Harbourside Oil N.L.	– 0.5%

Royalty
10% to Victorian Government.

Lease No.
Petroleum Exploration Permit No. 72.

Location
185 mi (298 kms) east of Melbourne.

Discovery well
Lakes Entrance Development Co.'s Lake Bunga No. 1 **

Coordinates: 37° 51' 22" S; 148° 02' 24" E.
Discovery date: July, 1924.
Elevation: G.L. 9 ft (2.7 m)
Total depth: 1,210 ft (369.1 m)

Productive interval and maximum flow rates
At 1,070 ft (326.1 m) oil, gas and mud were encountered in small quantities.

Method of location
Well was located to test a theory of the Victorian Mines Department that organic material within Eocene sediments, which produced coal between Yallourn and Sale, could have yielded oil in its more deltaic environment farther to the east. Exact location was chosen for accessibility and desirable drilling conditions. No oil seeps were present in the area.

FIELD DESCRIPTION AND DEVELOPMENT DATA

Estimated reserves in-place
Thyer and Noakes (1955) concluded that a maximum of 320,000 bbls of oil could exist in the Lakes Entrance sandstone reservoir within the 2,000 ft diameter area which they studied.

Estimated ultimate recoverable reserves
Unknown; but relatively small.

Productive area
Proved area comprises a minimum of 5 sq mi; 3,200 acres; 12.9 sq kms – Boutakoff, 1964. (Greensand reservoir covers a potentially productive area of at least 32 sq mi).

Length: Up to 4.5 mi (11.6 kms)
Width: Up to 1.5 mi (3.9 kms)

Total area of closure
N.A.

Maximum vertical closure
N.A.

Depth to top of pay zone
1,199 ft (365.5 m) in "oil shaft".

Interface
None reported.

Total hydrocarbon column
N.A.

Number of wells
Oil (or good oil shows) – 32, gas – nil, dry – 22; Total – 54 (B.M.R. Bulletin 41A, 1960).

GEOLOGICAL FACTORS

Producing zone
"Greensand Member" of Lakes Entrance Formation.

Age
Oligocene

Environment of deposition
Lagoonal or restrcited bay area between coastal and nearshore barrier sands (Hocking, 1972).

Reservoir rock description
Glauconitic sandstone; Green-grey, fine-grained quartz and glauconite-limonite ooliths with minor chloritic mud matrix; soft, friable, varying amount of calcareous matrix, abundant mica.

Maximum reservoir thickness
Glauconitic sandstone reported up to about 45 ft (13.7 m) thick.

Source rock
Opinion divided between (a) updip migration of source in Eocene Latrobe Group, and (b) local source within marine Lakes Entrance Formation. Asphaltic composition of oil favours latter source.

Cap rock
Micaceous marl of upper Lakes Entrance Formation.

Type of trap
The basal sandy facies of the Lakes Entrance Formation is draped over a southward-plunging paleotopographic nose, formed by a granite ridge and adjacent zone of contact metamorphics. Oil accumulation was modified, shifted or destroyed by active groundwater movement.

Regional setting
Located in the northeastern part of the Gippsland Basin, less than 10 mi (16 kms) south of basement outcrop. Field lies upon "Lakes Entrance Platform", a structural high during Mesozoic and early Tertiary times. (Hocking and Taylor, 1964).

Relation to unconformities
Productive sands are a marine transgressive deposit unconformably overlying basement of granite and metamorphics.

Oldest formation penetrated
Ordovician metamorphics and Devonian granite. (Maximum depth to basement in field area is about 1,500 ft, 457 m).

RESERVOIR DATA

Net pay thickness
(Oil) averages at least 9 to 14 ft (2.7 to 4.2 m)

Number of reservoir beds
Two to three

Acre-feet
N.A.

Porosity (intergranular)
Average 36 to 38%

Permeability
Less than 1 to 46 md (average less than 10 ± md)

Water saturation
Very high water saturation, 70 to 85%, according to Thyer and Noakes, 1955.

Reservoir temperature
84°F (28.9°C)

Initial reservoir pressure
Artesian water at 600 ± psi at 1,200 ± ft (0.500 psi/ft gradient).

Probable drive mechanism
None

Recovery factor
(Oil) Thyer and Noakes estimated 66 to 234 bbls per acre-ft (based upon 15% to 20% recoveries of the 440 to 1,170 bbls per acre in-place).

FLUID PROPERTIES

OIL

Gravity:	15.7° API at 60°F (15.6°C).
Specific gravity:	0.961
Base:	Asphaltic
Odour:	"Woody Eucalypt smell", related to aromatic smell of Victorian brown coal.
Sulphur (% wt):	0.43 to 1.53%
Initial G.O.R.:	N.A.
Pour point:	N.A.
Viscosity:	95 cp at 100°F (37.8°C)

Note: Oil is devoid of gasoline and kerosene fractions. Distillation tests show 17.9% of 'gas oil' and the remainder comprising heavy lubricating oil and petroleum residue.

GAS (associated)

	% Volume †		
Methane	94.21	Hexanes +	–
Ethane	–	Nitrogen	3.2
Propane	–	Oxygen	0.4
Isobutane	–	Carbon dioxide	2.19
n-Butane	–	Hydrogen sulphide	–
Isopentane	–	Specific gravity	0.585
n-Pentane	–	BTU/cu ft (gross)	1003

† Selected analysis. Nitrogen content up to 71% has been reported.

WATER
Lakes Entrance Formation water is fresh (1,000 ± NaCl) and invariably has an oily smell and taste. Water is under artesian pressure of over 600 psi (Boutakoff, 1964).

PRODUCTION DATA

Date production began
1930

Cumulative production
Between 1930 and July 1941, some 107,129 gals (3,063 US bbls or 487 kls) of poor quality oil was produced by pumping and bailing (no flows). From 1948 to 1951, Lakes Oil Ltd. produced 172,590 gals (4,935 US bbls or 785 kls) from testing operations of the "Ranneywells" project (see Remarks). This operation was suspended in December, 1951.

COSTS

Not available.

REMARKS

1. In 1942, the Commonwealth and Victorian Governments turned their attention toward oil-search in the Gippsland area in an effort to supplement war-time oil shortage. Using a method devised in America by Leo Ranney, known as "Ranneywells", they sunk a vertical shaft (Lakes Entrance Oil Shaft) 12 ft (3.7 m) in diameter to a depth of 1,198 ft (365.2 m). The last 25 ft (7.6 m) or so of the shaft was widened to form a work chamber 20 ft (6.1 m) in diameter from which at least 15 wells were drilled horizontally into the oil-bearing sandstone. Drilling in a spoke-like manner from the shaft chamber was not successful due to variable and unpredictable nature of oil accumulation and reservoir rock. This project was abandoned by the Government in May, 1946. Equipment was sold to the Austral Oil Drilling Syndicate (Lakes Oil Ltd.) who continued the project until 1951, with poor success.
2. Limited reservoir extent is further supported by rapid decline of rate of production.

REFERENCES

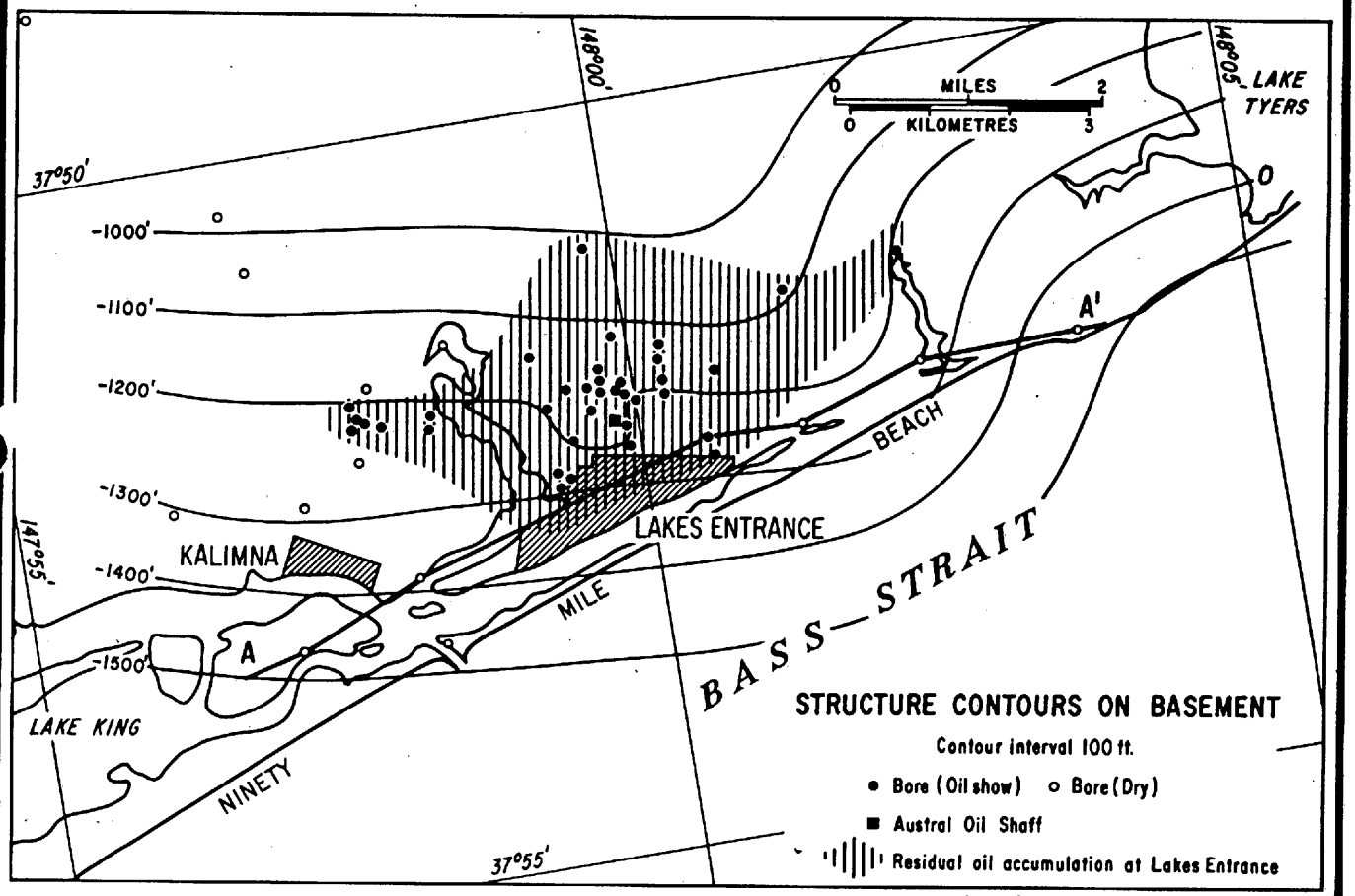
Balfour, J.C.M., 1968.
Boutakoff, N., 1951 and 1964.
Bureau of Mineral Resources, 1960.
Edwards, A.B., 1945.
Hocking, J.B., personal communication.
Hocking, J.B., 1969 and 1972.
Hocking, J.B., and D.J. Taylor, 1964.
Thyer, R.F., and L.C. Noakes, 1955.
Webb, E.A., 1961.

FOOTNOTES

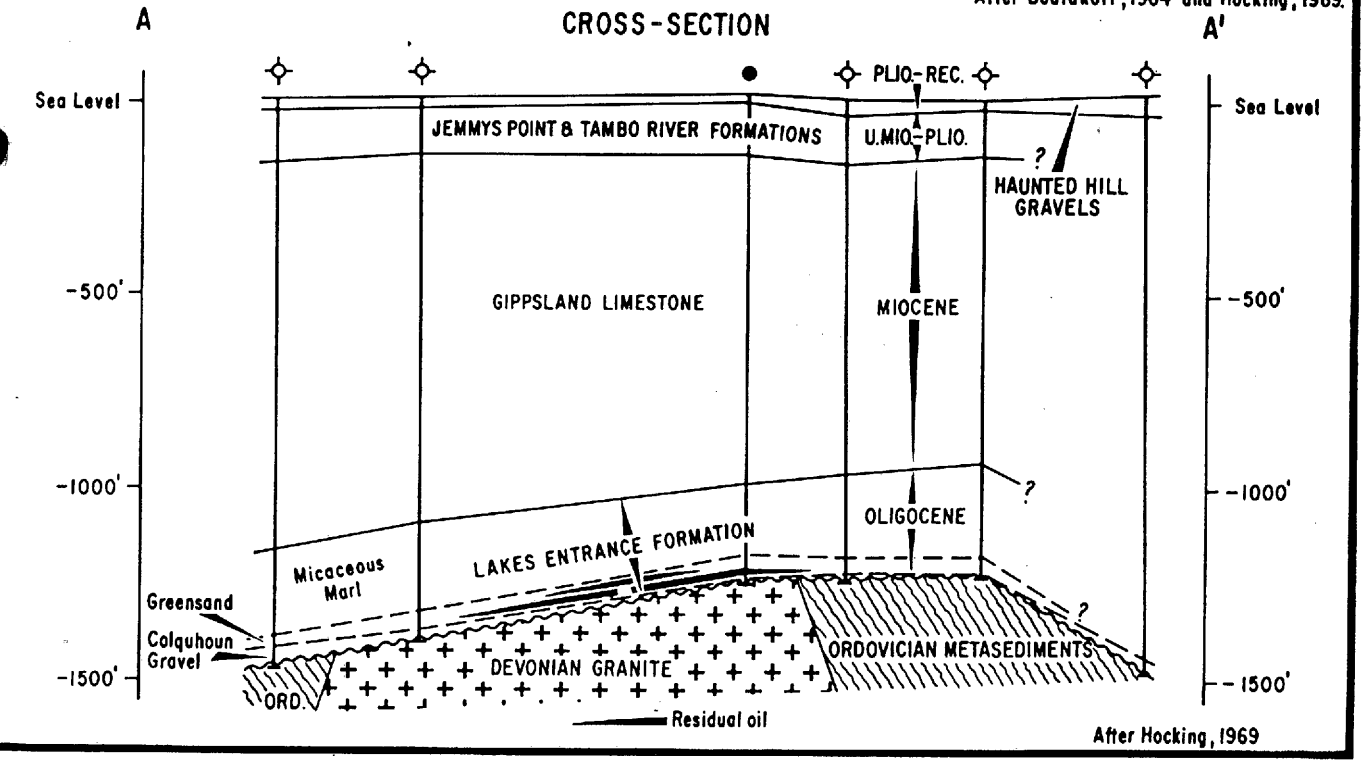
** First discovery of oil in Australia.

LAKES ENTRANCE OIL FIELD

GIPPSLAND BASIN, VICTORIA



After Boutakoff, 1964 and Hocking, 1969.



After Hocking, 1969

Gippsland Basin, Victoria

Marlin Gas and Oil Field

Owners
Esso Exploration & Production Aust. – 50% – Operator
Hematite Petroleum Pty. Ltd. (B.H.P.) – 50% – W.I.

Royalties and overrides
10% Royalty (6% to Victorian Government, and 4% to Commonwealth Government); 2½% O.R.R. to Lewis G. Weeks, and 1% O.R.R. to Victorian Government.

Lease No.
VIC/L3 and L4.

Location
28 mi (45 kms) offshore, and 185 mi (298 kms) east of Melbourne.

Discovery well
Esso Gippsland Shelf No. 4 (Marlin No. 1)

Coordinates	38° 14' 03" S; 148° 13' 33" E.
Discovery date:	December, 1965
Elevation:	K.B. 31 ft (9.4 m)
Drilled by:	"Glomar III"
Water depth:	195 ft (59.4 m)
Total depth:	8,485 ft (2,586.2 m)

Productive interval and maximum flow rate
Prod. Test 4,532 – 52' and 4,562 – 82' (40') (Eocene):
FARO 10.2 MMcfd plus 44.6 BC per MMcfg, 1" t.c., 2 shots per ft.
5,122 – 37' (15') (Eocene):
FARO 1,182 BOPD, 51° – 53° API, $^{58}/_{64}$" t.c., 2 shots per ft.
7,406 – 66' and 7,514 – 74' (120') (Paleocene):
FARO 10.9 MMcfd plus 39 BC per MMcfg.

Method of location
Reflection seismic.

FIELD DESCRIPTION AND DEVELOPMENT DATA

Estimated ultimate recoverable reserves
(Gas) 3.5 trillion CF (99.1 billion m^3) – Victorian Ministry of Fuel and Power, 1972.
(NGL) 175 million bbls (27.8 million kls) *
(Oil) Not estimated.

Productive area
34 sq mi; 21,800 acres; 88.0 sq kms *
Length: 8 mi (12.9 kms) *
Width: 5.75 mi (9.3 kms) *

Total area of closure
44 sq mi (113.9 sq kms) *

Maximum vertical closure
900 ft (274 m) – at top of Latrobe. % Filled: 60% *

Depth to top of pay zones
Eocene: 4,522 ft (-4,491 ft; -1,368.8 m)
Paleocene: 7,050 ft (-7,019 ft; -2,139.4 m)

Interfaces
(Eocene) Gas/oil contact: 5,114 ft (-5,083 ft; -1,549.3 m) in No. 1 well.
Oil/water contact: 5,170 ft (-5,139 ft; -1,566.4 m) in No. 1. well.
Note: Eocene gas/water contact of field is 5,161 ft (-5,130 ft; -1,563.6 m) – see cross section.
(Paleocene) Gas/water contact: 7,640 ft (-7,609 ft; 2,319.2 m).

Total hydrocarbon column

Eocene:	(gas)	592 ft (180.4 m)
	(oil)	56 ft (17.7 m)
Paleocene:	(gas)	590 ft (179.8 m)

Number of wells
(Wildcat wells) oil – nil, gas – 3 (abandoned); Total – 3.
(Platform wells) oil – nil, gas – 20, dry – nil; plugged and abandoned – 2; Total – 22.

Number of platforms and size
One, 24 conductor platform; 142' x 118' (43.3 m x 35.9 m); standing 66 ft (20.1 m) above sea level.

GEOLOGICAL FACTORS

Producing zones and age
Malvacipollis diversus Zone (Early Eocene) and *Nothofagidites goniatus* Zone (Late Eocene) of Latrobe Group.

Environment of deposition
Non-marine; braided-stream deposits formed on widespread alluvial-deltaic plain.

Reservoir rock description
Sandstone; light grey, fine to very coarse grained quartz, poorly consolidated, sub-angular to well rounded, non-calcareous, abundant glauconite at top, finely disseminated mica and carbonaceous flakes; interbedded with black coal and dark brown carbonaceous shale.

Source rock
Lakes Entrance Formation, and intra-Latrobe shale and coal.

Cap rock
Lakes Entrance Formation (Oligocene) – marine mudstones.

Type of trap
Closed erosional high on the Lakes Entrance – Latrobe (Oligocene-Eocene) unconformity. A southwest-plunging structural nose, present at the end of the Eocene, was eroded on the northeast by a submarine gorge. This was filled later with Oligocene Lakes Entrance, shale and marl.

Regional setting
In central part of offshore Gippsland Basin.

Relation to unconformities
Producing sands of Latrobe Group lie directly below, and are sealed by, the regional Eocene-Oligocene unconformity.

Oldest formation penetrated
Latrobe Group – Lower Paleocene

RESERVOIR DATA

Net pay thickness (Eocene only)
(Gas) 350 ± ft (107 ± m) * – No. 1 well
(Oil) 35 ± ft (11 ± m) * – No. 1 well

Number of reservoir beds
Five ±

Acre-feet
(Gas) 200 ft x 22,000 acres = 4,400,000 acre-ft *

Porosity (intergranular)
(Eocene) 15 to 27% (average 25%)
(Paleocene) 15 to 20% (average 18%)

Marlin Gas and Oil Field

Gippsland Basin, Victoria

Permeability
(Eocene) Average 1,300 ± md
(Paleocene) Core analysis indicated 5 to 12 md, but production test indicated better permeability.

Water saturation
(Eocene) 18 to 25% (average 20%)

Reservoir temperature
(Eocene) 164°F (73.3°C) at 4,457 ft (1,358.5 m)
(Paleocene) 210°F (98.9°C) at 7,125 ft (2,171.7 m)

Initial reservoir pressure
(Eocene) 2,172 psig at 4,900 ft (0.443 psi/ft gradient)
(Paleocene) 3,275 psig at 7,125 ft (0.460 psi/ft gradient)

Probable drive mechanism
Strong water drive.

Recovery factor
(Gas) 0.80 ± MMcf/acre-ft *
(NGL) 50 ± bbls/MMcfg *

Current production (December 31, 1972)
During February through April, 1971, daily flow averaged 45 to 56 MMcfd (1.3 to 1.6 million m^3 per day). Each well was producing about 11 to 14 MMcfd (0.31 to 0.40 million m^3 per day). Marlin platform was damaged by fire on May 19, 1971 and production was slowed and eventually shut-down for the remainder of 1971.
Production re-commenced in January, 1972, but average volume was 1.784 MMcfd (0.05 million m^3 per day) during first half of 1972. Production was discontinued in May in preparation for resumption of development drilling.

Cumulative production (to December 31, 1972)
22,023 MMcfg (623.7 million m^3)

Remaining recoverable reserves (to December 31, 1972)
3.478 trillion CFG (98.51 billion m^3)

Delivery system
33 mi (53 kms) of 20 in (50.8 cm) submerged pipeline to shore, then 34 mi (55 kms) of 20 in (50.8 cm) pipeline to Gippsland gas processing and crude stabilisation plant at Longford.

Number of wells currently producing (at December 31, 1972)
None (see Current Production)

Pressure maintenance or secondary recovery
None

FLUID PROPERTIES

OIL

	Eocene (Prod. Test 5,122-37')	Paleocene (Prod. Test 7,406-7,574'
Gravity (°API at 60°F; 15.6°C):	50°	57.8°
Colour:	dark green	colourless
Base:	paraffin	–
Odour:	sweet	sweet
Sulphur (%wt):	0.06	–
Wax content (% wt):	2.7	–
Pour point:	+5°F (-15°C)	–
Viscosity:	1.24 cp	N.D.
Specific gravity:	0.7784	0.7476
G.O.R. (cu ft/bbl):	907	–

GAS (non-associated)

	Eocene (Prod. Test 4,532-82')	Eocene (Stewart, 1969)	Paleocene (Prod. Test 7,406-7,574')
Methane	86.2	82.6	72.7
Ethane	6.48	6.8	4.79
Propane	3.63	3.7	2.18
Isobutane	0.52	0.5	0.24
n-Butane	0.71	1.5	0.33
Isopentane	0.15	–	0.09
n-Pentane	0.12	2.9	0.08
Hexanes +	0.16	–	0.18
Nitrogen	0.56	nil	1.62
Oxygen	0.09	–	0.43
Carbon dioxide	1.52	2.0	17.4
Hydrogen sulphide	nil	60 ppm	N.D.
Specific gravity	0.665 *	0.727 *	0.894 *
BTU/cu ft (gross)	1135 *	1229 *	1075 *

CONDENSATE

Gravity:	71.8 – 76.5° API at 60°F
bbls/MMcfg:	24.3 to 57.6 (average 50 ±)
Specific gravity:	0.6991 to 0.6803

PRODUCTION DATA

Date production began
(Gas) January 21, 1970.

LOGGING PROGRAMME

Marlin No. 1: Induction-Electric, Microlaterolog, Microlog, Sonic-gamma Ray-Caliper, Laterolog, Continuous Dipmeter, Gamma Ray-Collar Locator, Cement Bond, Temperature, and Velocity Survey.

COSTS

Marlin No. 1 well cost approximately A$2.06 million (T.D. 8,485 ft), or A$243 per ft (tested).

REMARKS

1. On December 2, 1968, after development wells A-3, A-4, A-5 and the deep pool test A-6 had been completed, the A-7 development well blew-out from a sand within the Eocene gas reservoir. The blow-out was brought under control on December 31, at a cost of A$5 million (Stratton, 1972). No major structural damage occurred. The A-7 was plugged and abandoned, and wells A-3, A-4, A-5 and A-6 completed as gas producers.

2. Additional development drilling commenced in June 1972, and by April 1973, twenty gas wells were completed for production. The A-2 and A-7 wells are scheduled to be re-drilled and two additional wells drilled to complete the platform's 24 well capability.

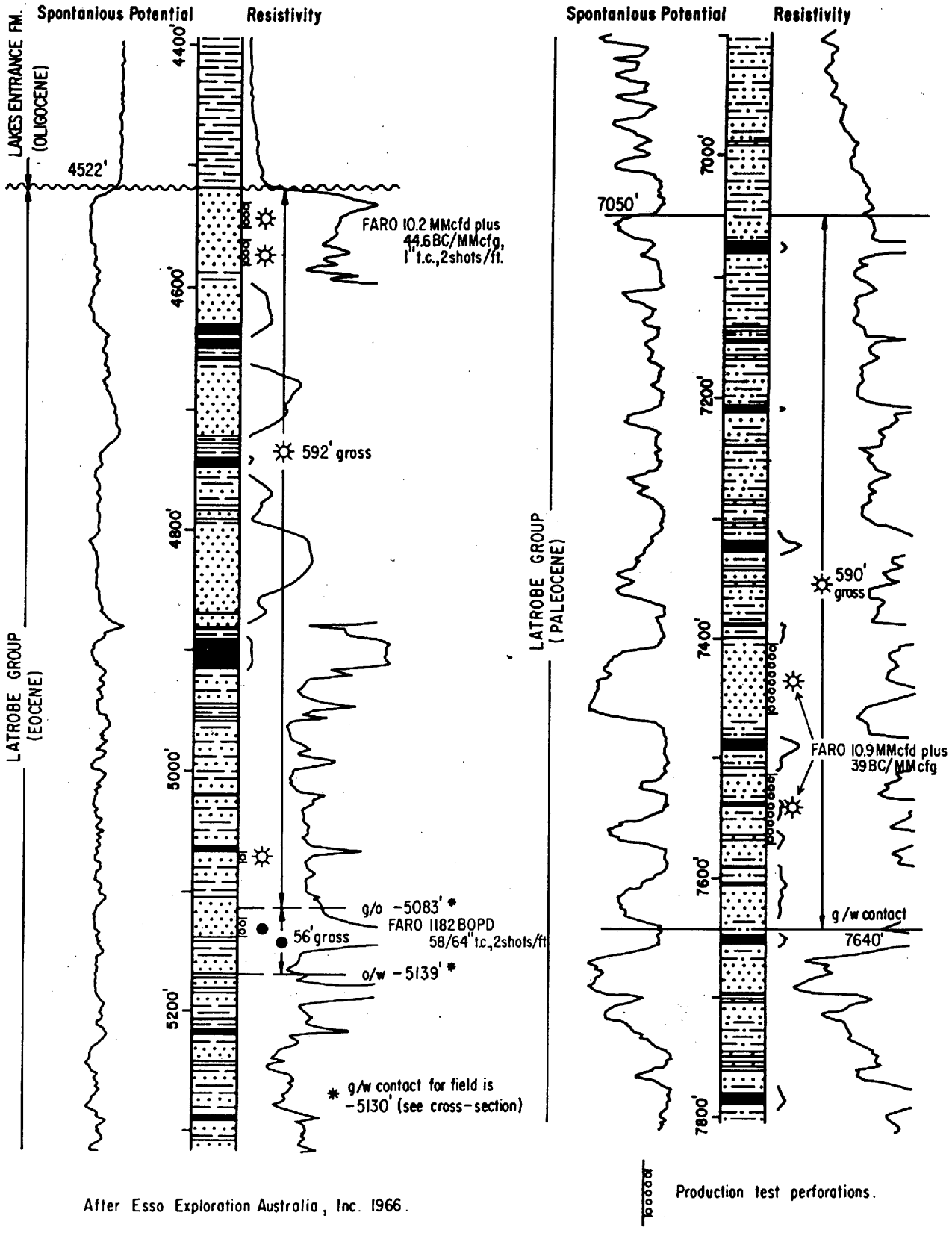
REFERENCES

Esso Exploration Australia, Inc., 1966.
Griffith, B.R. and E.A. Hodgson, 1971.
James, E.A. and P.R. Evans, 1971.
Ministry of Fuel and Power of Victoria, 1971 and 1972.
Robinson, K. and W.J. Stewart, 1970.
Stewart, W.J. 1969.
Stratton, M.A., 1971 and 1972.
Victorian Mines Department, 1971.

FOOTNOTES

* Editor's estimate.

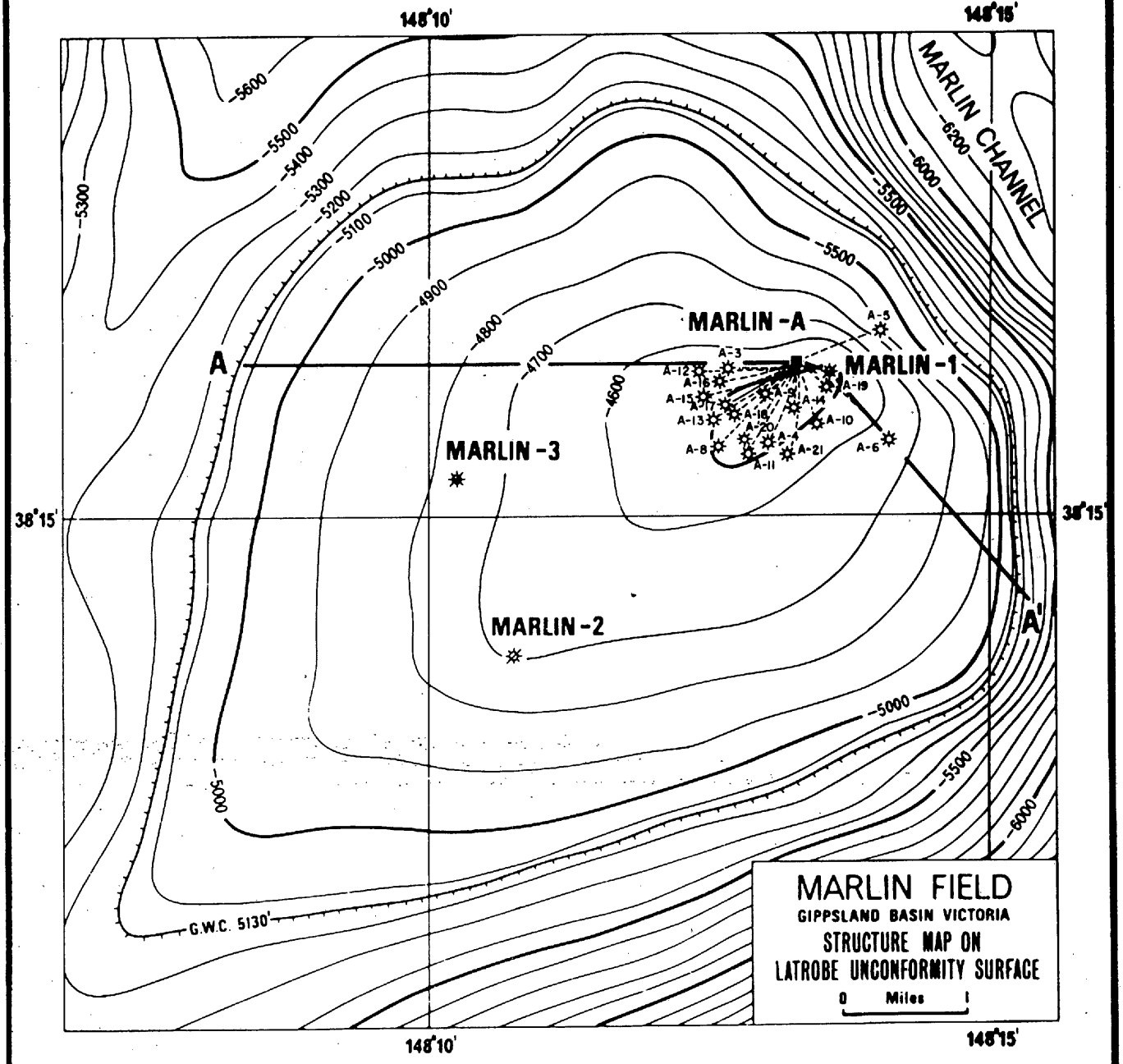
MARLIN N°1



After Esso Exploration Australia, Inc. 1966.

MARLIN GAS AND OIL FIELD

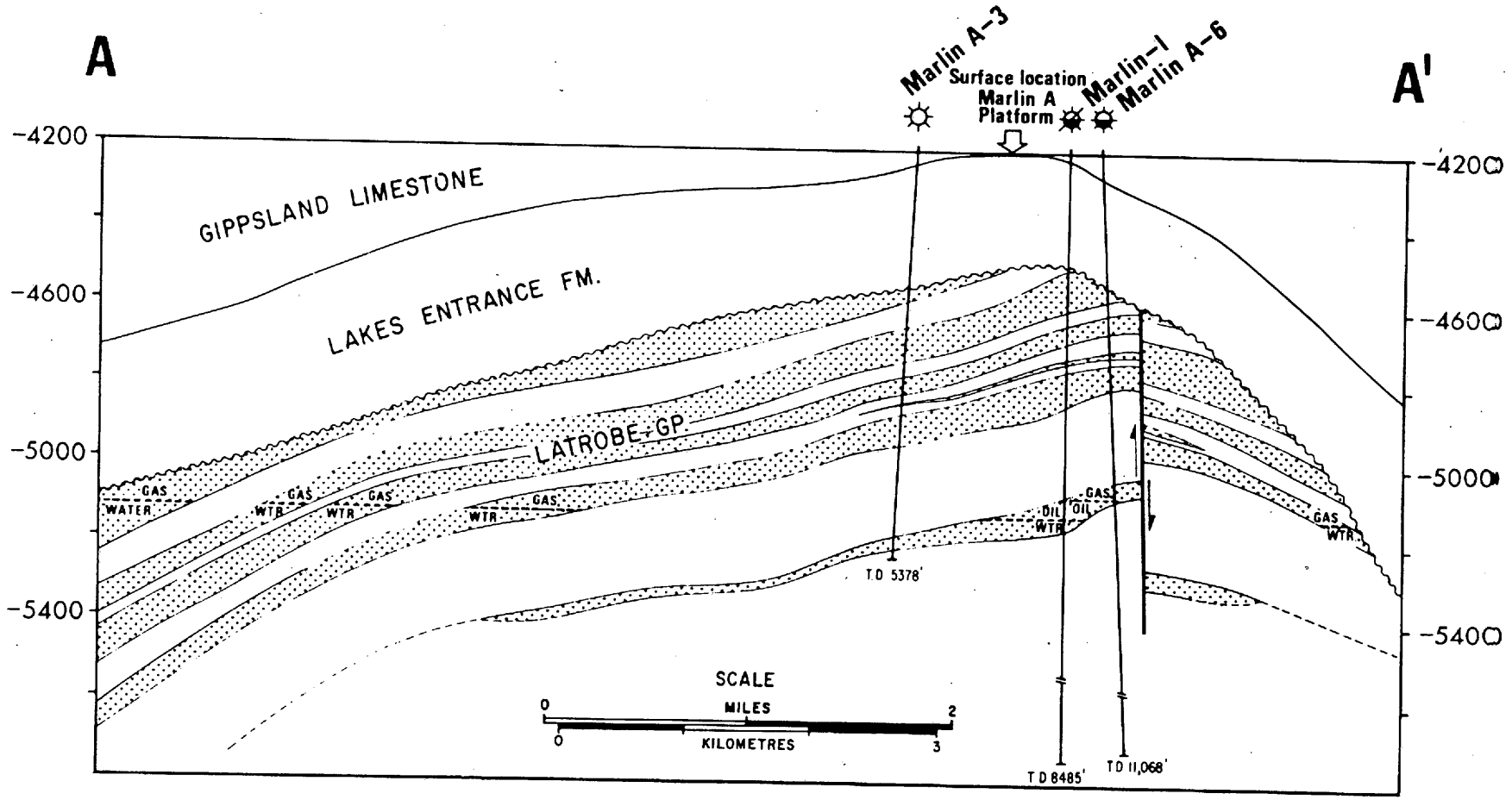
GIPPSLAND BASIN, VICTORIA



Modified after Griffith and Hodgson, 1971

MARLIN GAS AND OIL FIELD

STUCTURE CROSS-SECTION A–A'

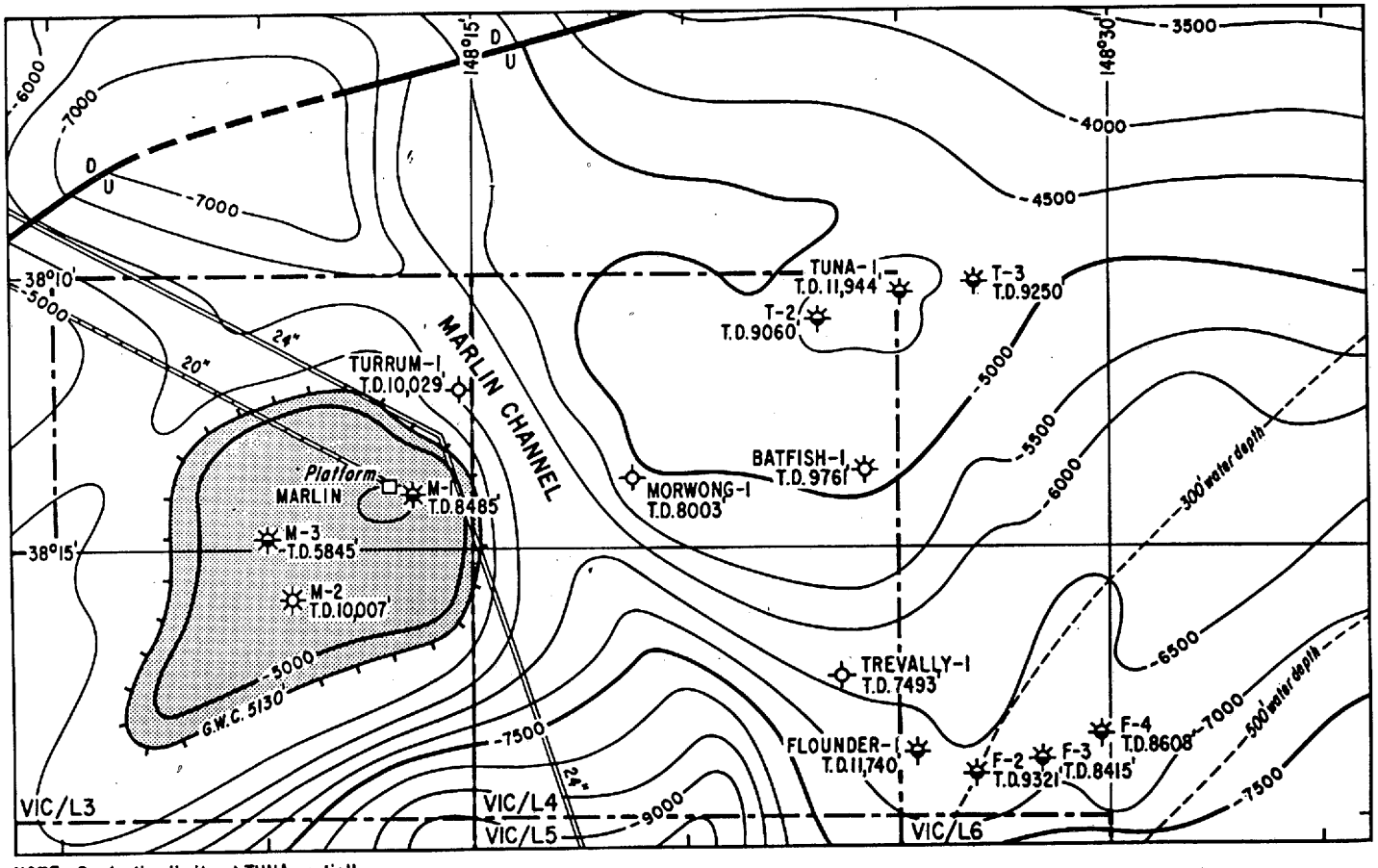


Vertical Exaggeration 10:1

After Griffith and Hodgson, 1971

MARLIN, TUNA AND FLOUNDER FIELDS
GIPPSLAND BASIN, VICTORIA

STRUCTURE MAP : TOPOGRAPHIC SURFACE AT TOP OF LATROBE DELTAIC COMPLEX



NOTE: Productive limits at TUNA partially controlled by stratigraphy

20" Gas pipeline (20inch)

24" Oil pipeline (24inch)

Contour interval : 500ft.

0 MILES 5

0 KILOMETRES 8

After Eastern Bass Strait Marine Seismic Survey, 1967

Snapper Gas Field

Gippsland Basin, Victoria

Owners
Esso Exploration and Prod. Aust. Inc. – 50% – Operator
Hematite Petroleum Pty. Ltd. (B.H.P.)) 50%

Royalties and overrides
6% to Victorian Government, 4% to Commonwealth Government; and 2½% O.R.R. to Lewis G. Weeks.

Lease No.
Exploration Permit for Petroleum (offshore) VIC/P1.

Location
12 mi (19 kms) northwest of Marlin Gas and Oil Field, and 30 mi (48 kms) offshore.

Discovery well
Snapper No. 1

ordinates: 38° 12' 03" S; 148° 00' 49" E.
iscovery date: August, 1968.
Drilled by: "Discoverer II" to 11,740 ft;
"Ocean Digger" to 12,320 ft and tested well.
Water depth: 174 ft (53.0 m)
Total depth: 12,320 ft (3,755.1 m)

Productive interval and maximum flow rates

4,477–4,480' (3'):
FARO 4.86 MMcfd plus 13 BC/MMcfg.
9,295–9,325' (30'):
FARO 1.1 MMcfd plus 5 BOPD (39° API), 1/2" t.c., 12 hour test.

Method of location
Reflection seismic.

GEOLOGICAL FACTORS

Producing zone
Latrobe Group

Age
Eocene

Environment of deposition
Non-marine; alluvial-deltaic plain with multiple braided stream systems and deltaic deposits.

Reservoir rock description
Sandstone.

Source rock
Lakes Entrance Formation, and intra-Latrobe shale and coal.

Cap rock
Lakes Entrance Formation (Oligocene) – marine mudstone.

Type of trap
Structural; anticlinal closure at Lakes Entrance unconformity.

Regional setting
Located in north-central portion of offshore Gippsland basin.

Relation to unconformities
Pay sands are directly below a regional unconformity.

Oldest formation penetrated
N.A.

FIELD DESCRIPTION AND DEVELOPMENT DATA

Estimated ultimate recoverable reserves: (Victorian Ministry of ind Power, 1972)
(Gas) 3.2 trillion CF (90.6 billion m^3)
(NGL) 42 ± million bbls (6.7 ± million kls)*

Productive area
26.6 sq mi; 17,000 acres; 68.8 sq kms.
Length: 9 mi (14.5 km)
Width: 3.5 mi (5.6 km)

Maximum vertical closure
N.A.

Depth to top of pay zones
Snapper No. 2 well: -3,940 ft (-1,200.9 m)

Interfaces
Gas/water contact -4,565 (-1,391.4 m)

Total hydrocarbon column
(Gas) 625 ft (190.5 m)

Number of wells
Oil – nil, gas – 3, dry – nil; Total – 3.

RESERVOIR DATA

Net pay thickness
N.A.

Number of reservoir beds
Several

Acre-feet
N.A.

Porosity (intergranular)
Good

Permeability
Good

Water saturation
N.A.

Reservoir temperature
N.A.

Initial reservoir pressure
N.A.

Probable drive mechanism
Water drive

Recovery factor
(Gas) N.A.
(NGL) 13 ± bbls/MMcfg

FLUID PROPERTIES

OIL

Gravity: 39° API at 60°F.
Sulphur (% wt): "Low"
Initial G.O.R.:
Pour point:
Viscosity:
Specific gravity: 0.8300

GAS (non-associated)

	% Volume	(4,477 to 4,480 ft)	
Methane	84.3	Hexanes +	1.55
Ethane	6.3	Nitrogen	0.8
Propane	3.2	Oxygen	–
Isobutane	0.8	Carbon dioxide	1.2
N-butane	1.1	Hydrogen sulphide	22 ppm
Isopentane	0.4	Specific gravity	0.702 *
N-pentane	0.4	BTU/cu ft (gross)	1197 *

CONDENSATE

Gravity (°API):
bbls/MMcfg: 13 ±
Specific gravity:

PRODUCTION DATA

No development plans for the field have been announced.

COSTS

Not available, see Marlin and Barracouta Fields.

REMARKS

1. Snapper drilling and detailed seismic surveys were not subsidized, consequently data and results are 'company confidential'.
2. Snapper Gas Field was declared commercial in June, 1969.
3. In Snapper No. 1 small shows of gas and/or oil in thin tight sands reported below 5,600 ft (1,707 m). Non-commercial gas shows were also present in a sand at 9,295 ft (2,833 m).

REFERENCES

Konecki, M.C. and K. Blair, 1970.
Ministry of Fuel and Power of Victoria, 1971 and 1972.
Robinson, K., and W.J. Stewart, 1970.
Stratton, M.A., 1971 and 1972.

FOOTNOTES

* Editor's estimate.

Gippsland Basin, Victoria

Tuna Oil Field

Owners
Esso Exploration and Prod. Aust. Inc. – 50% Operator.
Hematite Petroleum Pty. Ltd. (B.H.P.) – 50%.

Royalties and overrides
6% to Victorian Government, 4% to Commonwealth Government, and 2½% O.R.R. to Lewis G. Weeks.

Lease No.
Exploration Permit for Petroleum (offshore) VIC/P1.

Location
12 mi (19 kms) northeast of Marlin Gas and Oil Field, and 27 mi (43 kms) offshore Victoria.

Discovery well
Tuna No. 1

Coordinates:	38° 10' 25" S; 148° 25' 03" E.
Discovery date:	September, 1968.
Drilled by:	Glomar III.
Water depth:	198 ft (60.4 m)
Total depth:	11,944 ft (3,640.5 m)

Productive interval and maximum flow rates
No test data announced. In Tuna No. 1, wireline formation tests recovered condensate and oil below 6,300 ft (1,920 m). Gas was detected below 4,300 ft (1,310.6 m) in Tuna No. 2 and oil was recovered in a wireline formation test at about 7,760 ft (2,365.2 m).

Method of location
Reflection seismic.

GEOLOGICAL FACTORS

Producing zone
Latrobe Group

Age
Eocene

Environment of deposition
Non-marine; fluviatile.

Reservoir rock description
Sandstone

Source rock
Lakes Entrance Formation and intra-Latrobe shale and coal.

Cap rock
N.A.

Type of trap
Structural; anticlinal closure.

Regional setting
Located in the east-central portion of the offshore Gippsland Basin.

Relation to unconformities
Producing sands in Latrobe Group lie directly below regional Eocene-Oligocene unconformity.

Oldest formation penetrated
N.A.

FIELD DESCRIPTION AND DEVELOPMENT DATA

Estimated ultimate recoverable reserves (Victorian Ministry of Fuel and Power, 1972)
(Oil) 84,000,000 bbls (13,354,000 kls)
(Gas) 0.5 trillion CFG (14.1 billion m^3)

Productive area
16 ± sq mi; 10,250 ± acres; 41 ± sq kms*

Total area of closure
16 ± sq mi; 41 ± sq kms*

Maximum vertical closure
300 ± ft (91 ± m)*

Depth to top of pay zones

Tuna No. 1:		below 6,300 ft (1,920 m)
Tuna No. 2:	(gas)	below 4,300 ft (1,310.6 m
	(oil)	7,760 ± ft (2,365.2 m).

Interfaces
N.A.

Total hydrocarbon column
N.A.

Number of wells
Oil and gas – 3, dry – nil; Total – 3.

RESERVOIR DATA
(data Company confidential)

Net pay thickness
N.A.

Number of reservoir beds
Several

Acre-feet
N.A.

Porosity (intergranular)
Good

Permeability
Good

Water saturation
N.A.

Reservoir temperature
N.A.

Initial reservoir pressure
N.A.

Probable drive mechanism
Water drive.

Recovery factor
(Oil) 500 ± bbls/acre-ft*

Tuna Oil Field

Gippsland Basin, Victoria

FLUID PROPERTIES

OIL

Gravity: "high gravity"
Base:
Sulphur (% wt): "Low"
Initial G.O.R.:
Pour point:
Viscosity:
Bubble point:

GAS (associated)

	% Volume	
Methane		Hexanes +
Ethane		Nitrogen
Propane		Oxygen
Isobutane		Carbon dioxide
N-butane		Hydrogen sulphide
Isopentane		Specific gravity
N-pentane		BTU/cu ft (gross)
		(net)

CONDENSATE

Gravity:
bbls/MMcfg:
Specific gravity:

PRODUCTION DATA

None, no development plans for the field have been announced.

COSTS

N.A.

REMARKS

1. Tuna drilling and detail seismic survey were not subsidized, consequently data and results are company confidential.
2. After extensive subsurface and engineering studies, Tuna Gas Field was declared commercial in May, 1971.

REFERENCES

Stratton, M.A., 1972.
Victorian Ministry of Fuel and Power, 1972.

FOOTNOTES

* Editor's estimate

VIC/P17

COMMONWEALTH OF AUSTRALIA

Petroleum (Submerged Lands)

Act 1967

STATE OF VICTORIA

Petroleum (Submerged Lands)

Act 1967

EXPLORATION PERMIT FOR PETROLEUM NO VIC/P17

I, Digby Glen Crozier, Minister of Mines for the State of Victoria, the Designated Authority in respect of the area specified as being adjacent to the State of Victoria, hereby subject to the conditions set out hereunder, grant to Australian Aquitaine Petroleum Pty Ltd of 169-185 Miller Street, North Sydney; Australian Occidental Pty Ltd of 44 St George's Terrace, Perth; Alliance Resources Pty Limited of 30 Collins Street, Melbourne; Agex Pty Limited of 111 Pacific Highway, North Sydney and Cluff Oil (Australia) NL of 111 Pacific Highway, North Sydney, an exploration permit for petroleum in respect of each of the blocks that is constituted by a graticular section or by part of a graticular section, being a graticular section described hereunder, but not including those portions of blocks that lie outside the area described hereunder.

This permit has effect for a period of six years from and including the date hereof.

DESCRIPTION OF BLOCKS

The blocks constituted by a graticular section, or by a part or parts of a graticular section, being a graticular section described hereunder, but not including those portions or that portion of a block that lie or lies outside the area described hereunder.

DESCRIPTION OF GRATICULAR SECTIONS

(As appearing on the Melbourne Offshore Graticular Section Sheet)

The part graticular sections numbered 2055 and 2056, 2126 and 2127, 2197 and 2198, 2268 and 2269, 2338, 2339 and 2340, 2482 and 2554; and the graticular sections numbered 2128 and 2199, 2202 to 2204 inclusive; 2270 to 2280 inclusive, 2341 to 2352 inclusive, 2410 to 2414 inclusive, 2483 to 2486 inclusive and 2555 to 2558 inclusive.

DESCRIPTION OF AREA

The area bounded by a line commencing at a point being the intersection of the meridian of longitude 146 deg. 45 min. E with the parallel of latitude 39 deg. 00 min. S, thence north to the outer limit of the territorial sea, thence north-easterly, northerly and north-westerly along the outer limit of the territorial sea to the meridian of longitude 146 deg. 45 min E, thence north to the outer limit of the territorial sea, thence in a north-easterly direction along the outer limit of the territorial sea to the meridian of longitude 147 deg. 20 min. E, thence south to the parallel of

latitude 38 deg. 30 min. S, thence west to the meridian of longitude 147 deg. 15 min. E, thence south to the parallel of latitude 38 deg. 35 min. S, thence east to the meridian of longitude 147 deg. 25 min. E, thence north to the parallel of latitude 38 deg. 30 min. S, thence east to the meridian of longitude 147 deg. 40 min. E, thence south to the parallel of latitude 38 deg. 35 min. S, thence east to the meridian of longitude 148 deg. 00 min. E, thence south to the parallel of latitude 38 deg. 45 min. S, thence west to the meridian of longitude 147 deg. 10 min. E, thence south to the parallel of latitude 39 deg. 00 min. S, thence west to the point of commencement.

INTERPRETATION

The term "base line" means the base line from which territorial waters are measured and the datum to which latitude and longitude figures are referred is the Australian Geodetic Datum as defined in the Commonwealth Gazette No 84 of October 6, 1966, Page 4984.

CONDITIONS

1 (1) The permittee shall, during the period of the permit, carry out, to the satisfaction of the Designated Authority, in or in relation to the permit area, works or exploration operations the total value of which is not less than $101 million in accordance with an annual work programme approved in respect of each year by the Designated Authority.

(2) Subject to sub-clause (3) of this clause the work programme in respect of the first year of the period of the permit shall be submitted, within two months of the date hereof, to the Designated Authority for approval and the work programme in respect of each year after the first year of the period of the permit or any variation to the work program listed in 1(3) below, shall be submitted before the beginning of the year to which it relates to the Designated Authority for approval.

(3) The work programme shall provide that before the end of the third year of the permit the permittee will carry out new seismic work totalling not less than 5,000 kilometres of seismic traverse and drill 10 wells for a total expenditure of not less than $52 million of which not less than ~~3,000~~ 3,902 kilometres of seismic traverse and ~~2 wells~~ are to be drilled before the end of the first year, not less than ~~1000 kilometres~~ of seismic traverse and ~~4 wells~~ 6 wells are to be drilled in the second year and not less than 1000 kilometres of seismic traverse and 4 wells are to be drilled in the third year of the permit.

2 The permittee shall not recover any petroleum from the permit area except as a result of production testing of a well.

3 The permittee shall -

(1) pay to the Designated Authority, in respect of petroleum recovered by the permittee in the permit area, royalty at the rate that is for the time being the prescribed rate in respect of that petroleum;

(2) in respect of each royalty period, furnish to the Designated Authority, in such form as the Designated Authority may from time to time require, full particulars of the quantity of petroleum recovered by the permittee and full particulars of matters relevant to ascertaining the value at the wellhead of that petroleum;

(3) permit a person authorised in writing for the purpose by the Designated Authority, or an inspector, to test or examine any measuring device installed outside the adjacent area that has been, is being or is to be used by the permittee to measure the quantity of any petroleum recovered in the permit area.

4 The permittee shall not construct any installation or install any equipment in the permit area except with and in accordance with the approval of the Designated Authority or a person authorised in writing by the Designated Authority to give that approval.

5 The permittee shall not abandon any well except with and in accordance with the approval of the Designated Authority or a person authorised in writing by the Designated Authority to give that approval.

6 The permittee shall not enter into any farmout agreement in respect of the permit area prior to completing the second year work program as provided in Condition 1(3) of the permit.

7 (1) The permittee shall not commence or continue to drill a well, nor cause the drilling of a well to be commenced or continued, except with and in accordance with the consent of the Designated Authority.

(2) An application to the Designated Authority for consent to drill shall, in addition to such information as may be required by the regulations or directions under the Act, contain, for the approval of the Designated Authority, the proposals of the permittee in relation to the bringing under control of the well in the event that effective control of the well is lost and the clean up of oil spills - including financial proposals such as well

control insurance or other means to cover the costs involved in such operations.

8 The permittee shall at all times comply with -

(1) the provisions of the Act and of any regulations for the time being in force under the Act; and

(2) all directions given to him under the Act or the regulations for the time being under the Act.

INTERPRETATION

In this permit, "The Act" means the Act under which this permit is granted and includes any Act with which that Act is incorporated and words used in this permit have the same respective meanings as in the Act.

Dated this 2nd day of September 1981

MADE under the
Petroleum (Submerged Lands)
Act 1967 of the
Commonwealth of Australia

MADE under the
Petroleum (Submerged Lands)
Act 1967 of the
State of Victoria

.....
Designated Authority

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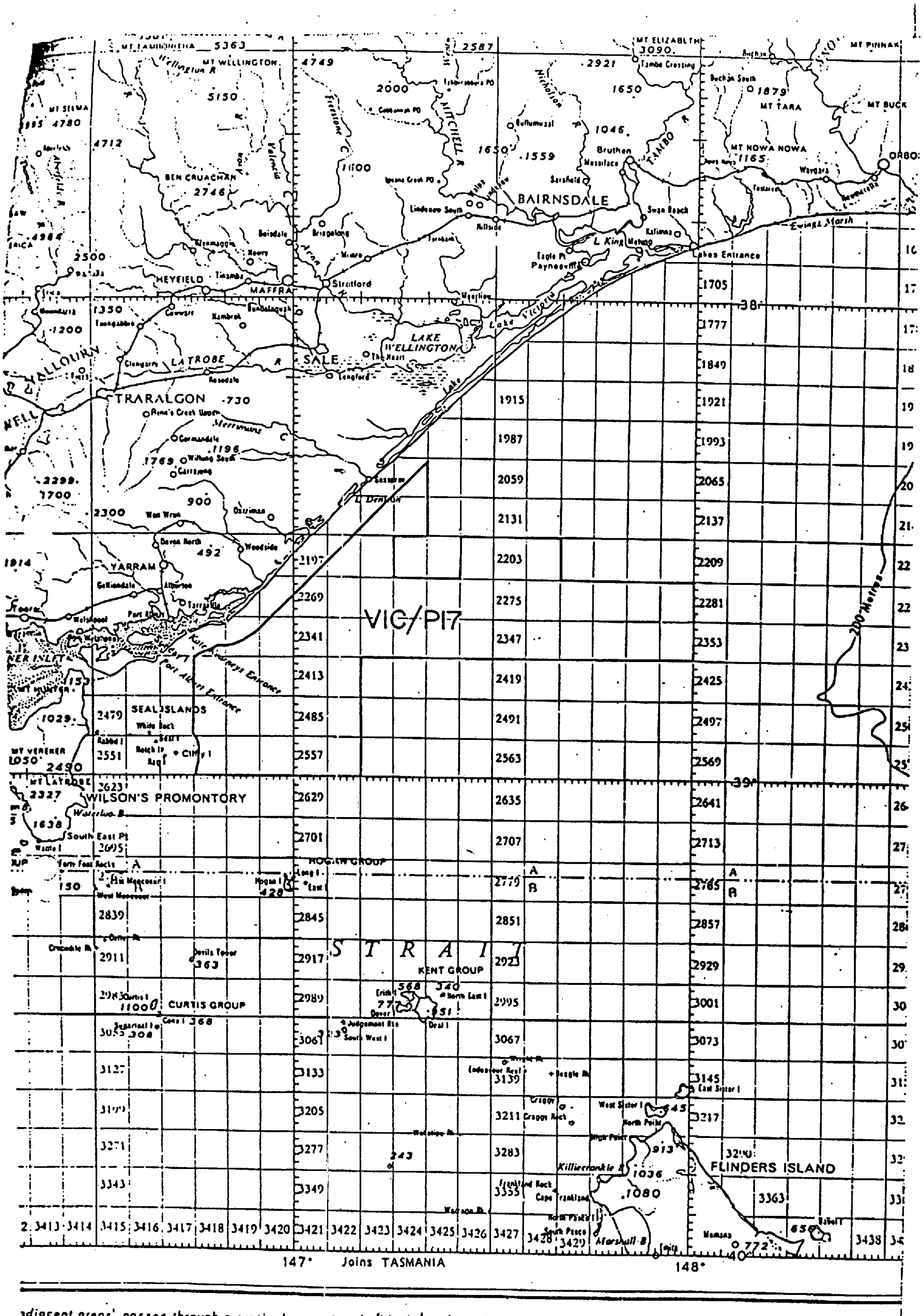
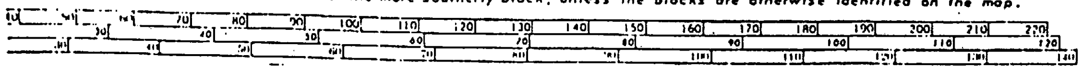


adjacent areas' passes through a graticular section the 'blocks' so formed are to be identified by referring to the number of the graticular more northerly block and the suffix B for the more southerly block, unless the blocks are otherwise identified on the map.



AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

INCORPORATED IN A.C.T.

BOX 725 P.O., NORTH SYDNEY N.S.W. 2060 AUSTRALIA

Our ref: SF efm:5471:31

Your ref:

25th January 1982

The Designated Authority,
Department of Minerals and Energy,
151 Flinders Street,
MELBOURNE VIC 3000

Attention: The Director,
Oil and Gas Division

Dear Sir,

VIC/P17 Quarterly Report
Period Ending 31st December 1981

As required, please find set out below a summary of the Geological and Geophysical work carried out on permit VIC/P17 in the first quarter of the first permit year. A preliminary expenditure statement for this quarter is also attached. A final expenditure statement will be forwarded during February when all costs are in hand.

Work Summary, 2.9.81 - 31.12.81

A) Seismic

The GA81 seismic survey conducted by Western Geophysical and utilising the M.V. Western Odyssey commenced shooting on November 1. A total of 3558 km with 4800% CDP coverage was shot and the survey was completed on November 26. By the end of this report period approximately 80% of the lines shot had undergone preliminary processing in Singapore and had been received by Aquitaine.

A database is being established on computer at Digimap Pty Limited, North Sydney, to contain selected geophysical and geological data. Base maps covering the permit area and adjacent areas are already in preparation and additional information will be added to the system as required.

.../2

Department of Minerals and Energy,
MELBOURNE VIC 3000

25th January 1982

B) Geology

The first priority of the geological programme for VIC/P17 has been to set up a standardised system of presentation and display for all acquired geological information. This system will also be applied to new data generated by Aquitaine's Gippsland operations.

Acquisition of well log data is continuing and selected logs are being edited in preparation for digitising. All digitised logs will be incorporated into the computer database mentioned in (A) above.

A geological review of the Gippsland basin has also been completed. This takes the form of a summary of published and open file data, along with a summary of the regional study undertaken by Aquitaine prior to the permit application. A bibliography of relevant reports and published articles was compiled in conjunction with the geological review and is continually being updated.

C) Drilling

No drilling operations have, as yet, been undertaken by Aquitaine in VIC/P17. However, the semisubmersible Ocean Digger and drillship Glomar Grand Isle are at present drilling in Australian waters under contract to Australian Aquitaine Petroleum Pty Limited. It is planned that the Glomar Grand Isle will commence drilling operations in VIC/P17 in mid 1982. At least two wells will be drilled in the permit during 1982.

The choice of drilling locations in VIC/P17 is largely dependent upon interpretation of the GA81 seismic survey.

Yours faithfully,
AUSTRALIAN AQUITAINE PETROLEUM PTY LTD

R. LAWS
Exploration Manager

cc: Alliance Resources Pty Limited - Mr Cadart
Australian Occidental Petroleum Inc. - Mr C. Maher
Agex Pty Limited - Mr I. Maloney
Cluff Oil Australia - Mr S. Nasr

806916 051

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

Elf Aquitaine Centre, 99 Mount Street, North Sydney, N.S.W. 2060

All Communications to: Box 725 P.O., North Sydney, N.S.W. 2060, Australia.

Cables: PETRAKI
Telex: AA 26684
Telephone: (02) 922-3499
DX 10512 North Sydney

Our ref: SF:efm:5471

Your ref:

19th April 1982

The Designated Authority,
Department of Minerals and Energy,
151 Flinders Street,
MELBOURNE VIC 3000

Attention: The Director
Oil and Gas Division

Dear Sir,

VIC/P17 QUARTERLY REPORT
PERIOD ENDING 31ST MARCH 1982

As required, please find set out below a summary of the Geological and Geophysical work carried out on permit VIC/P17 in the second quarter of the first permit year. A statement of expenditure for the quarter is attached.

Work Summary, 1.1.1982 - 31.3.1982

A. Geophysics

Processing of the 3558 km GA81 seismic survey continued at the Western Geophysical processing centre in Singapore. All lines were at final stack on 19th February. Selected lines were analysed for horizon velocities, relative - amplitude processed and migrated.

Four geophysicists have been assigned to interpretation of the data. At the end of the quarter regional maps on three Latrobe Group horizons had been prepared.

Two projects were undertaken in Aquitaine's offices in France - synthetic seismograms for eight wells within and near VIC/P17 were generated and a seismic stratigraphy study was initiated.

B. Geology

Acquisition of basic well data from the Victorian Department of Minerals and Energy was concluded and selected logs from the wells tied in to the GA81 seismic survey were digitised. The digitised logs were displayed at scales suitable for detailed regional correlation and the digitised data added to the data base.

.../2

Department of Minerals and Energy
MELBOURNE VIC 3000

19th April 1982

A field trip was undertaken to study outcrops in the Latrobe valley and cores were studied at the Mines Department core store on two separate occasions. A core analyst from Aquitaine's Pau research division was present on one of these occasions.

A seismic stratigraphy study in conjunction with AAP geophysicists was initiated to redefine litho-stratigraphic units of potential interest in relationship to hydrocarbon accumulations.

Results of the palynological study undertaken by Mr W. Harris on behalf of Gippsland Basin operators have continued to be received and have been integrated into the detailed stratigraphic correlations referred to above.

The prognosed stratigraphy for three structural leads was worked up in preparation for presentation at the Operating Committee Meeting scheduled for 16th April 1982.

C. Drilling

No drilling operations were carried out by Aquitaine during the first quarter of 1982. Preparations however, were made for drilling, the major undertakings being the establishment of an office/warehouse/yard complex along the Midland Highway between Welshpool and Port Welshpool, and the extending and strengthening of the jetty at Port Welshpool. The latter project is being carried out by the Ports and Harbours Division of the Public Works Department, Victoria and funded by operating exploration companies. A fuel and water installation was also being constructed at the approach to the Port Welshpool jetty.

Tubular products for well drilling were received at the Aquitaine Welshpool Base during the quarter. It is expected that the drillship "Glomar Grand Isle" will be on location in VIC/P17 by approximately 1st June 1982 for the well Edina No. 1. Information on the above drillship together with Oil Spill and Blowout Contingency Plans were submitted to the department in March.

The application to drill Edina No. 1 will be submitted on 23rd April 1982.

Yours faithfully,
AUSTRALIAN AQUITAINE PETROLEUM PTY LTD

R. LAWS
Exploration Manager

cc: Alliance Resources Pty Limited - Mr Cadart
Australian Occidental Petroleum Inc. - Mr P. Elliot

806916 053

EXPENDITURE STATEMENT

PERIOD ENDING 31ST MARCH 1982

PERMIT FEES		NIL
OFFICE OVERHEADS		2,718
OFFICE STUDIES		
Geological		13,446
OPERATIONS		
Geophysical:	GA81 Seismic Survey	39,576
Drilling:	Pre-drilling expenditure	592
	Port Welshpool Base costs	191,565
	Weather Study costs	3,505
	Wharf Facilities costs	70,578
	Tubular Costs	3,867,165
		$4,189,145

806916 054

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

Elf Aquitaine Centre, 99 Mount Street, North Sydney, N.S.W. 2060

All Communications to: Box 725 P.O., North Sydney, N.S.W. 2060, Australia.

Cables: PETRAKI
Telex: AA 26684
Telephone: (02) 922-3499
DX 10512 North Sydney

Our ref: 5471:SF:efm

Your ref:

27th July 1982

The Designated Authority,
Department of Minerals and Energy,
151 Flinders Street,
MELBOURNE VIC 3000

Attention: Mr R.F. Hudson
The Director, Oil & Gas Division

Dear Sir,

VIC/P17 QUARTERLY REPORT
PERIOD ENDING 1ST JUNE 1982

As required, please find set out below a summary of the Geological and Geophysical work carried out on permit VIC/P17 in the third quarter of the first permit year. A statement of expenditure for the quarter is attached.

Work Summary, 2.3.1982 - 1.6.1982

A. Geophysics

Specialised processing of the 3558 km GA81 seismic survey continued at the Western Geophysical processing centre in Singapore. At the end of the reporting period all data had been relative-amplitude processed, 67% analysed for horizon velocities and 31% migrated. One line was processed by several other processing contractors and at Aquitaine's processing centre in France to confirm that the optimum processing stream had been used by Western Geophysical. One mini-cable line, over the proposed Edina No. 1 location, was processed.

Four geophysicists continued regional and prospect interpretation of the seismic data, with emphasis on seismic stratigraphy. A velocity map for the eastern half of the permit was generated from spatially filtered horizon velocity profiles and used for depth conversion. A full suite of time, depth and isochron maps for Edina and Omeo prospects was prepared. Mapping at intra-Strzelecki level over a limited part of the permit was completed.

No field operations were carried out during the reporting period.

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Department of Minerals and Energy,
MELBOURNE VIC 3000

27th July 1982

B. Geology

The location for the first well in permit VIC/P17 was presented to partners at a joint venture Operating Committee Meeting (OCM) held at AAP's offices on 16th April. The location for the well, Edina No. 1, was approved and an implantation report prepared. This was presented to the Victorian Department of Minerals and Energy on 5th May. A second drilling location has been studied in detail and will be discussed at the next OCM.

A five-day field trip was undertaken by geologists from AAP and Occidental to study outcrops in the Gippsland region.

Three geologists from AAP have been working full-time on seismic stratigraphic and regional well stratigraphic correlations.

Estimates of possible recoverable reserves for the mapped prospects have also been calculated.

The services of a consultant log analyst were enlisted to review Perch No. 1 and to assist in determining the logging programme for Edina No. 1. A consultant palynologist, Mr W. Harris, has continued to analyse sidewall core samples from Gippsland basin wells and the results of age determinations are continually being received. This study is now nearing completion.

Shell and AAP have entered into a data trade agreement to exchange digitized well logs from wells which have been subjected to palynological analysis by W. Harris. For this reason a further batch of twelve electric logs has been digitized by Digimap in Sydney.

C. Drilling

No drilling operations were carried out by Aquitaine during the quarter. Preparations, however, were made for drilling Edina No. 1 and a second commitment well. Drillpipe and tubulars were purchased and transported to the shorebase at Port Welshpool. This office/warehouse/yard complex is now established and wharf facilities have been completed together with a fuel and water installation.

At present it is expected that the semi-submersible drilling rig "Ocean Digger" will be on location in VIC/P17 by approximately mid-September to drill Edina No. 1. The application to drill Edina No. 1 was submitted on 23rd April 1982.

Yours faithfully,
AUSTRALIAN AQUITAINE PETROLEUM PTY LTD

R. LAWS
Exploration Manager

cc: Alliance Resources Pty Limited - Mr P. Harrison
Australian Occidental Pty Ltd - Mr T. Perkins
Cluff Oil (Aust.) NL - Mr D. Batterbsy
Agex Pty Ltd - Mr P. Taylor

F. Munoz (AAP)

VIC/P17 EXPENDITURE STATEMENT
2ND MARCH 1981 TO 1ST JUNE 1982

ADMINISTRATION	<$4,500>
OFFICE OVERHEADS 2%	$66,193
DRILLING OPERATIONS	
Edina No. 1	$34,544
Well No. 2	$19,363
Drillpipe	$27,390
Tubulars	$3,749,402
Port Welshpool Base Costs	$331,002
Wharf Facilities	$172,124
GEOPHYSICAL	
GA81 Seismic Survey C/O	$148,913
GEOLOGICAL STUDIES	$47,769
	$4,592,200

VIC/P17
QUARTERLY EXPENDITURE REPORT
30TH JUNE 1982 TO 30TH SEPTEMBER 1982

ADMINISTRATION AND OVERHEADS	$87,488
GEOLOGY	
Geological Study	$40,938
GEOPHYSICAL	
GA81 Seismic Survey	$148,338
GA82B Seismic Survey	$295.188
DRILLING	
Edina No. 1	$835,861
Omeo No. 1	$38,867
Port Welshpool Base	$95,089
Wharf Facilities	$45,270
	$1,587,039

NOTE: Tubular purchases have been made during the quarter amounting to $49,236.00. This amount is not included above, but will be included in the costs of the relevant wells.

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.
(INCORPORATED IN THE ACT)
Elf Aquitaine Centre, 99 Mount Street, North Sydney, N.S.W. 2060

All Communications to: Box 725 P.O., North Sydney, N.S.W. 2060, Australia.

Our ref: 5471:BE:efm

Your ref:

Cables: PETRAKI
Telex: AA 26684
Telephone: (02) 922-3499
DX 10512 North Sydney

7th September 1982

The Designated Authority,
Department of Minerals and Energy,
151 Flinders Street,
MELBOURNE VIC 3000

Attention: The Director, Oil and Gas Division

Dear Sir,

VIC/P17 ANNUAL REPORT
PERIOD ENDING 1ST SEPTEMBER 1982

Please find set out below a summary of the geological, geophysical and drilling work carried out on permit VIC/P17 in the first permit year. A statement of expenditure for the year is attached.

Work Summary 2.9.1981 - 1.9.1982

A. GEOPHYSICS

Aquitaine's work in VIC/P17 began with the recording of the GA81 seismic survey from 1st-26th November 1981, using the Western Geophysical Company of America seismic vessel Western Odyssey. A total of 3558 km of 4800% CDP data was recorded - 3495 km for the VIC/P17 joint-venturers and 63 km on behalf of the permit holders of VIC/P13.

Processing of the data is being carried out by Western in Singapore. Basic processing was completed on 19th February 1982 and sepia copies and prints of the sections have been forwarded to the Department. Specialised processing of the data is continuing. At 1st September 1982 all data had been relative amplitude processed, all data analysed for horizon velocities and 53% of the data migrated. One line was processed by three other contractors and at Aquitaine's processing centre in France to confirm that the optimum processing stream had been used by Western. One mini-cable line, over the proposed Edina No. 1 location, was processed.

A computer database was established at Digimap Pty Limited, North Sydney to contain geographical, geophysical and geological data related to the project. This is being continually updated as new data comes to hand.

During the first permit year four geophysicists have been assigned to regional and prospect interpretation of the seismic data, with emphasis on seismic stratigraphy. A basic set of regional time structure maps at top of Latrobe and at two intra-Latrobe levels, with corresponding isochrons, has been prepared. Other horizons have been mapped on a localised basis. A velocity map for the eastern half of the permit was generated from spatially filtered horizon velocity profiles and used for depth conversion over Edina and Omeo prospects. A full suite of time, depth and isochron maps for the two prospects has been prepared.

The interpretation was supplemented by two projects undertaken in Aquitaine's offices in France - synthetic seismograms were generated for eight wells within and near VIC/P17 and a seismic stratigraphy study was initiated.

A report on the GA81 seismic survey covering field operations, data processing, the synthetic seismogram study, geological review and the interpretation is in preparation.

The GA82B seismic survey was carried out from 15th-20th June 1982 with the Geophysical Service Inc. seismic vessel Eugene McDermott II. A total of 403 km of 4800% data was recorded. The data are now being processed in Singapore by Western and at 1st September all lines were through brute stack.

A map at 1:500,000 scale showing line locations for both GA81 and GA82B seismic surveys is attached.

Further seismic data were acquired under a trade agreement with Esso Australia Limited, dated 19th March 1982, in which 2591 km of GA81 data were exchanged for a regional grid of 1980 and more recent Esso lines on a kilometre-for-kilometre basis.

B. GEOLOGY

Initially a review of published and open file data pertinent to the Gippsland Basin was carried out. This was incorporated with the regional study undertaken by Aquitaine prior to the permit application.

Data from a number of wells, within and near VIC/P17, were acquired from the Department and Esso Australia Limited. Wireline logs for 12 wells were edited and digitised at Digimap Pty Limited and included in the data base. Log displays were generated in standard format to enable detailed regional correlations to be made. Digital log data from a further 26 wells were obtained from Shell Development (Australia) Pty Limited in a cash and trade agreement.

A palynological study on samples from 24 wells was begun on behalf of Aquitaine, Shell and Phillips Australian Oil Company on 19th October 1981 by Mr W. Harris of Western Mining Corporation Limited. This project was divided into two phases. The first involved examination of all available data to establish a chronostratigraphic table for the Latrobe and Gurnard formations, prior to commencement of the drilling programme. The second phase will be a more detailed study with emphasis on sedimentary environments, with all material eventually being prepared for publication. At the end of the permit year the first phase of the study for 22 of the 24 wells had been completed.

.../3

During February and March 1982 a field trip was undertaken to study outcrops in the Latrobe Valley and cores were examined at the Department's core store. A more extensive five-day field trip was made by geologists from Aquitaine and Australian Occidental Pty Limited in June to study outcrops in the Gippsland region.

An agreement was made on 13th May between Shell and Aquitaine to trade seismic and well completion data from Shell's Hammerhead No. 1 and Aquitaine's proposed Edina No. 1 wells. Seismic lines within a 10 km radius of each location have already been exchanged.

Three geologists have been assigned to interpretation of geological data and its integration with results of the seismic surveys. The detailed seismic stratigraphic study, which is still continuing, incorporates results of the palynological work as they come to hand.

Two drilling locations have been matured. The first, Edina No. 1, was presented to the joint-venturers at an Operating Committee Meeting held in Aquitaine's offices on 16th April and reviewed to the Department on 5th May. The second location, Omeo No. 1, was presented to partners on 30th June and will be reviewed to the Department on 8th September 1982. Reserve estimates for both prospects have been made. Predicted sections for Edina No. 1 and Omeo No. 1 are attached and their locations are shown on the seismic survey map.

Mr J. Bowler, a log analyst, assisted in preparation of the logging programme for both wells. He was also consulted for a reassessment of the Perch No. 1 log data.

C. DRILLING

No drilling operations were carried out in the first permit year.

Preparations for drilling included the establishment of an office/warehouse/yard complex on the Midland Highway between Welshpool and Port Welshpool and the extending and strengthing of the jetty at Port Welshpool. The latter project was carried out by the Ports and Harbours Division of the Public Works Department, Victoria and funded by operating exploration companies. A fuel and water installation was constructed at the approach to the Port Welshpool jetty.

An oceanographic and meteorological study for permits VIC/P17, VIC/P18 and VIC/P19 was commissioned and finalised by R.K. Steedman and Associates in February 1982.

Oil spill and blowout contingency plans were submitted to the Department in March.

On 23rd April the application to drill the first well, Edina No. 1 was submitted. The well will be drilled with the semi-submersible rig Ocean Digger, which is scheduled to arrive on location on 19th September. An officer of the Department inspected and approved the rig for drilling in VIC/P17 in July, prior to taking the vessel under tow to Victorian waters.

.../4

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Sufficient drill pipe and tubulars for the first six commitment wells have been purchased and transported to the shorebase at Port Welshpool.

Yours faithfully,
AUSTRALIAN AQUITAINE PETROLEUM PTY LTD

R. LAWS
Exploration Manager

cc: Alliance Resources Pty Limited - Mr M. Cadart
Agex Pty Limited - Mr P. Taylor
Consolidated Petroleum NL - Mr D. Battersby
Australian Occidental Pty Limited - Mr T. Perkins

Attachments.

VIC/P17

YEAR 1 ANNUAL EXPENDITURE STATEMENT

2ND SEPTEMBER 1981 TO 1ST SEPTEMBER 1982

ADMINISTRATION AND OVERHEADS	A$ 495,328
SEISMIC SURVEYS	
GA81	2,751,535
GA82B	294,154
STUDIES	
Geological Studies	109,156
Weather Studies	12,018
DRILLING OPERATIONS	
Edina No. 1	989,561
Omeo No. 1	73,749
Wharf Facilities	259,173
Port Welshpool Base Costs	487,561
Drillpipe) 6 wells	86,802
Tubulars)	4,154,243
YEAR 1 EXPENDITURE	A$9,713,280

The above costs are for invoices paid to permit year end, not costs incurred.

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AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

(INCORPORATED IN THE A.C.T.)

Elf Aquitaine Centre, 99 Mount Street, North Sydney, N.S.W. 2060

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Our ref: 5471 CL:jrw

Your ref:

Cables: PETRAKI
Telex: AA 26684
Telephone: (02) 922-3499
DX 10512 North Sydney

1 February, 1982

The Designated Authority,
Department of Minerals and Energy,
151 Flinders Street,
MELBOURNE VIC 3000

Attn: The Director,
Oil and Gas Division

Dear Sir,

VIC/P17 QUARTERLY REPORT
PERIOD ENDING 31ST DECEMBER 1982

Please find set out below a summary of the geological, geophysical and drilling work carried out on the permit VIC/P17 in the last quarter of the year 1982. A statement of expenditure for this quarter is attached.

Work Summary 1st October 1982 - 31st December 1982

A. GEOPHYSICS

Processing of lines GA82 seismic data has been completed. All stacked, migrated and RAP sections in hand.

Raw stack dump output for lines GA81-2 through 60 printed out. Ten GA82 lines redisplayed at expanded scale for detailed stratigraphic works.

Reprocessing of Esso data finalised. Substantial improvement over GSI/Esso sections achieved.

HVA's of GA82 and reprocessed lines run and incorporated.

Krieged V_{rms} map and support data were received from Pau. Results are similar to the velocity mapping carried out in Sydney.

Reprocessing on Lines GA81-57/31/35 is currently being undertaken. Improvement of data below strong Latrobe markers is required for further Strzelecki/Latrobe relationships studies.

Remapping and depth conversion over Tanjil prospect using GA82 and reprocessed lines revealed a deceiving structure.

Kyarra worked up as combined structural and stratigraphic play. Recommendation to drill unanimously accepted.

Re-interpretation of Tarra finalised.

Seismic modelling project has been undertaken at Control Data, Sydney, to help develop stratigraphic prospects especially over Wanda.

Amplitude maps have been drawn over Mounta and Wanda.

B. GEOLOGY

The Shell-Aquitaine data trade agreement included the exchange of the well Edina-1 in VIC/P17 for Hammerhead-1 in VIC/P19.

The palynological study of the Gippsland Basin, on samples from 24 wells was carried out by W. Harris, consultant in Adelaide. The first phase is just now completed and was useful for seismic-stratigraphy interpretations and geodynamic studies. The second phase, including the final report, has been delayed by the specialist, occupied at the moment by operational works.

The sampling of Perch-1 and Gurnard-1 wells on the 1st December was followed by geochemical analysis and vitrinite reflectance measurements performed by AMDEL in Adelaide.

The seismic-stratigraphy studies upon the Latrobe group sequence of Paleocene to early Oligocene, undertaken the past quarter, were developed and different concepts like Kyarra appeared.

Kyarra will be the third well to be drilled after the Operator Committee Meeting (OCM) held at Aquitaine's Sydney office on 8th November. The play consists of deltaic sand bodies changing laterally to shales, just beneath the Lakes Entrance oligocene shales. The prospect of Kyarra would have been too small a structure in itself, for a commercial accumulation of hydrocarbons, but the combination of a stratigraphic play with the structure of Kyarra replaced the deceiving structure of Tanjil.

This study has also led to the concepts of:

1) Wanda: consisting of possible clastics deposits sealed by Oligo-Miocene shales down the basin's south-bound fault.

2) Mounta: an Eocene-early Oligocene pinch-out on the eastern flank of the Perch-Dolphin axis.

These stratigraphic concepts are highly risky and rather small. This is why special consideration was given to the size of a Strzelecki play: Tarra which, despite numerous drawbacks, (reservoir, seals, etc.) could be interesting.

C. DRILLING

1. Edina 1 well (a top Latrobe structural play) drilled from the semi-submersible Ocean Digger (ODECO) was spudded on 26th September. At the total depth of 2,594.5m, the well was plugged and abandonned on 2nd November.

   Formations were encountered as follows:

   Top of Latrobe group (in the "J" micropaleontologic zone) (New brown seismic marker) 2,209m Kb

   Top of Latrobe Formation (in P.Asperopolus palynologic zone) (Brown marker of the implantation report) 2,333m Kb

   Then a sand-shale series, rich in coal seams in the M.Diversus zone and poorer in the L.Balmei zone was drilled to T.D.

   The main reservoir from 2.333m to 2,372m with an average porosity of 22% and permeability up to 1 darcy was clearly water-wet according to the logs and RFT1 sample taken at 2,335m (29g/l NaCl equivalent for R_w computed 35g/l equivalent).

   One core was cut from 2,312.6m to 2,320.2m, recovery 100% in glauconitic sandstones and 48 SWC were recovered out of 81.

   Good seismic predictions and detailed velocity and structural analysis give confidence in the effective closure of Edina structure at the top of reservoirs. Explanations for a lack of hydrocarbons as for Gurnard-1, also a closed structure, are highly conjectural.

2. Omeo-1 (an intra-Latrobe structural play) was spudded on 3rd November. On 31st December, drilling was in course at 2,934m in a 8½" side-track hole, started at 2,680m with the 9 5/8" casing-shoe set at 2,604m.

   The first hole reached 2,984m in 12½", in late Cretaceous Latrobe coarse clastics. Impregnated sandstones were encountered from 2,849m to 2,859m Kb, gas being recovered by RFT-1 at 2,849.5m. RFT-2 produced water at 2,952m. RFT-3 at 2,936.5m was successful and chambers were filled but the tool had to be abandonned after the cable broke and this hole was cemented for side-tracking.

The top of the Latrobe sandstones was encountered close to the seismic prediction at 2,347.5m Kb. No closure was expected at this level and therefore a water gradient was obtained from RFT pressure data above 2,850m.

Yours faithfully,
AUSTRALIAN AQUITAINE PETROLEUM PTY LTD,

C. LAMBERT,
Senior Geologist

c.c: Bureau of Mineral Resources,
Canberra

Aust. Occidental
Alliance
Agex
Consolidated Petroleum

VIC/P17
QUARTERLY REPORT
EXPENDITURE FROM 1/10/82 to 31/12/82

	$
ADMINISTRATION AND OVERHEADS	486,036
SEISMIC SURVEYS	
GA81	162,404
GA82 B	76,958
DRILLING ACTIVITIES	
Edina No. 1	7,470,609
Omeo No. 1	7,484,365
Kyarra No. 1	17,512
Welshpool Base	247,668
Wharf Facilities	33,386
STUDIES	
Palynology, Economics	2,720
Geological	59,453
	$ 16,041,111

Regional Structure

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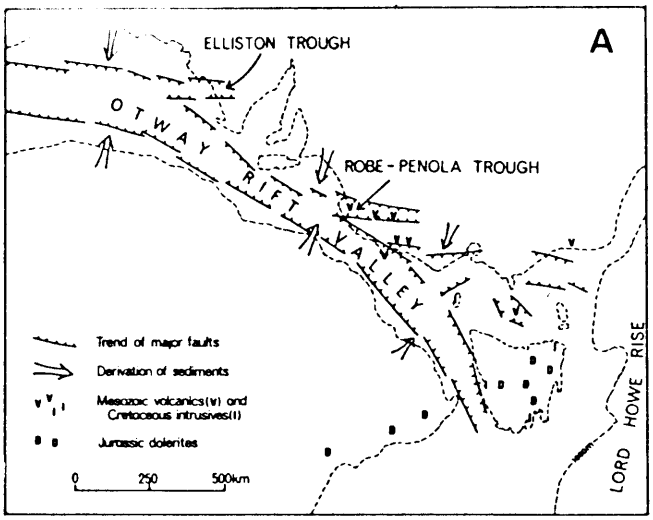
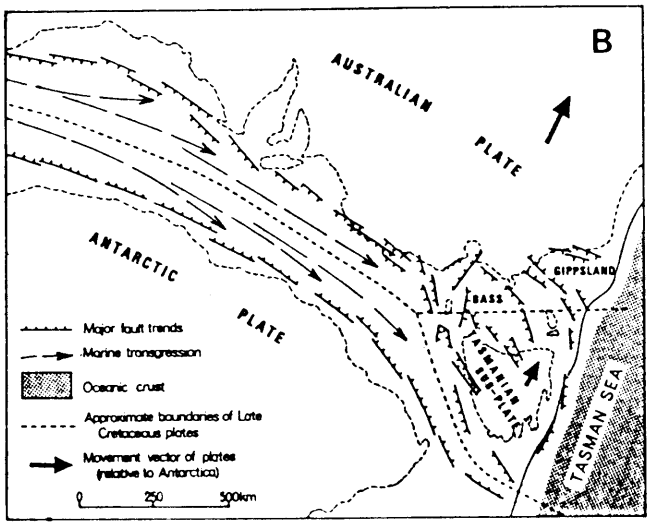
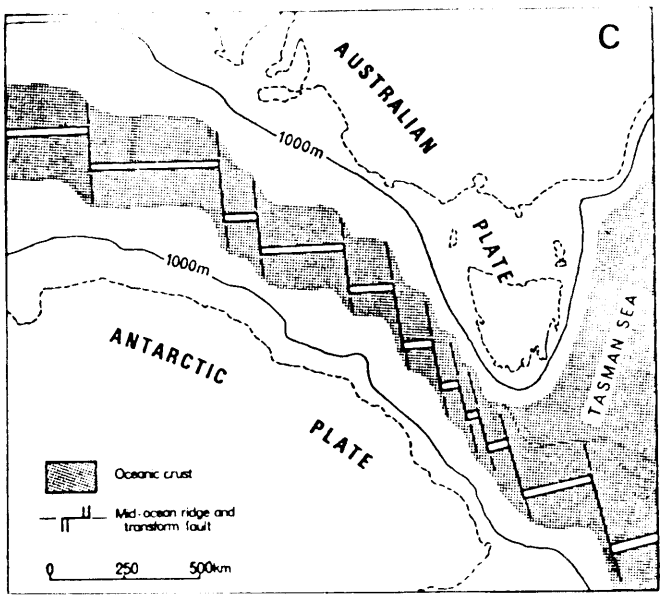




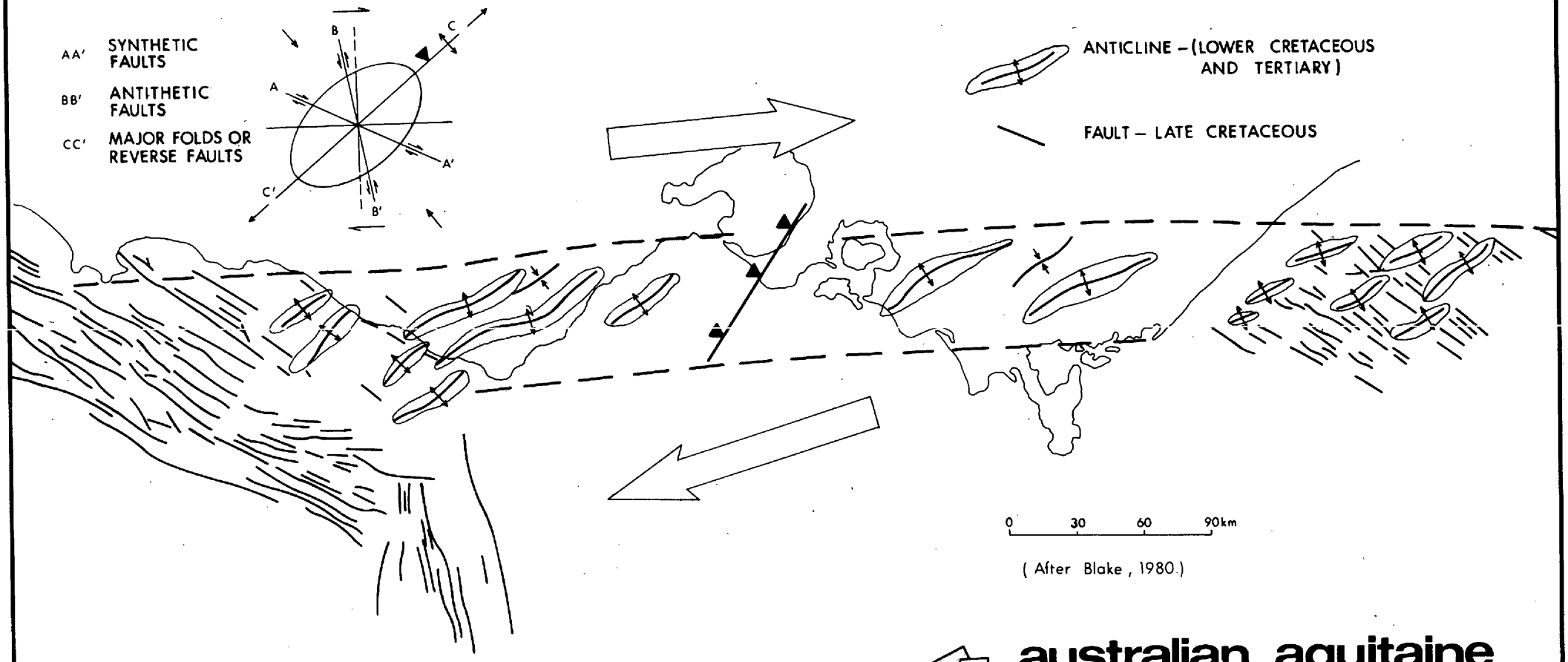


Tectonic evolution of southern Victoria

australian aquitaine petroleum pty. ltd.

A. Early Cretaceous - Jurassic
B. Mid - Cretaceous
C. Eocene

Author KIM LY	Date DECEMBER 1981	Dwg No 19947	FIG 7
Drafted by DH	Report No	Base Plan	



(After Blake , 1980.)

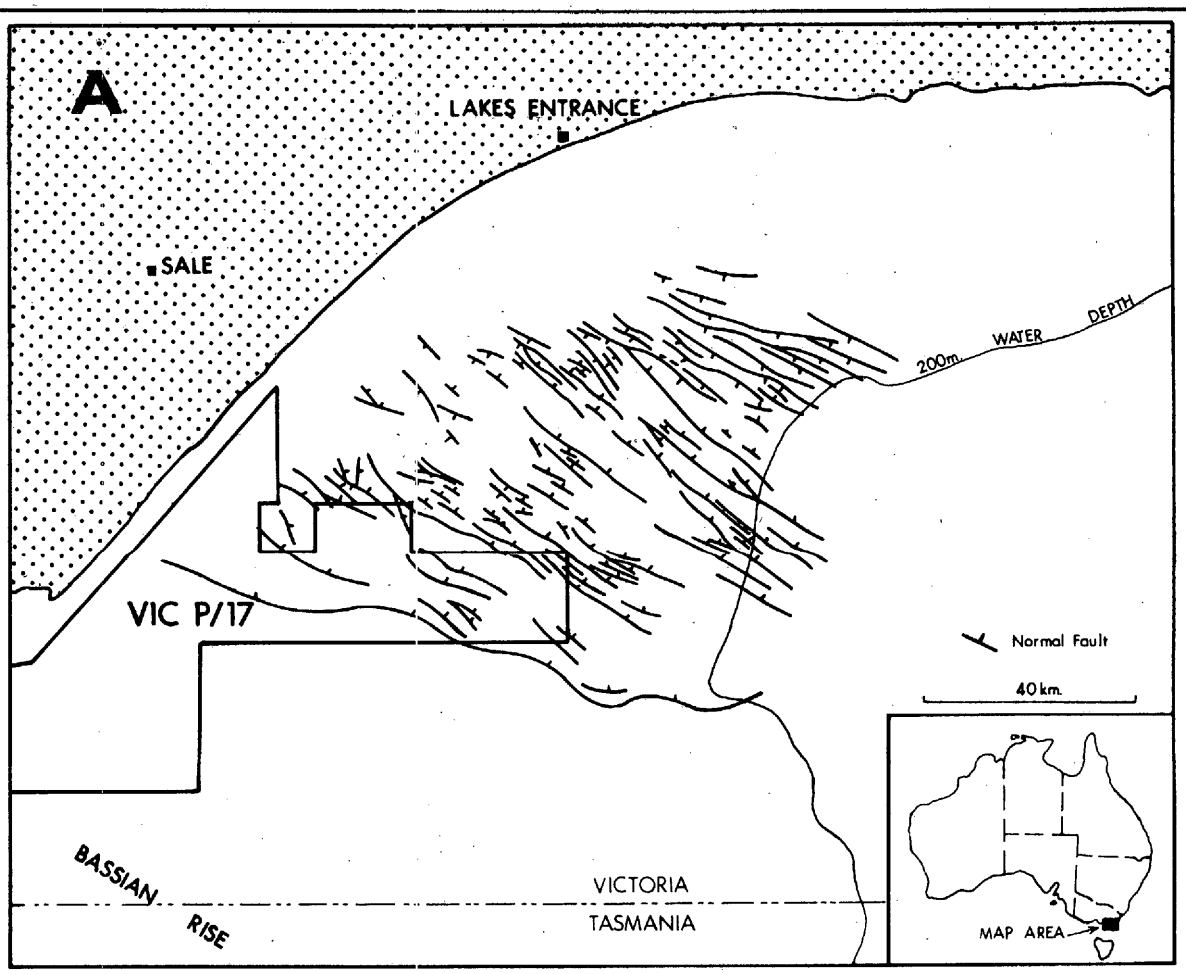
australian aquitaine petroleum pty. ltd.

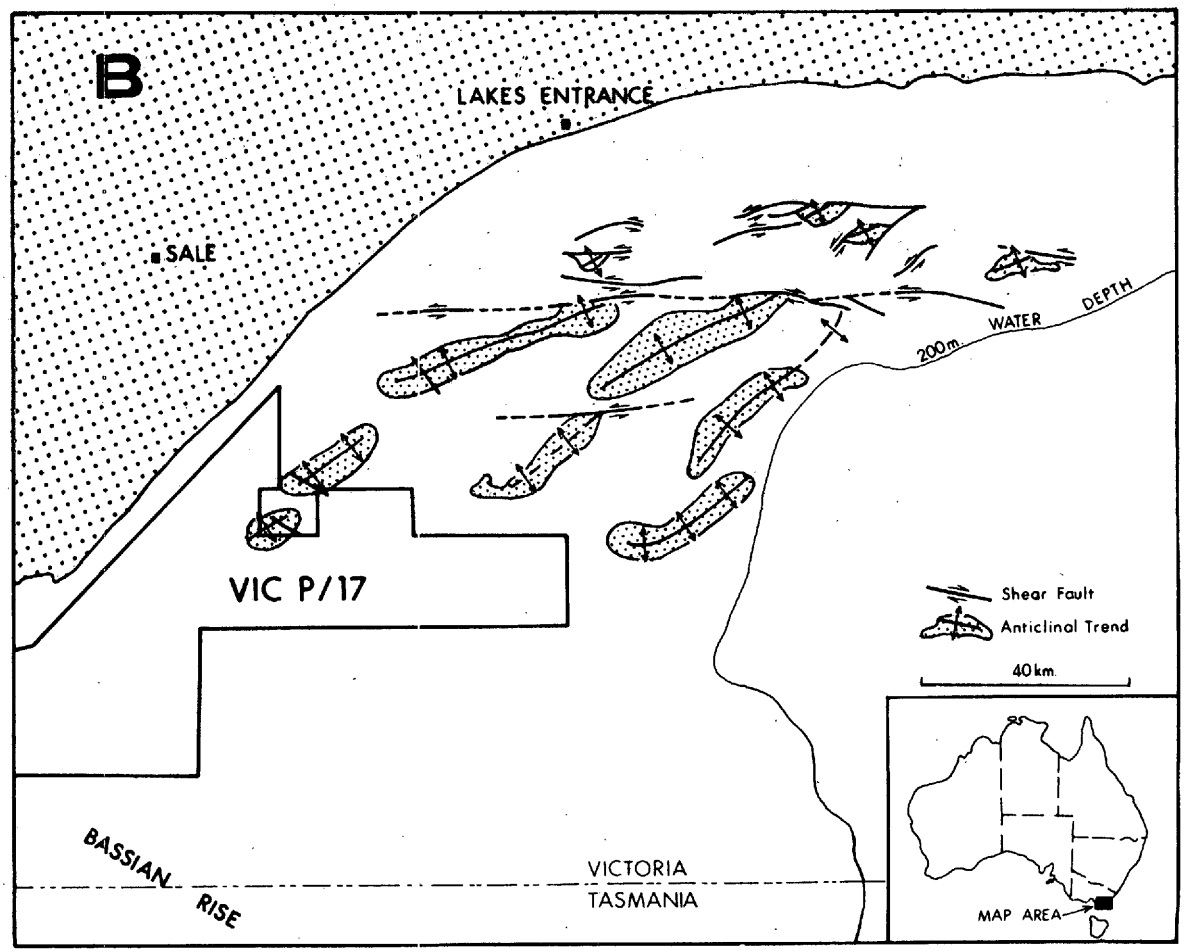
Diagrammatic sketch of Colac-Rosedale wrench showing major structures and inferred divergence in southern Australia

Author: KIM LY	Date: DECEMBER 1981	Dwg. No.: 19946	FIG. 5
Drafted by: D.H.	Report No:	Base Plan:	

806916 070

806916 071





A. Normal faults trending in a NW-SE direction.
B. En echelon anticlinal trends in the Gippsland Basin (after Threlfall et. al, 1976).

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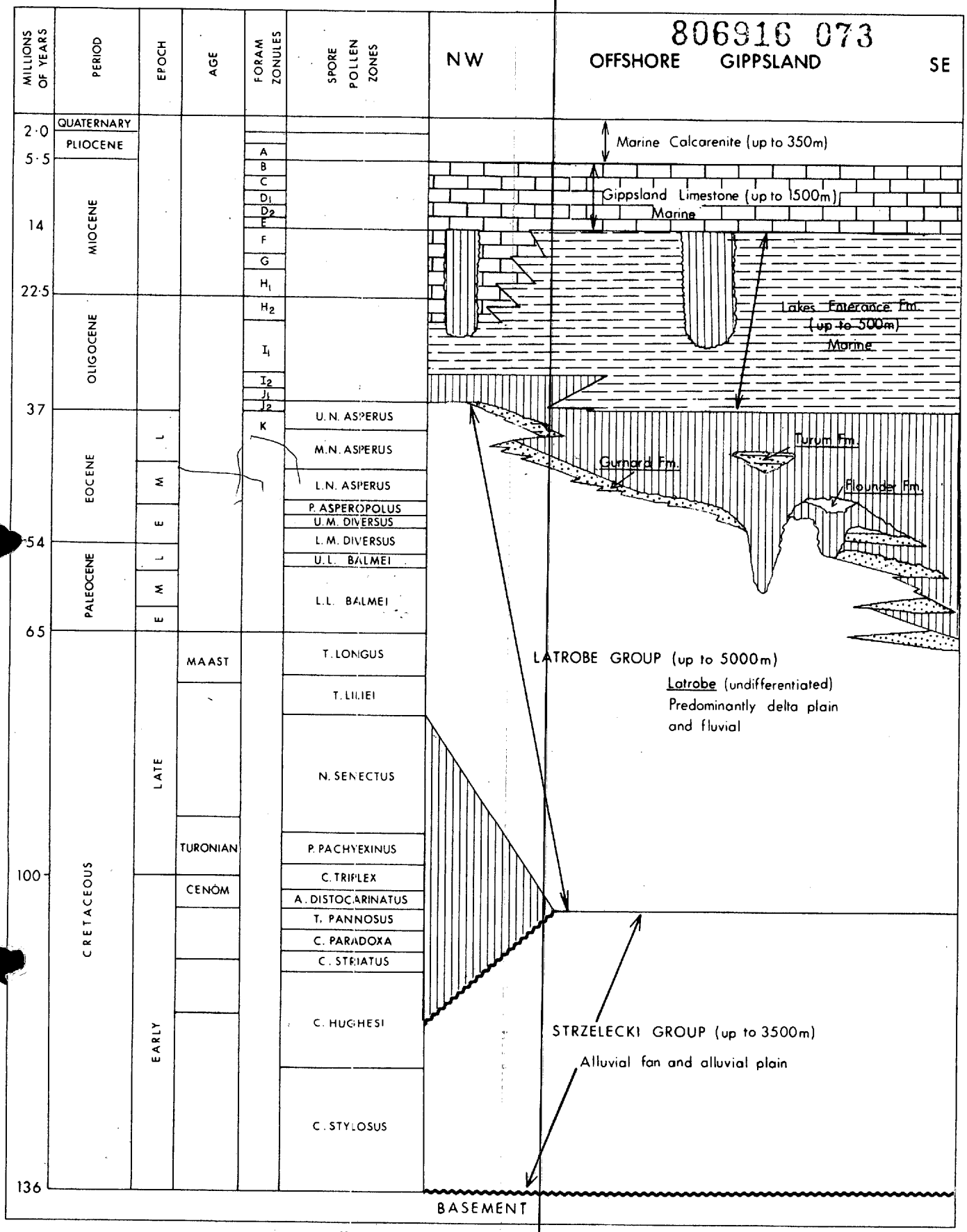
Author: KIM LY	Date: DECEMBER 1981	Dwg. No.: 19945	FIG. 4
Drafted by: D.H.	Report No.:	Base Plan:	

Regional Stratigraphy



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Gippsland Basin Vic/P17

STRATIGRAPHY

OFFSHORE GIPPSLAND BASIN

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

Dwg No: 20375

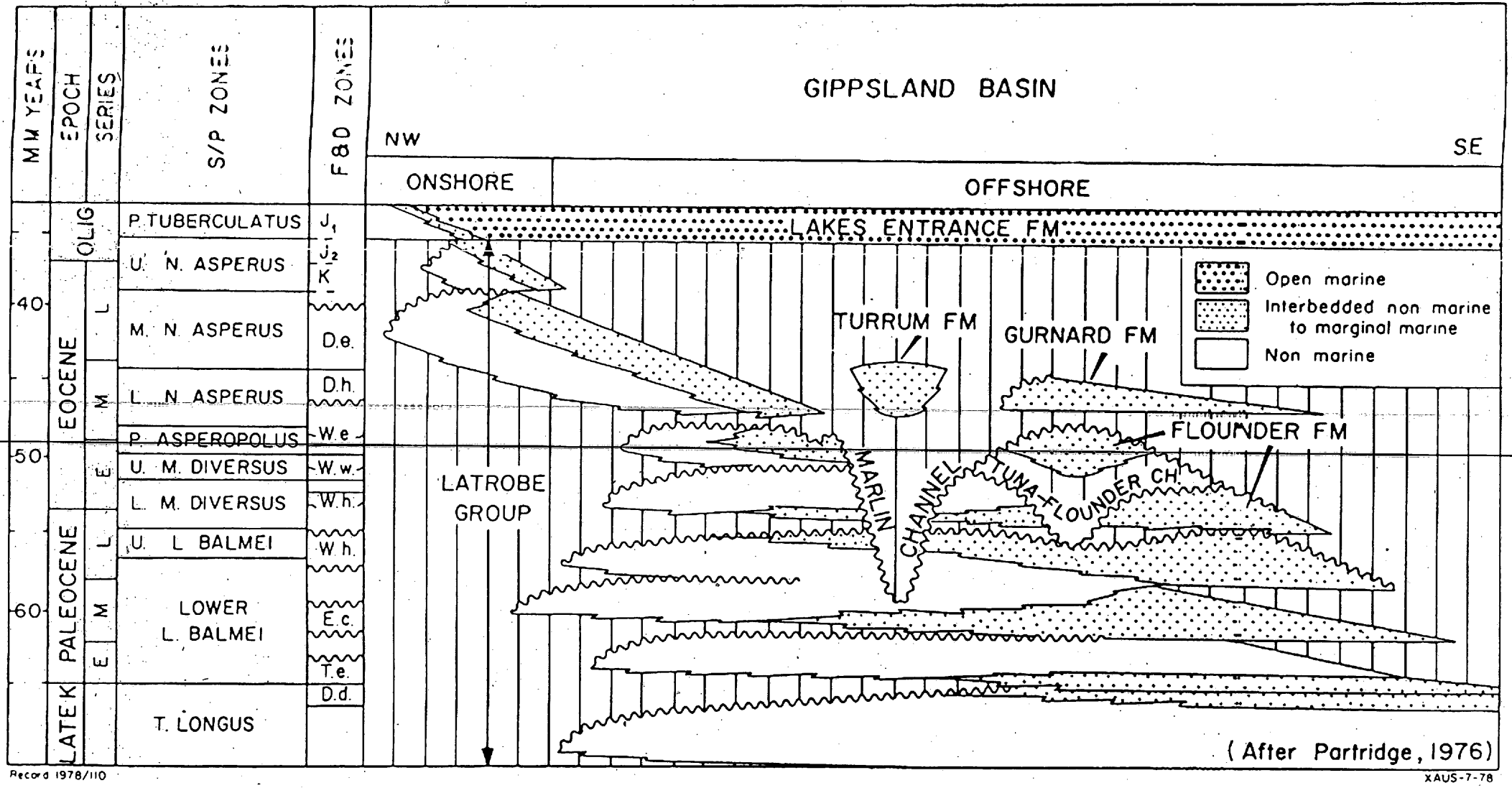

Fig. 7 Chronographic section Gippsland Basin

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806916_075Y

and is enclosed within the document PE806916 at this page.

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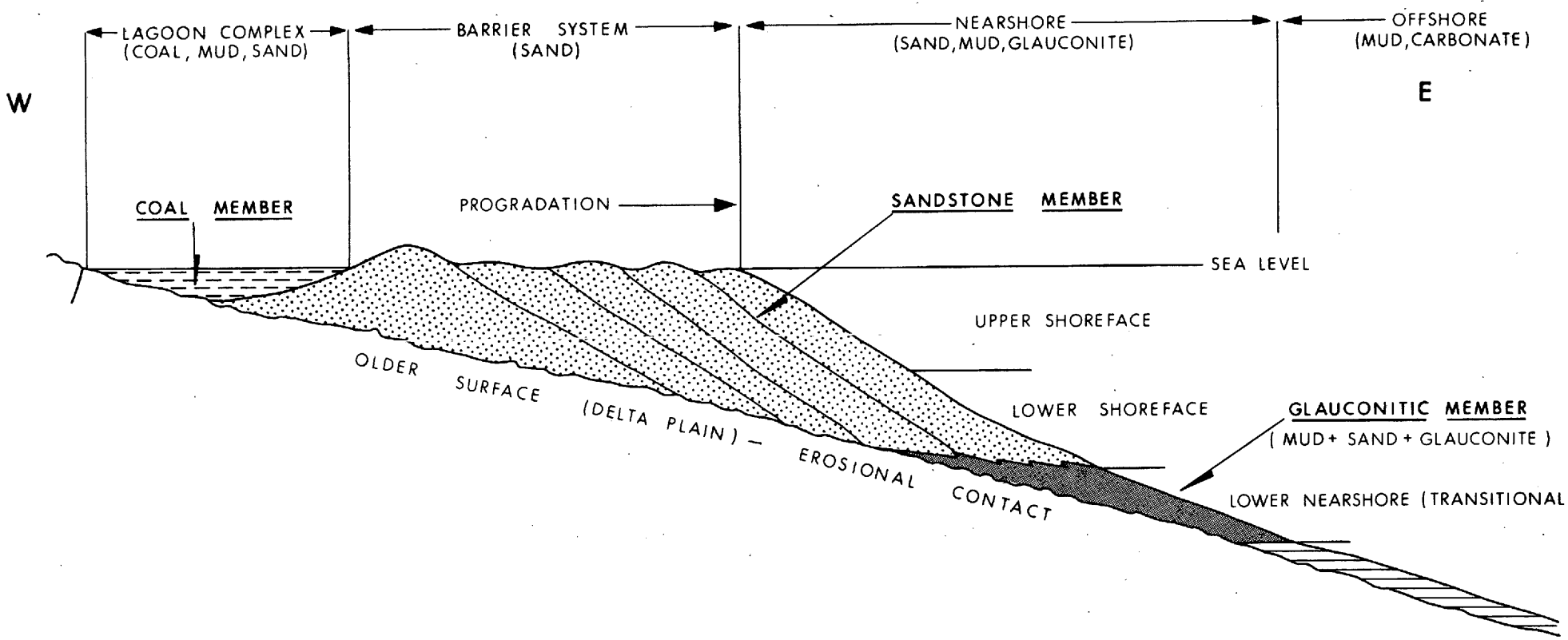
806916_076Y

and is enclosed within the document PE806916 at this page.

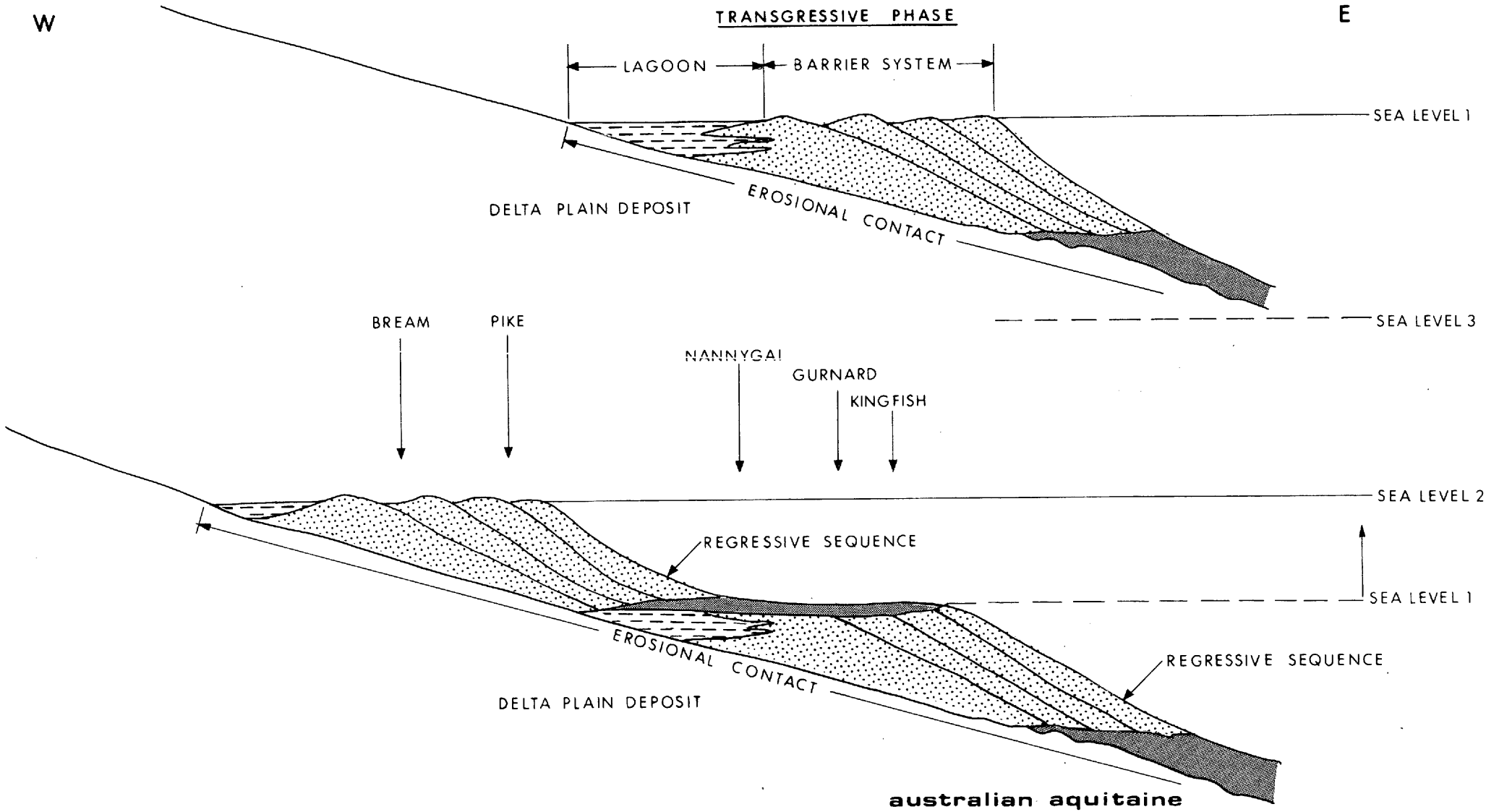
Paleocene - Eocene Stratigraphy



australian aquitaine petroleum pty ltd.

SEDIMENTARY FACIES ASSOCIATED WITH A BARRIER SYSTEM.

Author : K. LY.	Date : MARCH 82'	Dwg No : 20264	FIG. 2.
Drafted : L Bailey	~~Report No :~~	~~Base Plan :~~	



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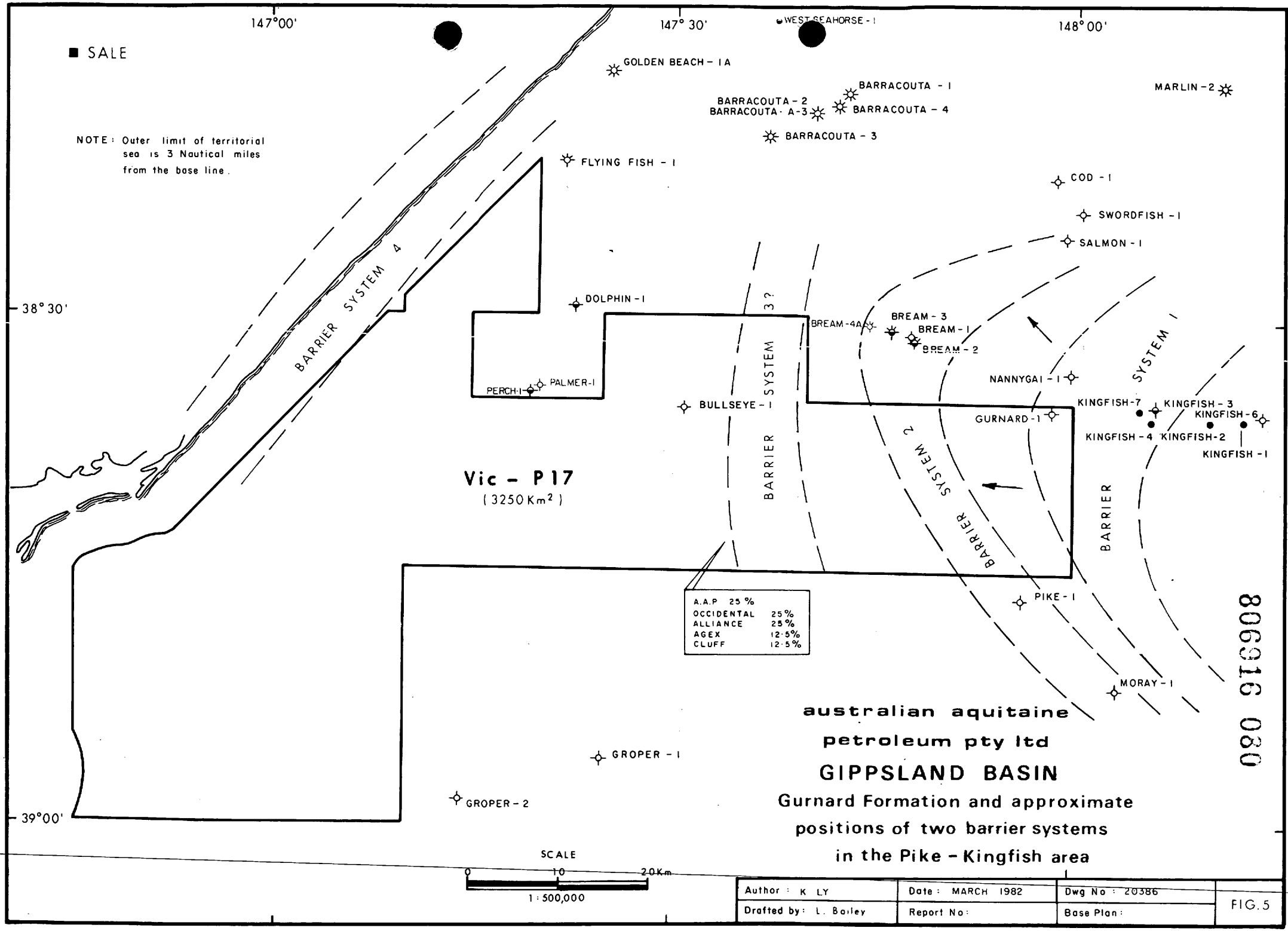
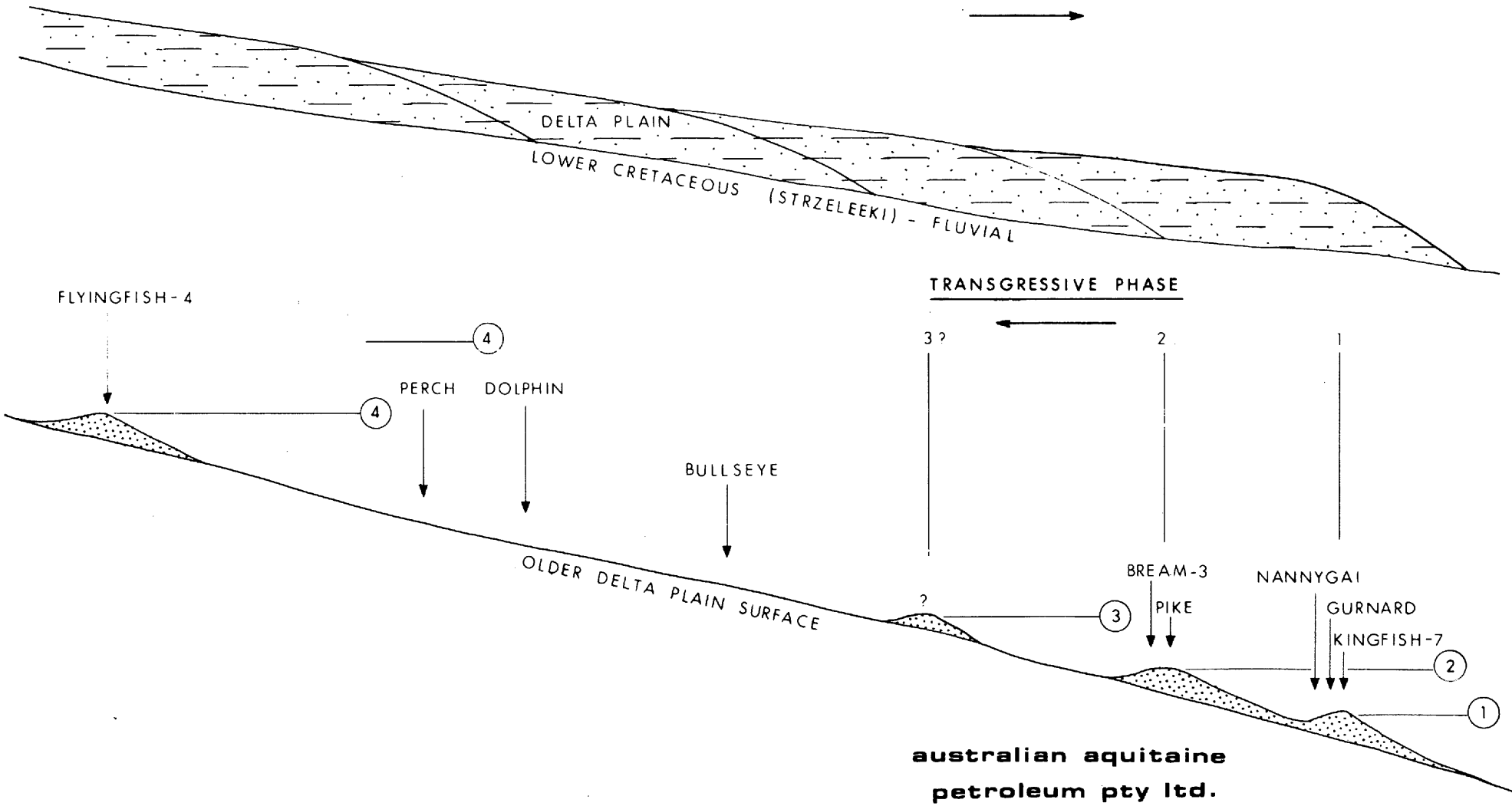
DEPOSITION OF THE BARRIER SYSTEM IN THE KINGFISH – PIKE AREA

Author . K LY	Date MARCH 1982	Dwg No. 20266	FIG.4
Drafted S MIMRAM	Report No. .	Base Plan .	

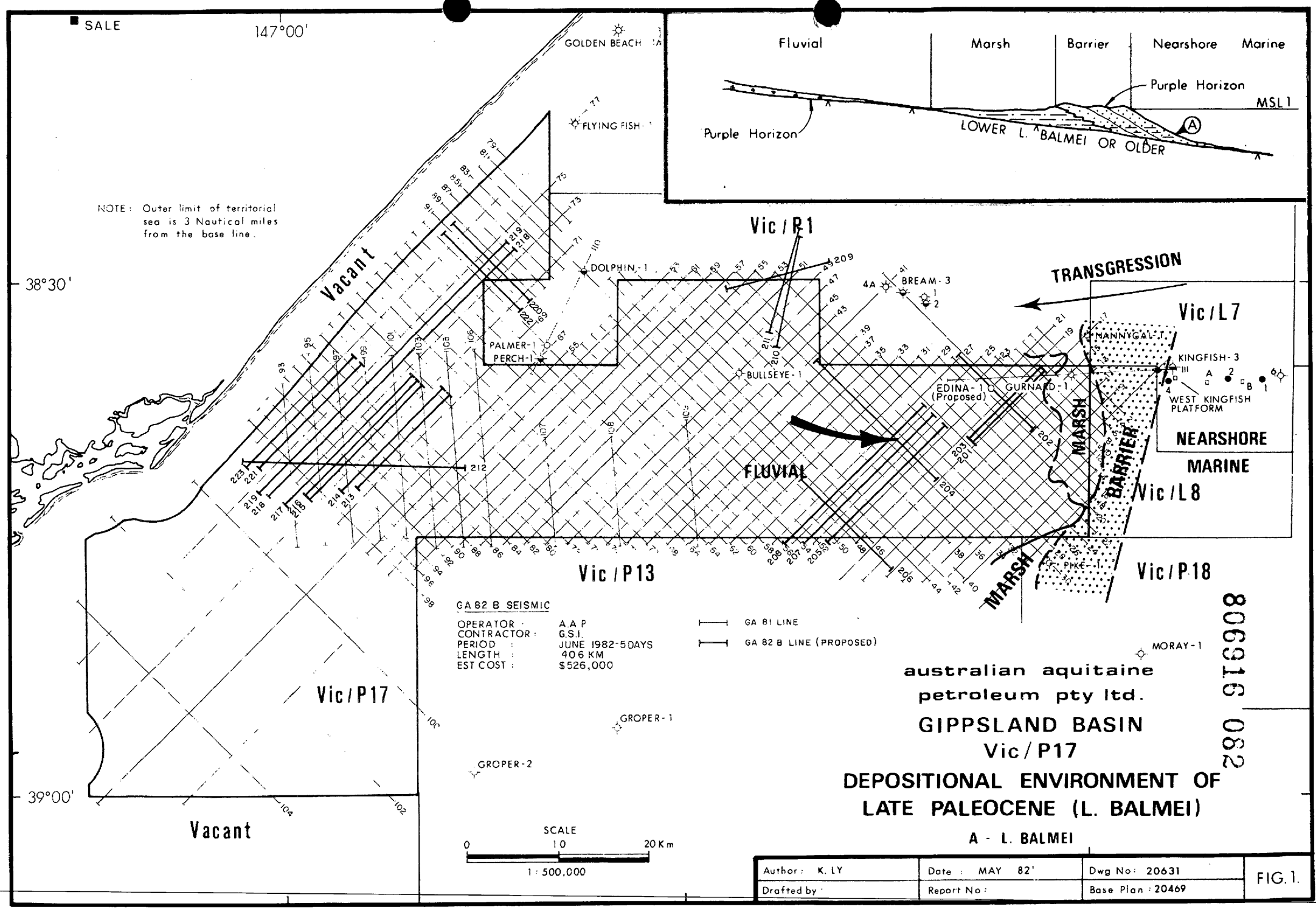

147°00'
147° 30'
148° 00'
SALE
WEST SEAHORSE - 1
GOLDEN BEACH - 1A
BARRACOUTA - 1
BARRACOUTA - 2
BARRACOUTA - A3
BARRACOUTA - 4
BARRACOUTA - 3
MARLIN - 2
NOTE : Outer limit of territorial sea is 3 Nautical miles from the base line.
FLYING FISH - 1
COD - 1
SWORDFISH - 1
SALMON - 1
38° 30'
DOLPHIN - 1
BARRIER SYSTEM 4
BARRIER SYSTEM 3?
BREAM - 4A
BREAM - 3
BREAM - 1
BREAM - 2
PERCH - 1
PALMER - 1
BULLSEYE - 1
NANNYGAI - 1
BARRIER SYSTEM 1
KINGFISH - 7
KINGFISH - 3
KINGFISH - 6
GURNARD - 1
KINGFISH - 4
KINGFISH - 2
KINGFISH - 1
Vic - P17
(3250 Km²)
BARRIER SYSTEM 2
BARRIER
A.A.P 25 %
OCCIDENTAL 25%
ALLIANCE 25%
AGEX 12·5%
CLUFF 12·5%
PIKE - 1
MORAY - 1
GROPER - 1
GROPER - 2
39°00'
SCALE
0 10 20 Km
1 : 500,000
australian aquitaine
petroleum pty ltd
GIPPSLAND BASIN
Gurnard Formation and approximate positions of two barrier systems in the Pike - Kingfish area
Author : K LY
Date : MARCH 1982
Dwg No : 20386
Drafted by : L. Bailey
Report No :
Base Plan :
FIG. 5
80691G 080

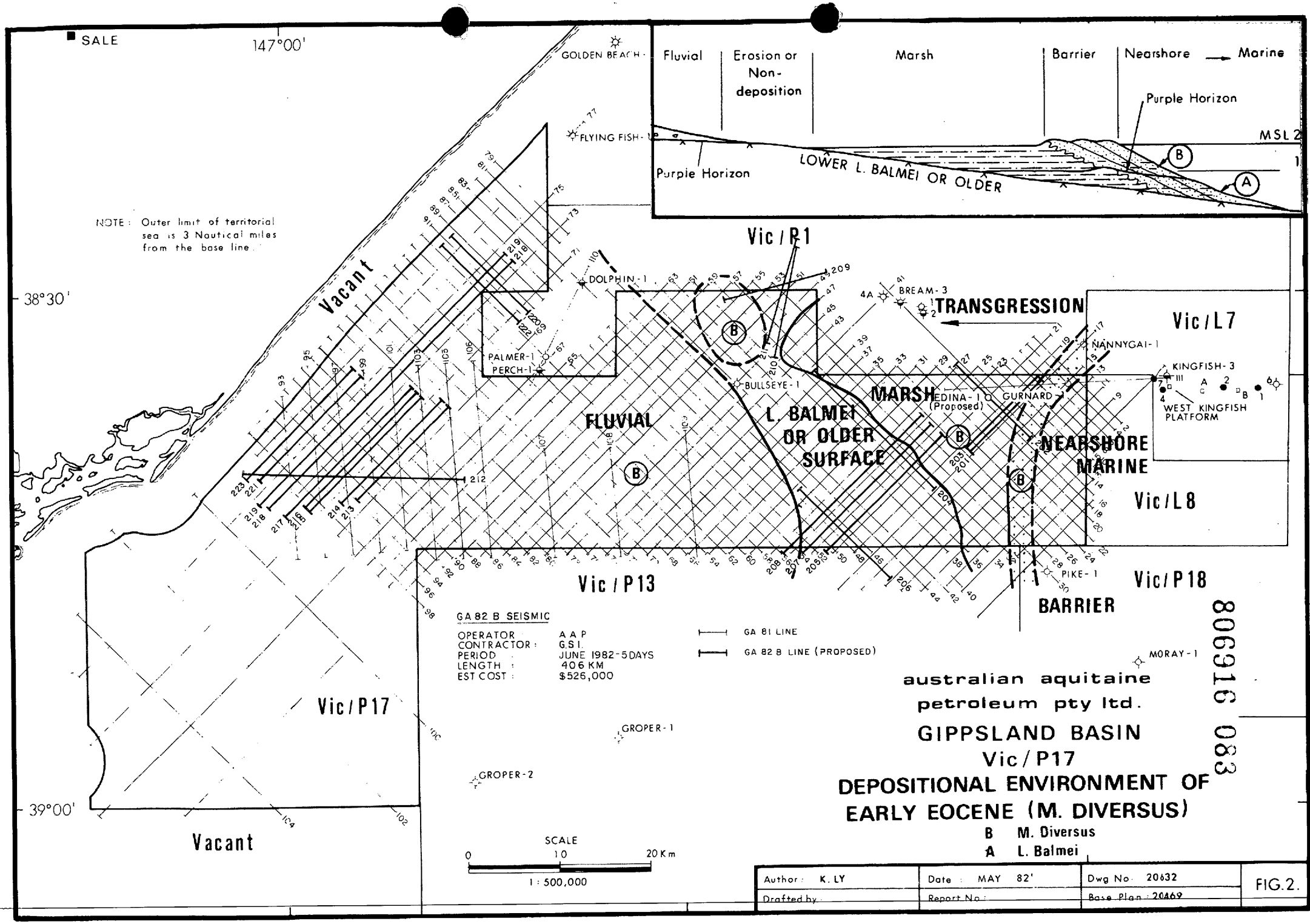


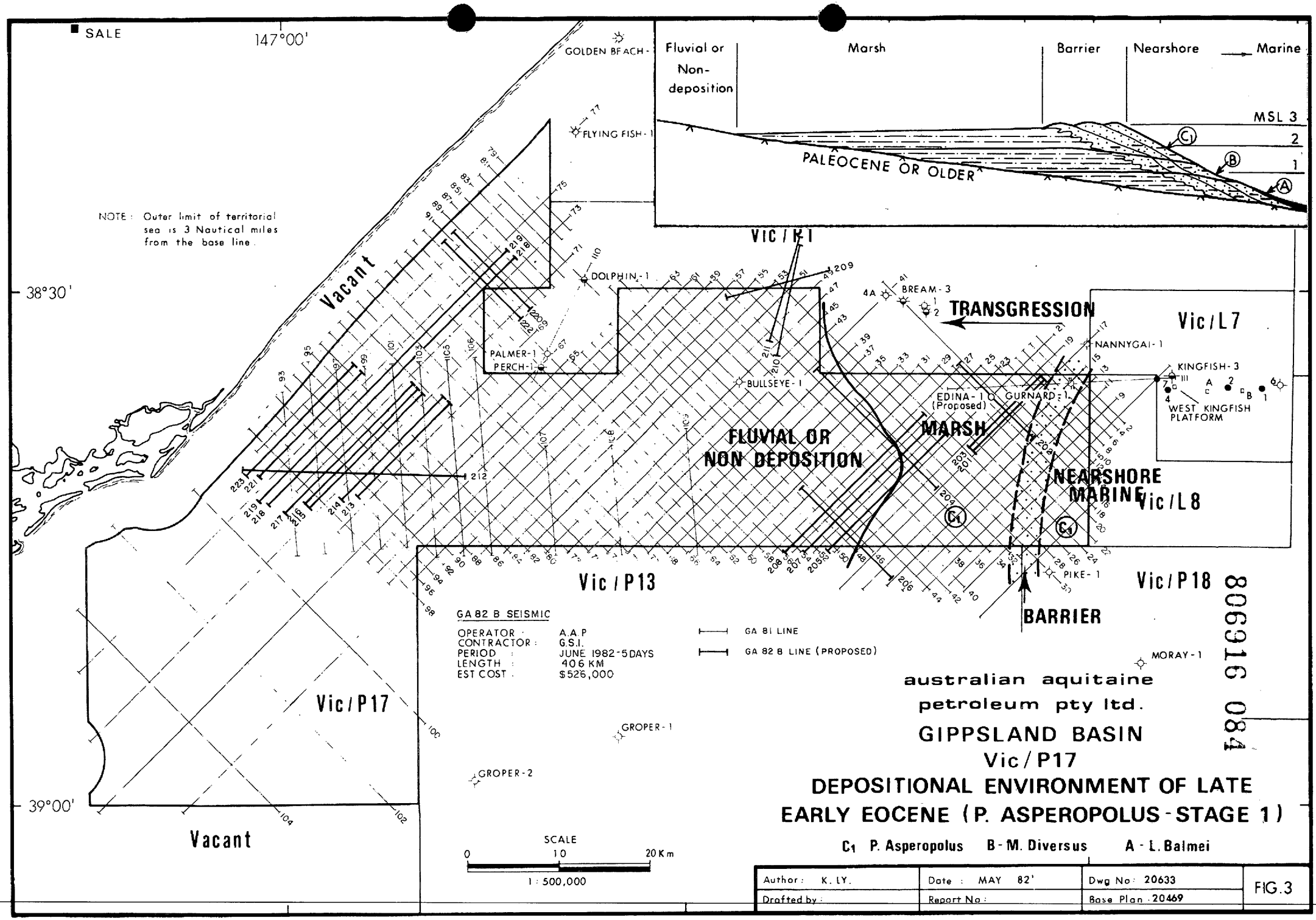
australian aquitaine petroleum pty ltd.

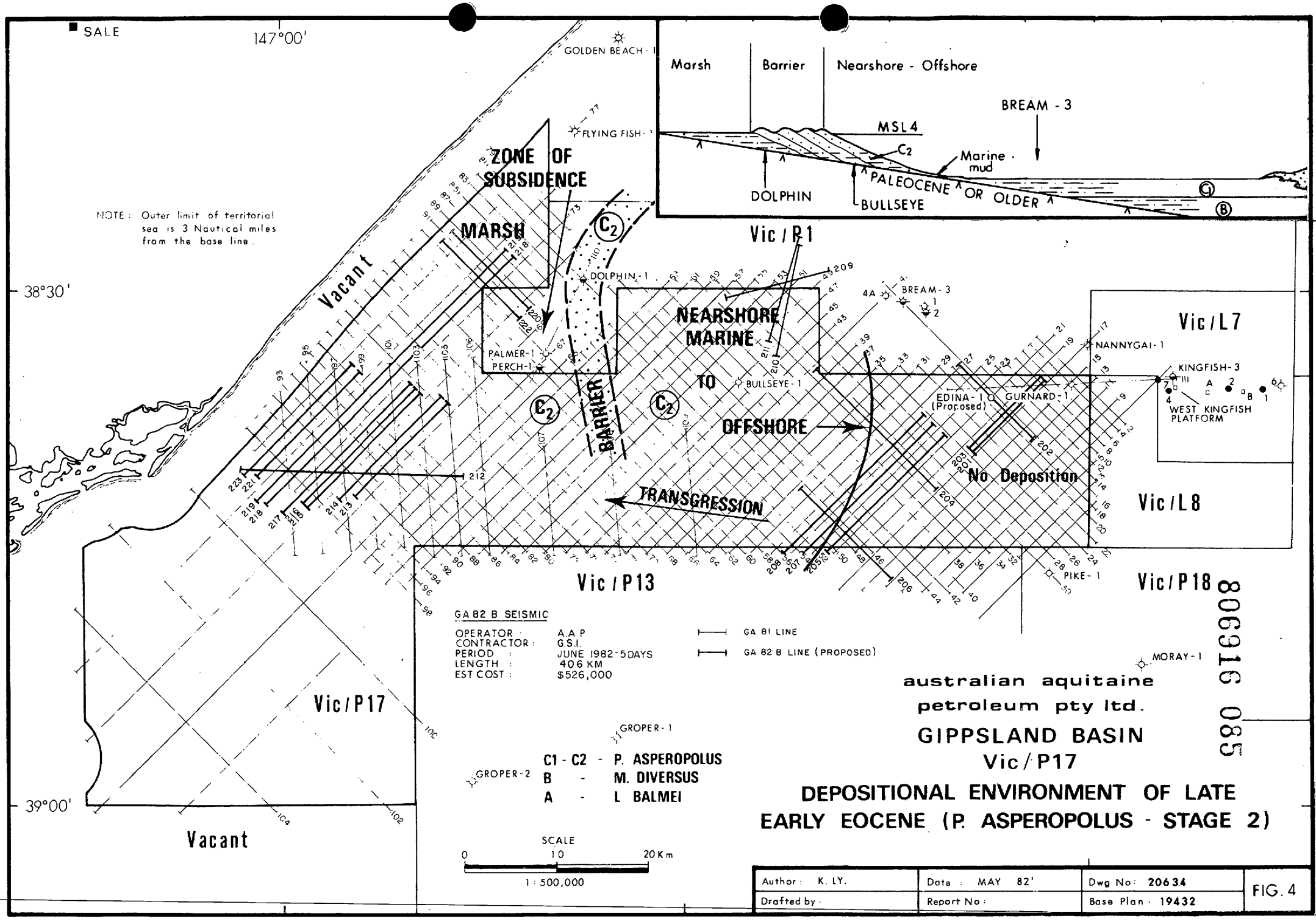
POSSIBLE SAND BARRIER SYSTEMS IN THE VIC/P17 AREA RELATIVE TO THE WELL LOCATIONS

Author . K. LY	Date : MARCH 1982	Dwg. No. 20267	FIG. 6
Drafting : S. MIMRAM	Report No.:	Base Plan :	




SALE
147°00'
38°30'
39°00'
GOLDEN BEACH-1
FLYING FISH-1
DOLPHIN-1
PALMER-1
PERCH-1
BULLSEYE-1
BREAM-3
NANNYGAI-1
KINGFISH-3
WEST KINGFISH PLATFORM
EDINA-1 (Proposed)
GURNARD-1
PIKE-1
MORAY-1
GROPER-1
GROPER-2
Fluvial
Erosion or Non-deposition
Marsh
Barrier
Nearshore
Marine
Purple Horizon
MSL
LOWER L. BALMEI OR OLDER
NOTE: Outer limit of territorial sea is 3 Nautical miles from the base line.
Vic/P1
Vic/L7
Vic/L8
Vic/P18
Vic/P13
Vic/P17
Vacant
Vacant
TRANSGRESSION
MARSH
FLUVIAL
L. BALMEI OR OLDER SURFACE
NEARSHORE MARINE
BARRIER
GA 82 B SEISMIC
OPERATOR : A A P
CONTRACTOR : G.S.I.
PERIOD : JUNE 1982-5 DAYS
LENGTH : 406 KM
EST COST : $526,000
GA 81 LINE
GA 82 B LINE (PROPOSED)
SCALE
0 10 20 Km
1 : 500,000
australian aquitaine petroleum pty ltd.
GIPPSLAND BASIN
Vic/P17
DEPOSITIONAL ENVIRONMENT OF EARLY EOCENE (M. DIVERSUS)
B M. Diversus
A L. Balmei
Author : K. LY
Drafted by :
Date : MAY 82'
Report No :
Dwg No. 20632
Base Plan : 20469
FIG.2.
806916 083


SALE
147°00'
38°30'
39°00'
GOLDEN BEACH-
FLYING FISH-1
DOLPHIN-1
PALMER-1
PERCH-1
BULLSEYE-1
BREAM-3
NANNYGAI-1
KINGFISH-3
WEST KINGFISH PLATFORM
EDINA-1 (Proposed)
GURNARD-1
PIKE-1
MORAY-1
GROPER-1
GROPER-2
Fluvial or Non-deposition
Marsh
Barrier
Nearshore
Marine
MSL 3
2
1
PALEOCENE OR OLDER
C1
B
A
NOTE: Outer limit of territorial sea is 3 Nautical miles from the base line.
Vic/P1
Vic/L7
Vic/L8
Vic/P13
Vic/P17
Vic/P18
Vacant
Vacant
TRANSGRESSION
FLUVIAL OR NON DEPOSITION
MARSH
NEARSHORE MARINE
BARRIER
GA 82 B SEISMIC
OPERATOR : A.A.P
CONTRACTOR : G.S.I.
PERIOD : JUNE 1982-5 DAYS
LENGTH : 406 KM
EST COST : $526,000
GA 81 LINE
GA 82 B LINE (PROPOSED)
SCALE
0 10 20 Km
1 : 500,000
australian aquitaine petroleum pty ltd.
GIPPSLAND BASIN
Vic/P17
DEPOSITIONAL ENVIRONMENT OF LATE EARLY EOCENE (P. ASPEROPOLUS-STAGE 1)
C1 P. Asperopolus B-M. Diversus A-L. Balmei
Author: K. LY.
Drafted by:
Date: MAY 82'
Report No:
Dwg No: 20633
Base Plan 20469
FIG.3
80691G 084

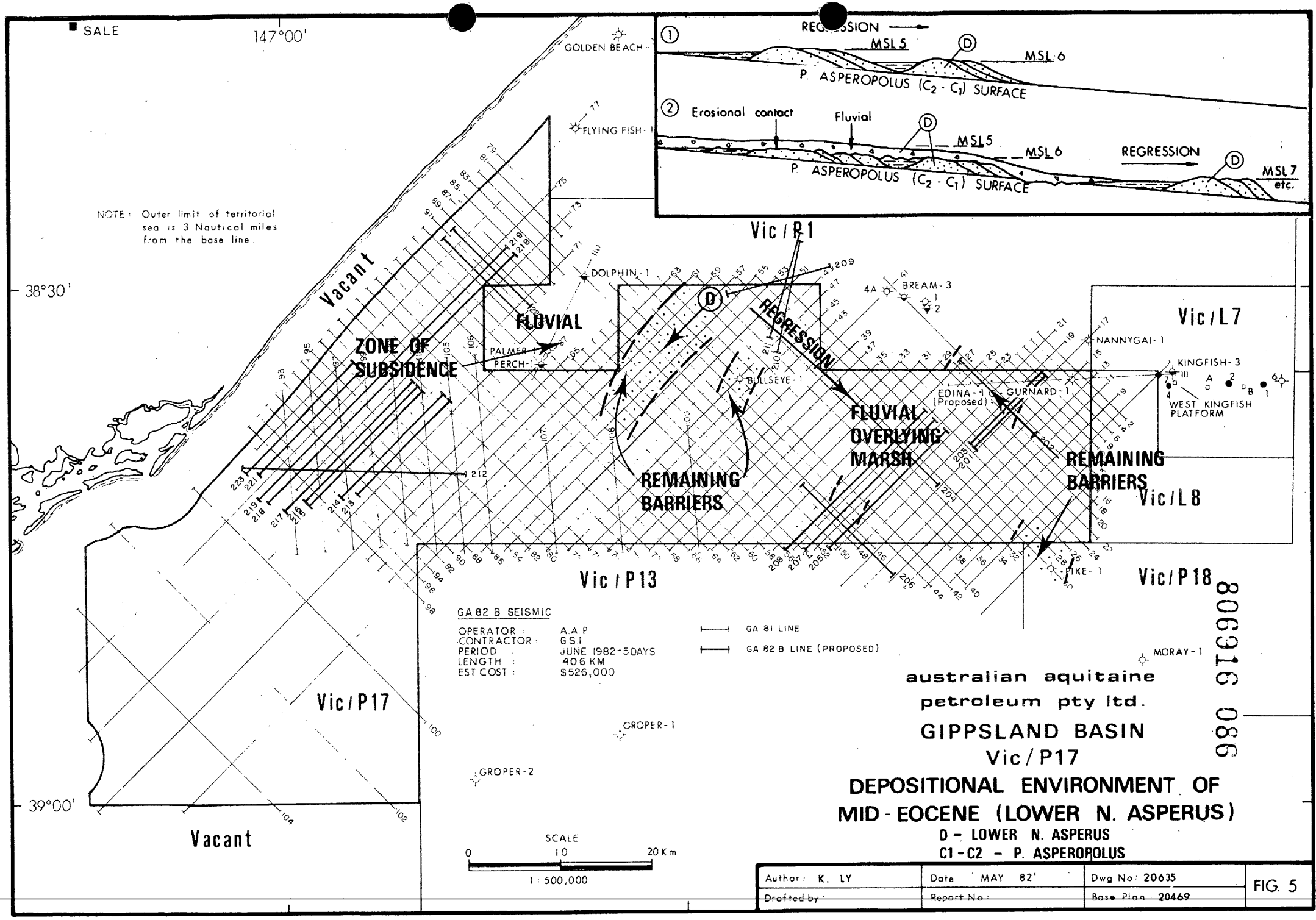


australian aquitaine petroleum pty ltd.

GIPPSLAND BASIN
Vic / P17
DEPOSITIONAL ENVIRONMENT OF LATE EARLY EOCENE (P. ASPEROPOLUS - STAGE 2)

Author : K. LY.	Date : MAY 82'	Dwg No : 20634	FIG. 4
Drafted by :	Report No :	Base Plan : 19432	

806916 085



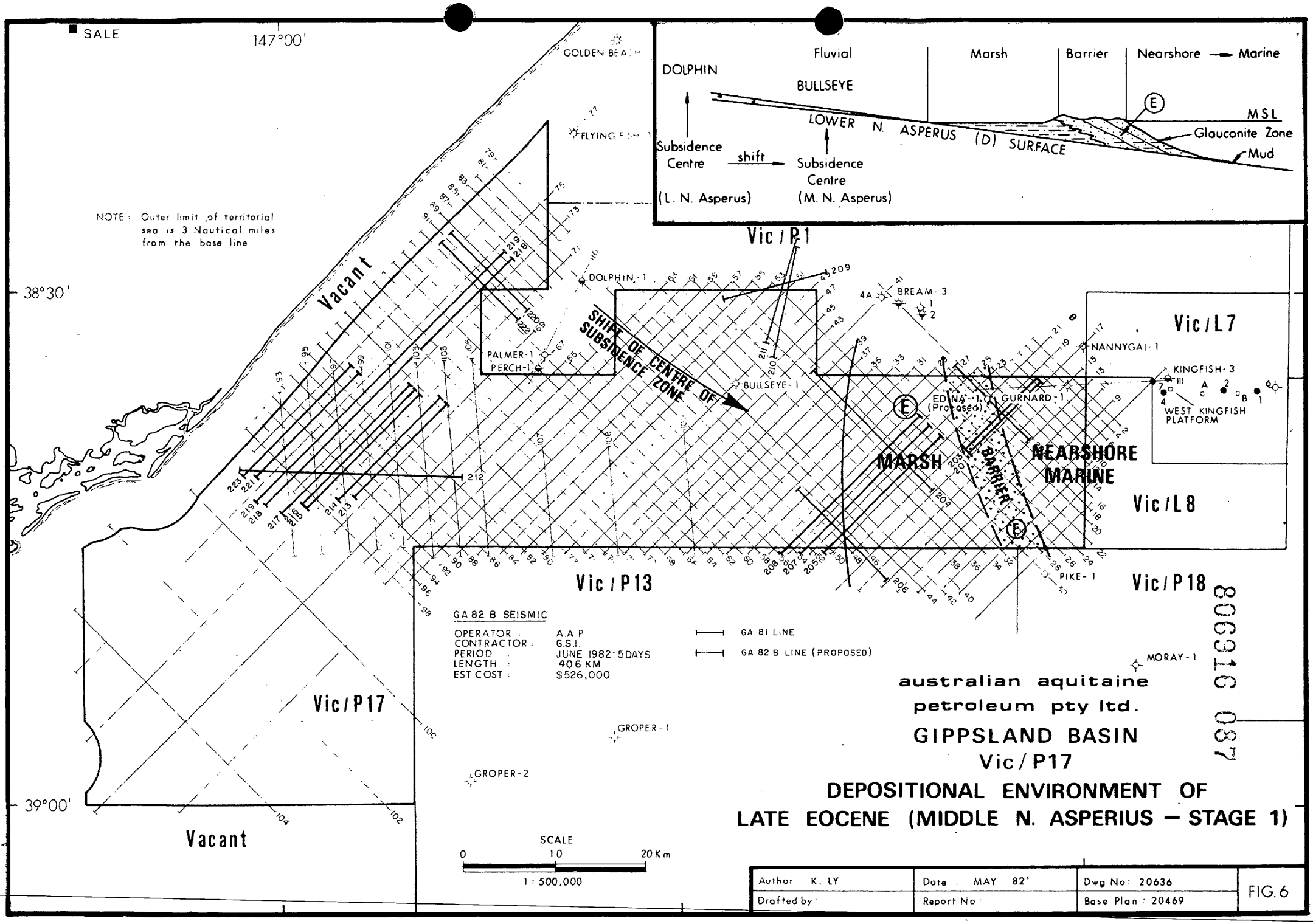
australian aquitaine petroleum pty ltd.

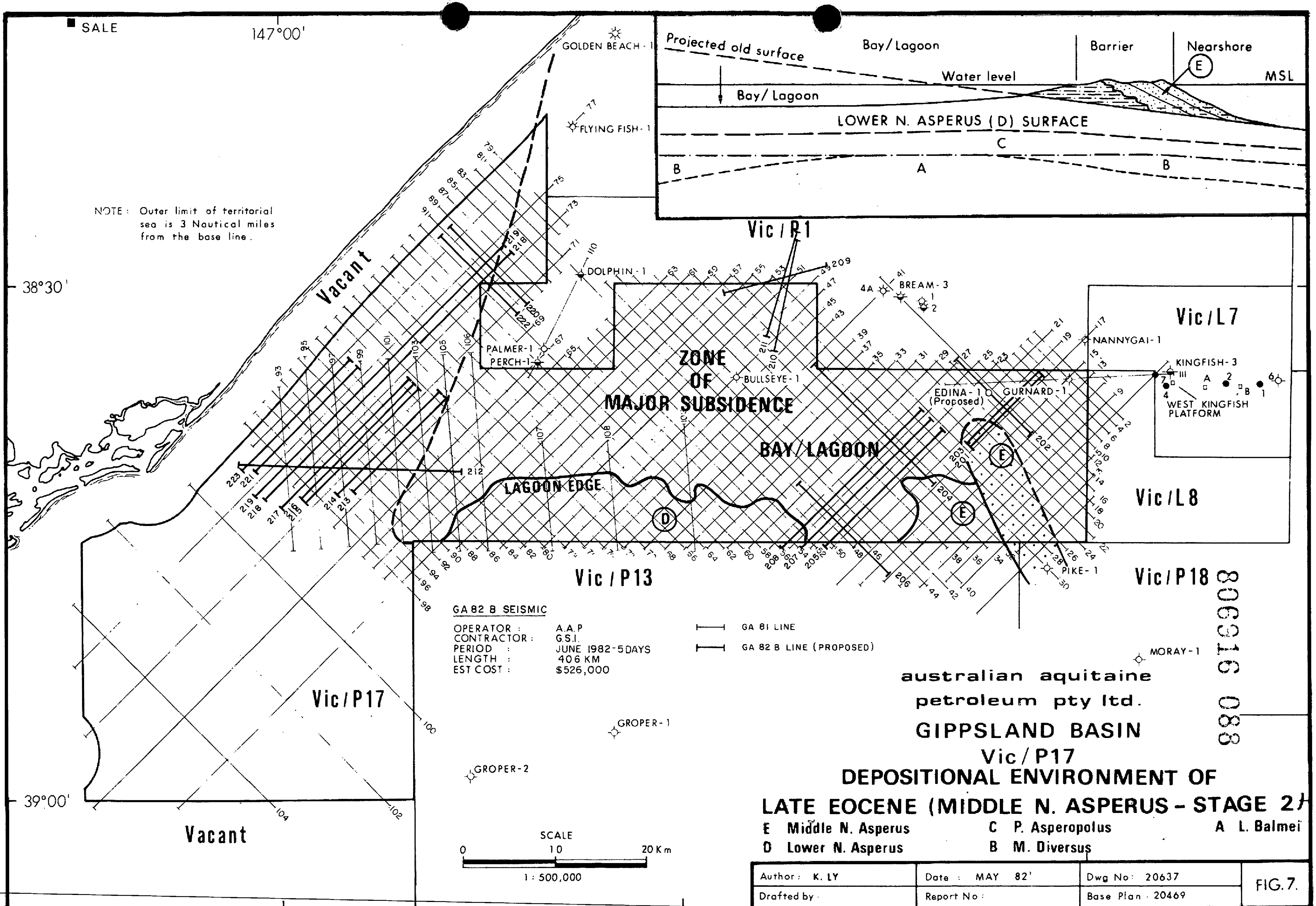
GIPPSLAND BASIN
Vic/P17
DEPOSITIONAL ENVIRONMENT OF MID-EOCENE (LOWER N. ASPERUS)

D – LOWER N. ASPERUS
C1-C2 – P. ASPEROPOLUS

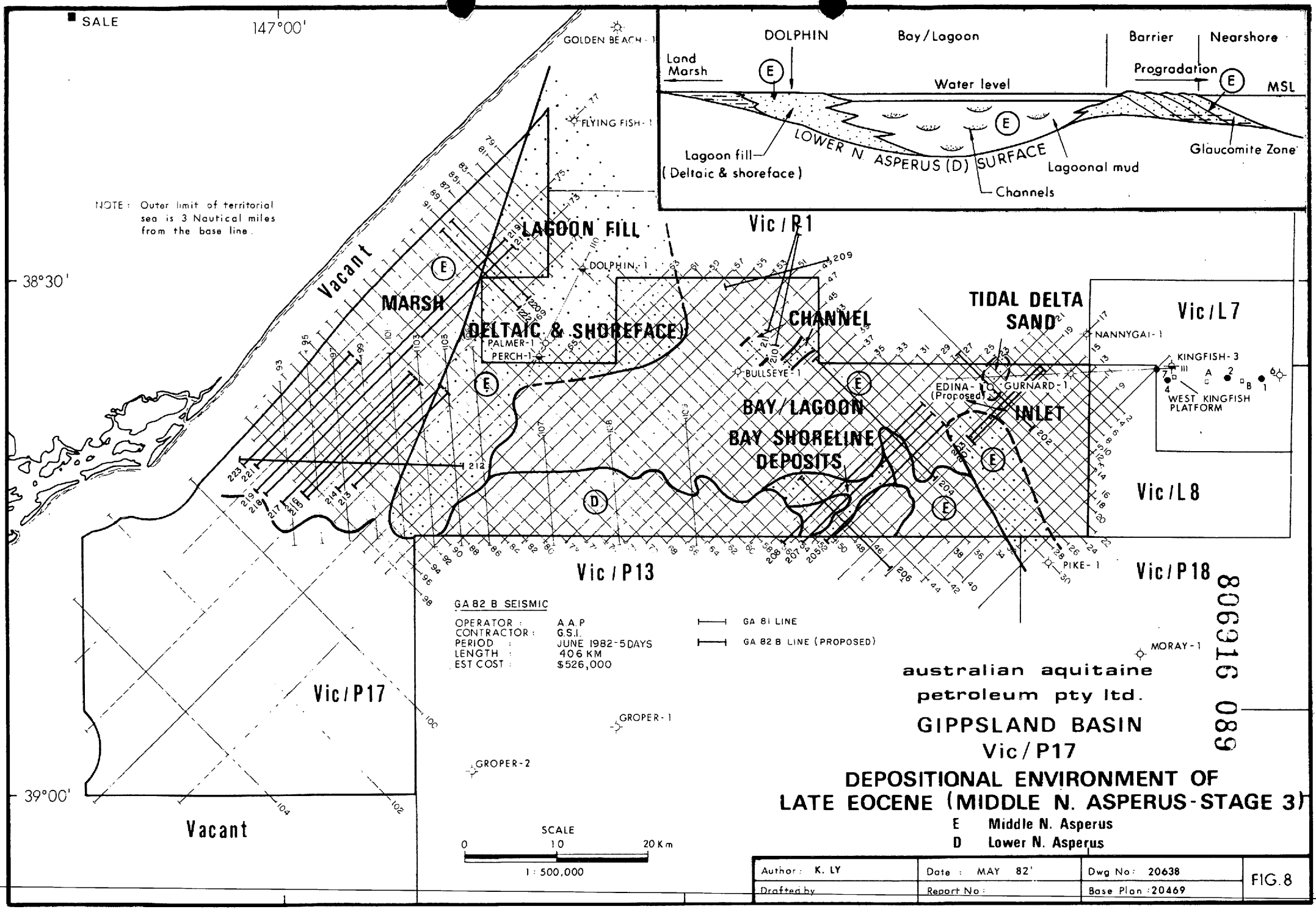
Author: K. LY	Date MAY 82'	Dwg No: 20635	FIG. 5
Drafted by:	Report No:	Base Plan 20469	

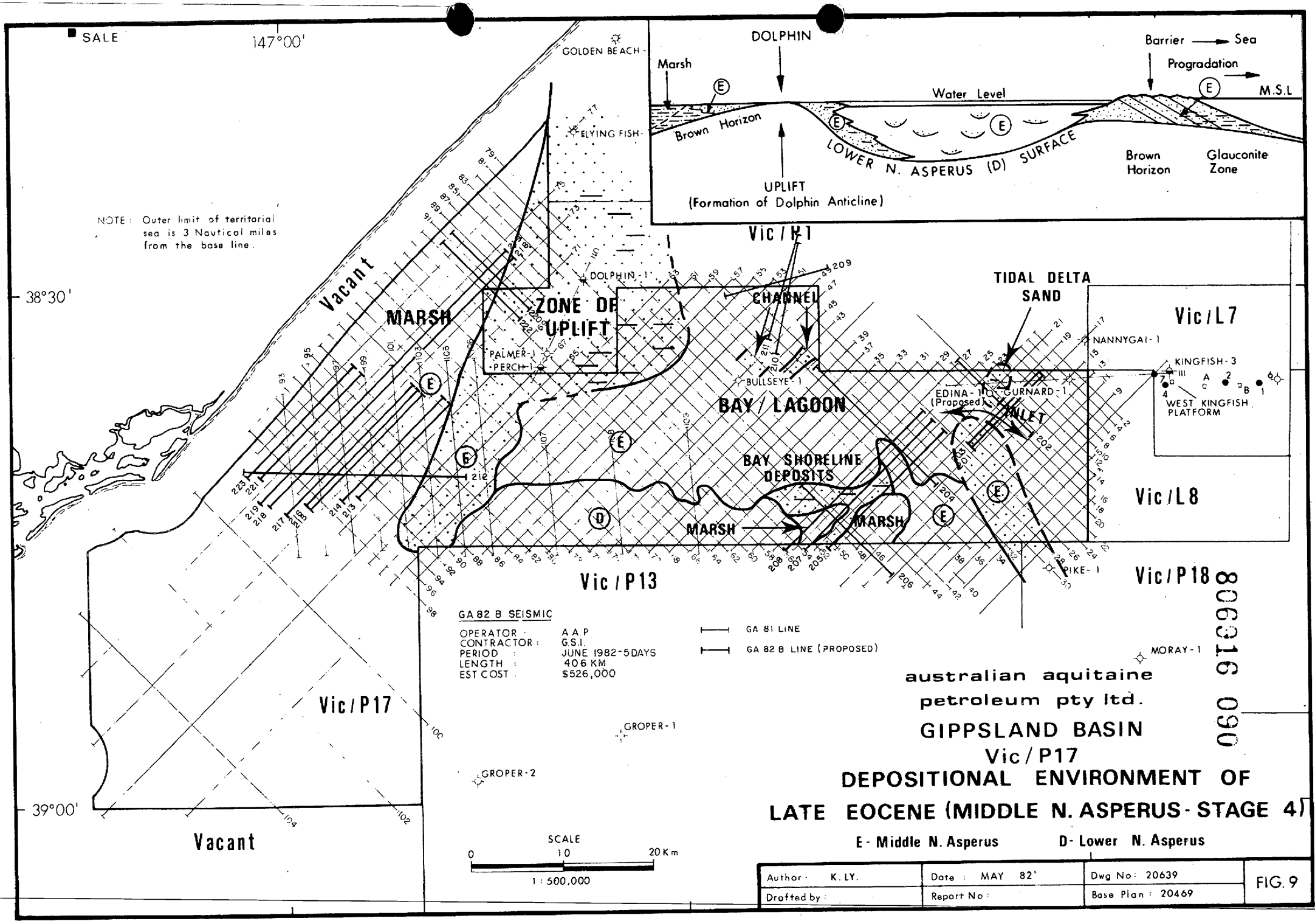
806916 086

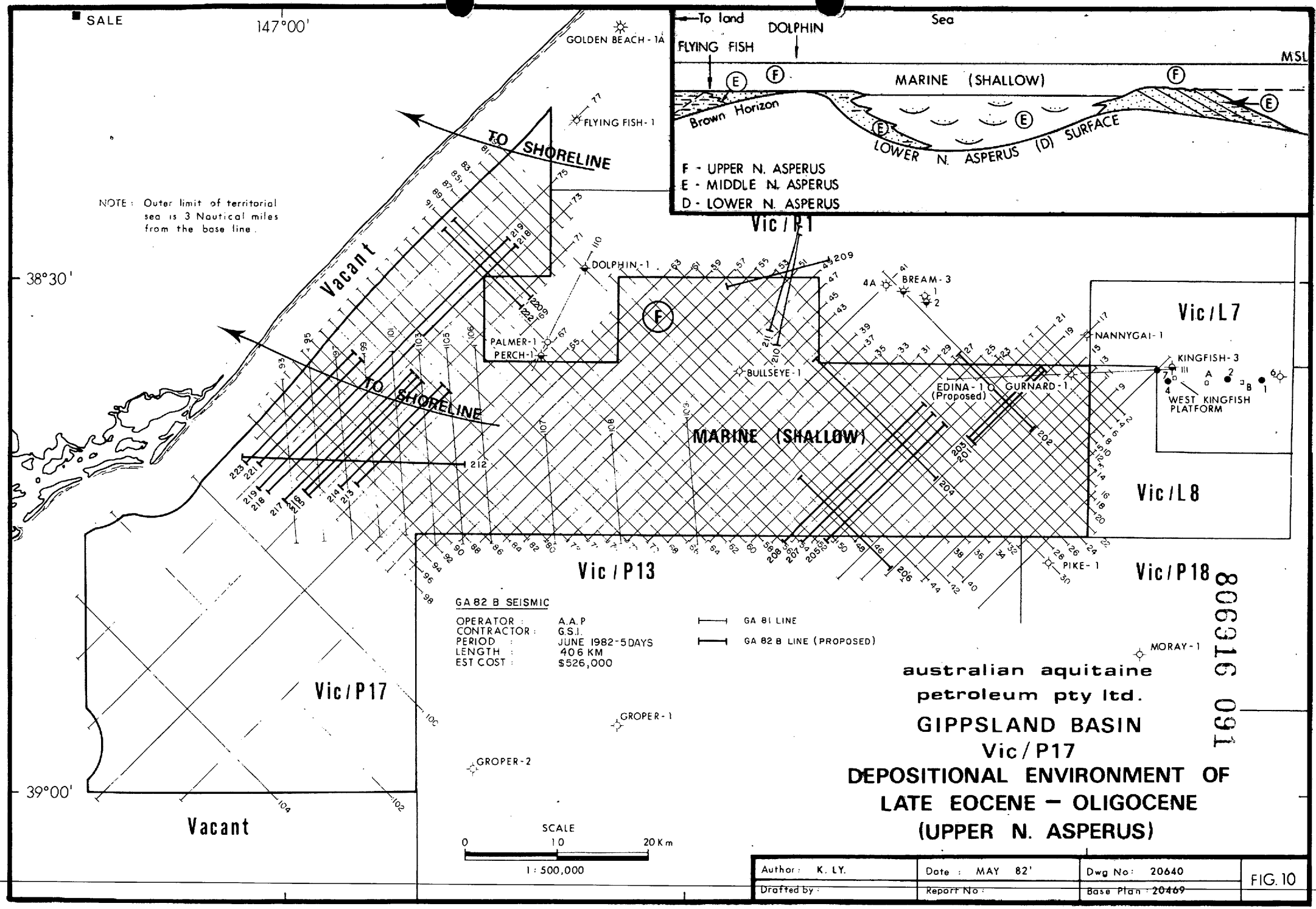

SALE
147°00'
38°30'
39°00'
NOTE : Outer limit of territorial sea is 3 Nautical miles from the base line
Vacant
Vic / P1
Vic / L7
Vic / L8
Vic / P13
Vic / P17
Vic / P18
Vacant
DOLPHIN - 1
BREAM - 3
PALMER - 1
PERCH - 1
BULLSEYE - 1
EDINA - 1 (Proposed)
GURNARD - 1
NANNYGAI - 1
KINGFISH - 3
WEST KINGFISH PLATFORM
PIKE - 1
MORAY - 1
GROPER - 1
GROPER - 2
SHIFT OF CENTRE OF SUBSIDENCE ZONE
MARSH
BARRIER
NEARSHORE MARINE
Fluvial
Marsh
Barrier
Nearshore → Marine
DOLPHIN
BULLSEYE
LOWER N. ASPERUS (D) SURFACE
MSL
Glauconite Zone
Mud
Subsidence Centre (L. N. Asperus)
shift
Subsidence Centre (M. N. Asperus)
GA 82 B SEISMIC
OPERATOR : A.A.P
CONTRACTOR : G.S.I.
PERIOD : JUNE 1982-5 DAYS
LENGTH : 406 KM
EST COST : $526,000
GA 81 LINE
GA 82 B LINE (PROPOSED)
SCALE
0 10 20 Km
1 : 500,000
australian aquitaine petroleum pty ltd.
GIPPSLAND BASIN
Vic / P17
DEPOSITIONAL ENVIRONMENT OF LATE EOCENE (MIDDLE N. ASPERIUS – STAGE 1)
Author K. LY
Date MAY 82'
Dwg No: 20636
Drafted by :
Report No :
Base Plan : 20469
FIG. 6



SALE
147°00'
38°30'
39°00'
GOLDEN BEACH - 1
FLYING FISH - 1
DOLPHIN - 1
PALMER - 1
PERCH - 1
BULLSEYE - 1
BREAM - 3
NANNYGAI - 1
KINGFISH - 3
WEST KINGFISH PLATFORM
EDINA - 1 (Proposed)
GURNARD - 1
PIKE - 1
MORAY - 1
GROPER - 1
GROPER - 2
NOTE : Outer limit of territorial sea is 3 Nautical miles from the base line.
Vacant
Vic / P1
Vic / L7
Vic / L8
Vic / P13
Vic / P17
Vic / P18
ZONE OF MAJOR SUBSIDENCE
BAY / LAGOON
LAGOON EDGE
Projected old surface
Bay / Lagoon
Barrier
Nearshore
Water level
MSL
LOWER N. ASPERUS (D) SURFACE
GA 82 B SEISMIC
OPERATOR : A.A.P
CONTRACTOR : G.S.I.
PERIOD : JUNE 1982 - 5 DAYS
LENGTH : 406 KM
EST COST : $526,000
GA 81 LINE
GA 82 B LINE (PROPOSED)
SCALE
0 10 20 Km
1 : 500,000
australian aquitaine petroleum pty ltd.
GIPPSLAND BASIN
Vic / P17
DEPOSITIONAL ENVIRONMENT OF LATE EOCENE (MIDDLE N. ASPERUS - STAGE 2)
E Middle N. Asperus
D Lower N. Asperus
C P. Asperopolus
B M. Diversus
A L. Balmei
Author : K. LY
Drafted by
Date : MAY 82'
Report No :
Dwg No : 20637
Base Plan : 20469
FIG. 7.
8069160 088

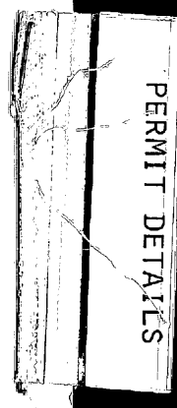

SALE
147°00'
38°30'
39°00'
NOTE : Outer limit of territorial sea is 3 Nautical miles from the base line.
GOLDEN BEACH - 1
FLYING FISH - 1
DOLPHIN - 1
PALMER - 1
PERCH - 1
BULLSEYE - 1
NANNYGAI - 1
KINGFISH - 3
WEST KINGFISH PLATFORM
EDINA - 1
GURNARD - 1
PIKE - 1
MORAY - 1
GROPER - 1
GROPER - 2
DOLPHIN
Bay / Lagoon
Barrier
Nearshore
Land Marsh
Water level
Progradation
MSL
Lagoon fill (Deltaic & shoreface)
LOWER N. ASPERUS (D) SURFACE
Lagoonal mud
Channels
Glaucomite Zone
LAGOON FILL
MARSH
DELTAIC & SHOREFACE
CHANNEL
TIDAL DELTA SAND
BAY / LAGOON
BAY SHORELINE DEPOSITS
INLET
Vacant
Vic / P1
Vic / L7
Vic / L8
Vic / P13
Vic / P17
Vic / P18
Vacant
GA 82 B SEISMIC
OPERATOR : A.A.P
CONTRACTOR : G.S.I.
PERIOD : JUNE 1982 - 5 DAYS
LENGTH : 406 KM
EST COST : $526,000
GA 81 LINE
GA 82 B LINE (PROPOSED)
SCALE
0 10 20 Km
1 : 500,000
australian aquitaine petroleum pty ltd.
GIPPSLAND BASIN
Vic / P17
DEPOSITIONAL ENVIRONMENT OF LATE EOCENE (MIDDLE N. ASPERUS - STAGE 3)
E Middle N. Asperus
D Lower N. Asperus
Author : K. LY
Drafted by
Date : MAY 82'
Report No :
Dwg No : 20638
Base Plan : 20469
FIG. 8
808316 089


SALE
147°00'
GOLDEN BEACH
FLYING FISH
38°30'
39°00'
NOTE : Outer limit of territorial sea is 3 Nautical miles from the base line.
DOLPHIN
Marsh
Barrier
Sea
Progradation
Water Level
M.S.L
Brown Horizon
LOWER N. ASPERUS (D) SURFACE
Brown Horizon
Glauconite Zone
UPLIFT
(Formation of Dolphin Anticline)
Vic/P1
Vacant
MARSH
ZONE OF UPLIFT
DOLPHIN-1
PALMER-1
PERCH-1
CHANNEL
BULLSEYE-1
TIDAL DELTA SAND
Vic/L7
NANNYGAI-1
KINGFISH-3
WEST KINGFISH PLATFORM
EDINA-1 (Proposed)
GURNARD-1
INLET
BAY / LAGOON
BAY SHORELINE DEPOSITS
MARSH
MARSH
Vic/L8
Vic/P13
Vic/P18
PIKE-1
MORAY-1
GA 82 B SEISMIC
OPERATOR : A.A.P
CONTRACTOR : G.S.I.
PERIOD : JUNE 1982-5DAYS
LENGTH : 406 KM
EST COST : $526,000
GA 81 LINE
GA 82 B LINE (PROPOSED)
GROPER-1
GROPER-2
Vic/P17
Vacant
SCALE
0 10 20 Km
1 : 500,000
australian aquitaine petroleum pty ltd.
GIPPSLAND BASIN
Vic/P17
DEPOSITIONAL ENVIRONMENT OF
LATE EOCENE (MIDDLE N. ASPERUS - STAGE 4)
E - Middle N. Asperus
D - Lower N. Asperus
Author : K. LY.
Date : MAY 82'
Dwg No : 20639
Drafted by :
Report No :
Base Plan : 20469
FIG. 9


SALE
147°00'
38°30'
39°00'
GOLDEN BEACH - 1A
FLYING FISH - 1
DOLPHIN - 1
PALMER - 1
PERCH - 1
BREAM - 3
BULLSEYE - 1
EDINA - 1
(Proposed)
GURNARD - 1
NANNYGAI - 1
KINGFISH - 3
WEST KINGFISH PLATFORM
PIKE - 1
MORAY - 1
GROPER - 1
GROPER - 2
TO SHORELINE
TO SHORELINE
Vacant
Vacant
MARINE (SHALLOW)
Vic / P1
Vic / L7
Vic / L8
Vic / P13
Vic / P18
Vic / P17
NOTE : Outer limit of territorial sea is 3 Nautical miles from the base line.
To land
Sea
DOLPHIN
FLYING FISH
MSL
MARINE (SHALLOW)
Brown Horizon
LOWER N. ASPERUS (D) SURFACE
F - UPPER N. ASPERUS
E - MIDDLE N. ASPERUS
D - LOWER N. ASPERUS
GA 82 B SEISMIC
OPERATOR : A.A.P
CONTRACTOR : G.S.I.
PERIOD : JUNE 1982-5 DAYS
LENGTH : 406 KM
EST COST : $526,000
GA 81 LINE
GA 82 B LINE (PROPOSED)
SCALE
0 10 20 Km
1 : 500,000
australian aquitaine
petroleum pty ltd.
GIPPSLAND BASIN
Vic / P17
DEPOSITIONAL ENVIRONMENT OF
LATE EOCENE – OLIGOCENE
(UPPER N. ASPERUS)
Author : K. LY.
Drafted by :
Date : MAY 82'
Report No :
Dwg No : 20640
Base Plan : 20469
FIG. 10
80631G 091

806916 092

Permit Details



VIC/P17

BASIN: Gippsland (Late Cretaceous-Eocene objectives)

PERMIT TERM: 2.9.1981-1.9.1987 with automatic rights of renewal for additional five year terms with reduction in area by 50% at each term.

AREA: 3250 km² (54 blocks) 13 part blocks and 41 full blocks).

COMMITMENTS:

Year 1	$9,713,280	(3902 km seismic)
Year 2	$	(6 wells)
Year 3	$21,000,000	(1000 km seismic and 4 wells)
Year 4	$ 5,000,000	(seismic as required and 1 well)
Year 5	$22,000,000	(seismic as required and 4 wells)
Year 6	$22,000,000	(seismic as required and 4 wells)

PERMIT HOLDERS:

Australian Aquitaine Petroleum Pty Limited (Operator)	25%
Australian Occidental Pty Limited	25%
Alliance Resources Pty Limited	25%
Agex Pty Limited (subsidiary of AGL)	12.5%
Consolidated Petroleum Australia NL	12.5%

ROYALTIES: 10-12% to Australian/Victorian Government depending on type of production.

1981 PROGRAM AND EVENTS: Applications for areas known as V80-1 and V80-2 were lodged on 16th March 1981.

Application for area V80-1 was successful and offer to grant permit was received from Victorian Mines Department on 2nd July 1981.

Offer was accepted and permit was granted on 2nd September 1981 as permit VIC/P17 for period of six years.

GA-81 seismic survey commenced on 1st November 1981 and was completed on 22nd November 1981. A further survey, GA-82B commenced on 15th June 1982 and was completed on 20th June 1982. A total of 3902 line kilometres of seismic were shot over the two surveys. Drilling of the year 1 commitment wells was carried out to year 2 due to rig availability.

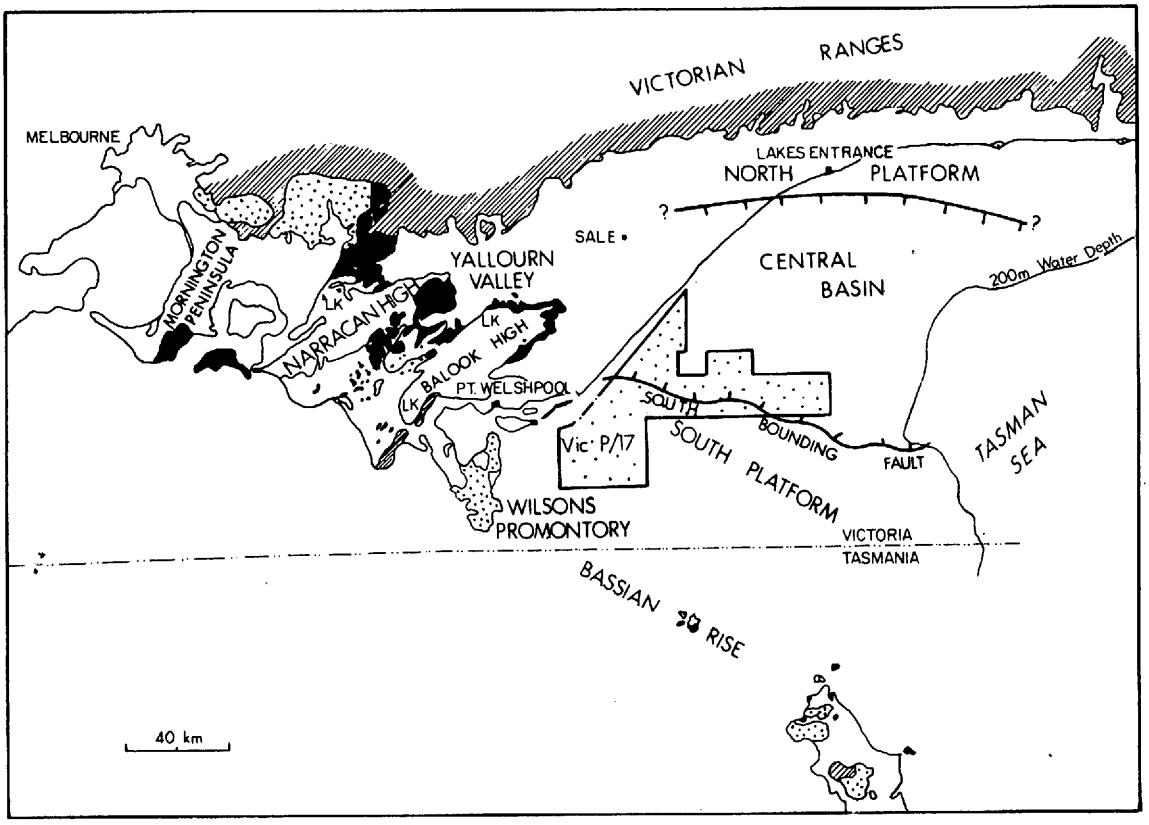
ECONOMICS VIC/P17 POSSIBLE OIL DISCOVERY

We have carried out a study of the economics of a possible oil discovery in VIC/P17. The details and conclusions are in Nick Papalia's economic report. A very brief summary of the 20 million barrel minimum base case is:

- At current Australian crude oil prices ($34.46 per barrel) with 70% borrowed development funds, the after-tax R.O.I. is 47.4%.
- Total investment: $113 million.
- To achieve a 25% after-tax R.O.I. with 30% equity, crude oil prices need to be $25.16 per barrel.
- There is a cumulative positive cash flow of $8 million in 1988 - the second year of production.
- Loans are assumed to be repaid over five years at 18% interest.
- Total cumulative cash flow is $200 million.
- Obviously, any increase in recoverable reserves or incremental fields of 10 million barrels or more, only enhance the overall results.

MEMO: BB:bf - 19.07.1982

806916 095



LEGEND

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

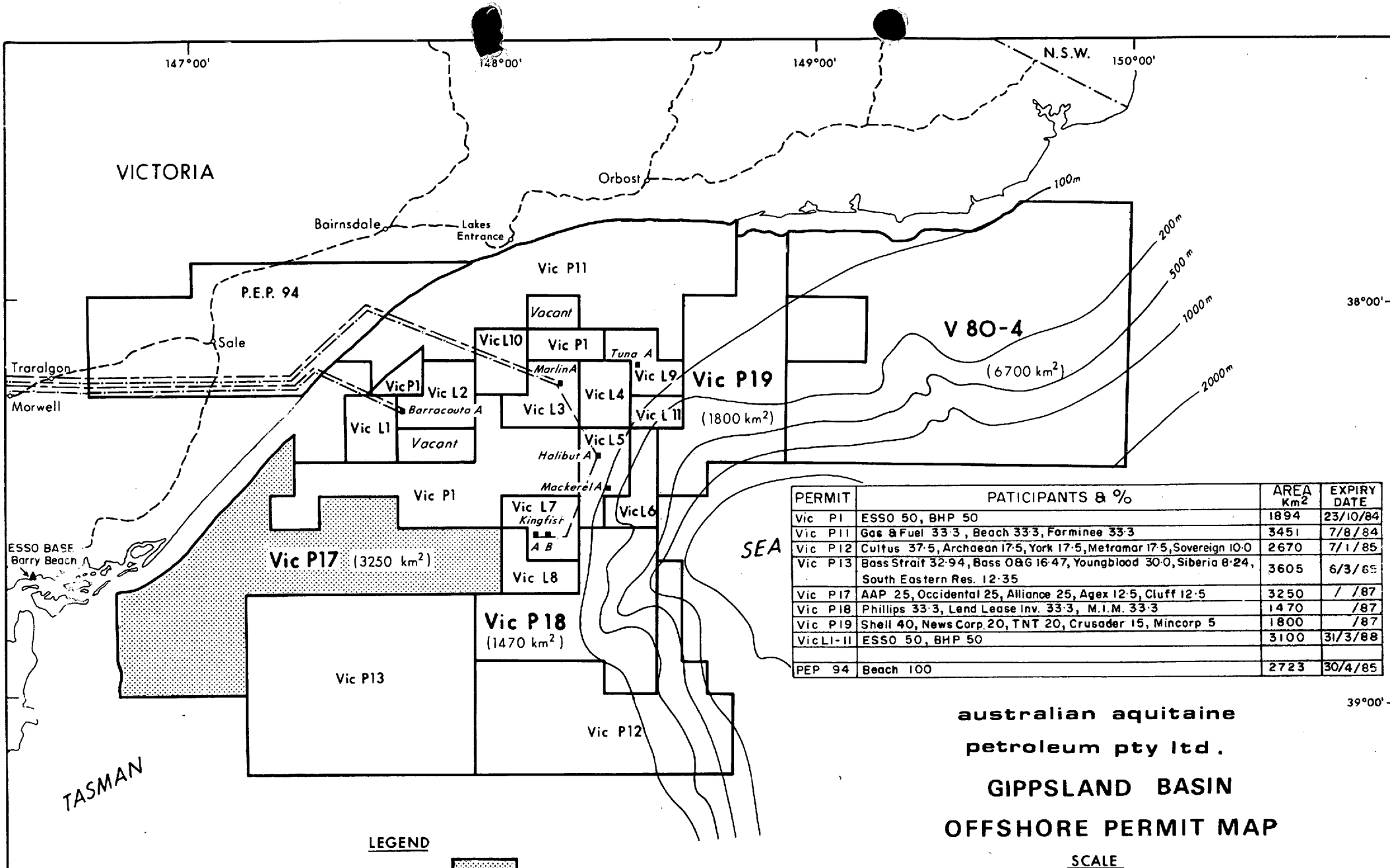
australian aquitaine petroleum pty. ltd.

GIPPSLAND BASIN

Vic P/17

LOCATION MAP

Author: KIM LY	Date DECEMBER 1981	Dwg No 19944	FIG. 2A
Drafted by: D H	Report No	Base Plan	



PERMIT	PATICIPANTS & %	AREA Km²	EXPIRY DATE
Vic P1	ESSO 50, BHP 50	1894	23/10/84
Vic P11	Gas & Fuel 33·3, Beach 33·3, Farminee 33·3	3451	7/8/84
Vic P12	Cultus 37·5, Archaean 17·5, York 17·5, Metramar 17·5, Sovereign 10·0	2670	7/1/85
Vic P13	Bass Strait 32·94, Bass O&G 16·47, Youngblood 30·0, Siberia 8·24, South Eastern Res. 12·35	3605	6/3/85
Vic P17	AAP 25, Occidental 25, Alliance 25, Agex 12·5, Cluff 12·5	3250	/ /87
Vic P18	Phillips 33·3, Lend Lease Inv. 33·3, M.I.M. 33·3	1470	/87
Vic P19	Shell 40, News Corp 20, TNT 20, Crusader 15, Mincorp 5	1800	/87
Vic L1-11	ESSO 50, BHP 50	3100	31/3/88
PEP 94	Beach 100	2723	30/4/85

LEGEND

A.A.P. Permit .....
Gas Pipeline .....
Oil Pipeline .....
Water Depth 200m

australian aquitaine petroleum pty ltd.

GIPPSLAND BASIN OFFSHORE PERMIT MAP

SCALE

Km 15 10 5 0 15 30 45 60 Km

Author: C. ALLIOT	Date: FEBRUARY 1981	Dwg. No.: 19434	FIG. 1
Drafted by: J.H.	Report No.:	Base Plan: 18542	

Work Programmes

VIC/P17 (EX V80-1)

PROPOSED YEAR 1 PROGRAMME AND BUDGET

		A$000's MINIMUM	MAXIMUM
A.	SEISMIC 3400 KM PROCESSING, INTERPRETATION, ETC.	3,500	3,500
B.	DRILLING - TWO WELLS AT 45 DAYS PER WELL, INCLUDING MOB.	10,080	16,000
C.	TUBULARS - FOUR WELLS IN YEAR 2	2,400	2,400
D.	DRILLPIPE AND TUBING FOR TESTING	600	600
E.	WHARF FACILITIES	500	1,000
F.	BASE, STOCK CONTROL, MAINTENANCE, TRANSPORT, ETC.	750	750
G.	WEATHER STUDY	—	10
H.	DATA PURCHASE, GENERAL GEOLOGY	75	75
		17,905	24,335
I.	OVERHEADS	508	637
		18,413	24,972

N O T E

1. Costs are in 1980 dollars.

2. Minimum well cost based on using the "Glomar Grand Isle", dry hole 33 days including 3 days W.O.W. Maximum well cost based on using the "Ocean Digger", 45 days drilling and testing, including 4 days W.O.W.

3. Minimum wharf facilities cost based on $3,000,000 split six ways, maximum $3,000,000 split three ways.

4. Items A, B, G and H relate directly to commitments as in the application. The remaining items are predominantly "once only" expenses.

DEPARTMENT OF MINERALS AND ENERGY

806916 099

Our Ref. IF/ML
Your Ref.
Contact
Ext. 333

14 September 1982

Copy letter to:
1) CL
2) BE

Mr. R. Laws
Exploration Manager
Australian Aquitaine Petroleum Pty Ltd
Box 725 PO
NORTH SYDNEY NSW 2060

Dear Sir

With reference to your letter of September 7, 1982, submitting the work programme for the second year of VIC/P17, you are advised that Designated Authority consent has been granted to your 2-9-1982 to 1-9-1983 programme.

Yours faithfully

R. F. Hudson
ACTING DIRECTOR
OIL & GAS DIVISION

806916 100

VIC/P17

PROPOSED YEAR 2 PROGRAMME AND BUDGET

2ND SEPTEMBER 1982 - 1ST SEPTEMBER 1983

Budget costs for main expenditure items during the second permit year are detailed below. These estimated costs are provisional as well locations and total depths have not yet been established.

A.	SEISMIC, 1000 KM; PROCESSING, INTERPRETATION, (PROVISIONAL)	A$ 150
B.	DRILLING (6 WELLS INCLUDING MOB/DEMOB., EXCLUDING TUBULARS)	52,300
C.	BASE, STOCK MAINTENANCE, STOCK CONTROL OUTSIDE DRILLING PERIOD	60
D.	TUBULARS FOR YEAR 3 - (4 WELLS)	2,000
E.	GEOPHYSICAL REVIEW	180
F.	GEOLOGICAL REVIEW	110
G.	PALYNOLOGY, ECONOMIC, ETC. STUDIES	50
H.	OVERHEADS	1,207
		A$56,057

806916 101

Expendature on AFE's

VIC/P17

YEAR 1 ANNUAL EXPENDITURE STATEMENT

2ND SEPTEMBER 1981 TO 1ST SEPTEMBER 1982

ADMINISTRATION AND OVERHEADS	A$ 495,328
SEISMIC SURVEYS	
GA-81	2,751,535
GA-82B	294,154
STUDIES	
Geological Studies	109,156
Weather Studies	12,018
DRILLING OPERATIONS	
Edina No. 1	989,561
Omeo No. 1	73,749
Wharf Facilities	259,173
Port Welshpool Base Costs	487,561
Drillpipe] 6 wells	86,802
Tubulars]	4,154,243
YEAR 1 EXPENDITURE	A$9,713,280

The above costs are for invoices paid to permit year end, not costs incurred.

806916 102

VIC/P17

YEAR 1 - ANNUAL EXPENDITURE REPORT

2ND SEPTEMBER 1981 TO 1ST SEPTEMBER 1982

AFE	DECEMBER 1981	AUGUST 1982	TOTAL
307 300 AAP/SNEA(P)	144,733	15,931	160,664
307 200 GA-81 SEISMIC	2,388,303	363,232	2,751,535
307 201 GA-82B SEISMIC		294,154	294,154
307 300 GEOLOGY STUDIES	10,985	98,171	109,156
307 401 EDINA NO. 1	101,963	887,598	989,561
307 501 OMEO NO. 1		73,749	73,749
307 700 PORT WELSHPOOL	30,586	457,078	487,664
307 701 V80-1	14,262		14,262
307 702 V80-2	604		604
307 703 WEATHER STUDIES	5,667	6,351	12,018
307 705 WHARF FACILITIES	42,340	216,833	259,173
307 706 DRILLPIPE		86,802	86,802
307 707 TUBULARS		4,115,524	4,115,524
307 708 TUBULAR PURCHASE		38,719	38,719
			9,393,585
		OVERHEADS	334,664
			9,728,249

VIC/P17

YEAR 1 ANNUAL EXPENDITURE STATEMENT

2ND SEPTEMBER 1981 TO 1ST SEPTEMBER 1982

ADMINISTRATION AND OVERHEADS	A$ 495,328
SEISMIC SURVEYS	
GA-81	2,751,535
GA-82B	294,154
STUDIES	
Geological Studies	109,156
Weather Studies	12,018
DRILLING OPERATIONS	
Edina No. 1	989,561
Omeo No. 1	73,749
Wharf Facilities	259,173
Port Welshpool Base Costs	487,561
Drillpipe] 6 wells	86,802
Tubulars]	4,154,243
YEAR 1 EXPENDITURE	A$9,713,280

The above costs are for invoices paid to permit year end, not costs incurred.

Geophysics

806316 105

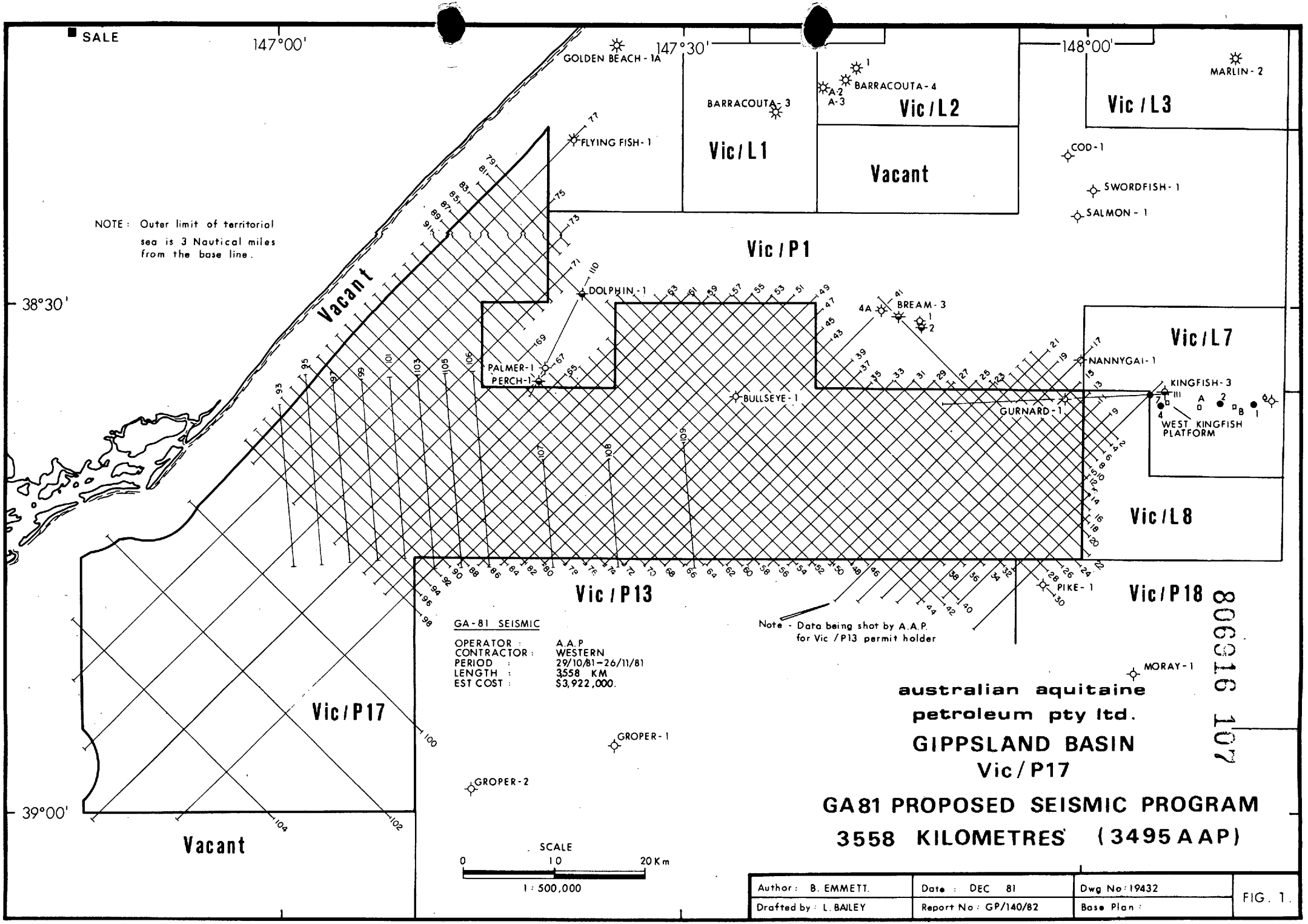
GA81 Seismic Survey

GA81 SEISMIC SURVEY COST SUMMARY

All costs in $A x 1000

PROJECT	COST TO 31.3.82	ESTIMATED ADDITIONAL COSTS TO 16.4.82	TOTAL COST TO 16.4.82	AFE 1.11.81 TO 1.9.82	BALANCE	STATUS
Mobilization M.V. Western Odyssey	174	-	174	180	+6	Final
Navigation	28	20	48	50	+2	Final
Recording (main cable)	1,614	-	1,614	1,545	-69	Final
Recording (mini cable)	97	-	97	92	-5	Final
Tape drops	7	-	7	15	+8	Final
Standby contingency	44	-	44	110	+66	Final
Processing (main cable)	309	100	409	969	+560	Continuing
Processing (mini cable)	-	-	-	184	+184	Continuing
Photographic/reproduction costs	11	30	41	59	+18	Continuing
Freight	1	20	21	23	+2	Continuing
Reprocessing contingency	-	30	30	120	+90	Continuing
Special processing contingency	-	-	-	60	+60	Continuing
Computer Services	-	65	65	80	+15	Continuing
BEA(P) technical assistance	-	29	29	30	+1	Continuing
Geophysical consultant	12	6	18	30	+12	Continuing
Salaries - geology, geophysics, printing, drafting	59	25	84	205	+121	Continuing
Overheads	121	11	132	170	+38	Continuing
TOTAL	2,477	336	2,813	3,922	1,109	

B.D. Emmett
15.4.1982


SALE
147°00'
147°30'
148°00'
38°30'
39°00'
GOLDEN BEACH - 1A
BARRACOUTA - 3
BARRACOUTA - 4
A-2
A-3
MARLIN - 2
COD - 1
SWORDFISH - 1
SALMON - 1
FLYING FISH - 1
Vic / L1
Vic / L2
Vic / L3
Vacant
NOTE : Outer limit of territorial sea is 3 Nautical miles from the base line.
Vic / P1
Vacant
DOLPHIN - 1
4A
BREAM - 3
Vic / L7
NANNYGAI - 1
KINGFISH - 3
WEST KINGFISH PLATFORM
PALMER - 1
PERCH - 1
BULLSEYE - 1
GURNARD - 1
Vic / L8
Vic / P13
PIKE - 1
Vic / P18
Note - Data being shot by A.A.P. for Vic / P13 permit holder
GA - 81 SEISMIC
OPERATOR : A.A.P
CONTRACTOR : WESTERN
PERIOD : 29/10/81 - 26/11/81
LENGTH : 3558 KM
EST COST : $3,922,000.
MORAY - 1
Vic / P17
GROPER - 1
GROPER - 2
Vacant
SCALE
0 10 20 Km
1 : 500,000
australian aquitaine petroleum pty ltd.
GIPPSLAND BASIN
Vic / P17
GA81 PROPOSED SEISMIC PROGRAM
3558 KILOMETRES (3495 AAP)
Author : B. EMMETT.
Date : DEC 81
Dwg No : 19432
Drafted by : L. BAILEY
Report No : GP/140/82
Base Plan :
FIG. 1.
806916 107

806916 108

GA 8 2B Seismic Survey

806916 109

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

Elf Aquitaine Centre, 99 Mount Street, North Sydney, N.S.W. 2060

All Communications to: Box 725 P.O., North Sydney, N.S.W. 2060, Australia.

Our ref: 5471:31:BE:efm

Your ref:

Cables: PETRAKI
Telex: AA 26684
Telephone: (02) 922-3499
DX 10512 North Sydney

28th May 1982

Agex Pty Limited,
16th Level, AGL Building,
111 Pacific Highway,
NORTH SYDNEY NSW 2060

Attention: Mr P. Taylor

Cluff Oil (Aust.) NL,
17th Level, AGL Building,
111 Pacific Highway,
NORTH SYDNEY NSW 2060

Attention: Mr S. Nasr

Alliance Resources Pty Ltd,
15th Level, Collins Tower,
35 Collins Street,
MELBOURNE VIC 3000

Attention: Mr M. Cadart

Australian Occidental Pty Ltd,
66 Berry Street,
NORTH SYDNEY NSW 2060

Attention: Mr R. Elliott

Gentlemen,

PROPOSED GA82B SEISMIC SURVEY

Please find attached maps at A4 and 1:100,000 scales showing line locations for our proposed GA82B seismic survey. Recording of the 406 km survey with the GSI vessel Eugene McDermott II is scheduled to begin mid-June and should take about five days to complete.

A copy of the AFE for the survey is attached for your signature and return. This represents a cost of about $1,300/km compared to a projected cost of about $1,100/km for the GA81 survey. The difference in unit cost results essentially from increased 1982 acquisition costs and the lack of economies of scale that were obtained in the GA81 survey. It should be noted that we have budgeted for one day of standby. The survey is not really large enough to absorb excessive downtime and in this event cost over-run could occur.

Yours faithfully,
AUSTRALIAN AQUITAINE PETROLEUM PTY LTD

R. LAWS
Exploration Manager

Encls.

authorisation for expenditure (a.f.e.)

No. 307 201
Date 19.5.1982

806916 110

Permit No. VIC/P17
Area Description GIPPSLAND BASIN, VICTORIA
Name of project GA82B SEISMIC SURVEY
Details ALL COSTS OF RECORDING, PROCESSING AND INTERPRETING 406KM OF MARINE SEISMIC DATA.

Estimated starting date 15.6.1982
Estimated completion date 31.12.1982
Permit year dates from 2.9.1981 to 2.9.1982

ESTIMATED COSTS (Summary)

Nature	Designation		Amount A $
	Direct Costs – EXTERNAL		
	(ANALYSIS OVER PAGE)		468,000
	Direct Costs – INTERNAL		
	Labour	Geology	
	✓	Geophysics	15,000
	✓	Operations	
	✓	Print/Draft	4,000
	✓	Contracts	
		Subtotal direct costs	487,000
OVERHEADS 8%			39,000
		Subtotal indirect costs	39,000
		TOTAL COSTS	526,000

Forecast of Payments

Month	Amount A $	Currency of Payment
TOTAL		

ACCOUNTS USE ONLY

DATES RECORDED:–

BUDGET ../../..

EDP ../../..

CHART OF ACCOUNTS ../../..

Participants (Operator underlined)

Company	% Contrib	% Equity	Amount	Comments
AQUITAINE	25.0	25.0	131,500	
AUSTRALIAN OCCIDENTAL	25.0	25.0	131,500	
ALLIANCE RESOURCES	25.0	25.0	131,500	
AGEX PTY LIMITED	12.5	12.5	65,750	
CLUFF OIL (AUST.)	12.5	12.5	65,750	
TOTALS	100	100	526,000	

Officer in charge of project	Exploration Manager	Finance Manager	Managing Director
Name: B.D. EMMETT			

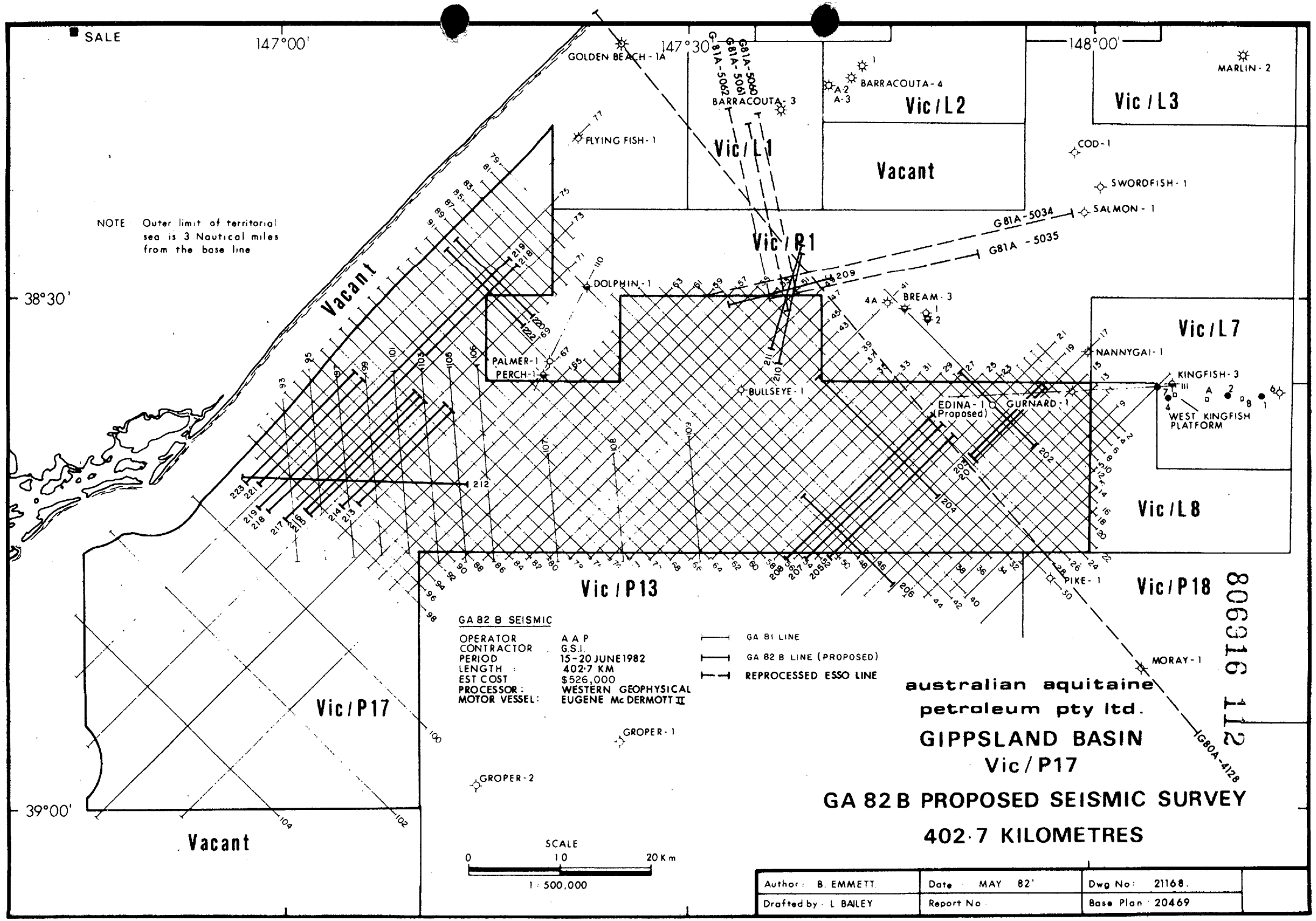
JOINT PARTICIPANT APPROVAL

Company _____ Date _____

Estimated Cost (Detail)

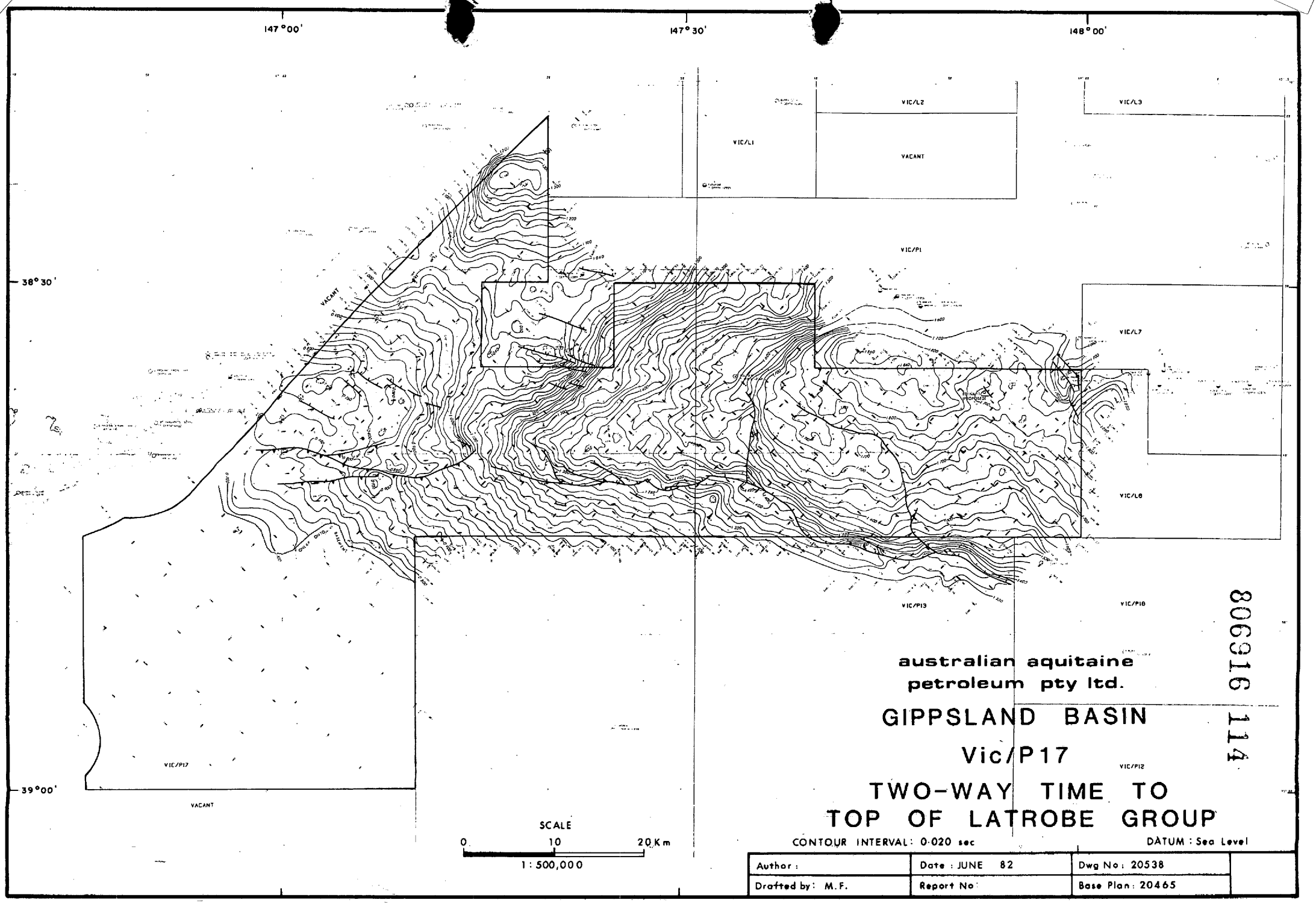
806916 111

Natures	Designation	Amount A S
655 050	MOBILIZATION M.V. EUGENE McDERMOTT II	50,000
650 150	NAVIGATION	6,000
655 020	SEISMIC RECORDING	228,000
655 020	STANDBY CONTINGENCY	38,000
655 030	PROCESSING	100,000
632 310	PHOTOGRAPHIC/REPRODUCTION COSTS	11,000
643 010	FREIGHT	5,000
637 590	COMPUTER SERVICES	30,000


SALE
147°00'
147°30'
148°00'
38°30'
39°00'
GOLDEN BEACH - 1A
G81A-5062
G81A-5061
G81A-5060
BARRACOUTA - 3
BARRACOUTA - 4
A2
A3
Vic/L2
Vic/L3
MARLIN - 2
FLYING FISH - 1
Vic/L1
Vacant
COD - 1
SWORDFISH - 1
SALMON - 1
G81A-5034
G81A - 5035
NOTE Outer limit of territorial sea is 3 Nautical miles from the base line
Vic/P1
DOLPHIN - 1
BREAM - 3
Vic/L7
NANNYGAI - 1
KINGFISH - 3
WEST KINGFISH PLATFORM
PALMER - 1
PERCH - 1
BULLSEYE - 1
EDINA - 1 (Proposed)
GURNARD - 1
Vic/L8
Vic/P13
PIKE - 1
Vic/P18
MORAY - 1
G80A-4128
Vic/P17
GROPER - 1
GROPER - 2
Vacant
GA 82 B SEISMIC
OPERATOR AAP
CONTRACTOR G.S.I.
PERIOD 15-20 JUNE 1982
LENGTH 402·7 KM
EST COST $526,000
PROCESSOR: WESTERN GEOPHYSICAL
MOTOR VESSEL: EUGENE Mc DERMOTT II
GA 81 LINE
GA 82 B LINE (PROPOSED)
REPROCESSED ESSO LINE
SCALE
0 10 20 Km
1 : 500,000
australian aquitaine petroleum pty ltd.
GIPPSLAND BASIN
Vic/P17
GA 82 B PROPOSED SEISMIC SURVEY
402·7 KILOMETRES
Author: B. EMMETT
Date: MAY 82'
Dwg No: 21168.
Drafted by: L BAILEY
Report No:
Base Plan: 20469

806316 112

Seismic Maps



australian aquitaine petroleum pty ltd.

GIPPSLAND BASIN

Vic/P17

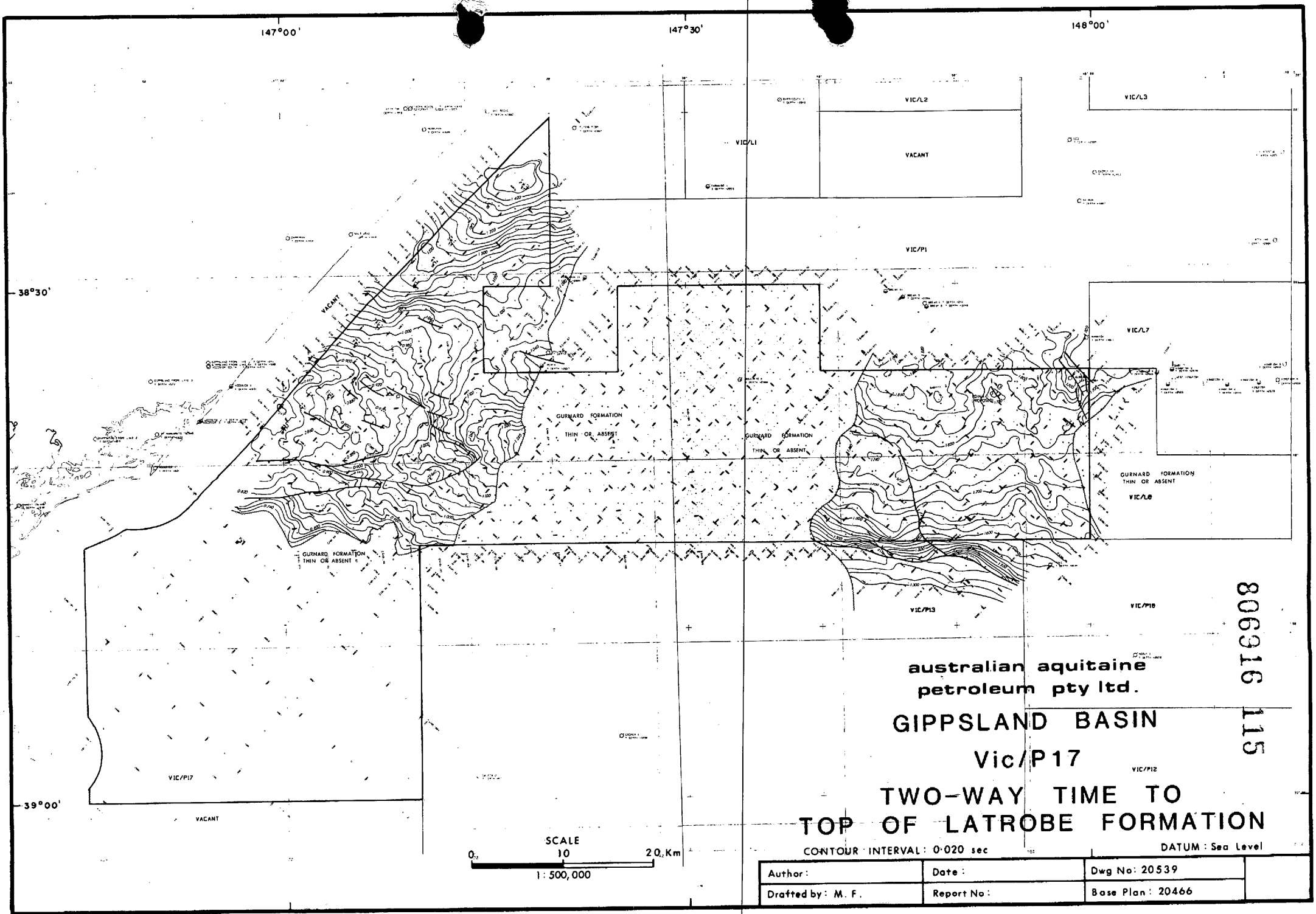
TWO-WAY TIME TO TOP OF LATROBE GROUP

CONTOUR INTERVAL: 0·020 sec

DATUM : Sea Level

Author :	Date : JUNE 82	Dwg No : 20538
Drafted by : M.F.	Report No :	Base Plan : 20465

806316 114



australian aquitaine petroleum pty ltd.

GIPPSLAND BASIN

Vic/P17

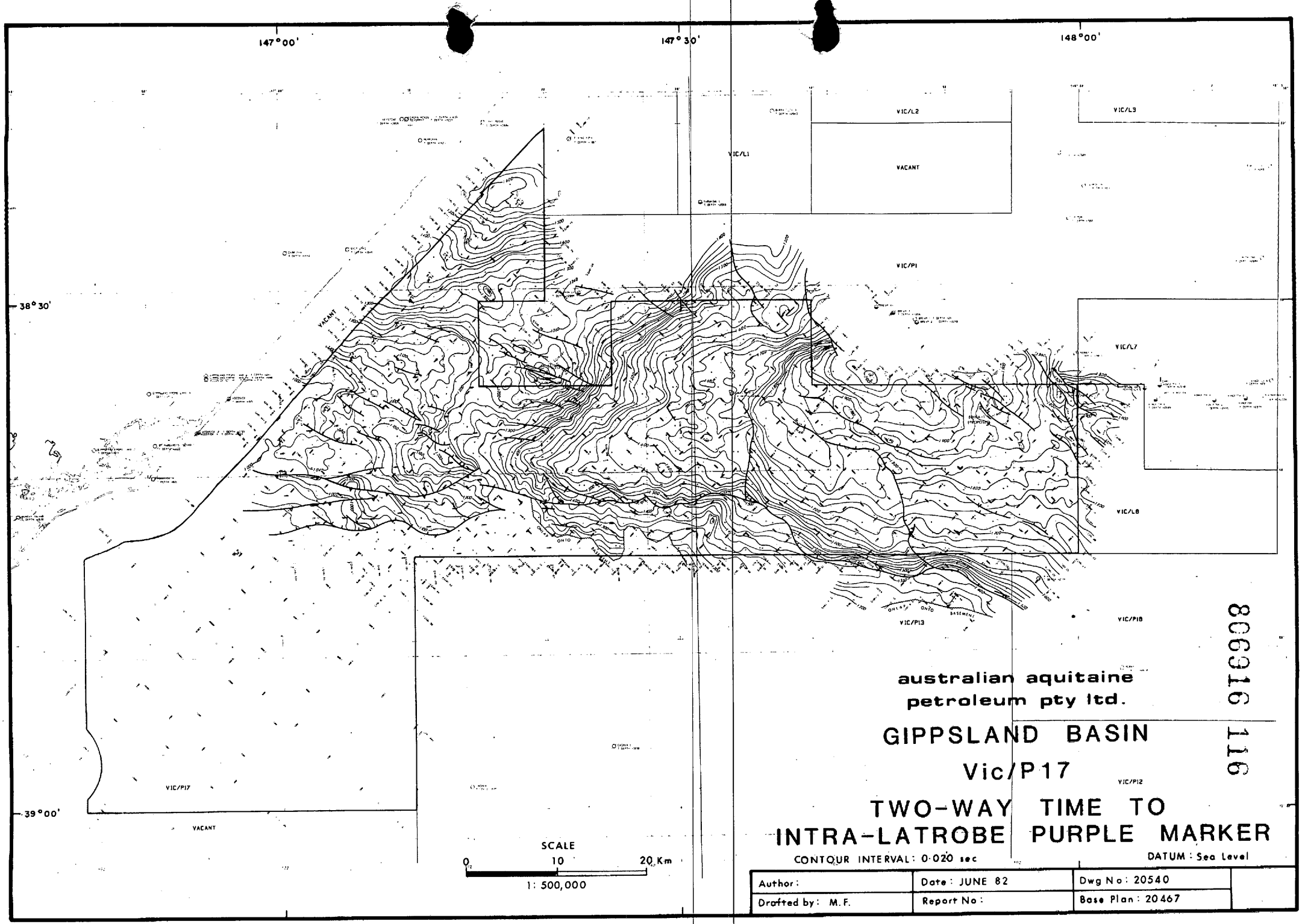
TWO-WAY TIME TO TOP OF LATROBE FORMATION

CONTOUR INTERVAL : 0·020 sec

DATUM : Sea Level

Author :	Date :	Dwg No: 20539
Drafted by : M. F.	Report No :	Base Plan : 20466

806916 115



australian aquitaine
petroleum pty ltd.

GIPPSLAND BASIN

Vic/P17

TWO-WAY TIME TO INTRA-LATROBE PURPLE MARKER

CONTOUR INTERVAL: 0·020 sec

DATUM: Sea Level

Author:	Date: JUNE 82	Dwg No: 20540
Drafted by: M.F.	Report No:	Base Plan: 20467

Geology

Special Geological Studies

authorisation for expenditure (a.f.e.)

No. 806916 119

Date 2.11.1981

Permit No. VIC/P17 Area Description GIPPSLAND BASIN, VICTORIA

Name of project GEOLOGICAL STUDIES

Details ALL COSTS OF DATA PURCHASE PALYNOLOGICAL REVIEW, ETC.

Estimated starting date 2.9.1981 Estimated completion date 11.9.1982

Permit year dates from 2.9.1981 to 1.9.1982

ESTIMATED COSTS (Summary)

Nature	Designation		Amount A $
	Direct Costs – EXTERNAL		
	DATA PURCHSE ETC		$15,000
	PALYNOLOGICAL REVIEW		$25,000
	Direct Costs – INTERNAL		
	Labour	Geology	$35,000
	✓	Geophysics	
	✓	Operations	
	✓	Print/Draft	
	✓	Contracts	
		Subtotal direct costs	$75,000
	OVERHEADS 4%		3,000
		Subtotal indirect costs	
		TOTAL COSTS	$78,000

Forecast of Payments

Month	Amount A $	Currency of Payment
TOTAL		

ACCOUNTS USE ONLY

DATES RECORDED:–

BUDGET / /

EDP / /

CHART OF ACCOUNTS / /

Participants (Operator underlined)

Company	% Contrib	% Equity	Amount	Comments
AQUITAINE	25.0	25.0	$19,500	
AUSTRALIAN OCCIDENTAL	25.0	25.0	$19,500	
ALLIANCE RESOURCES	25.0	25.0	$19,500	BUDGET LINE 3073
AGEX PTY LIMITED	12.5	12.5	$9,750	
CLUFF OIL (AUST) NL	12.5	12.5	$9,750	
TOTALS	100	100	$78,000	

Officer in charge of project	Exploration Manager	Finance Manager	Managing Director
Name: R. LAWS			

JOINT PARTICIPANT APPROVAL

Company _____ Date _____

Authorised signature _____

806916 120

LOG DIGITISATION

WELLS FOR WHICH DIGITISED LOGS ARE HELD

WELLS DIGITISED BY DIGIMAP:

Barracouta 1 and 3
Bream 3
Bullseye 1
Dolphin 1
Flying Fish 1
Gurnard 1
Kingfish 7
Nannygai 1
Perch 1
Pike 1
Snapper 1

WELLS RECEIVED FROM SHELL:

Albacore 1
Batfish 1
Bonita 1A
Flounder 1 and 5
Fortescue 2
Halibut 1
Hapuku 1
Kingfish 1, 2, 3, 4, 5 and 6
Mackeral 1 and 4
Marlin 1
Moray 1
Morwong 1
Opah 1
Stonefish 1
Sunfish 1
Threadfin 1
Tuna 1 and 2
Turrum 1

PALYNOLOGY

GIPPSLAND BASIN: PALYNOLOGICAL STUDY

BY W.K. HARRIS*

DATE OF PROVISIONAL RESULTS

19.10.1981 - Beginning of study.

23.12.1981

Pike 1
Moray 1

5.3.1982

Snapper 1
Turrum 1
Nannygai 1
Hapuku 1

17.3.1982

Gurnard 1
Bream 3

26.3.1982

Bullseye 1
Kingfish 6

1.4.1982

Bonita 1
Albacore 1

16.4.1982

Barracouta 1

22.4.1982

Perch 1
Dolphin 1

10.5.1982

Flounder 1

24.6.1982

Visit by Mr W. Harris

8.6.1982

Mackerel 1
Tuna 1

9.6.1982

Add to Gurnard 1 and Bream 3

16.6.1982

Threadfin 1
Stonefish 1

24.6.1982

Kingfish 7
Opah 1

SEPTEMBER 1982: End of first part of study.

*Consultant from Western Mining Corporation, Adelaide.

C. LAMBERT

OCTOBER 1982

PALYNOLOGY
BY W. HARRIS

ALBARCORE NO. 1 WELL

8250	SWC 37	N. ASPERUS/P. TUBERCULATUS	MARINE
8285	SWC 36	INDETERMINATE	-
9164	SWC 25	L. BALMEI	MARG. MARINE
9196	SWC 23	L. BALMEI	MARG. MARINE
9422	SWC 21	L. BALMEI/T. LONGUS	NON-MARINE
9610	SWC 19	?T. LONGUS	NON-MARINE
9700	SWC 18	?T. LONGUS	NON-MARINE
9734	SWC 17	T. LONGUS	NON-MARINE
9780	SWC 16	INDETERMINATE	-
9928	SWC 15	T. LONGUS	NON-MARINE
9956	SWC 14	T. LONGUS	NON-MARINE
10020	SWC 13	BARREN	-
10081	SWC 12	INDETERMINATE	-
10119	SWC 11	T. LILLIEI/T. LONGUS	NON-MARINE
10174	SWC 10	?T. LILLIEI	NON-MARINE
10224	SWC 9	?T. LILLIEI	NON-MARINE
10324	SWC 7	INDETERMINATE	-
10405	SWC 6	INDETERMINATE	-
10480	SWC 5	INDETERMINATE	-
10532	SWC 4	NO OLDER THAN T. LILLIEI	NON MARINE
10574	SWC 3	INDETERMINATE	-

IN THIS WELL THE ASSEMBLAGES WERE HIGHLY DEGRADED AND SLIDES OF SEVERAL SAMPLES HAD DRIED OUT.

BARRACOUTA NO. 1 WELL

2024 ft	CORE 2	?P. TUBERCULATUS	MARINE
2326-2348	CORE 4	P. TUBERCULATUS	MARINE
3342-3385.5	CORE 8	?N. ASPERUS	MARG. MARINE
3513	CORE 9	LATE N. ASPERUS	MARG. MARINE
5256-5274	CORE 13	?N. ASPERUS	NON-MARINE
5663	CORE 14	L. BALMEI	NON-MARINE
5679	CORE 14	INDET	-
6124-6126	CORE 15	L. BALMEI	NON-MARINE
6450-6452	CORE 16	L. BALMEI	NON-MARINE
6749	CORE 17	L. BALMEI	NON-MARINE
7251	CORE 18	L. BALMEI	NON-MARINE
7708-7711	CORE 19A	T. LONGUS	NON-MARINE
7722	CORE 19	T. LONGUS	NON-MARINE
8679	CORE 20	?T. LILLIEI	NON-MARINE
8700	CORE 21	T. LILLIEI	NON-MARINE

BONITA NO. 1 WELL

8022 ft	SWC 34	W. HYPERACANTHA	MARINE
8046	SWC 33	M. DIVERSUS	MARG. MARINE
8107	SWC 32	?M. DIVERSUS	MARG. MARINE
8146	SWC 31	L.M. DIVERSUS	MARINE
8208	SWC 30	L. BALMEI	MARG. MARINE
8278	SWC 29	U.L. BALMEI	MARG. MARINE
8365	SWC 28	U.L. BALMEI	MARINE
8814	SWC 24	L. BALMEI	NON-MARINE
9478	SWC 18	?L. BALMEI	NON-MARINE
9502	SWC 16	?L. BALMEI	MARG. MARINE

BONITA NO. 1 WELL (cont.)

9612	SWC 14	L.L. BALMEI	NON-MARINE
9703	SWC 13	?L. BALMEI	NON-MARINE
9833	SWC 12	T. LONGUS	MARG. MARINE
9986	SWC 11	T. LONGUS	NON-MARINE
10269	SWC 5	T. LONGUS	NON-MARINE

BREAM NO. 3 WELL

6215	SWC 13	M. DIVERSUS	MARG. MARINE
6365	SWC 10	M. DIVERSUS	MARG. MARINE
6447	SWC 4	M. DIVERSUS	MARG. MARINE
6547	SWC 3	INDET	-
6628	SWC 2	BARREN	-
6700	SWC 1	INDET	-
9255	SWC 10	NO YOUNGER L. BALMEI	?NON-MARINE
9578	SWC 8	NO YOUNGER L. BALMEI	?NON-MARINE
9606	SWC 7	NO YOUNGER L. BALMEI	?NON-MARINE
9873	SWC 6	BARREN	-
10068	SWC 5	NO YOUNGER L. BALMEI	?NON-MARINE
10322	SWC 4	T. LILLIEI	NON-MARINE
10365	SWC 3	T. LILLIEI	NON-MARINE
10665	SWC 2	?T. LILLIEI	?NON-MARINE
10852	CORE	NO OLDER N. SENECTUS	?NON-MARINE

THE PREVIOUS ASSIGNMENT OF THE M. DIVERSUS ZONE FOR THE TOP THREE SAMPLES IN BREAM 3, 6215, 6365 AND 6447 FT HAS BEEN QUESTIONED. THE ASSIGNMENT WAS BASED ON THE PRESENCE OF THE DINOFLAGELLATES DIPHYES COLLIGERUM AND DEFLANDREA FLOUNDERENIS. SPORE/POLLEN ASSEMBLAGES FROM THESE SAMPLES WERE VERY SPARSE AND NOT VERY DIAGNOSTIC. IN THE GIPPSLAND BASIN THE TWO NAMED DINOFLAGELLATES DO NOT EXTEND ABOVE THE M. DIVERSUS ZONE ALTHOUGH THE FORMER DOES RANGE INTO THE LATEST EOCENE ELSEWHERE IN SOUTHERN AUSTRALIA. IT IS ALSO A POSSIBILITY THAT THERE HAS BEEN SIGNIFICANT REWORKING INTO THE N. ASPERUS ZONE. I WILL ATTEMPT TO RESOLVED THIS PROBLEM BY WORKING THE SLIDES IN MORE DETAIL.

THE TOP THREE SIDEWALL CORES VIZ. SWC 13 AT 6215 FT, SWC 10 AT 6365 FT AND SWC 4 AT 6447 FT WERE OF SOME CONCERN.

I CAN FIND NO EVIDENCE THAT THEY ARE YOUNGER THAN P. ASPEROPOLUS (THEY WERE PREVIOUSLY ASSIGNED TO M. DIVERSUS). THE DINOFLAGELLATES THOUGH RARE HAVE NOT BEEN RECORDED IN YOUNGER UNITS IN GIPPSLAND. THE SPORE/POLLEN ASSEMBLAGES ARE NOT QUITE AS DEFINITIVE BUT ARE NOT INCONSISTENT WITH M. DIVERSUS OR P. ASPEROPOLUS ASSEMBLAGES.

BULLSEYE NO. 1 WELL

6700 FT	SWC 23	U.N. ASPERUS	MARINE
6820	SWC 21	U.N. ASPERUS	MARINE
6860	SWC 20	M.N. ASPERUS	MARINE
6950	SWC 18	M.N. ASPERUS	MARG. MARINE
7000	SWC 17	M.N. ASPERUS	MARG. MARINE
7029	SWC 16	M.N. ASPERUS	MARG. MARINE
7049	SWC 15	N. ASPERUS	MARG. MARINE
7132	SWC 13	N. ASPERUS	MARG. MARINE
7326	SWC 11	?N. ASPERUS	MARG. MARINE
7458	SWC 8	BARREN	-
7546	SWC 6	BARREN	-
7596	SWC 5	BARREN	-
7650	SWC 4	BARREN	-
7703	SWC 2	BARREN	-
7730	SWC 1	L.M. DIVERSUS	MARG. MARINE

DOLPHIN NO. 1 WELL

3590-3996 FT	SWCS 15, 14, 12	N. ASPERUS	MARINE
4028	SWC	N. ASPERUS	MARG. MARINE
4041-4042	CORE 2	N. ASPERUS	MARG. MARINE
4068-4072	CORE 3A	N. ASPERUS	MARG. MARINE
4074-4078	CORE 3	N. ASPERUS	MARG. MARINE
4305	SWC	LOWER N. ASPERUS	NON-MARINE
4902	SWC	UPPER M. DIVERSUS	NON-MARINE
6090	SWC	L. BALMEI	NON-MARINE
6200	SWC	T. LONGUS	NON-MARINE
6400	SWC	T. LONGUS	NON-MARINE
7050	SWC	INDETERMINATE	-
7276	SWC	INDETERMINATE	-
7553	SWC	N. SENECTUS	NON-MARINE
7938	SWC	N. SENECTUS	NON-MARINE
8975	SWC	N. SENECTUS	NON-MARINE
8180	SWC	N. SENECTUS	NON-MARINE

FLOUNDER NO. 1 WELL

6420-6428 FT	CORE 1	W. EDWARDS II	SHALLOW MARINE
7187	CORE 2	U.M. DIVERSUS	MARG. MARINE
7191-7199	CORE 2	U.M. DIVERSUS	SHALLOW MARINE
7485	SWC	L. BALMEI	NON-MARINE
7668	SWC	L. BALMEI	NON-MARINE
7748	SWC 30	L. BALMEI	NON-MARINE
7786	SWC 29	L. BALMEI	NON-MARINE
7838	SWC 28	L. BALMEI	NON-MARINE
8088-8091	CORE 3	L. BALMEI	NON-MARINE
8192	SWC 26	L. BALMEI	NON-MARINE
8267	SWC 22	L. BALMEI	NON-MARINE
8426	SWC 11	L. BALMEI	NON-MARINE
8452	SWC 10	L. BALMEI	NON-MARINE
8595	SWC 9	L. BALMEI	NON-MARINE
8775-8797	CORE 4	L. BALMEI	NON-MARINE
9114	SWC 6	L. BALMEI	NON-MARINE
9498	CORE 5	L. BALMEI	NON-MARINE
9822	SWC	INDETERMINATE	-
9942	SWC	T. LILLIEI	NON-MARINE
10395-10465	CORE 6	T. LILLIEI	NON-MARINE
11113-11158	CORE 8	T. LILLIEI	NON-MARINE
11222	SWC	T. LILLIEI/N. SENECTUS	NON-MARINE
11334-11356	CORE 9	T. LILLIEI/N. SENECTUS	NON-MARINE
11675	CORE 10	T. LILLIEI/N. SENECTUS	NON-MARINE
11700	CORE 10	T. LILLIEI/N. SENECTUS	NON-MARINE

GURNARD NO. 1 WELL

7150	SWC	INDET	MARINE
7200	SWC	NO OLDER LATE N. ASPERUS	MARINE
7272	SWC	BARREN	-
7323	SWC 11	P. ASPEROPOLUS (N. ASPERUS)	NON-MARINE
7333	SWC 10	INDET	-
7483	SWC 7	U.M. DIVERSUS	NON-MARINE
7597	SWC 6	M. DIVERSUS	NON-MARINE
7715	SWC 5	?M. DIVERSUS (INDET)	NON-MARINE
7820	SWC 4	U.L. BALMEI-L.M. DIVERSUS	MARG. MARINE
7930	SWC 3	L. BALMEI	NON-MARINE
8035	SWC 2	L. BALMEI	NON-MARINE
8255	SWC 15	?L. BALMEI	-

GURNARD NO. 1 (cont.)

8924	SWC 11	INDET	-
9000	SWC 10	INDET	-
9171	SWC 8	NO OLDER T. LONGUS	NON-MARINE
9264	SWC 7	INDET	-
9439	SWC 5	INDET	-
9569	SWC 4	T. LONGUS	NON-MARINE
9657	SWC 2	T. LONGUS	NON-MARINE

GURNARD NO. 1 - SWC 11 AT 7323 FT WAS PREVIOUSLY REPORTED AS P. ASPEROPOLUS. FURTHER EXAMINATION HAS RECORDED VERY RARE DINOFLAGELLATES IN PARTICULAR DEFLANDREA PHOSPHORITICA WHICH WOULD SUGGEST A N. ASPERUS ZONE. THE SAMPLE IS MARGINAL MARINE.

SWC 5 AT 7715 FT HAS A VERY SPARE ASSEMBLAGE WHICH COULD BE INTERPRETED AS EITHER L. BALMEI OR M. DIVERSUS. IT IS PROBABLY BEST REGARDED AS INDETERMINATE.

HAPUKU NO. 1 WELL

9182	U.N. ASPERUS
9206	U.N. ASPERUS
9209	U.N. ASPERUS
9218	INDETERMINATE
9221	INDETERMINATE ? U.N. ASPERUS
9227	INDETERMINATE ? U.N. ASPERUS
9236	INDETERMINATE ? U.N. ASPERUS
9250	L. BALMEI
9265	L. BALMEI
9274.5	INDETERMINATE
9290.5	L. BALMEI
9309	L. BALMEI
9321	L. BALMEI
9329	L. BALMEI
9346	L. BALMEI
9358.5	L. BALMEI
9369	L. BALMEI
9400	L. BALMEI
9460	INDET
9638	T. LONGUS
9700	T. LONGUS
9750	T. LONGUS
9810	T. LONGUS
9875	T. LONGUS
9918	-
9968	-
10022	T. LONGUS
10631	INDET
10068	T. LILLIEI
10200	INDET
10450	INDET
10385	INDET - NO OLDER THAN N. SENECTUS
10644	NO OLDER THAN T. LILLIEI
10766	INDET
11033	NO OLDER THAN N. SENECTUS
11100	NO OLDER THAN N. SENECTUS
11175	INDETERMINATE
11334	INDETERMINATE
11400	T. LILLIEI
11648	INDETERMINATE
11743	T. LILLIEI
11930	T. LILLIEI

KINGFISH NO. 6 WELL

7595 FT	SWC 24	P. TUBERCULATUS	MARINE
7599	SWC 23	P. TUBERCULATUS	MARINE
7603	SWC 22	P. TUBERCULATUS	MARINE
7607	SWC 21	BARREN	-
7640	SWC 13	BARREN	-
7838	SWC 8	BARREN	-
7976	SWC 6	BARREN	-
8017	SWC 5	BARREN	-
8096	SWC 4	BARREN	-
8281	SWC 2	BARREN	-
8312	SWC 1	U.L. BALMEI	MARG. MARINE

KINGFISH NO. 7 WELL

7376 FT	SWC 45	UPPER N. ASPERUS	SHALLOW MARINE
7386	SWC 44	UPPER N. ASPERUS	SHALLOW MARINE
7396	SWC 43	UPPER N. ASPERUS	SAHLLOW MARINE
7405	SWC 42	INDETERMINATE	?MARINE
7407	SWC 41	UPPER N. ASPERUS	SHALLOW MARINE
7415	SWC 39	UPPER N. ASPERUS	SHALLOW MARINE
7430	SWC 36	N. ASPERUS	MARG. MARINE
7440	SWC 34	N. ASPERUS	MARG. MARINE
7445	SWC 33	LOWER N. ASPERUS	MARG. MARINE
7450	SWC 32	LOWER N. ASPERUS	MARG. MARINE
7460	SWC 30	LOWER N. ASPERUS	MARG. MARINE
7480	SWC 26	P. ASPEROPOLUS/M. DIVERSUS	MARG. MARINE
7497	SWC 24	P. ASPEROPOLUS/M. DIVERSUS	MARG. MARINE
7504	SWC 22	M. DIVERSUS	MARG. MARINE
7555.5	CORE 2	M. DIVERSUS	MARG. MARINE
7591	CORE 3	M. DIVERSUS	MARG. MARINE
7724	CORE 6	M. DIVERSUS	MARG. MARINE
7730	SWC 7	M. DIVERSUS	MARG. MARINE
7751	CORE 6	M. DIVERSUS	MARG. MARINE
7759	SWC 6	INDETERMINATE-CONTAMINATED	
7797	SWC 4	INDETERMINATE-CONTAMINATED	
7900	SWC 1	INDETERMINATE-CONTAMINATED	

THERE IS OBVIOUS CONTAMINATION IN SOME SWC'S PARTICULARLY THOSE NEAR THE BOTTOM. THE CONTAMINATION DERIVES FROM LATEST EOCENE OR YOUNGER UNITS. THE TOP OF THE SECTION IN KINGFISH 7 APPEARS TO BE LATEST EOCENE (UPPER N. ASPERUS), BUT COULD BE AS YOUNG AS OLIGOCENE. MOST OF THE SPECIES ARE LONG RANGING BUT DO DIFFER FROM THOSE OF THE P. TUBERCULATUS ZONE OIN OPAH NO. 1.

MACKERAL NO. 1 WELL

7962 FT	CORE 3	UPPER L. BALMEI	MARG. MARINE
8006	CORE 4	L. BALMEI	MARG. MARINE
8362	SWC 2	L. BALMEI	NON-MARINE
8494	SWC 13	L. BALMEI	MARG. MARINE
8746	SWC 11	L. BALMEI	MARG. MARINE
8946	SWC 10	INDETERMINATE	-
9202	SWC 8	L. BALMEI	MARG. MARINE
9315	SWC 7	L. BALMEI	NON-MARINE
9604	SWC 5	L. BALMEI	MARG. MARINE
9694	SWC 4	L. BALMEI	NEAR SHORE MARINE

MORAY NO. 1 WELL

5340-5400 FT		CUTTINGS	-
5407	CORE 1	BARREN	-
5410	CORE 1	BADLY CONTAMINATED - INDET	-
5490	SWC 48	H. ASPERUS (UPPER)	MARINE
5498	SWC 47	BARREN	-
5505	SWC 46	?P. ASPEROPOLUS	MARINE
5535	CORE 2	BARREN	-
5540	CORE 2	BARREN	-
5540	SWC 44	M. DIVERSUS	MARG. MARINE
5554	SWC 43	M. DIVERSUS	MARG. MARINE
5584	SWC 41	LATE L. BALMEI	MARG. MARINE
5600-5610	CUTTINGS	INDET	-
5618	SWC 87	BARREN	-
5660	SWC 39	L. BALMEI	MARG. MARINE
5680	SWC 7	L. BALMEI	MARG. MARINE
5806	SWC 37	L. BALMEI	MARINE
5820-5830	CUTTINGS	L. BALMEI	MARINE
5871	SWC 111	L. BALMEI	MARINE
5890	SWC 36	L. BALMEI	MARINE
5988	SWC 33	L. BALMEI	MARG. MARINE
6006	SWC 32	L. BALMEI	MARG. MARINE
6080-6090	CUTTINGS	T. LONGUS	NON-MARINE
6226	SWC 29	T. LILLIEI	NON-MARINE
6322	SWC 109	E. CRETACEOUS	NON-MARINE
6399	SWC 21	E. CRETACEOUS	NON-MARINE
6460-6470	CUTTINGS	E. CRETACEOUS	NON-MARINE
6464	SWC 108	E. CRETACEOUS	NON-MARINE

NANNYGAI NO. 1 WELL

7070 FT	YOUNGER THAN LATE EOCENE
7090	INDETERMINATE
7110	LATE N. ASPERUS
7170	LATE N. ASPERUS
7190	N. ASPERUS
7210	M.N. ASPERUS
7230	N. ASPERUS
7250	N. ASPERUS
7258	N. ASPERUS
7268	N. ASPERUS
7286	N. ASPERUS
7294	P. ASPEROPOLUS
7303	U.N. DIVERSUS
7317	U.M. DIVERSUS
7328	U.M. DIVERSUS
7348	U.M. DIVERSUS
7372	INDETERMINATE
7385	NO OLDER THAN M. DIVERSUS
7486	NO OLDER THAN M. DIVERSUS
7607	NO OLDER THAN M. DIVERSUS
7691	INDETERMINATE
7788	LOWER M. DIVERSUS
7935	M. DIVERSUS

NANNYGAI NO. 1 WELL (cont.)

8050		LOWER M. DIVERSUS
8196		LOWER M. DIVERSUS
8272		LOWER M. DIVERSUS
8365		LOWER M. DIVERSUS
8437		M. DIVERSUS
8537		INDETERMINATE
8629		INDETERMINATE
8754		L. BALMEI
8952		L. BALMEI
9086		L. BALMEI
9134		?L. BALMEI
9430		L. BALMEI (LOWER)
9507		-
9688		L. BALMEI
9857		NO OLDER THAN N. SENECTUS

OPAH NO. 1 WELL

7070 FT	SWC 61	P. TUBERCULATUS	SHALLOW MARINE
7860	SWC 30	P. TUBERCULATUS	SHALLOW MARINE
7885	SWC 29	P. TUBERCULATUS	SHALLOW MARINE
7890	SWC 28	P. TUBERCULATUS	SHALLOW MARINE
7893	SWC 27	BARREN-CONTAMINATED	-
7895	SWC 26	BARREN	-
7902-7908	SWC 23	BARREN	-
7905	SWC 22	BARREN	-
7920	SWC 18	BARREN	-
7925	SWC 17	?LOWER N. ASPERUS	MARG. MARINE
7930	SWC 16	?LOWER N. ASPERUS	MARG. MARINE
7935	SWC 15	?L. BALMEI	MARG. MARINE
7940	SWC 14	L. BALMEI	MARG. MARINE
7945	SWC 13	L. BALMEI	MARG. MARINE
7950	SWC 12	L. BALMEI	?NON - MARINE
7970	SWC 10	L. BALMEI	?NON - MARINE
7980	SWC 9	L. BALMEI	MARG. MARINE
7992	SWC 8	L. BALMEI	MARG. MARINE
8070	SWC 5	L. BALMEI	MARG. MARINE
8106	SWC 3	L. BALMEI	MARG. MARINE
8105	SWC 1	L. BALMEI ?UPPER	MARG. MARINE

PERCH NO. 1 WELL

3758 FT	CORE	N. ASPERUS	MARG. MARINE
3803	CORE 4	N. ASPERUS	MARG. MARINE
4074	SWC	N. ASPERUS	?NON - MARINE
4882	SWC	BARREN	-
4555	SWC	T. LILLIEI	NON-MARINE
4640	SWC	T. LILLIEI	NON-MARINE
4790	SWC	T. LILLIEI	NON-MARINE
4825	SWC	T. LILLIEI	NON-MARINE

PIKE NO. 1 WELL

5994 FT	SWC 12	UPPER N. ASPERUS	MARG. MARINE
6456	SWC 9	INDET	-
6507	SWC 7	INDET	-
6623	SWC 6	M. DIVERSUS	MARG. MARINE
6647	SWC 5	M. DIVERSUS	FLUVIAL
6751	SWC 4	UPPER L. BALMEI	MARG. MARINE
6773	SWC 3	UPPER L. BALMEI	MARG. MARINE
6939	SWC 1.	L. BALMEI	FLUVIAL

SNAPPER NO. 1 WELL

4090	INDETERMINATE
4122	INDETERMINATE
4337	M. DIVERSUS
4448	INDETERMINATE
4580	M. DIVERSUS
4580	M. DIVERSUS
5914	M. DIVERSUS
6746	L. BALMEI
6755	L. BALMEI
7696	L. BALMEI
7750	L. BALMEI
8492	L. BALMEI
9260	NO OLDER THAN L. BALMEI
10409	?L. BALMEI

STONEFISH NO. 1 WELL

5914 FT	SWC 15	BARREN	-
5922	SWC 14	M. DIVERSUS	MARG. MARINE
5955	SWC 13	M. DIVERSUS	MARG. MARINE
6050	SWC 12	M. DIVERSUS	MARG. MARINE
6150	SWC 11	UPPER M. DIVERSUS	MARG. MARINE
6280	SWC 10	INDETERMINATE	-
6522	SWC 9	L. BALMEI	NON-MARINE
6870	SWC 8	L. BALMEI	NON-MARINE
7465	SWC 6	L. BALMEI	NON-MARINE
7552	SWC 5	INDETERMINATE	NON-MARINE
8150	SWC 3	T. LONGUS	NON-MARINE
8272	SWC 2	INDETERMINATE	NON-MARINE
8420	SWC 1	T. LONGUS	NON-MARINE
8558	SWC 30	T. LONGUS	NON-MARINE
8687	SWC 2	T. LONGUS	NON-MARINE
8764	SWC 28	INDETERMINATE	NON-MARINE
8810	SWC 27	?T. LILLIEI	NON-MARINE
8893	SWC 25	?T. LILLIEI	NON-MARINE
8931	SWC 24	T. LILLIEI	NON-MARINE
8993	SWC 23	T. LILLIEI	NON-MARINE
9046	SWC 22	T. LILLIEI	NON-MARINE
9120	SWC 21	INDETERMINATE	NON-MARINE
9280	SWC 20	T. LILLIEI	NON-MARINE
9352	SWC 19	T. LILLIEI	NON-MARINE
9402	SWC 18	INDETERMINATE	NON-MARINE
9496	SWC 17	T. LILLIEI	NON-MARINE
9548	SWC 16	T. LILLIEI	NON-MARINE
9731	SWC 14	T. LILLIEI	NON-MARINE
9820	SWC 13	T. LILLIEI	NON-MARINE
9228	SWC 12	INDETERMINATE	NON-MARINE
9959	SWC 11	T. LILLIEI	NON-MARINE
10030	SWC 10	T. LILLIEI	NON-MARINE
10069	SWC 9	T. LILLIEI	NON-MARINE
10110	SWC 8	BARREN	-
10184	SWC 7	BARREN	-
10210	SWC 6	BARREN	-
10254	SWC 5	T. LILLIEI	NON-MARINE
10314	SWC 4	BARREN	-
10374	SWC 3	T. LILLIEI	NON-MARINE
10424	SWC 1	T. LILLIEI	NON-MARINE

THREADFIN NO. 1 WELL

2385 M	SWC 31	BARREN	-
2389	SWC 29	CYATHEACIDITES ANNULATA	MARINE
2391	SWC 28	CYATHEACIDITES ANNULATA	MARINE
2555	SWC 10	BARREN	-
2572	SWC 9	L. BALMEI	NON-MARINE
2600	SWC 8	L. BALMEI	NON-MARINE
2616	SWC 7	L. BALMEI	NON-MARINE
2628	SWC 6	BARREN (CONTAMINATED)	-
2707	SWC 3	L. BALMEI	NON-MARINE
2723	SWC 2	L. BALMEI	MARG. MARINE
2731	SWC 1	LOWER L. BALMEI	MARG. MARINE

TUNA NO. 1 WELL

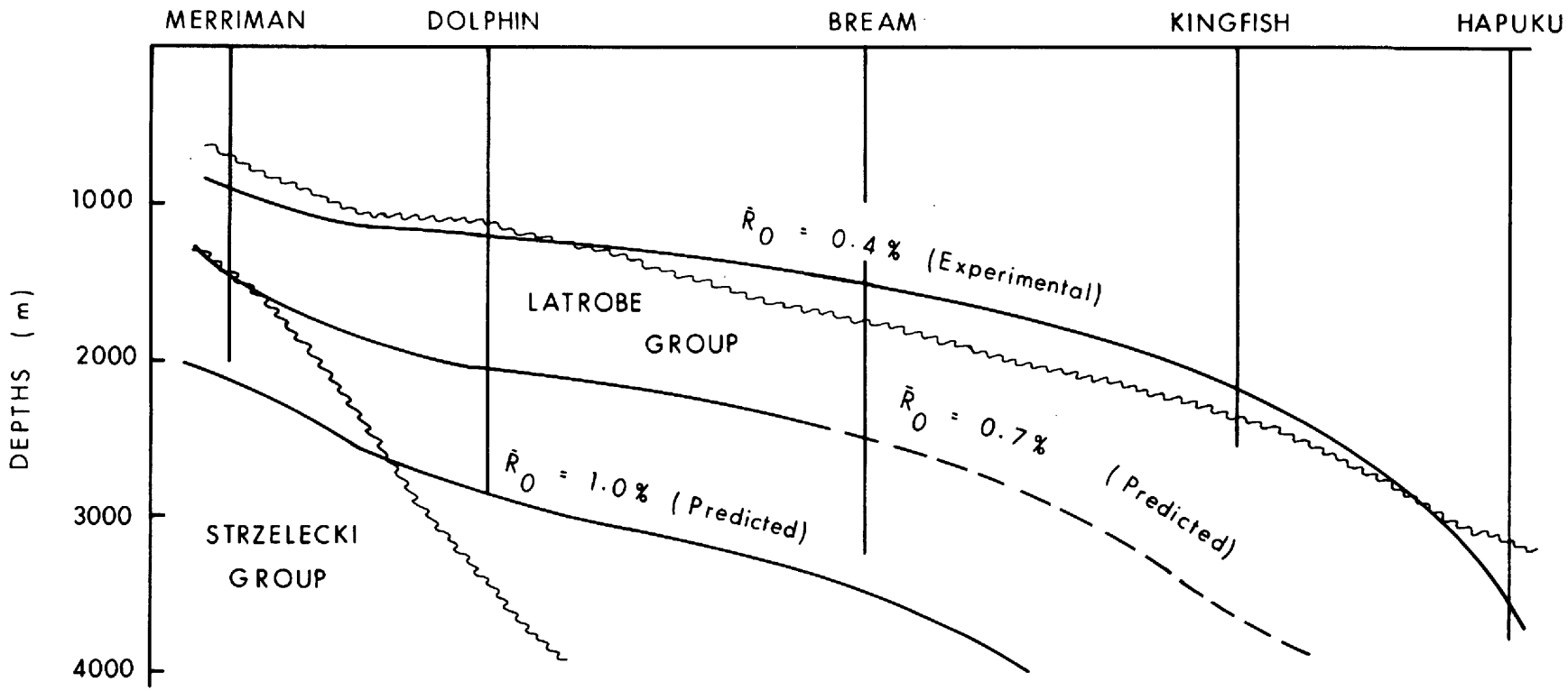
4315-4317 FT	CORE 2	LOWER N. ASPERUS	MARG. MARINE
4339-4336	CORE 3	LOWER N. ASPERUS	NON-MARINE
4415-4417	CORE 5	LOWER N. ASPERUS	NON-MARINE
4456-4459	CORE 7	LOWER N. ASPERUS	NON-MARINE
4494	CORE 8	LOWER N. ASPERUS	NON-MARINE
4514-4517	CORE 9	P. ASPEROPOLUS	MARG. MARINE
4544-4547	CORE 10	P. ASPEROPOLUS	?NON-MARINE
4565-4568	CORE 11	LATE M. DIVERSUS	MARG. MARINE
4618-4621	CORE 12	LATE M. DIVERSUS	MARG. MARINE
5390	CORE 13	L. BALMEI	NON-MARINE
5618	SWC 19	INDETERMINATE	NON-MARINE
5708	SWC 18	?L. BALMEI	NON-MARINE
6118	SWC 16	T. LONGUS	NON-MARINE
6200	CORE 14	T. LONGUS	NON-MARINE
6462	CORE 15	T. LILLIEI	NON-MARINE
6510	CORE 17	T. LILLIEI	NON-MARINE
6544	CORE 18	T. LILLIEI	NON-MARINE
6578	CORE 19	INDETERMINATE	-
7409	CORE 22	?T. LILLIEI	NON-MARINE
8070	CORE 25	INDETERMINATE	-
8743	CORE 26	?T. LILLIEI	NON-MARINE
8780	CORE 27	INDETERMINATE	-
9358	CORE 28	INDETERMINATE	-
10128	CORE 30	BARREN	-
10996	SWC	?N. SENECTUS	NON-MARINE
10903-10914	CORE 31	BARREN	-
11391	SWC	BARREN	-
11530	CORE 32	?N. SENECTUS	NON-MARINE
11584	SWC	BARREN	-
11621	CORE 33	?N. SENECTUS	NON-MARINE
11911	SWC	INDETERMINATE	-
11940	SWC	INDETERMINATE	-

TURRUM NO. 1 WELL

6660	M. DIVERSUS
7083	L. BALMEI
7450	L. BALMEI
8000	?L. BALMEI
8510	T. LONGUS
9210	T. LONGUS
10001	?T. LILLIEI

GIPPSLAND BASIN

GEOCHEMISTRY



Australian Aquitaine Petroleum Pty. Ltd.

GIPPSLAND BASIN

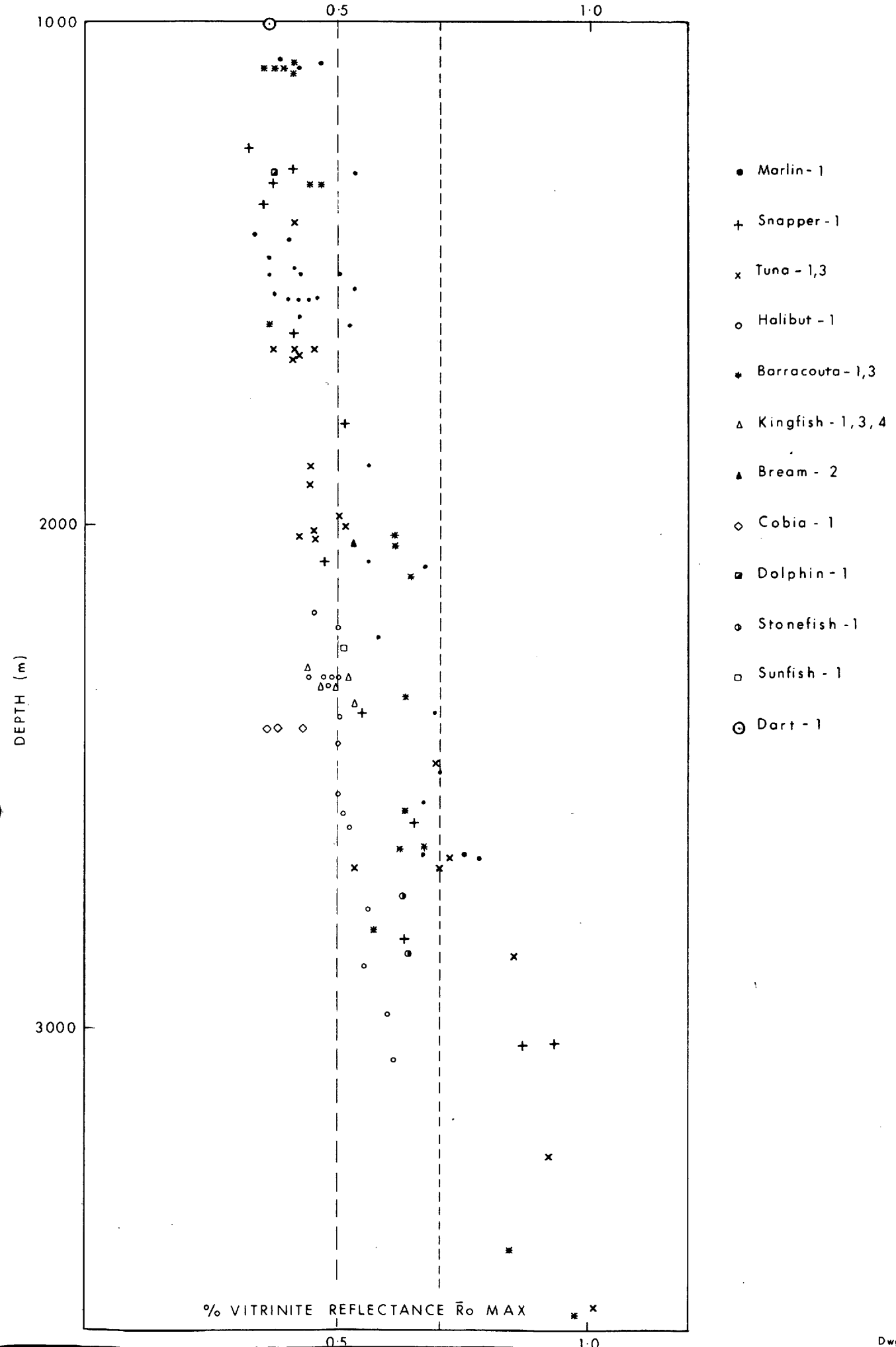
VITRINITE REFLECTANCE PROFILE

After SAXBY, 1980

Author : L. PEARCE	Date : FEBRUARY 1981	Dwg No.: 18843	FIG. 6
Drafted by : T. Carmont	Report No.:	Base Plan:	

GIPPSLAND BASIN Vic/P17

Relationship between vitrinite reflectance and depth in the Gippsland Basin

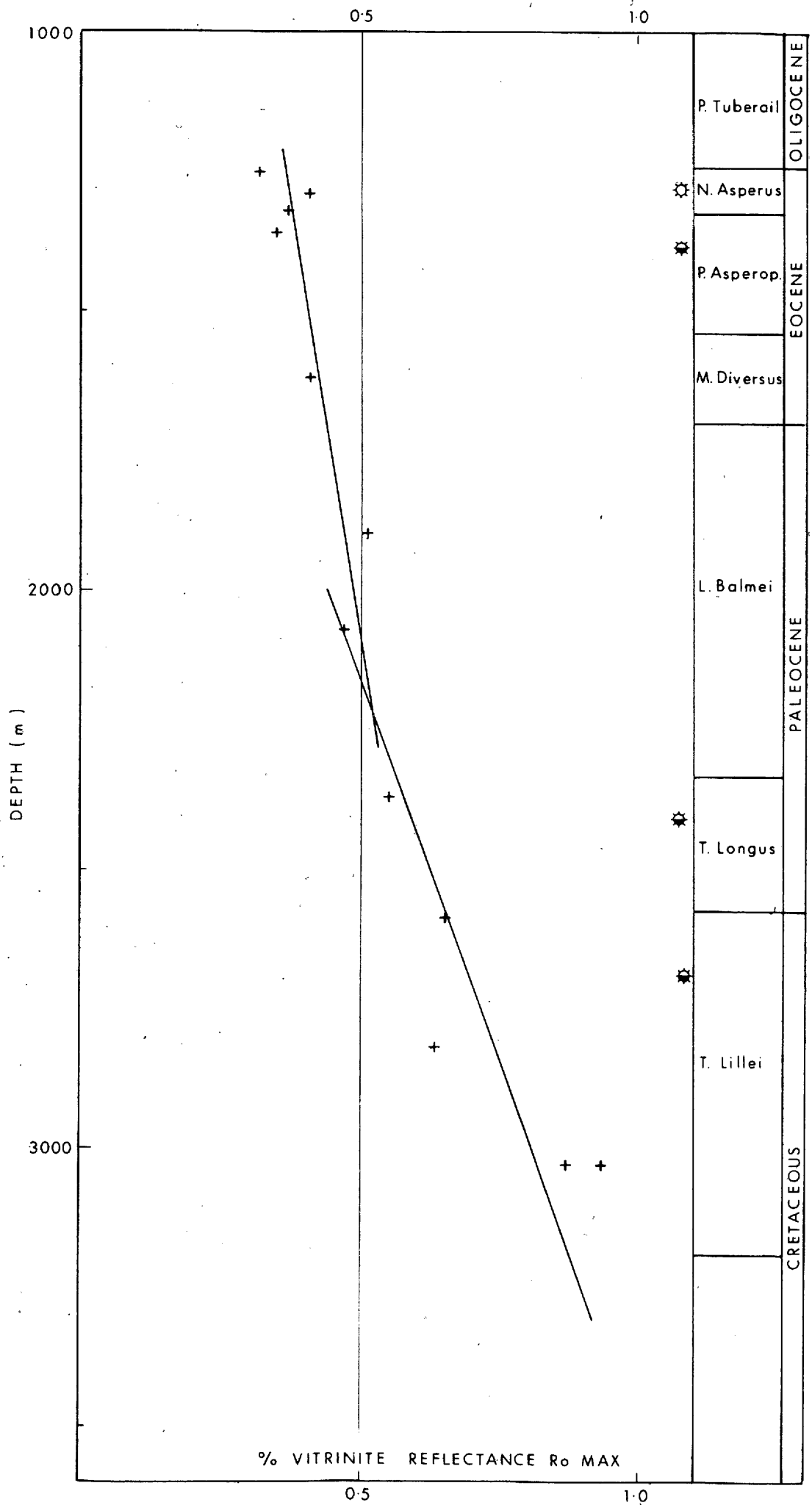


Dwg No 20321

GIPPSLAND BASIN Vic/P17

806316 136

Relationship between vitrinite reflectance and depth in Snapper-1

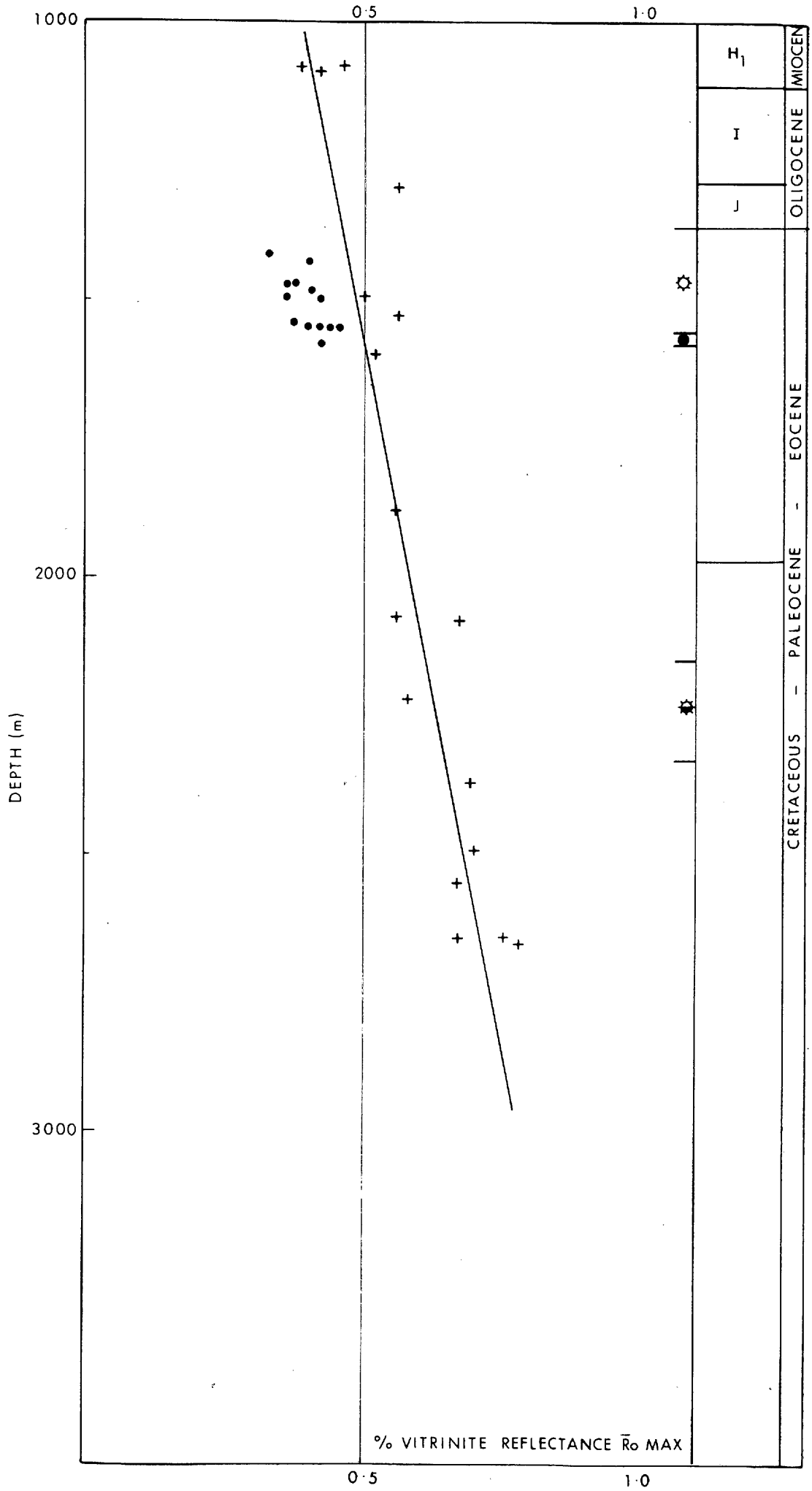


Dwg No 20322

GIPPSLAND BASIN Vic/P17

806916 137

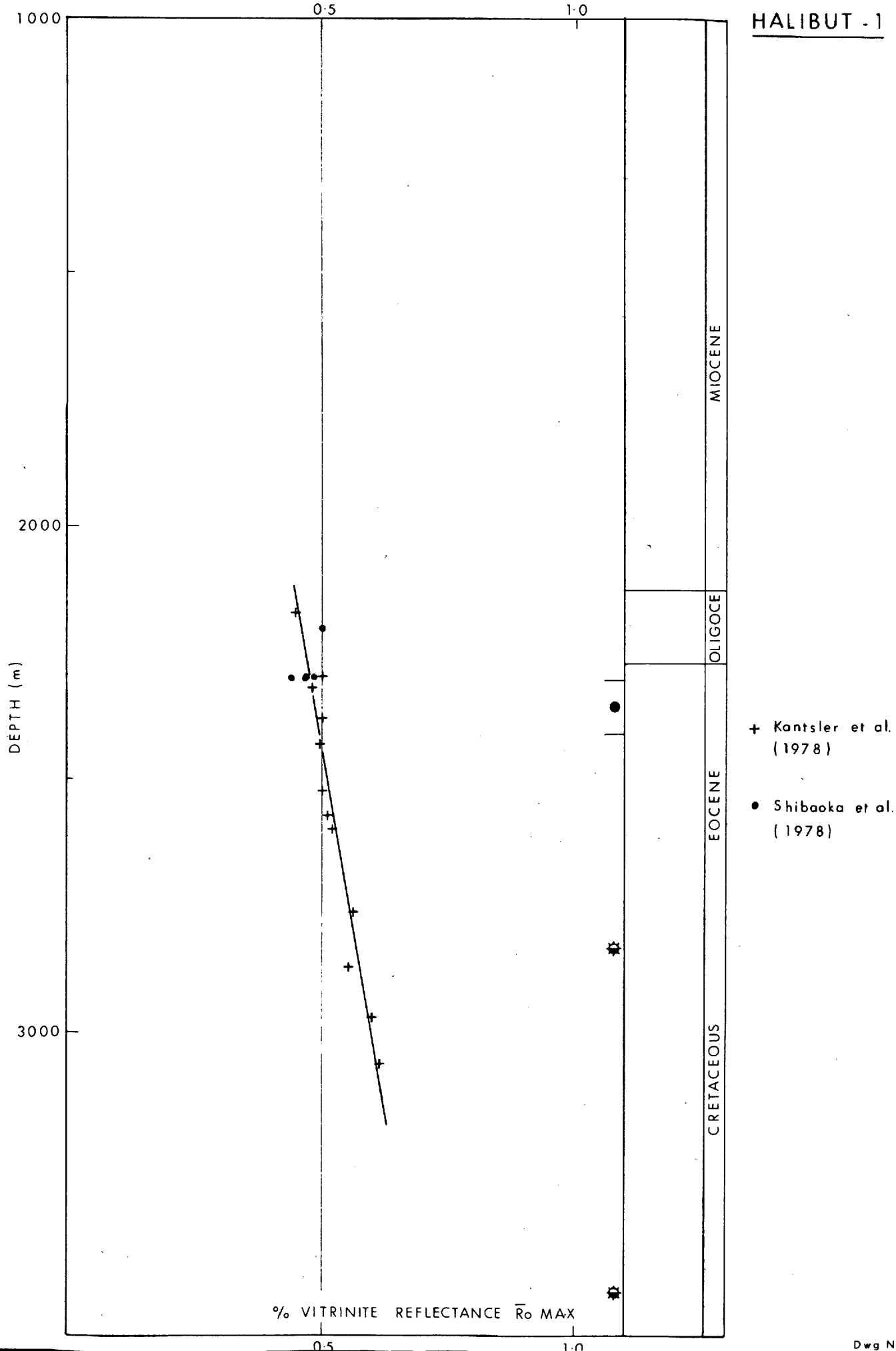
Relationship between vitrinite reflectance and depth in the Marlin wells



GIPPSLAND BASIN Vic/P17

806916 138

Relationship between vitrinite reflectance and depth in Halibut - 1

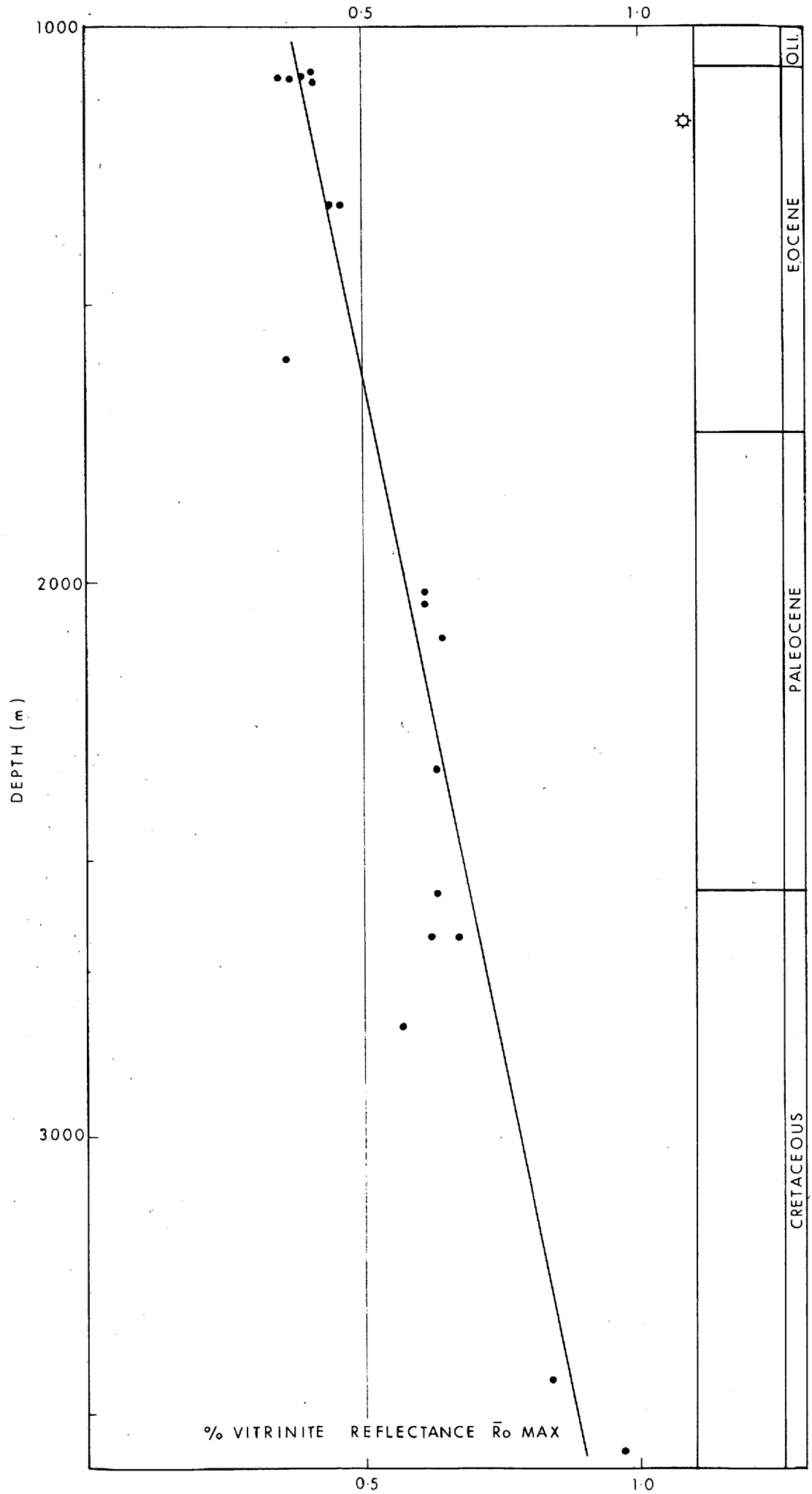


Dwg No 20324

GIPPSLAND BASIN Vic/P17

806916 139

Relationship between vitrinite reflectance and depth in Barracouta -1 and 3

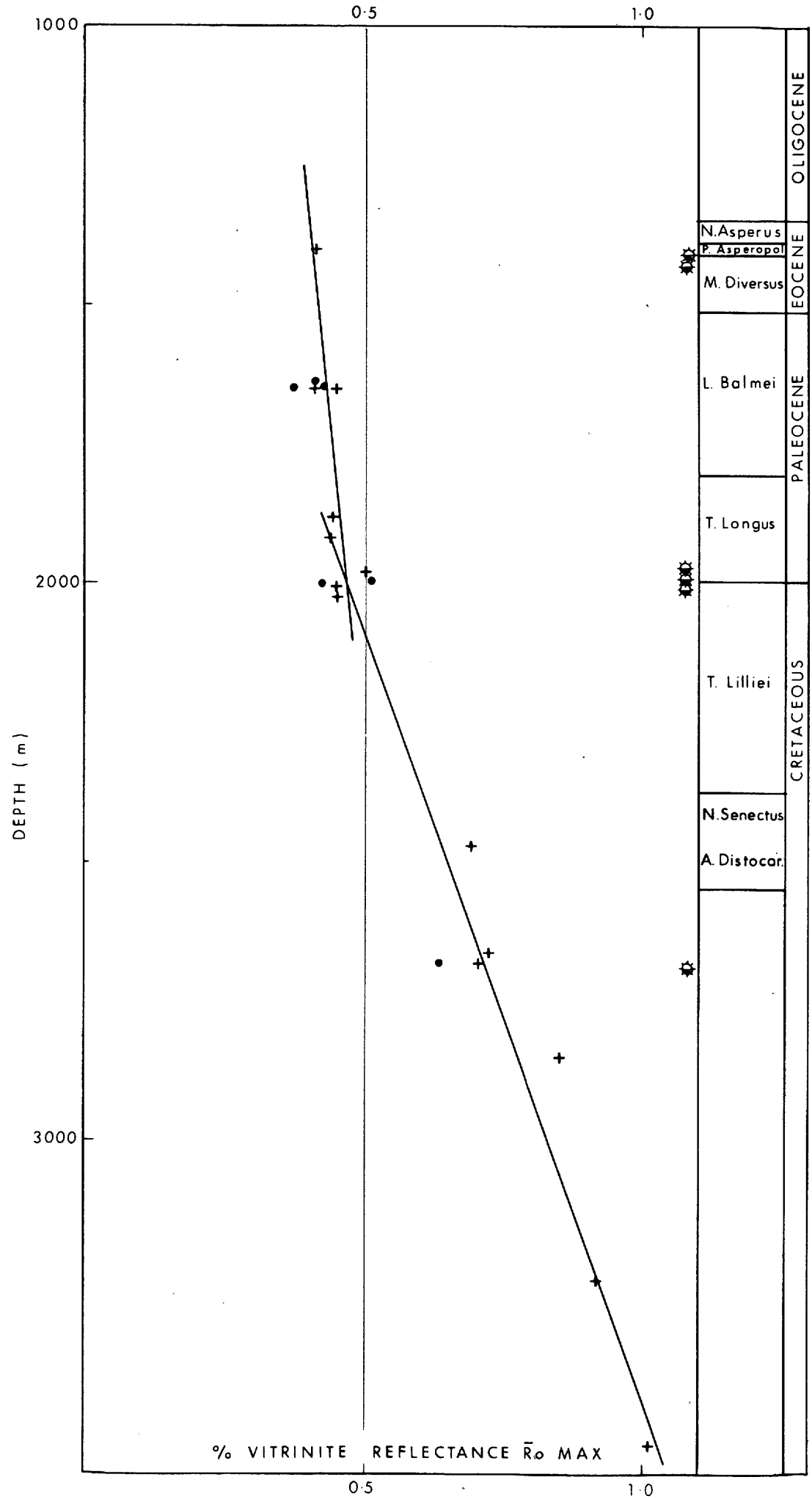


Dwg No:20325

GIPPSLAND BASIN Vic/P17

806916 140

Relationship between vitrinite reflectance and depth in Tuna-1 and 3



Tuna - 1
(Kantsler et al., 1978)

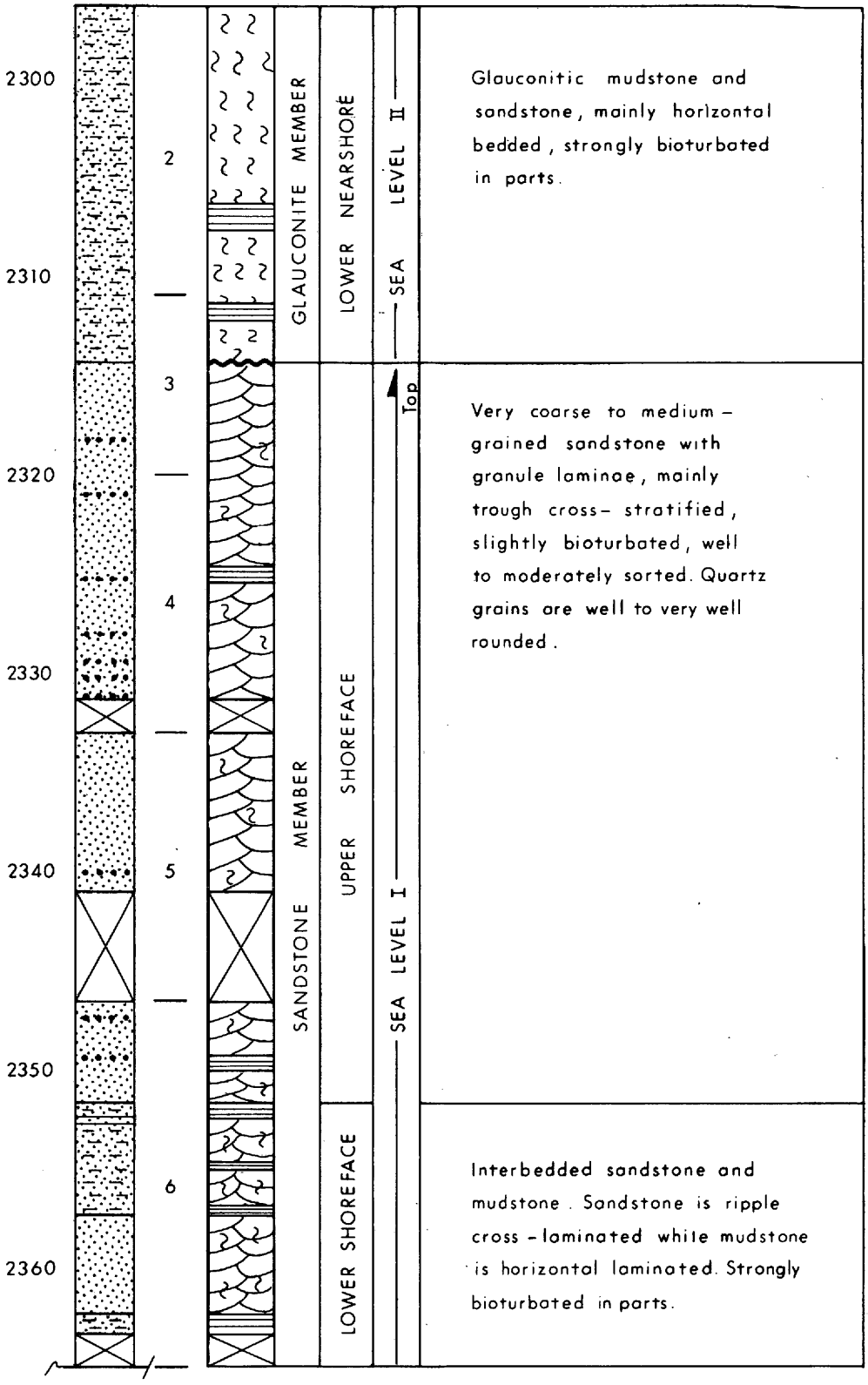
Tuna - 3
(Shibaoka et al, 1978)

N.B.
Stratigraphic units and hydro carbon data are from Tuna 3

GIPPSLAND BASIN

CORE ANALYSIS

KINGFISH - 7



australian aquitaine petroleum pty ltd.

SECTION OF KINGFISH - 7 CORES (2-6)

Author : K.LY.	Date: MARCH 82'	Dwg No: 20265	FIG. 3.
Drafted by: L.Bailey	Report No:	Base Plan:	

This is Page Number **806916_143X**

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806916_143Y

and is enclosed within the document PE806916 at this page.

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806916_144Y

and is enclosed within the document PE806916 at this page.

Leads & Prospects

PROSPECTS	KEY LINES
Avon	GA81 - 45,72
Ariel	GA81 - 27,30
Dargo	GA81 - 75,86
Edina	GA81 - 18,21
Keera	GA81 - 67,74
Kyarra	GA81 - 67,84
Minnipa	GA81 - 73,80
Moonta	GA81 - 46,61
Oonah	GA81 - 91
Omeo	GA81 - 32,33
Tanjil	GA81 - 30,51
Tarra	GA81 - 31,38
Wanda	GA81 - 25,42
Wongala	GA81 - 23,46
Wyrallah	GA81 - 71,92

Key to Seismic Section Interpretation.

	DERWENT NO.
Top of Lagoonal (Moonta) Sand	40
Top of Latrobe Group	63
Top of Latrobe Formation	3
Intra-Latrobe Purple Marker	22
Intra-Latrobe Green Marker	50
Intra-Latrobe Orange Marker	10
?Base of Latrobe Group	33
Intra-Strzelecki Marker	47
Basement	14

NOTE: Of the above leads and prospects:

A) The following have been drilled:
Edina
Kyarra/Keera
Omeo/Ariel
Tarra

B) The following are considered geologically weak and are not justified as drilling targets:
Dargo, Minnippa, Moonta, Oonah, Wanda, Wongala.

C) The following require additional seismic to determine if large enough to be of economic size:
Tanjil, Wryallah.

D) The following have not yet had data sheets prepared (both require additional seismic):
Gurnard, Samson ("West Gurnard").

This is Page Number **806916_147X**

This is an enclosure indicator page.

The page that follows this page is an uncatalogued fold-out (or A4 colour page) with page number:

806916_147Y

and is enclosed within the document PE806916 at this page.

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PROSPECT EVALUATION

GIPPSLAND BASIN PROSPECTS (VIC/P1

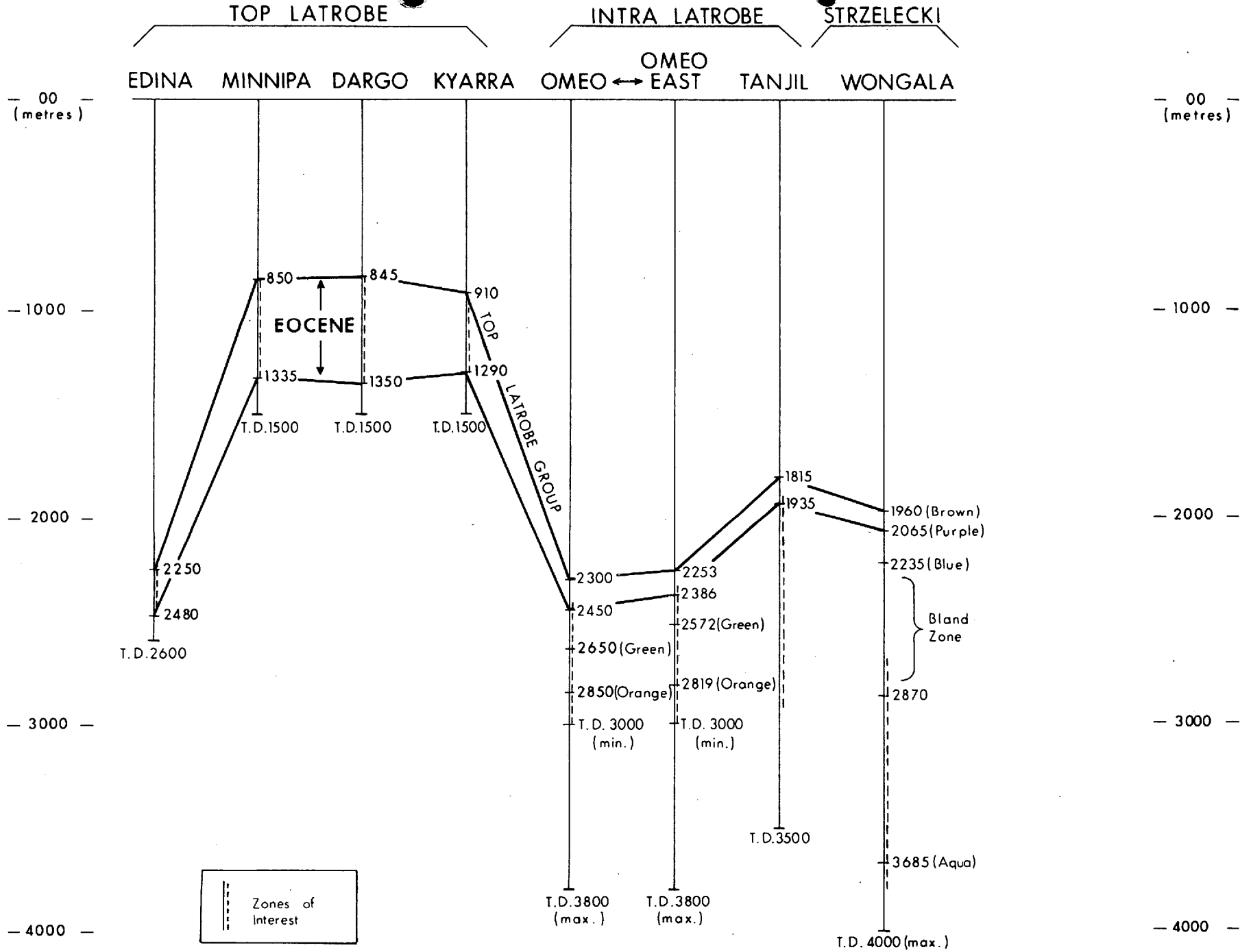
PROSPECT	LOCATION (SEISMIC LINE INTERSECTION)	PTD (M)	WD (M)	DISTANCE TO LANDFALL (KM)	DISTANCE TO PORT WELSHPOOL (KM)
Ariel	GA81-27 GA81-30	3000	66	55.5	107.5
Dargo	GA81-75 GA81-86	1200	25	10.5	50
Edina	GA81-18 GA81-21	2600	69	60	120
Keera	GA81-67 GA81-74	1200 to 1500	46	23.5	62.5
Kyarra	GA81-67 GA81-84	2000	44	23	56
Minnipa	GA81-73 GA81-80	1500	29	14.5	54.5
Moonta	GA81-46 GA81-61	1600	47	29	83
Oonah	GA81-91 SP 360	1500	30	13.5	69.5
Omeo	GA81-32 GA81-33	3000	62	51.5	105
Tanjil	GA81-30 GA81-51	3000	53	37	97
Tarra	GA81-31 GA81-38	3000	63	52.5	100.5
Wanda	GA81-25 GA81-42	2400	66	58	101
Wongala	GA81-23 GA81-46	3500	66	59	100
Wyrallah	GA81-71 GA81-92	1200	35	16.5	44.5

GIPPSLAND BASIN

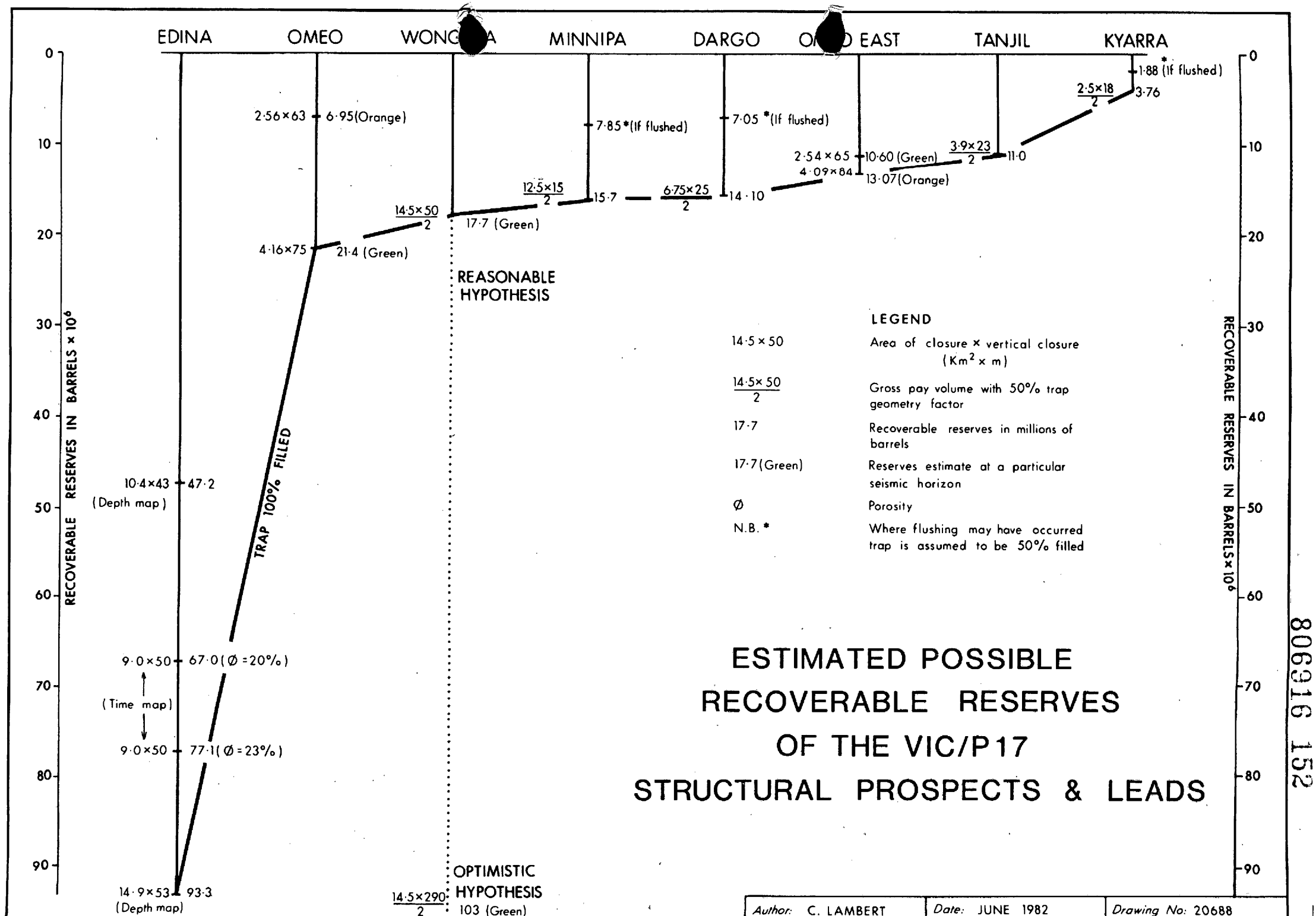
VIC/P17

PROSPECT	CLOSURE	POSSIBLE RESERVES (Recoverable)
A. TOP OF LATROBE GROUP PLAYS		
(Parameters: 60% NETT/GROSS; 50% Geometric; 300bbls/acreft)		
EDINA	6.4 km^2 x 40m	18.7 x 10^6 STB
MINNIPA	12.2 km^2 x 15m	13.4 x 10^6 STB
DARGO	6.75 km^2 x 25m	12.3 x 10^6 STB
KYARRA	2.5 km^2 x 18m	3.3 x 10^6 STB
B. INTRA LATROBE GROUP PLAYS		
(Parameters: 45% NETT/GROSS; 50% Geometric; 250bbls/acreft)		
N.B. - These plays have the chance of stacked reservoirs but the reserves shown here don't include such.		
OMEO	7.2 km^2 x 55m	18.1 x 10^6 STB
TANJIL	3.9 km^2 x 23m	4.1 x 10^6 STB
OONAH	2.2 km^2 x 40m	4.0 x 10^6 STB
C. STRZELECKI GROUP PLAYS		
(Parameters: 30% NETT/GROSS; 50% Geometric; 200bbls/acreft)		
WONGALA	14.5 km^2 x 290m	102.3 x 10^6 STB

VIC/P17 STRUCTURAL PROSPECTS & LEADS



Author: C. LAMBERT	Date: JUNE, 1982	Drawing No.: 20687



ESTIMATED POSSIBLE RECOVERABLE RESERVES OF THE VIC/P17 STRUCTURAL PROSPECTS & LEADS

Author: C. LAMBERT	Date: JUNE 1982	Drawing No: 20688

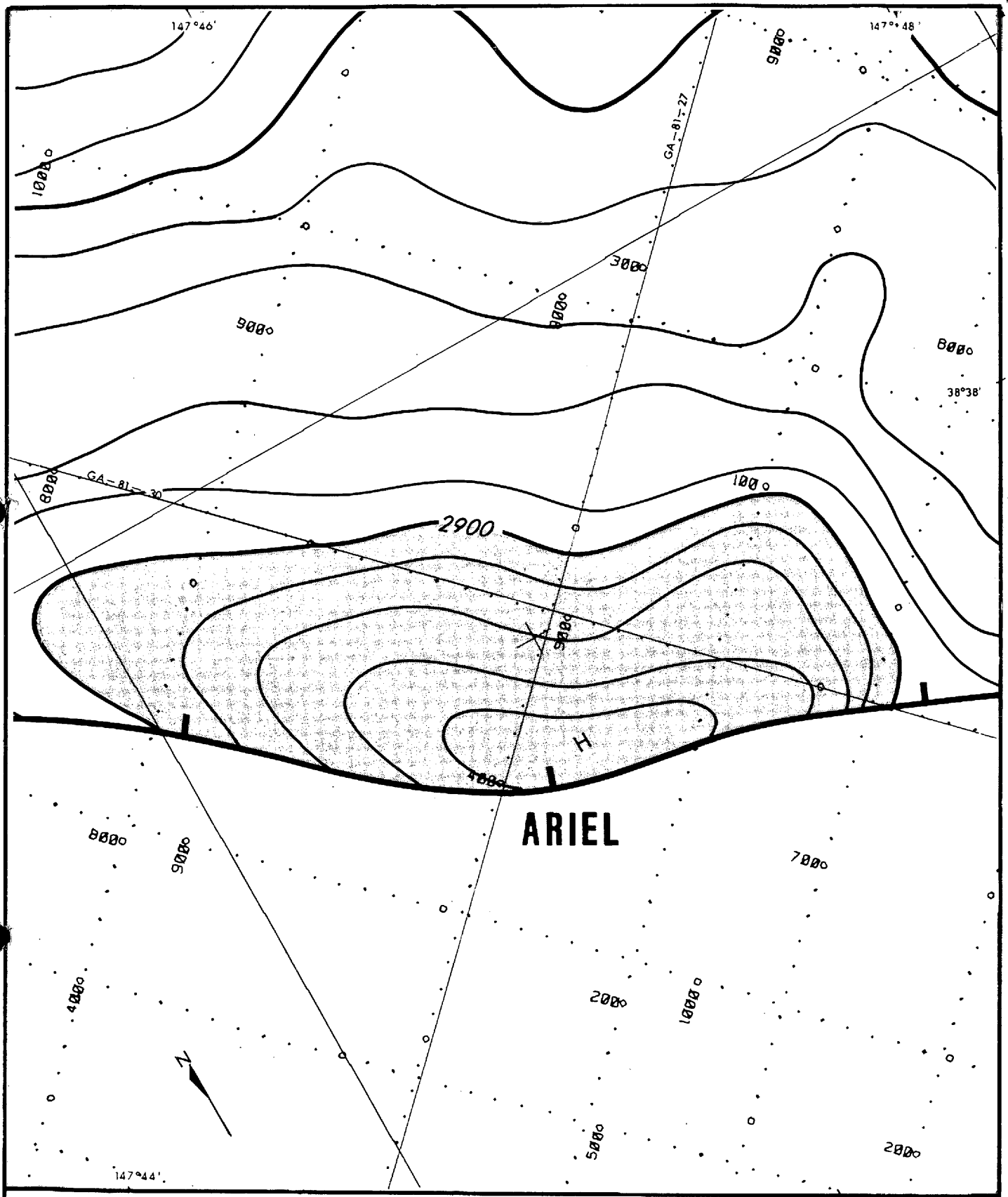
806916 152

Prospects . . . . . .

ARIEL

PROSPECT

806916 155



ARIEL PROSPECT

Contour Interval: 20m
Datum: Sea Level

SCALE: 1:25000
0 500 1000 Metres

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petroleum pty. ltd.

GIPPSLAND BASIN VIC/P17

DEPTH TO INTRA LATROBE ORANGE MARKER

Author: C. HODGE	Date: FEBRUARY 1983	Dwg No: 21535
Drafted By: L. BAILEY	Report No:	Base Plan: 21391/21393

PE806917

This is an enclosure indicator page.
The enclosure PE806917 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806917 has the following characteristics:

ITEM_BARCODE	PE806917
CONTAINER_BARCODE	PE806916
NAME	Final Seismic Stack for Line GA81-27
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Seismic Stack for Line GA81-27, SP 1-1143, VIC/P17, GA81 Seismic Survey, Western Geophysical for Australian Aquitaine Petroleum Pty Ltd, January 1982.
REMARKS	
DATE_WRITTEN	31-JAN-1982
DATE_PROCESSED	
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806918

This is an enclosure indicator page.
The enclosure PE806918 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806918 has the following characteristics:

ITEM_BARCODE	PE806918
CONTAINER_BARCODE	PE806916
NAME	Final Seismic Stack for Line GA81-30
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Seismic Stack for Line GA81-30, SP 1-1867, VIC/P17, GA81 Seismic Survey, Western Geophysical for Australian Aquitaine Petroleum Pty Ltd, January 1982.
REMARKS	
DATE_WRITTEN	31-JAN-1982
DATE_PROCESSED	
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

AVON PROSPECT

australian aquitaine petroleum pty ltd

VIC/P17 Data Book

AVON No.1
PREDICTED SECTION

Casing and Cores	Depth m.	Depth ft.	Section	Reservoir Sal (g/l)	Seismic Horizon Tests & Shows	Lithology	Stratigraphy		
				G F	TWT	SEA FLOOR 84 RKB			
20" at 220	200	1000				84 - 955m. (871m.) Limestone or Calcarenite: White - grey, skeletal to detrital, abundant fossil fragments, argillaceous with occassional arenaceous layers.	GIPPSLAND LIMESTONE	LATE	MIOCENE
	400	2000							
	600	2000							
	800	3000							
13 3/8" at 975	1000				(0·810)	955 - 1225m. (270m.) Marl: Light grey, firm - hard, abundant forams with occasional quartz sand grains.		EARLY	
	1200	4000			(1·028)	1225 - 1330m. (105m.) Claystone: Light - grey, calc., foss., glauc.	LAKES ENTRANCE	EARLY MOST	OLIGO-CENE
					New Brown (1·098)	1330 - 1390m. (60m.) Mudstone & Sandstone: Grey - green, glauconitic.	LATROBE GROUP	EARLY-LATE	EOCENE
	1400	5000			Brown (1·138)	1390 - 1536m. (146m.) Sandstone: Grey, fine to medium, quartzose, moderate - poorly sorted, carbonaceous, interbedded with shales and coal.			
	1600				Purple (1·229)	1536 - 1566m. (30m.) Sandstone: Grey, fine - medium, quartzose.		PALEOCENE	
			PTD 1650m			1566 - PTD. (84m.) Granite Basement.	DEVONIAN BASEMENT		
	1800	6000							
	2000	7000							
	2200								
	2400	8000							
	2600	9000							
	2800								
	3000	10000							
	3200								
		11000							
	3400								
	3600	12000							
	3800								
		13000							

Permit VIC/P17

Location SP125 Line GA81-45

Latitude 38°44'22·4" S.

Longitude 147°24'08·7" E.

Rig OCEAN DIGGER

K.B. 30m.

G.L. 54m.

T.D. 1650m.

Status NEW FIELD WILDCAT

Spudded April, 1983.

Operator AAP

Cost

Cost/ft.

Objectives
Intra Latrobe oil accumulations (Paleocene)

Structure
Abuttment and onlap on Granite Basement

Comments

Author:

Date:

Base Map No 9112

Reference No. 21654

FIG. 4

PE806919

This is an enclosure indicator page.
The enclosure PE806919 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806919 has the following characteristics:

ITEM_BARCODE	PE806919
CONTAINER_BARCODE	PE806916
NAME	Proposed Avon-1 Prospect Montage
BASIN	GIPPSLAND
ONSHORE?	N
DATA_TYPE	WELL
DATA_SUB_TYPE	MONTAGE
DESCRIPTION	Proposed Avon-1 Prospect Montage, Contains: Predicted Stratigraphic Section, Interpreted Seismic Sections, Structure Maps, Location Map and Well Data, Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	
DATE_PROCESSED	
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	Avon-1
CONTRACTOR	
AUTHOR	
ORIGINATOR	Australian Aquitaine Petroleum Pty Ltd
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806920

This is an enclosure indicator page.
The enclosure PE806920 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806920 has the following characteristics:

ITEM_BARCODE	PE806920
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-45
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section with Interpretation for Line GA81-45, SP: 1 to 1469, GA81 Seismic Survey, VIC/P17, Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806921

This is an enclosure indicator page.
The enclosure PE806921 is enclosed within the container PE806916 at this location in this document.

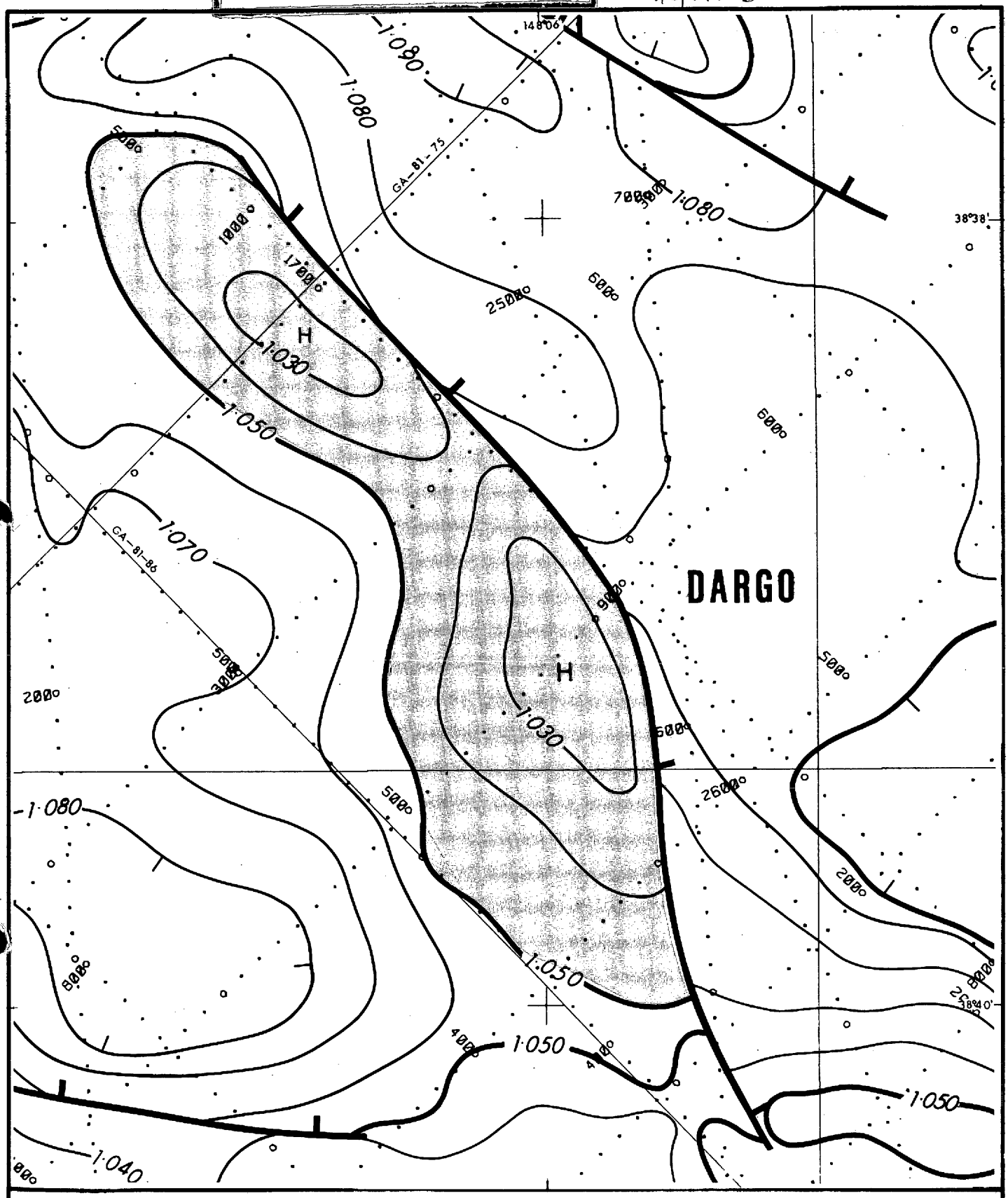
The enclosure PE806921 has the following characteristics:

ITEM_BARCODE	PE806921
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-72
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section with Interpretation for Line GA81-72, SP: 1 to 1604, GA81 Seismic Survey, VIC/P17, Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

DARGO

PROSPECT



DARGO PROSPECT

Contour Interval: 0.010 sec

Datum: Sea Level

SCALE: 1:25 000
0 500 1000 Metres

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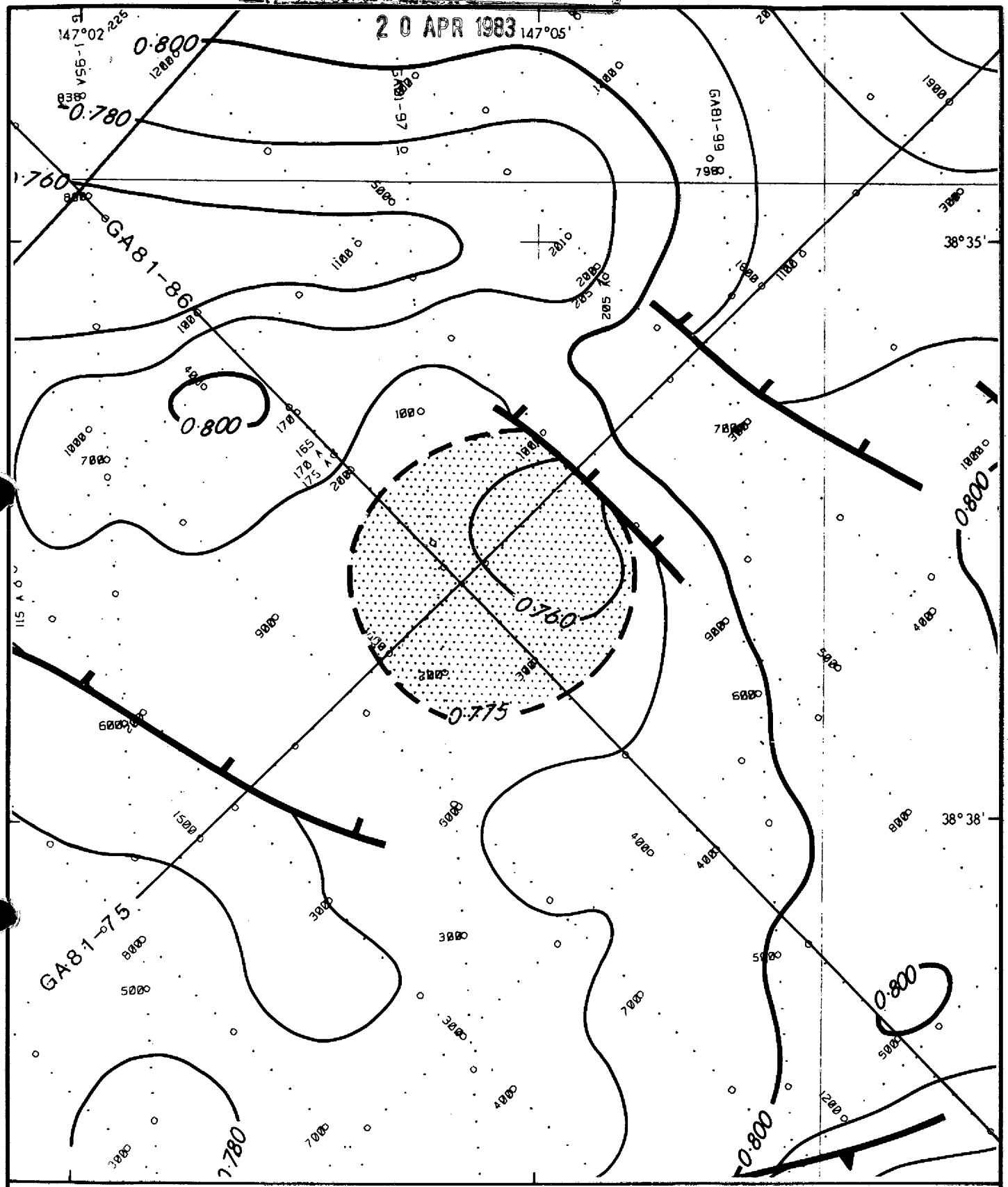
petroleum pty. ltd.
GIPPSLAND BASIN
VIC/P17

TWO WAY TIME TO
INTRA LATROBE PURPLE MARKER

Author: C. HODGE.	Date: FEBRUARY 1983	Dwg No: 21547
Drafted By: S. JACOBS	Report No:	Base Plan: 21322

806316 165
Vic/P17 DATA BOOK



DARGO PROSPECT

Contour Interval 0.020 secs
Datum: Sea Level

SCALE 1:50000
0 0·5 1 2 Kms

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petroleum pty. ltd.
GIPPSLAND BASIN
VIC/P17

TWO-WAY TIME TO TOP OF LATROBE GROUP

Author: S. MACKIE	Date: JUNE 1982	Dwg No: 20660
Drafted by: J PENHEY	Report No:	Base Plan: 20397

PE806922

This is an enclosure indicator page.
The enclosure PE806922 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806922 has the following characteristics:

ITEM_BARCODE	PE806922
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-75
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section with Interpretation for Line GA81-75, SP: 1 to 2953, GA81 Seismic Survey, VIC/P17, Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806923

This is an enclosure indicator page.
The enclosure PE806923 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806923 has the following characteristics:

ITEM_BARCODE	= PE806923
CONTAINER_BARCODE	= PE806916
NAME	= Final Stack Section for Line GA81-86
BASIN	= GIPPSLAND
ONSHORE?	=
DATA_TYPE	= SEISMIC
DATA_SUB_TYPE	= INTERP_SECTION
DESCRIPTION	= Final Stack Section with Interpretation for Line GA81-86, SP: 170 to 1160, GA81 Seismic Survey, VIC/P17, Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	=
DATE_WRITTEN	= 30-NOV-1981
DATE_PROCESSED	= 31-JAN-1982
DATE_RECEIVED	= 20-APR-1983
RECEIVED_FROM	= Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	=
CONTRACTOR	=
AUTHOR	=
ORIGINATOR	=
TOP_DEPTH	=
BOTTOM_DEPTH	=
ROW_CREATED_BY	= FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

EDINA

PROSPECT

1. GENERAL INFORMATION

Name of Well:	"Edina No. 1"
Location:	SP 960 on Line GA81-21 Latitude: 38°36'22.4" S Longitude: 147°52'42.1" E
Estimated Spud Date:	1st June 1982
Estimated Duration:	28 days (dry hole)
Estimated Cost:	$A7,008,000 (dry hole)
Permit:	VIC/P17
Operator:	Australian Aquitaine Petroleum (for Australian Occidental Petroleum 25% Alliance Resources Pty Ltd 25% Agex Pty Limited 12.5% Cluff Oil (Aust.) NL 12.5%)
Structure:	"Edina"
Rig:	"Glomar Grand Isle"
Water Depth:	70 metres
Distances:	Port Welshpool 126 km Nearest Landfall (90 Mile Beach) 62 km
Proposed T.D.:	2600 metres RKB

2. LOCATION OF WELL

"Edina No. 1" is located in permit area VIC/P17, 126 km east of Port Welshpool and 62 km from the nearest landfall at Ninety Mile Beach.

Location: SP 960 Line GA81-21
Latitude: 38°36'22.4"S
Longitude: 147°52'42.1"E
Northing: 5726539
Easting: 576480
(Australian National Grid)

This location is 8.3 km west-southwest of Gurnard No. 1 and 14.1 km southeast of Bream No. 3.

The well is located approximately 200 metres southwest of a normal fault at the "Brown" seismic horizon. This fault is downthrown to the northeast. The location is 15 milliseconds above spillpoint as mapped at the top of the Latrobe Group, predicated at 2290m (MSL), 50 metres above spillpoint.

A position near the crest of the structure within the highest closing contour was chosen to give the maximum potential for the discovery of hydrocarbons. This position was also calculated to test the presence of a barrier sand body within the Gurnard Formation at the top of the Latrobe Group.

The following is a summary of the technical aspects which were taken into consideration when deciding upon the location of "Edina No. 1".

A. Negative Aspects

I The well is only 8.3 km west-southwest of the dry Gurnard structure.

II The barrier bar system thins out towards "Edina" and the sand member may be thin or absent.

III Depth maps prepared from velocity data show a minimum closure of only 1.5 km² at the top of the Latrobe Group (Brown seismic horizon).

IV Structural closure decreases with depth and is virtually absent at the Purple (intra-Latrobe) Horizon.

V The fault on the crest of the structure could have leaked hydrocarbons. This is one idea put forward to explain the absence of hydrocarbons in Gurnard.

B. Positive Aspects

I Edina is located within a region of prolific oil and gas production. It is only 14.1 km from the Bream structure and 17.6 km from the Kingfish field which contains recoverable reserves of 1242 MMBBL oil plus as estimated 150 MMBBL oil in West Kingfish.

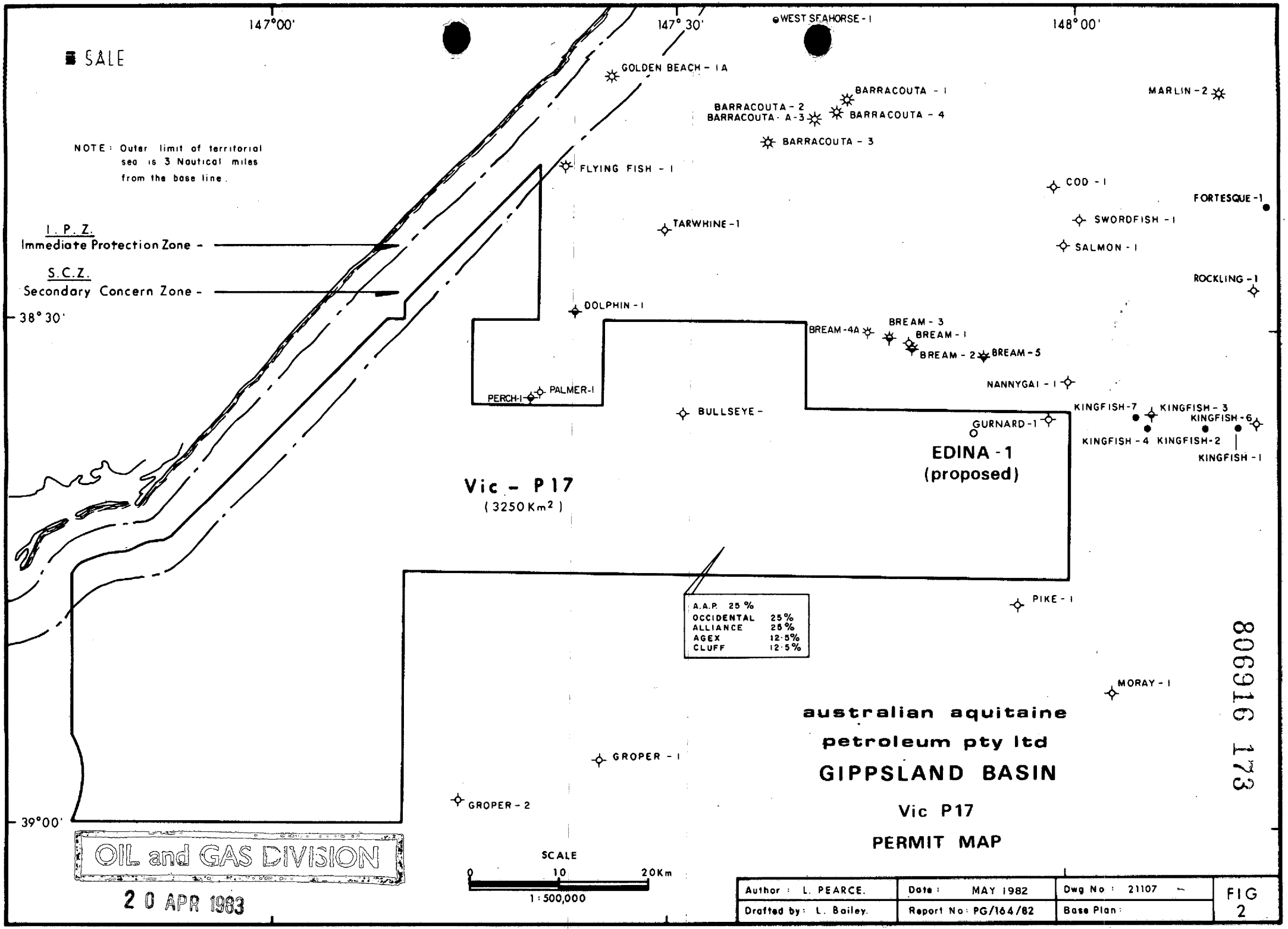
II It is a closed structure mapped on three horizons, including two intra-Latrobe Group horizons.

III The sealing Lakes Entrance Formation is not transected by the fault, as is the case at Gurnard. It is, therefore, unlikely that this fault has acted as a pathway for the leakage of hydrocarbons.

IV The prospectivity of Edina is independent of the presence of barrier bar sands at the top of the Latrobe sequence as there are numerous potential reservoir beds within the Latrobe deltaic sequence (see section 6).

V The depth structure map at the top of Latrobe Group level shows a most likely enclosed area of 3.4 km² with 30m vertical relief. The velocity map for the depthconversion was derived by tying horizon normal move-out velocity profiles around the seismic grid and a plausible velocity field was obtained. The fact that the structure remains (even though only 1.5 km² in area on a minimum basis) after an objective velocity interpretation is a positive aspect. If the velocity

gradients mapped from the profiles do not exist and a smooth velocity field is in fact the case, then the maximum areal closure at top of Latrobe Group level could be 9 km², as mapped on the time map.



8. STRUCTURE

The Edina structure as mapped has maximum areal and vertical closure at the level of the Brown Horizon (top Latrobe Group). On time-structural maps the area of closure is 9 km² at 1.760 millisec (T.W.T.); which relates to a depth to spillpoint of 2340 M.MSL. A depth map produced from normal move-out analysis of the velocity data produces a smaller structure of only 3.4 km² at a spillpoint of 2320 M.MSL (see figure 4). Areal closure decreases with depth and does not exist below the Purple (intra-Latrobe) horizon. The proposed T.D. of 2600m will, therefore penetrate the entire stratigraphic sequence within structural closure, even allowing for the possibility of stacked, hydrocarbon bearing, intra-Latrobe reservoirs.

Edina is not an anticlinal feature similar to many producing Gippsland fields such as Barracouta, Halibut, Snapper, Kingfish and others but has a significant stratigraphic component in its formation. Isopach maps of the upper Latrobe Group (Brown to Purple Horizons) and Gurnard Formation (Brown to Yellow Horizons) show a thick tongue of sediment trending northwestwards from Pike towards Edina. These maps place Edina at the northern extremity of this sediment body and it would appear that structuration has been caused by compaction of Lakes Entrance silts and claystones over the Latrobe sand body. Closure to the south of Edina may have been aided by channeling through the sand body as the Brown to Purple isopach has a thin in this region.

A northwest-southeast trending normal fault with downthrown to the northeast transects the crest of the structure as shown in figure 4. Movement on this fault appears to have been restricted in time to a period contemporaneous with or immediately post-dating Latrobe Group deposition. The fault penetrates the base of the overlying Lakes Entrance Formation but does not dissect the top of this formation.

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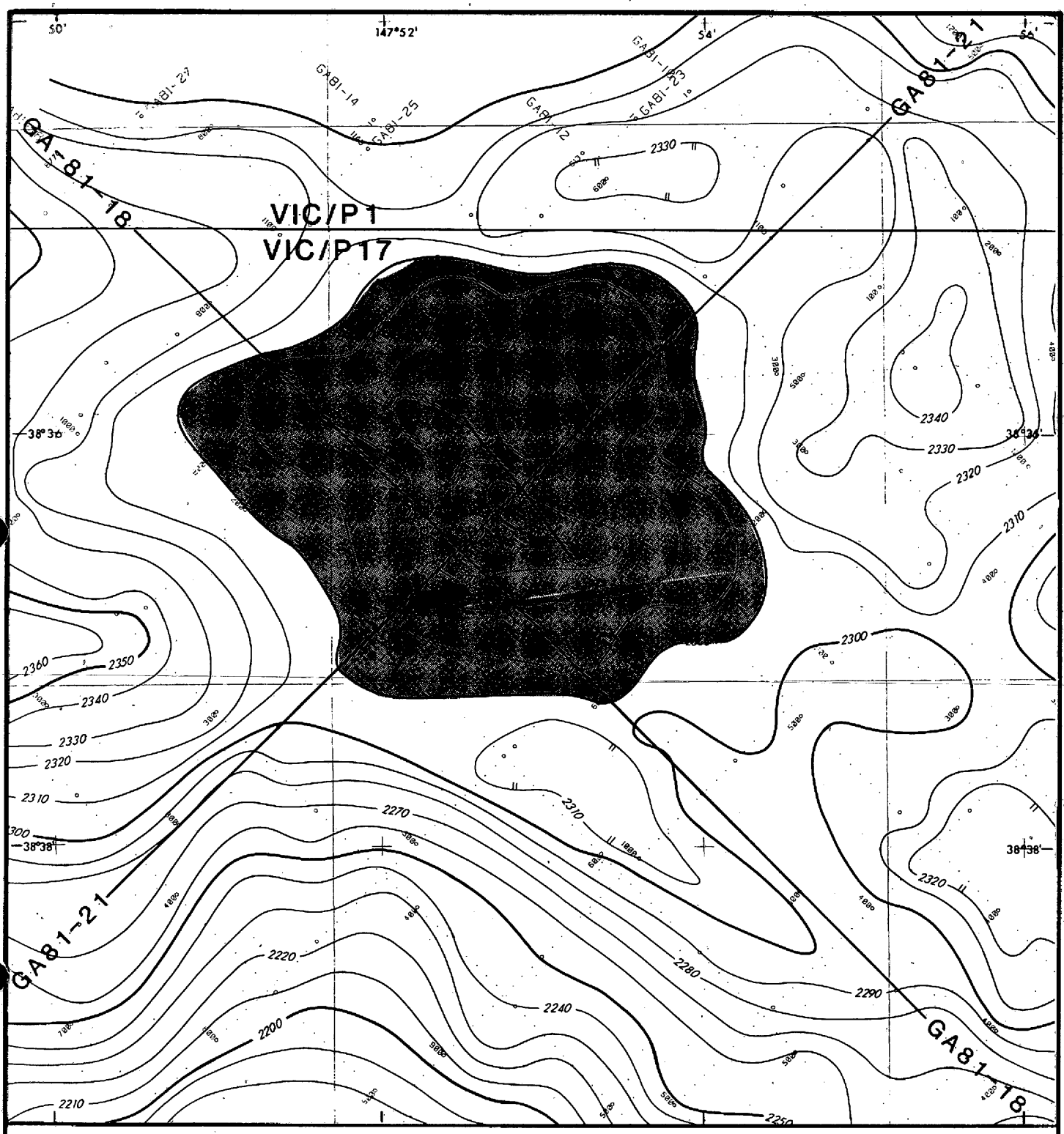

STRUCTURE – EDINA

CLOSURE :

AREA – 10·4 km² at 2290m
– 14·9 km² at 2300 m

VERTICAL – 53 m (max.)

Contour Interval 10M.

australian aquitaine petroleum pty ltd.

EDINA STRUCTURE

BROWN HORIZON

(Top of Latrobe Group)

SCALE 1:50,000

0 0·5 1 2 Kms

Author : J. BURBURY	Date : APRIL 1982	Dwg No : 20392	FIG-1
Drafted by : L. BAILEY	Report No : PG/164/82	Base Plan :	

AUSTRALIAN AQUITAINE PETROLEUM PTY. LIMITED

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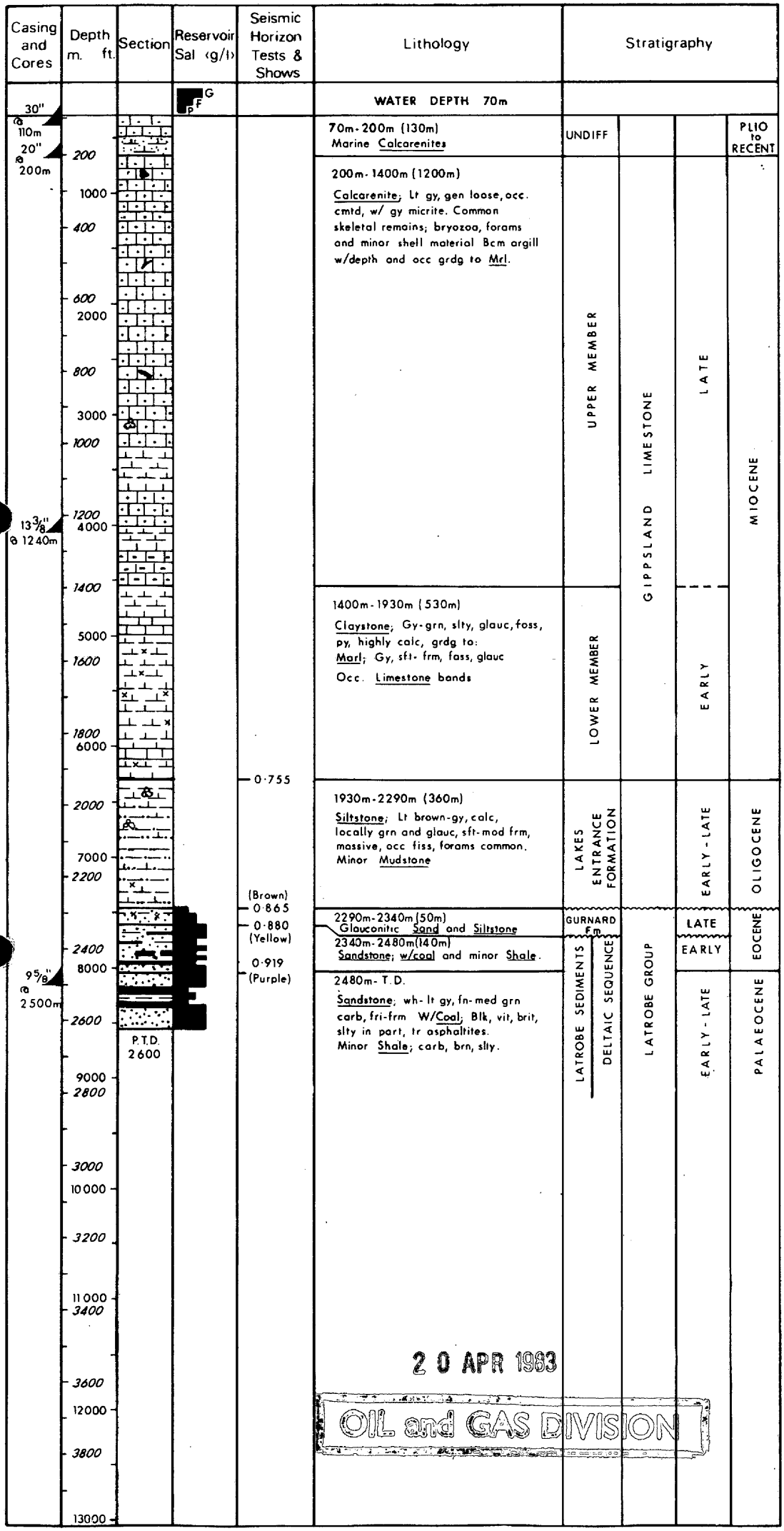
EDINA No. 1.

(PREDICTED SECTION)



Permit Vic/P17

Location Line GA81-21 S.P. 960

Latitude 38° 36' 22·4"S

Longitude 147° 52' 42·1"E

Rig "Ocean Digger"

K.B. 30 m

W.D. 70 m

P.T.D. 2600 m

Status New Field Wildcat

Spuds September 1982

Operator A.A.P.

Objectives 1. Uppermost sand sequence within Latrobe Group
2. Intra-Latrobe channel sands

Structure Un-named structural closure at top of Latrobe group. Area of closure 9·0 km² at 2340m M.S.L. from Isochron map.

Comments 1. Velocity analysis over structure used to calculate depths to seismic horizons
2. Stratigraphy based on regional well correlation with: Gurnard No. 1
Kingfish No. 7
Nannygai No. 1
Bullseye No. 1

Author: S. FORDER

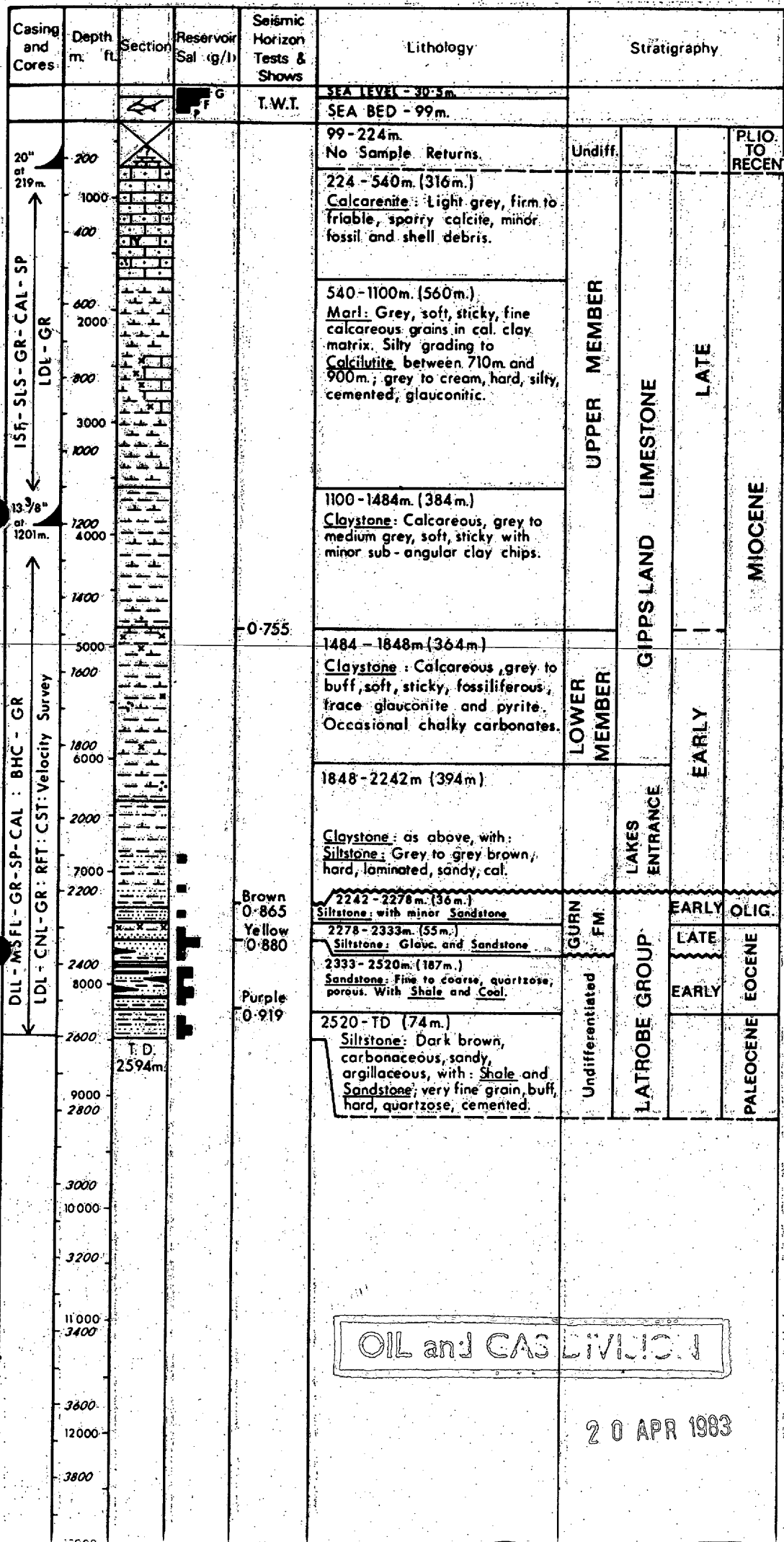
Date: SEPTEMBER 1982

Base Map No 9112

Reference No. 20383

australian aquitaine petroleum pty ltd 806916 177

EDINA No. 1
COMPLETED SECTION



Permit VIC/P17
Location SP960 Line GA81-21
Latitude 38° 36' 22·32" S.
Longitude 147° 52' 42·18" E.

Rig "OCEAN DIGGER"
K.B. + 30·5m. MSL.
W.D. - 68·5m. MSL.
T.D. 2594m. (K.B.)
Status P. and A. DRY HOLE
Spudded 29. 9. 82.
T.D. Reached 25. 10. 82.
Rig Released 1. 11. 82.
Operator A.A.P.

Cost $A. 7,881,992 prel.
Cost/ft. $A 3,038·55

Objectives
1. Uppermost sand sequence within the Latrobe Group.
2. Intra-Latrobe channel sands

Structure
Structural closure at top of Latrobe Group; area 9km². No closure below Purple Marker (Intra-Latrobe)

Comments
1. Both objective sand sequence were encountered in Edina-1 The upper sand from 2333 - to 2371m. in particular, having excellent reservoir characteristics. All sands were water saturated.
2. Minor traces of hydrocarbon gas (predominantly C_1) were recorded throughout the Latrobe Group while drilling. Maximum C_3 at 2444m KB (0·25%). No higher hydrocarbons were encountered.

Author: S. FORDER
Date:
Base Map No 9112
Reference No. 21650

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ELF AQUITAINE
Australia

Memorandum

TM/20/82

From	Department PETROLEUM EXPLORATION	Ref 5471:31:SF:efm	Date: 29.7.1982
To	R. LAWS		
	Copy to C. ALLIOT:F. BROPHY:C. LAMBERT: K. LY:VIC/P17 PARTNERS:S. GUYONNET		

Your Reference

Attachments

Subject EDINA RESERVES - A RE-EVALUATION

A final depth map on the top of the Latrobe Group (seismic Brown Horizon) has been prepared for the Edina prospect using spatially filtered Vnmo profiles on the objective horizon for conversion of seismic times to depth. The velocity mapping technique uses a large number of Vnmo picks from the horizon velocity analysis in an attempt to statistically overcome the inherent uncertainty of the process. The resultant final depth map differs significantly from the preliminary map, and consequently a re-evaluation of the possible reserves was necessary.

The method of reserves estimation was the same as mentioned in TM/12/82. In both cases detailed below, the gross pay volumes within the structure were obtained by the graphical method of plotting depth versus enclosed area.

As previously stated, the basic assumption is that we are dealing with an oil reservoir with no gas cap and a water drive recovery mechanism. Reservoir pressure is assumed to be above bubble point (cf Kingfish) and, therefore, the reservoir oil is undersaturated.

S. FORDER

EDINA RESERVES CALCULATION

Three cases are quoted:-

A. reserves in time structure
B. reserves in depth structure with a spillpoint at 2290m MSL
C. reserves in depth structure with a spillpoint at 2300m MSL

In each case two estimates have been calculated using average porosities of 20% and 23% - the higher porosity relating to upper shoreface barrier sand bodies which may be present at the Edina location.

PARAMETERS

Area of closure (with vertical relief)	A 9.0 km² @ 1.76 sec;	70m
	B 10.4 km² @ 2290m;	43m
	C 14.91 km² @ 2300m;	53m
Sand Percentage	64%+	
Average Porosity	20%+* & 23%	
Water Saturation	15%*	
Formation Pressure	232 kg/cm² @ 2290m*	
Atmospheric Pressure	1.0332 kg/cm²	
Formation Temperature	102°C @ 2290m*	
Ambient Temperature	12°C (at seabed)	
Recovery Factor	60%*	

\+ Parameters derived from Gurnard No. 1
* Parameters derived from Kingfish Field

The mathematical expression for hydrocarbon-in-place per acre-foot:-

$$N = \frac{7{,}758\ \emptyset\ (1\text{-}Sw)\ hA}{Boi}\ (STB)$$

N is oil in place (in STB)
Sw is water saturation expressed as a decimal
$\emptyset$ is porosity expressed as a decimal
h is net pay thickness (ft)
A is area of accumulation (acres)
Boi is initial oil formation volume factor (RB/STB)

For total reserves in place, where h and A are expressed in metres and square metres.

$$N = \frac{7{,}758}{1{,}233} \cdot \frac{\emptyset\ (1\text{-}Sw)\ hA}{Boi}\ (STB)$$

$$\therefore N = \frac{6{,}292 \times \emptyset \times (1\text{-}Sw) \times hA}{Boi}$$

Calculating Boi (initial oil formation volume factor).

Assume fluid properties the same as in the Kingfish field:

Oil Gravity	47° API @ 60°F
Initial GOR	363 cuft/bbl
Bubble Point	853 psig

With reservoir temperature of 215°F we obtain a gas gravity of 1.20 from figure 1. Entering this into figure 2 a formation volume factor (Boi) of 1.29 is produced.

CASE A: From Time Map

Spillpoint	1.760 sec TWT
Area	9.0 km²
Gross Pay Volume	210.5 x 10^6m³ (from graph - figure)
Net Pay Volume	134.72 x 10^6m³
With 20% porosity:	
Hydrocarbon in place (N)	111.7 x 10^6 STB
Recoverable Hydrocarbons	67.0 x 10^6 STB
With 23% porosity:	
Hydrocarbon in place (N)	128.5 x 10^6 STB
Recoverable Hydrocarbons	77.1 x 10^6 STB

CASE B: From Depth Map

Spillpoint	2290m MSL
Area	10.4 km²
Gross Pay Volume	128.9 x 10^6m³
Net Pay Volume	82.5 x 10^6m³
With 20% porosity:	
Hydrocarbons in place (N)	68.4 x 10^6 STB
Recoverable Hydrocarbons	41.0 x 10^6 STB
With 23% porosity:	
Hydrocarbons in place (N)	78.7 x 10^6 STB
Recoverable Hydrocarbons	47.2 x 10^6 STB

CASE C: From Depth Map

Spillpoint	2300m MSL
Area	14.9 km²
Gross Pay Volume	254.9 x 10^6m³
Net Pay Volume	163.1 x 10^6m³
With 20% porosity:	
Hydrocarbons in place (N)	135.3 x 10^6 STB
Recoverable Hydrocarbons	81.2 x 10^6 STB
With 23% porosity:	
Hydrocarbons in place (N)	155.6 x 10^6 STB
Recoverable Hydrocarbons	93.3 x 10^6 STB

The estimated recoverable hydrocarbons contained within the Edina structure may be summarised by the following table.

TABLE NO. 1		AVERAGE POROSITY	
		20%	23%
SPILLPOINT	2290 m MSL	41.0 x 10^6 STB	47.2 x 10^6 STB
	2300 m MSL	81.2 x 10^6 STB	93.3 x 10^6 STB

RECOVERABLE HYDROCARBONS

The above table contains reserves estimates relating to the depth structure only; calculations based on the time structure (Case A) being included for comparison only. Calculation of the gross pay volume for the time structure is not as accurate as for the depth structure because of errors inherent in the time-depth conversion.

It can be seen that the gross pay volume for the time structure is greater than for the depth structure (spillpoint 2290m MSL); although the time structure is 1.4 km² less in area. This apparent anomaly is due to the relative vertical closure of 70m on the depth-converted time structure and 43m on the depth structure with a 2290m MSL spillpoint.

ATTACHMENTS:

Figure 1	"Edina" structure - brown horizon	
Figure 2	"Properties of Natural Hydrocarbon Mixtures ... Bubble-Point Pressure"	For determination of Boi
Figure 3	"Formation Volume of Bubble-Point Liquids"	
Figure 4	"Area vs Depth Graph - Edina Depth Structure".	

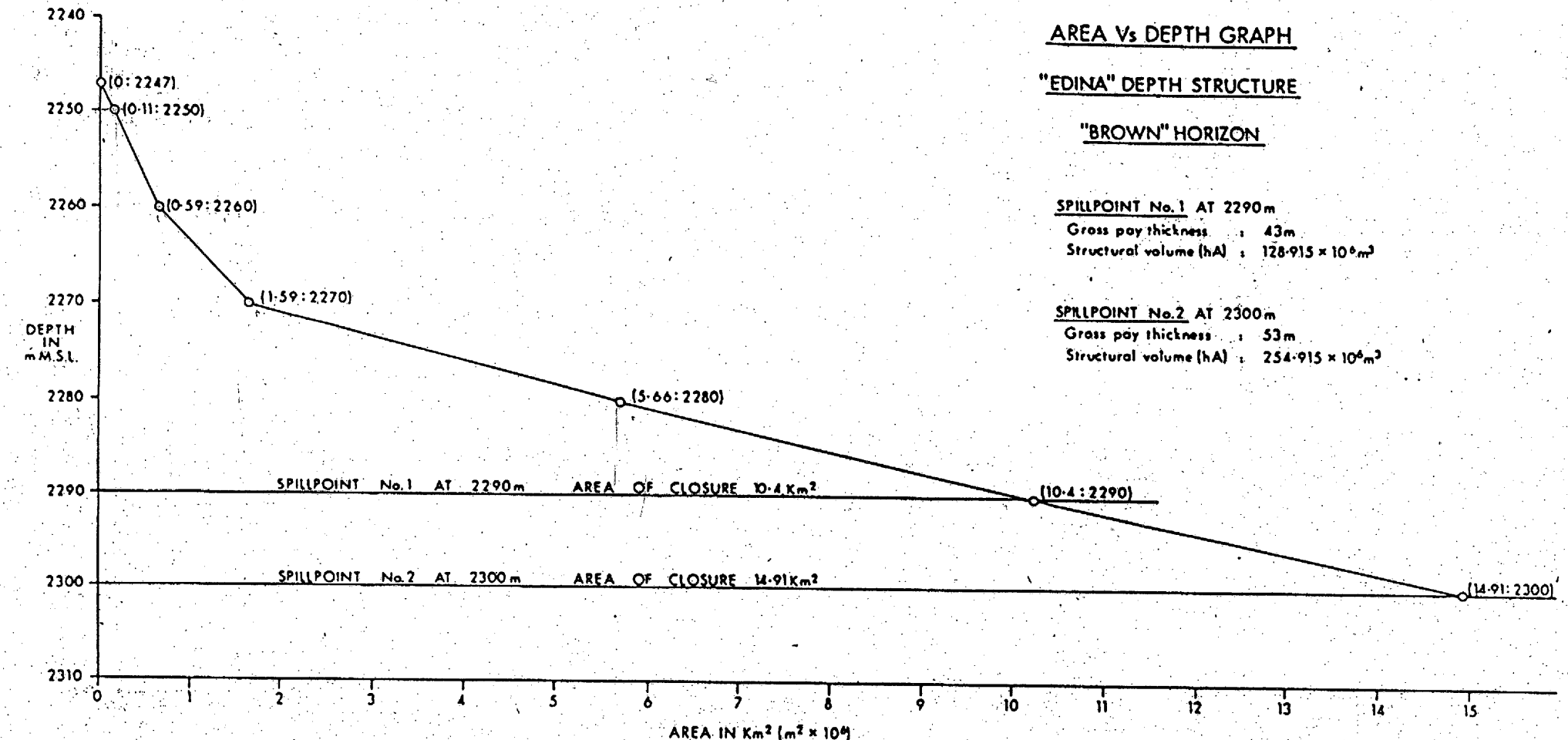

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FIGURE 4

Dwg. No : 20905

PE806924

This is an enclosure indicator page.
The enclosure PE806924 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806924 has the following characteristics:

ITEM_BARCODE	= PE806924
CONTAINER_BARCODE	= PE806916
NAME	= Final Stack Section for Line GA81-18
BASIN	= GIPPSLAND
ONSHORE?	=
DATA_TYPE	= SEISMIC
DATA_SUB_TYPE	= INTERP_SECTION
DESCRIPTION	= Final Stack Section with Interpretation for Line GA81-18, SP: 1 to 877, GA81 Seismic Survey, VIC/P17, Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	=
DATE_WRITTEN	= 30-NOV-1981
DATE_PROCESSED	= 31-JAN-1982
DATE_RECEIVED	= 20-APR-1983
RECEIVED_FROM	= Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	=
CONTRACTOR	=
AUTHOR	=
ORIGINATOR	=
TOP_DEPTH	=
BOTTOM_DEPTH	=
ROW_CREATED_BY	= FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806925

This is an enclosure indicator page.
The enclosure PE806925 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806925 has the following characteristics:

ITEM_BARCODE	PE806925
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-21
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section with Interpretation for Line GA81-21, SP: 1 to 1338, GA81 Seismic Survey, VIC/P17, Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806926

This is an enclosure indicator page.
The enclosure PE806926 is enclosed within the container PE806916 at this location in this document.

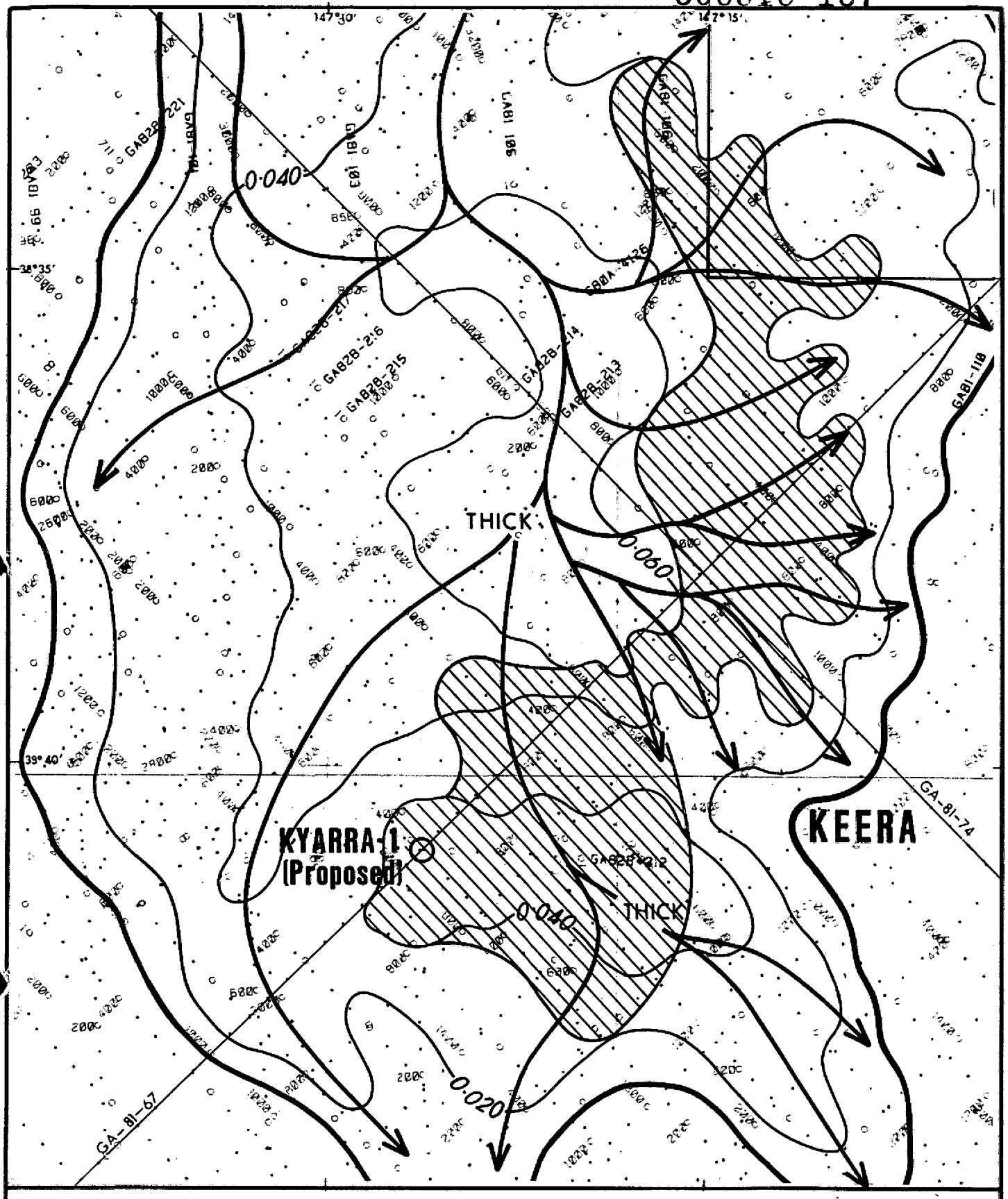
The enclosure PE806926 has the following characteristics:

ITEM_BARCODE	PE806926
CONTAINER_BARCODE	PE806916
NAME	Proposed Edina-1 Prospect Montage
BASIN	GIPPSLAND
ONSHORE?	N
DATA_TYPE	WELL
DATA_SUB_TYPE	MONTAGE
DESCRIPTION	Proposed Edina-1 Prospect Montage, Contains: Predicted Stratigraphic Section, Interpreted Seismic Sections, Structure Maps, Location Map and Well Data, Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	
DATE_PROCESSED	
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	Edina-1
CONTRACTOR	
AUTHOR	
ORIGINATOR	Australian Aquitaine Petroleum Pty Ltd
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

KEERA

PROSPECT



KEERA PROSPECT

Contour Interval: 0.020

Datum: Sea Level

SCALE : 1 : 100 000

0 1 2 4 Kms

australian aquitaine

petroleum pty. ltd.

GIPPSLAND BASIN

VIC/P17

ISOCHRON, BASAL GURNARD FORMATION

Author : S. MACKIE	Date : FEBRUARY 1983	Dwg No:21530
Drafted By : L. BAILEY	Report No :	Base Plan : 21249 / 21246

PE806930

This is an enclosure indicator page.
The enclosure PE806930 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806930 has the following characteristics:

ITEM_BARCODE	PE806930
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-67
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-67, SP: 1 to 2842, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806931

This is an enclosure indicator page.
The enclosure PE806931 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806931 has the following characteristics:

ITEM_BARCODE	PE806931
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-74
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-74, SP: 130 to 1544, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

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KYARRA

PROSPECT

GENERAL INFORMATION

Name of Well:	Kyarra No. 1 (KRA 1)
Location:	S.P. 780 on Line GA81-67 Latitude: 38°40'51.9"S Longitude: 147°11'12.4"E
ESTIMATED SPUD DATE:	January 1983
ESTIMATED DURATION:	31 days (dry hole)
ESTIMATED COST:	$6,920,000 (dry hole)
PERMIT:	VIC/P17
OPERATOR:	Australian Aquitaine Petroleum Pty Ltd 25% (for Australian Occidental Petroleum 25% Alliance Resources Pty Limited 25% Agex Pty Limited 12.5% Consolidated Petroleum Aust. NL 12.5%)
STRUCTURE:	Kyarra
RIG:	Ocean Digger
WATER DEPTH:	43 metres
DISTANCE:	Port Welshpool 63 km Nearest Landfall (90 Mile Beach) 24 km
PROPOSED T.D.:	2,000 metres (or basement)

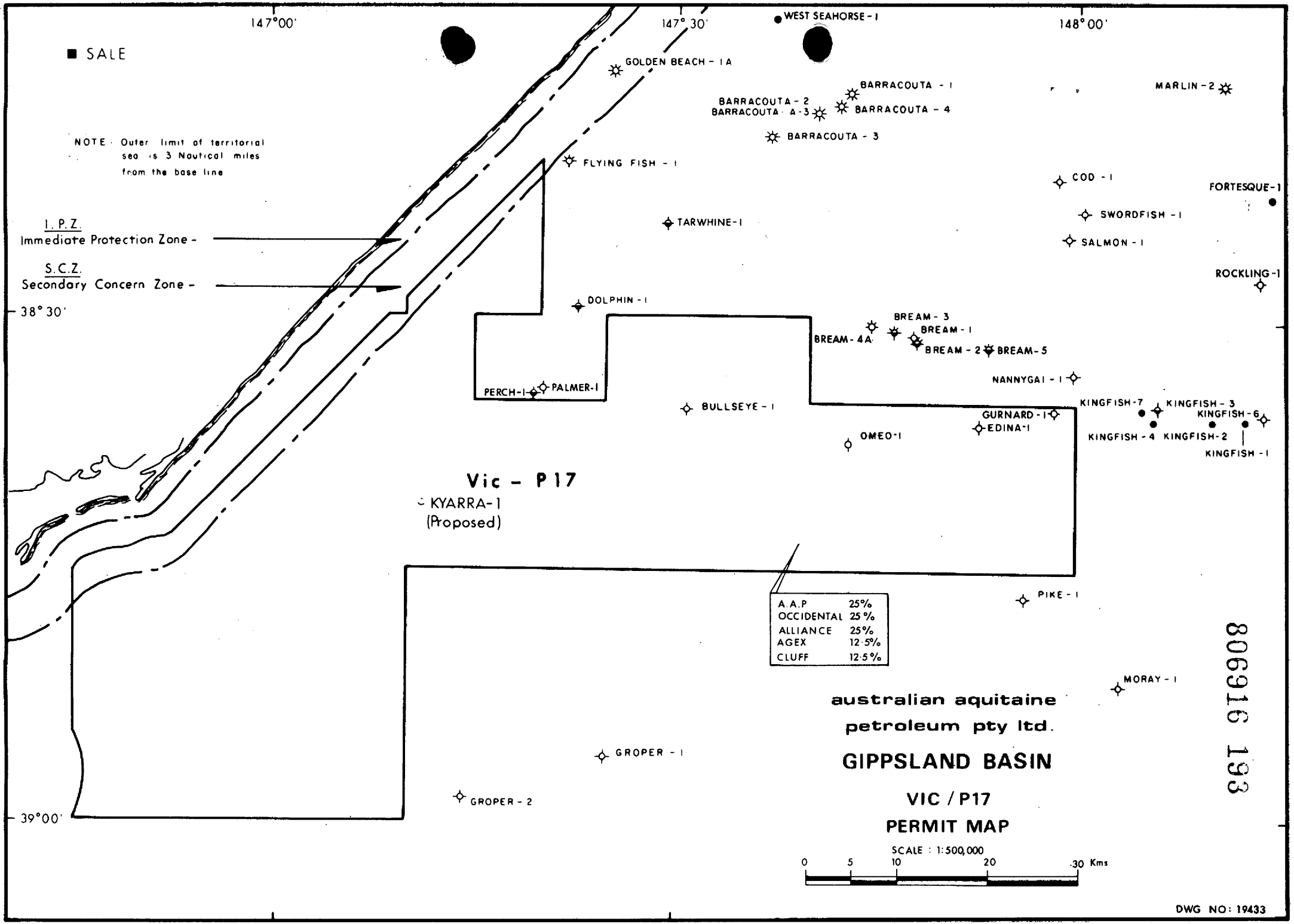
LOCATION OF WELL

"Kyarra No. 1" is located in permit area VIC/P17 55 km east of Port Welshpool and 23 km from the nearest landfall at Ninety Mile Beach.

Location: SP 780 on Line GA81-67
Latitude: 38°40'51.9"S
Longitude: 147°11'12.4"E
Northing: 5718581
Easting: 516246
(Australian National Grid Zone 55)

This location is 16.5 km southwest of Perch No. 1.

The well is located 8.75 metres to the southwest of the intersection of line GA81-67 and GA81-84. At this location the Latrobe Group is predicted to be approximately 800 metres thick and immediately overlie metamorphosed Devonian sediments which comprise the basement in this region. The location has been chosen to test the eastern Kyarra structural culmination and also drill into the western portion of a top-Latrobe stratigraphic delta-sand play.


147°00'
147° 30'
148° 00'
SALE
WEST SEAHORSE - 1
GOLDEN BEACH - 1A
BARRACOUTA - 1
BARRACOUTA - 2
BARRACOUTA - A-3
BARRACOUTA - 4
BARRACOUTA - 3
MARLIN - 2
NOTE · Outer limit of territorial sea is 3 Nautical miles from the base line
FLYING FISH - 1
COD - 1
FORTESQUE - 1
SWORDFISH - 1
TARWHINE - 1
SALMON - 1
I. P. Z.
Immediate Protection Zone -
S.C.Z.
Secondary Concern Zone -
ROCKLING - 1
38° 30'
DOLPHIN - 1
BREAM - 3
BREAM - 1
BREAM - 4A
BREAM - 2
BREAM - 5
NANNYGAI - 1
PERCH - 1
PALMER - 1
BULLSEYE - 1
KINGFISH - 7
KINGFISH - 3
KINGFISH - 6
GURNARD - 1
EDINA - 1
OMEO - 1
KINGFISH - 4
KINGFISH - 2
KINGFISH - 1
Vic - P17
KYARRA - 1
(Proposed)
A.A.P 25%
OCCIDENTAL 25 %
ALLIANCE 25%
AGEX 12·5%
CLUFF 12·5%
PIKE - 1
MORAY - 1
GROPER - 1
GROPER - 2
39°00'
australian aquitaine
petroleum pty ltd.
GIPPSLAND BASIN
VIC / P17
PERMIT MAP
SCALE : 1:500,000
0 5 10 20 30 Kms
DWG NO: 19433
806916 193

STRUCTURE

Kyarra consists of two small structural culminations formed by slight drag folding of Latrobe Group sediments above an active strike-slip basement fault. The age of the structure is considered to be Late Miocene as deformation can be traced through much of the Miocene sequence with sedimentary onlap occurring in the uppermost Miocene. Above this level the seismic horizons show no disturbance.

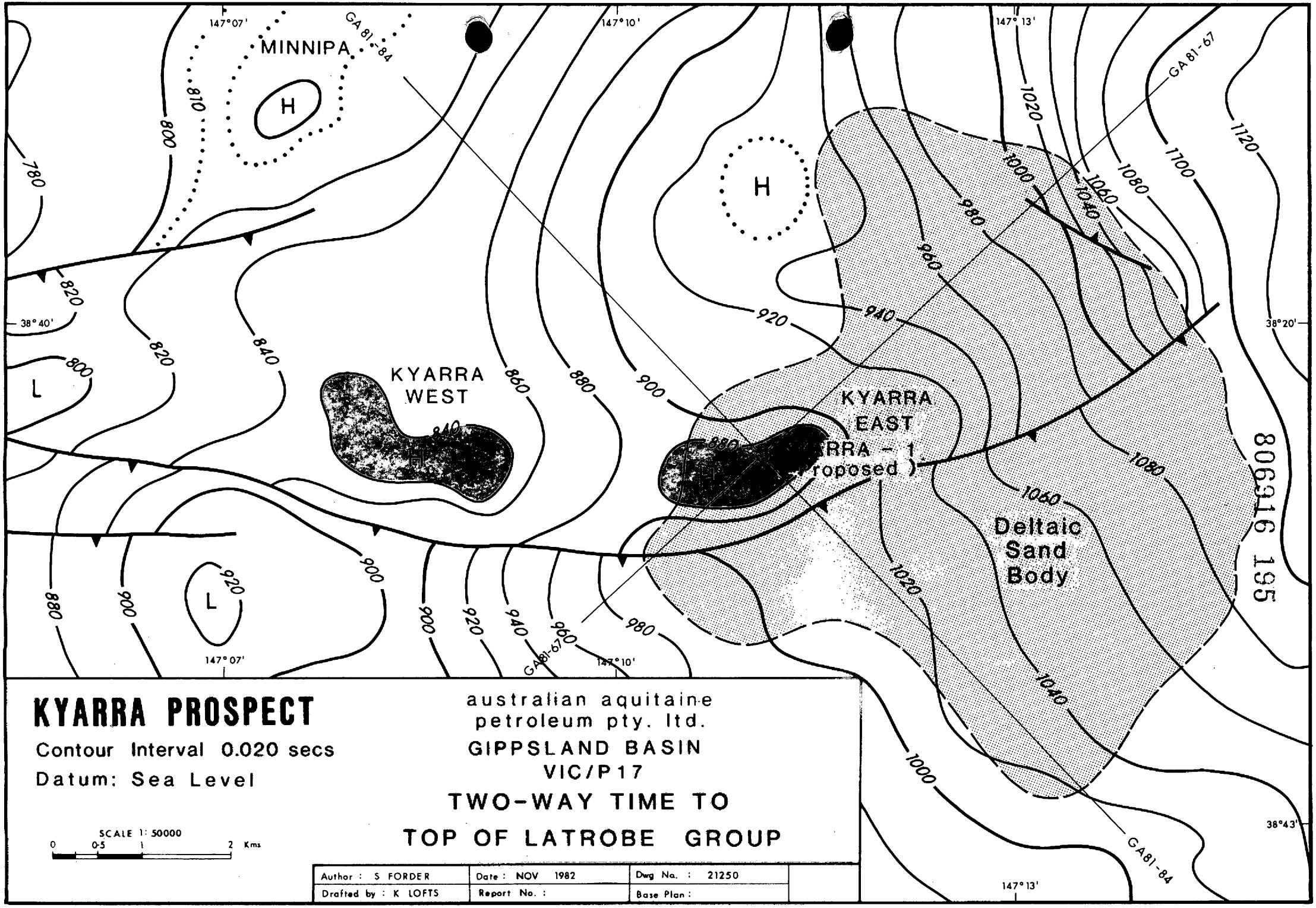
The Strzelecki Group is not present upon the fault block underlying the Kyarra location and it is interpreted that the Latrobe Group rests directly on top of metamorphosed Devonian sediments, which form the basement at this location.

Seismic stratigraphic interpretation has also revealed the probable presence of a deltaic sand body near the top of the Latrobe Group and mapping has established that this body underlies the proposed Kyarra No. 1 location.

To date, only isochron mapping has been completed over the Kyarra structure. Velocity analysis is complete and the production of a depth map awaits the processing of this data.

The Kyarra time-structure consists of two small closures (see accompanying figure) of approximately 1.8 km² (western closure) and 1.3 km² (eastern closure). The structural relief is respectively 15 millisec (TWT); 30 millisec (TWT) and 20 millisec (TWT) at the level of the Brown, Yellow and Purple Horizons.

The delta sand which is interpreted to underlie the eastern closure has an areal extent of approximately 32.5 km² and is one of the two principal drilling targets for the Kyarra No. 1 well.



KYARRA PROSPECT

Contour Interval 0.020 secs

Datum: Sea Level

SCALE 1: 50000

0 0·5 1 2 Kms

australian aquitaine petroleum pty. ltd.

GIPPSLAND BASIN

VIC/P17

TWO-WAY TIME TO TOP OF LATROBE GROUP

Author : S FORDER	Date : NOV 1982	Dwg No. : 21250
Drafted by : K LOFTS	Report No. :	Base Plan :

AUSTRALIAN AQUITAINE PETROLEUM PTY. LIMITED

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KYARRA #1 (Proposed)

Casing and Cores	Depth m. ft. M.S.L.	Section	Reservoir Sal (g/l)	Seismic Horizon Tests & Shows	Lithology	Stratigraphy			
				T.W.T.	SEA FLOOR −43 m				
			G F P		43 - 440 m (397 m) Limestone : Skeletal - detrital, white to buff, slightly argillaceous and glauconitic, firm, massive.		GIPPSLAND LIMESTONE	LATE	MIOCENE - RECENT
	200 1000			0·465	440 - 815 m (375) Limestone : Buff to grey/brown, firm, detrital, slightly argillaceous, granular matrix. Sandstone : Light grey, fine to coarse grain, chert frags.			EARLY	
	400 600 2000			0·745					
	800 3000			BROWN 0·885	815 - 970 m (155) Mudstone : Light grey to light green, calcareous, pyrytic, glauconitic, fossiliferous	LAKES ENTR. FM.		E-L	OLIG.
	1000			0·930 YELLOW	970 m Sandstone : Medium to fine. 1050m Predominantly Siltstone. 1105m Lignitic Shale. 1150m Coal with Siltstone and Shale. 1211 m Siltstone and Sandstone interbedded.	GURNARD	LATROBE GROUP	EARLY - LATE	EOCENE
	1200 4000			1·090 PURPLE	1335m - 1770m (435m) Sandstone: fine to medium grain, light grey/green, lithic, calcareous, micaceous and carbonaceous. Siltstone: grey to grey/brown, very argillaceous, hard, pyritic, micaceous, carbonaceous.	UNDIFFERENTIATED LATROBE			L. CRETACEOUS TO PALAEOCENE
	1400 5000 1600								
	1800 6000			1·335	1770m - T.D. Metamorphosed. Conglomerates, sandstones and pebbly sandstones (red beds) and interbedded Rhyolite.				DEVONIAN
	2000 7000 2200	T.D. 2000m		1·437	Note: T.D. will be 2,000m unless basement is encountered at a shallower depth. Prognosed depth to basement is shallowest probable case.				
	2400 8000								
	2600 9000 2800								
	3000 10000								
	3200 11000 3400								
	3600 12000								
	3800 13000								

Permit VIC/P17

Location Line GA81-67 S.P. 780

Latitude 38° 40' 51·9"S

Longitude 147° 11' 12·4"E

Rig OCEAN DIGGER

K.B. +30·5m M.S.L.

G.L. -43·0m M.S.L.

T.D. 2000m

Status WILDCAT

Spudded DECEMBER 1982

Operator A.A.P.

Cost

Cost/ft.

Objectives

(1) Upper Latrobe Group delta front sand body.

(2) Channel and bar sands of Latrobe Group.

Structure Late Miocene rollover associated with reverse faulting, but independant of fault closure.

Comments

(1) Location is selected to test Top-Latrobe structure and also a deltaic sand, stratigraphic play of probable Late Eocene age.

(2) Top of basement is very indistinct on seismic and may be deeper than indicated.

(3) From seismic character basement is of Devonian metamorphosed sediments.

(4) Strzelecki Group is interpreted to be absent at this location.

Author: S. FORDER

Date: NOV. 1982

Base Map No 9112

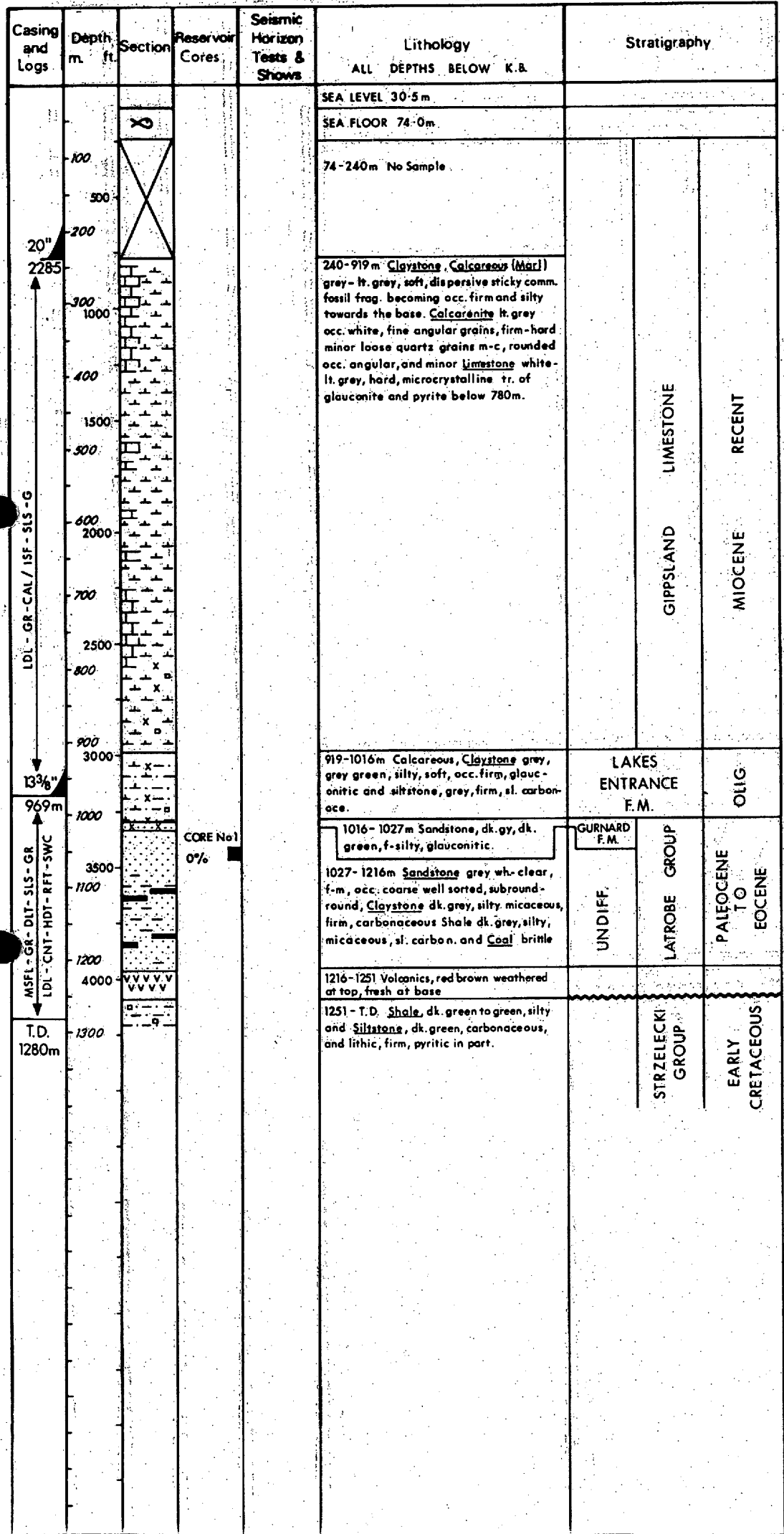
Dwg. No.: 21229

australian aquitaine petroleum pty ltd

KYARRA No.1A

Provisional Completed Section

806916 197



Permit Vic/P17

Location

Latitude 38°40'52·54"S

Longitude 147°11'12·31"E

Rig Ocean Digger

K.B. 30·5m

W.D. 74·0m (K.B.)

T.D. 1280m (K.B.)

Status P&A on 28-2-83

Spudded 11-2-83 (No1)
16-2-83 (No1A)

T.D. Reached 23-2-83.

Operator A.A.P.

Cost

Cost/ft.

Objectives 1) Upper Latrobe Group delta front sand body

2) Channel and bar sands of Latrobe Group.

Structure Late miocene rollover associated with reverse faulting, but independant of fault closure.

Comments

1. Strzelecki top not predicted in implantation.
2. Dip 20° west below 1251m (Cyberdip)

Author: V. DJOKIC

Date: APRIL 1983

Base Map No 9112

Reference No. 21709

RESERVOIR POTENTIAL

Two major reservoir sequences are proposed as drilling targets in Kyarra No. 1.

The upper potential reservoir is a deltaic sand body of Late Eocene age which has been interpreted from seismic stratigraphy and underlies the proposed location. The eastern Kyarra structural culmination also represents the highest point of this deltaic sand. The reason for this is that Kyarra is situated at the Western extremity of the deltaic sand body which dips regionally towards the northeast.

Due to a lack of well control within the top-Latrobe delta complex, the sedimentary facies to which the sand body belongs cannot be accurately assessed. However, it is proposed that these are delta front sands sealed laterally by shales of the prodelta and flood plain.

The proposed delta sand which will be drilled in the Kyarra No. 1 well actually forms a separate, stratigraphic play to that of Kyarra. This play has been mapped as two discrete bodies and has been named Keera. It is the southern sand body which will be drilled in Kyarra No. 1.

Below the delta sand a predominantly silty sequence passes downwards into lignitic shales, coals and siltstones of the flood plain to marsh environments. This sequence forms the seal for the second proposed reservoir zone of fine to medium grained sandstones within the fluvio-deltaic Undifferential Latrobe Group.

In Perch No. 1, 16.5 km to the northeast of Kyarra No. 1, the fluviatile sands were slightly lithic and argillaceous with interbedded shale and coal.

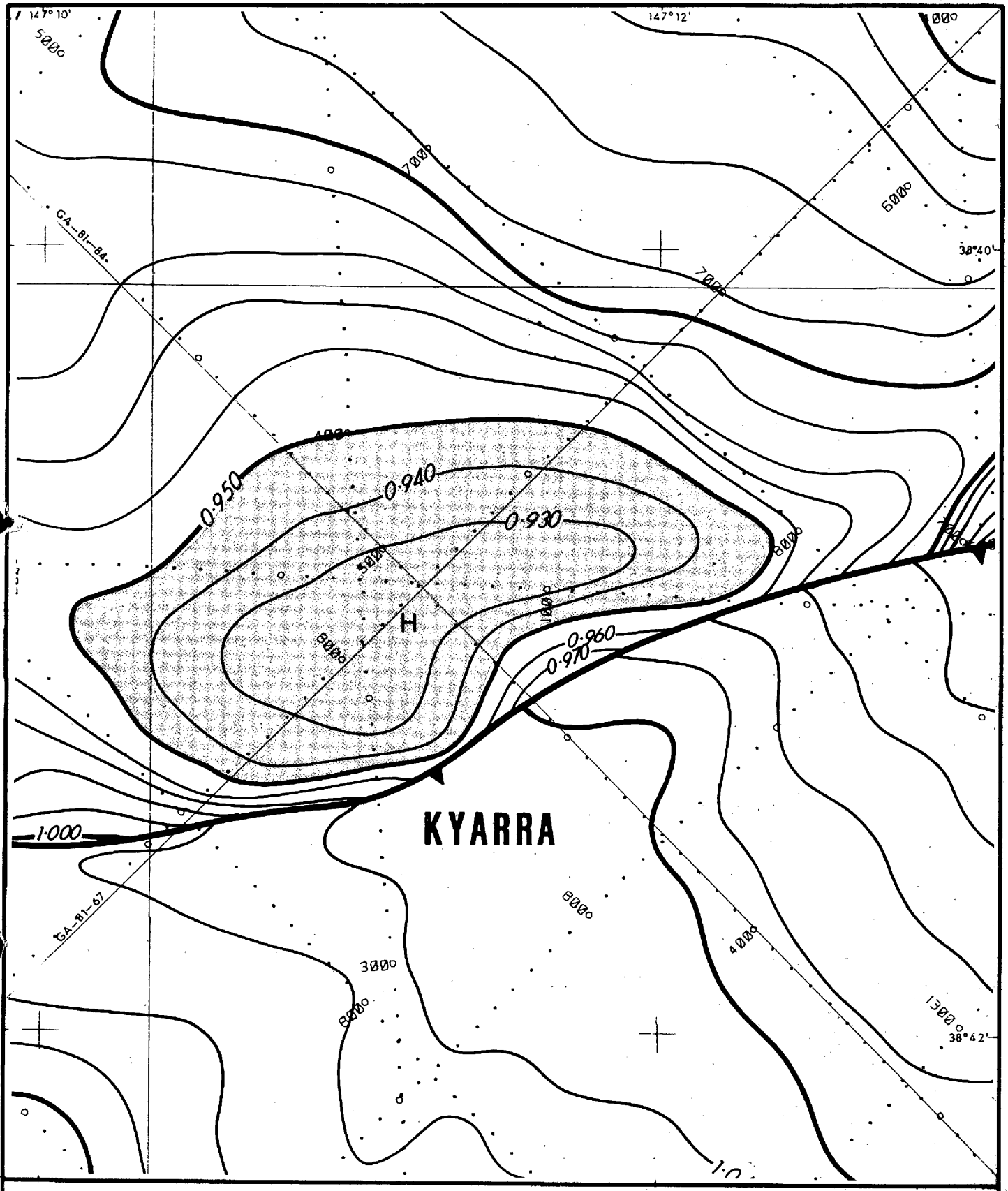
SEAL

The vertical seal for the upper Latrobe deltaic sand is formed by the mudstones of the Lakes Entrance Formation which is prognosed to be 155 metres thick at the Kyarra No. 1 location. Above this the Gippsland Limestone is composed predominantly of skeletal remains and has a high secondary porosity where noted in outcrop.

The lateral seal for the Keera deltaic sand is proposed to be prodelta and flood plain shales.

Below the deltaic sand the vertical seal for the sandstones of the Undifferentiated Latrobe Group is formed by the lignitic shales, siltstones and coal of the flood plain and marsh environments. Prodelta shales may be present at the top of this sequence, immediately below the overlying deltaic sand.

806916 200



KYARRA PROSPECT

Contour Interval: 0.010 sec
Datum : Sea Level

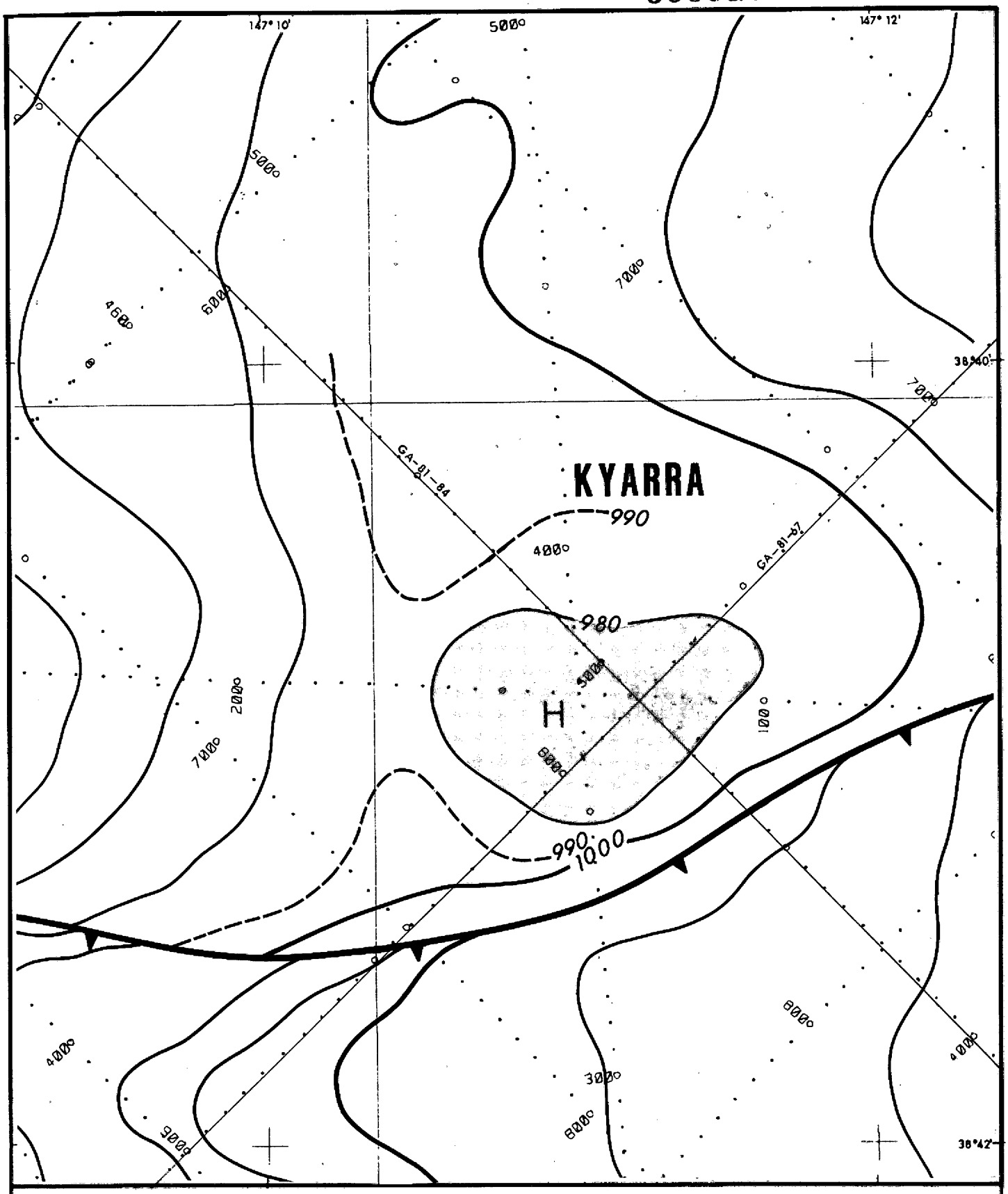
SCALE : 1 : 25 000
0 500 1000 Metres

australian aquitaine
petroleum pty. ltd.
GIPPSLAND BASIN
VIC/P17

TWO WAY TIME TO LATROBE FORMATION TOP

Author : C. HODGE.	Date : FEBRUARY 1983	Dwg No: 21533
Drafted By : L BAILEY	Report No:	Base Plan: 21281/21324

806916 201



KYARRA PROSPECT

Contour Interval : 20 metres

Datum: Sea Level

SCALE : 1:25000

0 500 1000 Metres

australian aquitaine
petroleum pty. ltd.

GIPPSLAND BASIN VIC/P17

DEPTH TO TOP OF LATROBE GROUP

Author: C.HODGE.	Date : FEBRUARY 1983	Dwg No: 21529
Drafted By :S.JACOBS	Report No:	Base Plan: 21384

PE806932

This is an enclosure indicator page.
The enclosure PE806932 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806932 has the following characteristics:

ITEM_BARCODE	PE806932
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-67
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-67, SP: 1 to 2842, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806933

This is an enclosure indicator page.
The enclosure PE806933 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806933 has the following characteristics:

ITEM_BARCODE	PE806933
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-84
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-84, SP: 1 to 1225, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806927

This is an enclosure indicator page.
The enclosure PE806927 is enclosed within the container PE806916 at this location in this document.

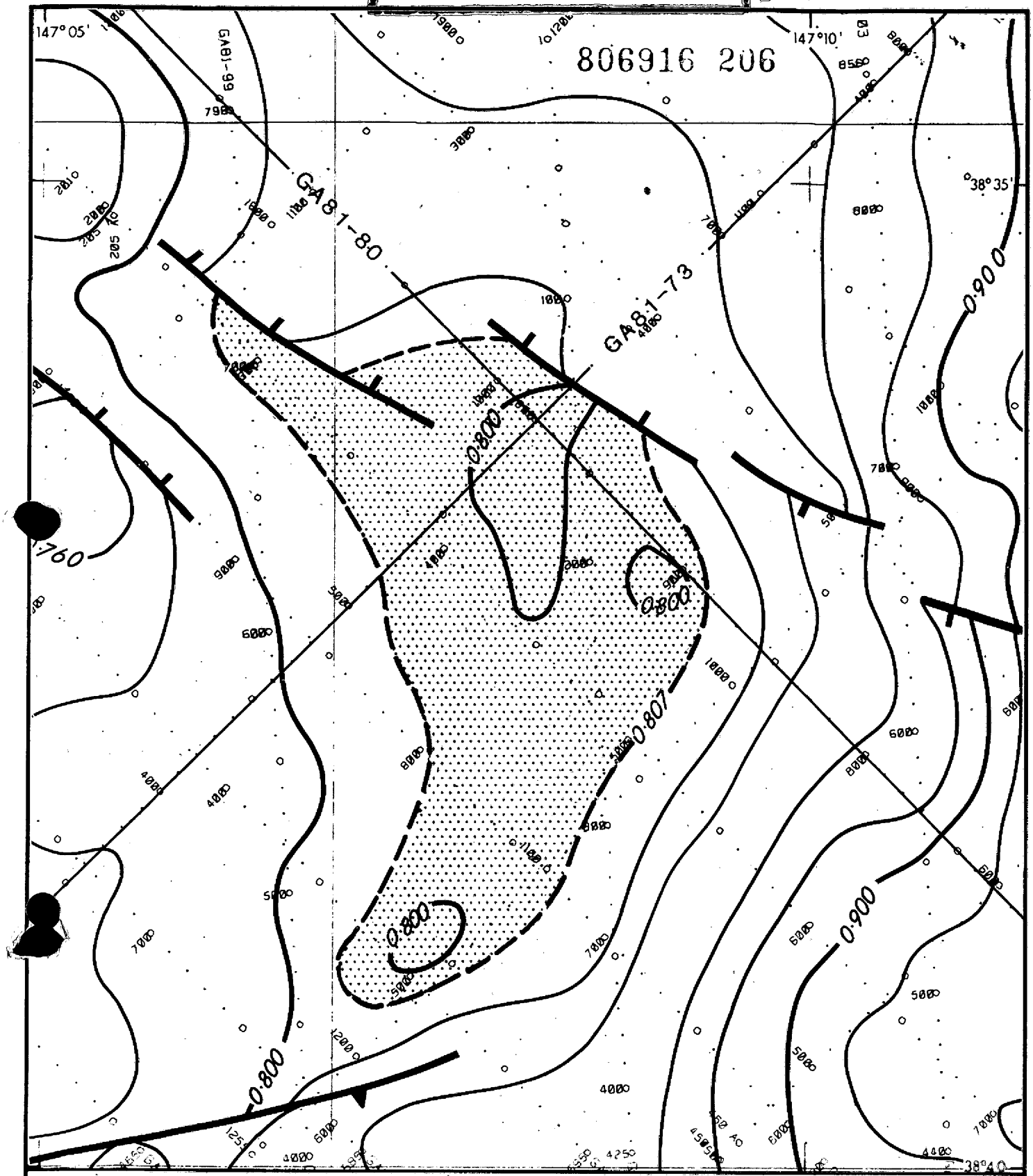
The enclosure PE806927 has the following characteristics:

ITEM_BARCODE	PE806927
CONTAINER_BARCODE	PE806916
NAME	Proposed Kyarra-1 Prospect Montage
BASIN	GIPPSLAND
ONSHORE?	N
DATA_TYPE	WELL
DATA_SUB_TYPE	MONTAGE
DESCRIPTION	Proposed Kyarra-1 Prospect Montage, Contains: Predicted Stratigraphic Section, Interpreted Seismic Sections, Structure Maps, Location Map and Well Data, Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	
DATE_PROCESSED	
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	Kyarra-1A
CONTRACTOR	
AUTHOR	
ORIGINATOR	Australian Aquitaine Petroleum Pty Ltd
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

MINNIPA

PROSPECT



MINNIPA PROSPECT

Contour Interval 0.020 secs.

Datum: Sea Level

SCALE 1:50000

0 0·5 1 2 Kms

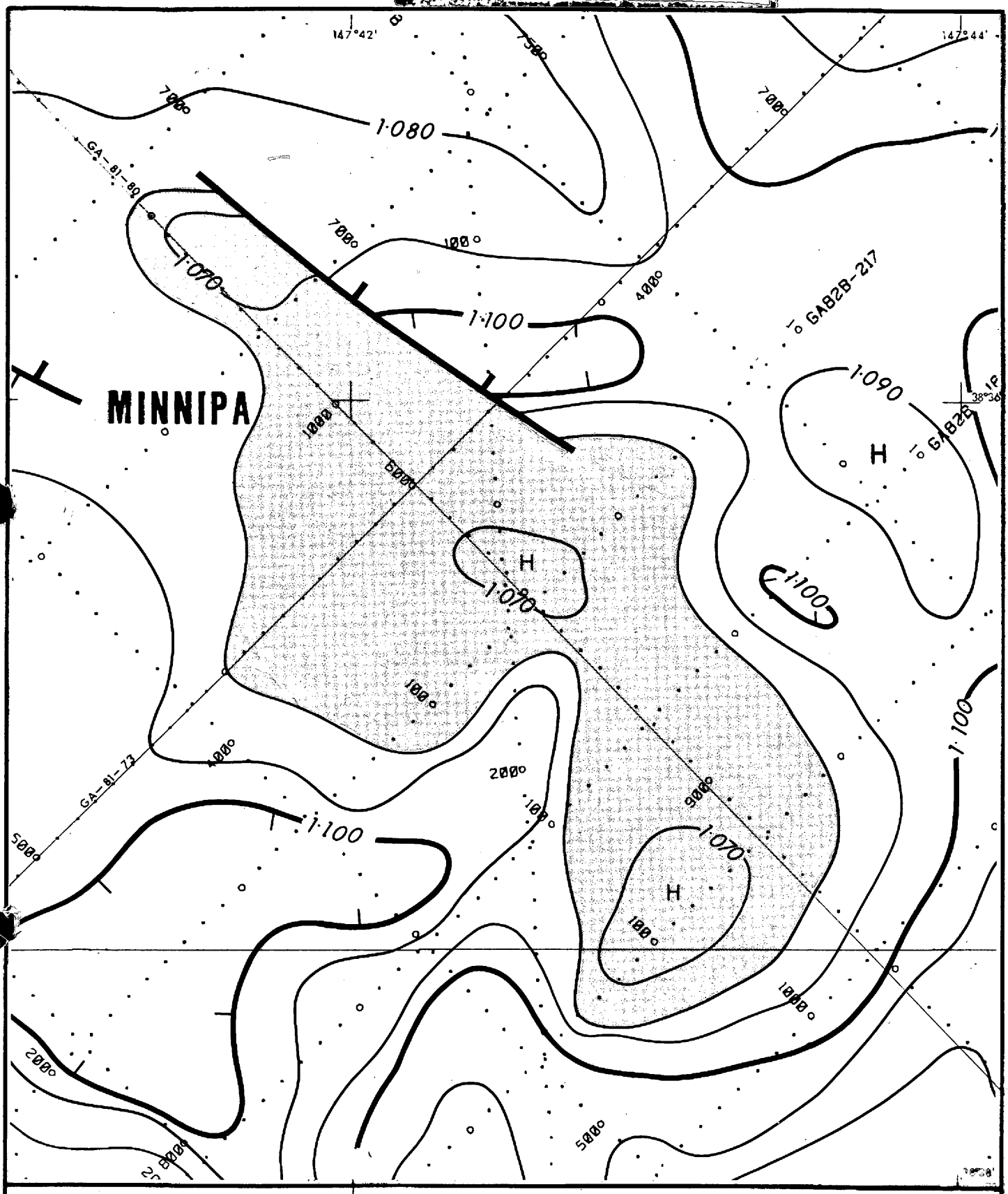
australian aquitaine petroleum pty. ltd.

GIPPSLAND BASIN

VIC/P17

TWO-WAY TIME TO TOP OF LATROBE GROUP

Author: S. MACKIE	Date: JUNE 1982	Dwg No: 20658
Drafted by: J. PENHEY	Report No:	Base Plan: 20397



MINNIPA PROSPECT

Contour Interval: 0.010 sec

Datum: Sea Level

SCALE 1:25 000

0 500 1000 Metres

australian aquitaine petroleum pty. ltd.

GIPPSLAND BASIN

TWO WAY TIME TO INTRA-LATROBE PURPLE MARKER

Author: C.HODGE.	Date: FEBRUARY 1983	Dwg No: 21500
Drafted By: S.JACOBS	Report No:	Base Plan: 21281/21322

PE806950

This is an enclosure indicator page.
The enclosure PE806950 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806950 has the following characteristics:

ITEM_BARCODE	PE806950
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-80
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-80, SP: 1 to 1305, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806934

This is an enclosure indicator page.
The enclosure PE806934 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806934 has the following characteristics:

ITEM_BARCODE	PE806934
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-73
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-73, SP: 1 to 1687, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

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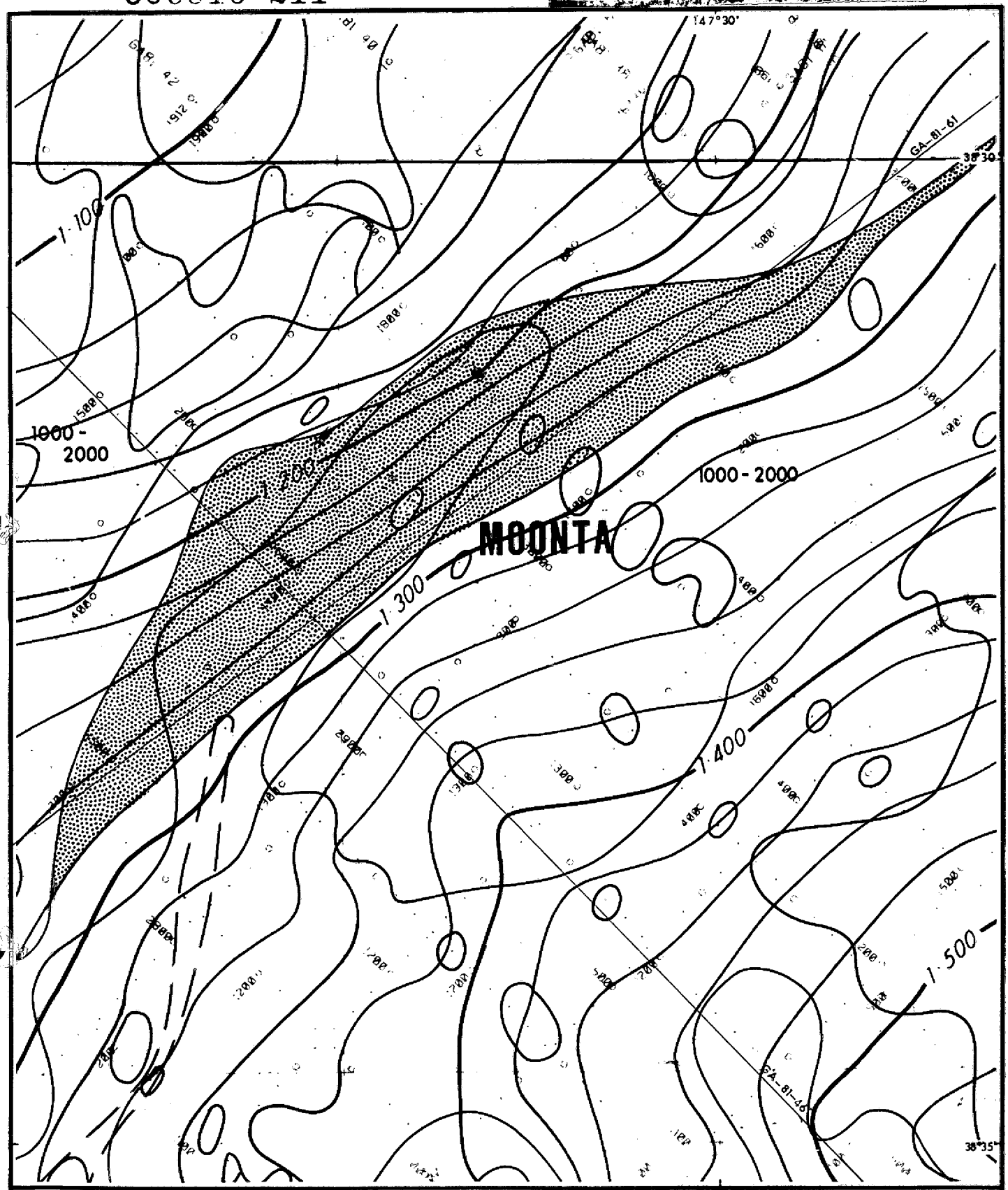
MOONTA

PROSPECT



MOONTA PROSPECT

Contour Interval: 0.020 Sec

Datum: Sea Level

SCALE 1:25000

0 500 1000 Metres

australian aquitaine petroleum pty. ltd.

GIPPSLAND BASIN VIC/P17

AMPLITUDE ZONE AT TOP LATROBE BROWN HORIZON

Author: K.LY.	Date: FEBRUARY 1983	Dwg No: 21528
Drafted By: L.BAILEY	Report No:	Base Plan: 21397

PE806935

This is an enclosure indicator page.
The enclosure PE806935 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806935 has the following characteristics:

ITEM_BARCODE	PE806935
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-46
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-46, SP: 1 to 1621, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806936

This is an enclosure indicator page.
The enclosure PE806936 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806936 has the following characteristics:

ITEM_BARCODE	PE806936
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-61
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-61, SP: 1 to 1861, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

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OMEO

PROSPECT

I GENERAL INFORMATION

Name of Well:	Omeo No. 1
Location:	SP 920 on Line GA81-33 Latitude: 38°36'45.6"S Longitude: 147°43'02.5"E
Estimated Spud Date:	November 1982
Estimated Duration:	70 days (dry hole)
Estimated Cost:	$A10,500,000 (dry hole)
Permit:	VIC/P17
Operator:	Australian Aquitaine Petroleum Pty Ltd 25% (for Australian Occidental Petroleum 25% Alliance Resources Pty Ltd 25% Agex Pty Limited 12.5% Cluff Oil (Aust.) NL 12.5%)
Structure:	"Omeo"
Rig:	"Ocean Digger"
Water Depth:	61 metres
Distances:	Port Welshpool 105 km Nearest Landfall (90 Mile Beach) 51.5 km
Proposed TD:	3800 metres RKB
Alternative TD:	3000 metres RKB

II LOCATION OF WELL

"Omeo No. 1" is located in permit area VIC/P17 (Figure 1) 105 km east of Port Welshpool and 51.5 km from the nearest landfall at Ninety Mile Beach.

Location: SP 920 Line GA81-33
Latitude: 38°36'45.6"S
Longitude: 147°43'02.5"E
Northing: 5725947m
Easting: 562455m
(Australian National Grid Zone 55)

This location is 24 km south-southwest of Bream No. 3 and 27.5 km west of Bullseye No. 1. (Figure 2).

The well is located approximately 500m northeast of a normal fault at the "Green" seismic horizon. This fault is downthrown to the northeast and is interpreted to have Latrobe Group on the northeast side abutting against Strzelecki Group on the southwest side. The location is 34 milliseconds above spillpoint as mapped at the Intra Latrobe Green Marker, predicted at 2640m (MSL), 50m above spillpoint.

The position has been chosen as high up on the structure as possible so as to give better chance of drilling the structure and intersecting the major fault at a reasonable depth but not to intersect the anti-thetic fault. This position will best test all closure below the Purple Horizon.

The following is a summary of the technical aspects which were taken into consideration when deciding upon the location of Omeo No. 1.

A. NEGATIVE ASPECTS

1. The well will test a play concept previously untried in the southern part of the Gippsland Basin. Where tested on the northern basin margin (Hammerhead 1) no economic hydrocarbon accumulations were found.

2. The play concept requires Strzelecki Group sediments to form a lateral seal. These sediments have not been penetrated in this part of the basin and their porosity-

permeability characteristics are unknown.

3. There is no Top-Latrobe closure at Omeo and the prospective reservoir horizons would require Intra-Latrobe coals and shales to form the vertical seal. The Lakes Entrance Formation forms the vertical seal for all the fields in this region.

4. There is no lateral seal mapped above the Green Horizon. However, the best potential Intra-Latrobe seals are prognosed to be present above the Green Horizon.

5. The small antithetic fault to the northeast of the main fault may juxtapose seal and reservoir facies (see Attachment 4).

6. The main fault is tensional and may not seal.

B. PROSPECTIVE ASPECTS

1. The region has proven source and reservoir potential.

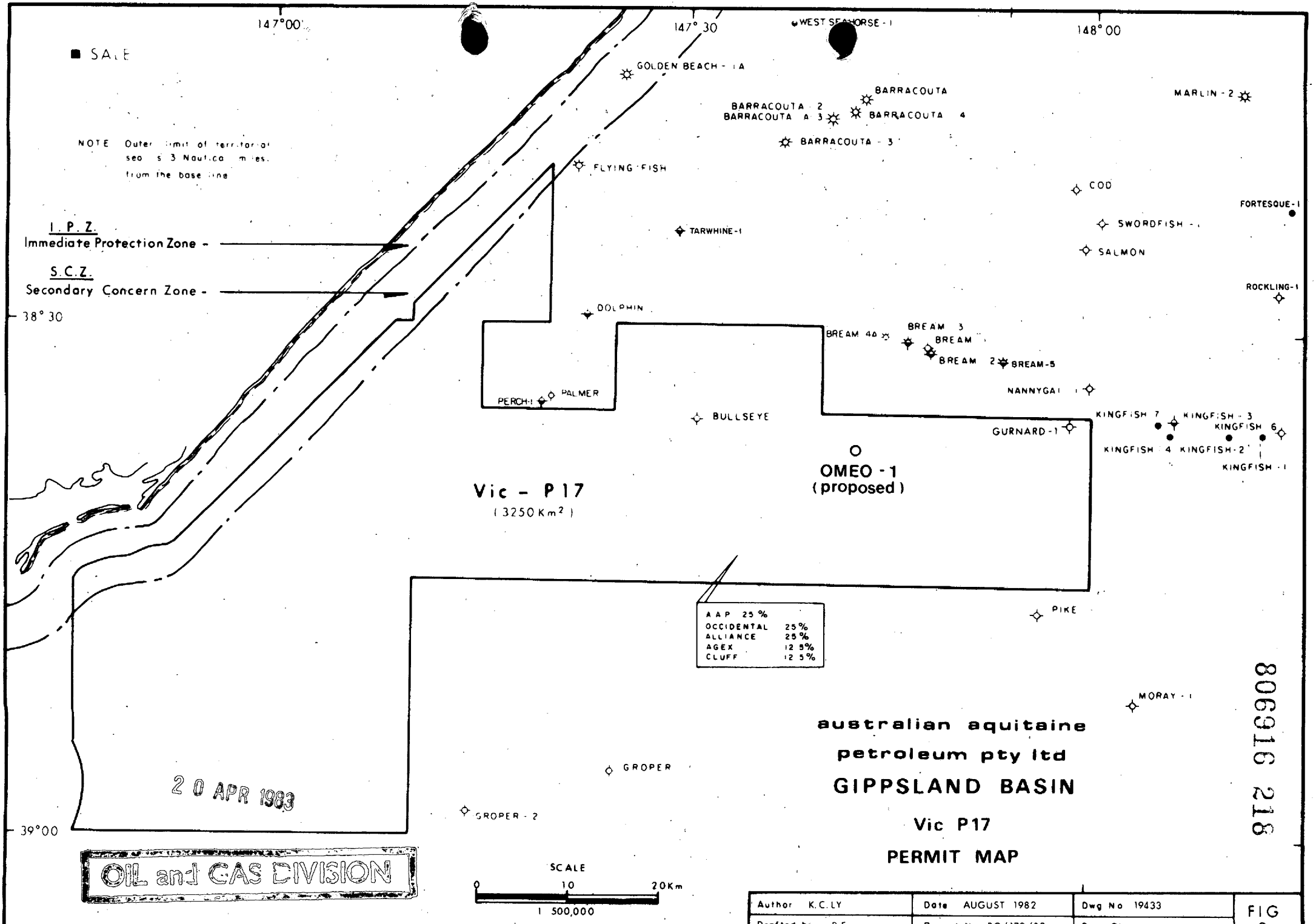
2. Intra-Latrobe seals are known to be present in parts of the basin. Fortescue is a prime example; while Bream (13 km away) has two known Intra-Latrobe hydrocarbon zones (see Attachment 4).

3. The "bedded" nature of the sediments exhibited on seismic lines indicates probable development of Intra-Latrobe seals.

4. Although Hammerhead 1 tested a similar play at the northern basin margin, Omeo has far superior seismic definition.

5. The onshore Strzelecki Group outcrops are sediments of poor to very poor visible porosity and are possibly good seals, particularly against the shale beds. Sealing by these sediments is aided by their direction of dip to the southwest, away from the fault.

6. There is a good probability that Omeo is an oil, rather than a gas prospect as oil is present in Perch and Dolphin (35 km west), in Kingfish (30 km east) and in Bream (13 km north).


147°00'
147°30
148°00
SALE
WEST SEAHORSE - 1
GOLDEN BEACH - 1A
BARRACOUTA
BARRACOUTA - 2
BARRACOUTA A 3
BARRACOUTA 4
BARRACOUTA - 3
MARLIN - 2
NOTE Outer limit of territorial sea is 3 Nautical miles from the base line
FLYING FISH
COD
FORTESQUE - 1
SWORDFISH - 1
TARWHINE - 1
SALMON
I. P. Z.
Immediate Protection Zone -
S.C.Z.
Secondary Concern Zone -
ROCKLING - 1
38°30
DOLPHIN
BREAM 4A
BREAM 3
BREAM 1
BREAM 2
BREAM - 5
PERCH - 1
PALMER
NANNYGAI - 1
BULLSEYE
KINGFISH 7
KINGFISH - 3
KINGFISH 6
GURNARD - 1
KINGFISH 4
KINGFISH - 2
KINGFISH - 1
OMEO - 1
(proposed)
Vic - P17
(3250 Km²)
AAP 25 %
OCCIDENTAL 25 %
ALLIANCE 25 %
AGEX 12.5%
CLUFF 12.5%
PIKE
MORAY - 1
GROPER
GROPER - 2
39°00
20 APR 1983
OIL and GAS DIVISION
SCALE
0 10 20Km
1 500,000
australian aquitaine
petroleum pty ltd
GIPPSLAND BASIN
Vic P17
PERMIT MAP
Author K.C.LY
Date AUGUST 1982
Dwg No 19433
Drafted by R.E.
Report No PG/172/82
Base Plan
FIG 2
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VIII STRUCTURE

"Omeo" is the second structure in VIC/P17 for which final depth maps have been prepared, using spatially-filtered Vnmo profiles on the Brown Horizon (Top Latrobe Group). A constant Intra-Latrobe interval velocity of 3540 m/sec was used to calculate depths from the Brown Horizon to the Intra-Latrobe Purple and Green markers. Below the Green Horizon a constant interval velocity of 3690 m/sec was used to calculate depth to the Orange Horizon.

The "Omeo" structure is formed by a roll-over within the Latrobe Group sediments on the northeast (downthrown) side of a normal fault. This fault penetrates to the level of the Intra-Latrobe "Purple Horizon" and the structure has its highest mappable closure of 4.82 km² at this level (2470m). However, this closure is not independant of faulting and, as there would be no seal on the southwest side of the fault at this level, the Purple Horizon is not prospective at this location. Two other Intra-Latrobe markers have been mapped at this location, the Green and the Orange; with areas of closure of 4.16 km² @ 2690m and 2.56 km² @ 2900m respectively.

The normal fault is interpreted to have Strzelecki Group sediments upon its southwest (upthrown) side juxtaposed against Latrobe Group on the northeast side. The "Omeo" play concept is reliant upon these Strzelecki sediments forming a lateral seal to the Intra-Latrobe reservoir sequence. The Purple Horizon is, therefore, not a potential target over this structure as only the Green and Orange mapped horizons close against the Strzelecki.

This picture is complicated by a small antithetic fault on the north-east side of the main fault which may influence the continuity of Intra-Latrobe seals. These seals are interpreted to be coals and shales of the marsh and fluvial environments.

The structure as mapped has two separate culminations named "Omeo" and "Omeo East". The decision to drill "Omeo" rather than "Omeo East" was based on the calculated areas of closure at the "Green" and "Orange"

horizons, and relevant reserves calculations; together with the fact that "Omeo" is a better defined structure from the seismic interpretation.

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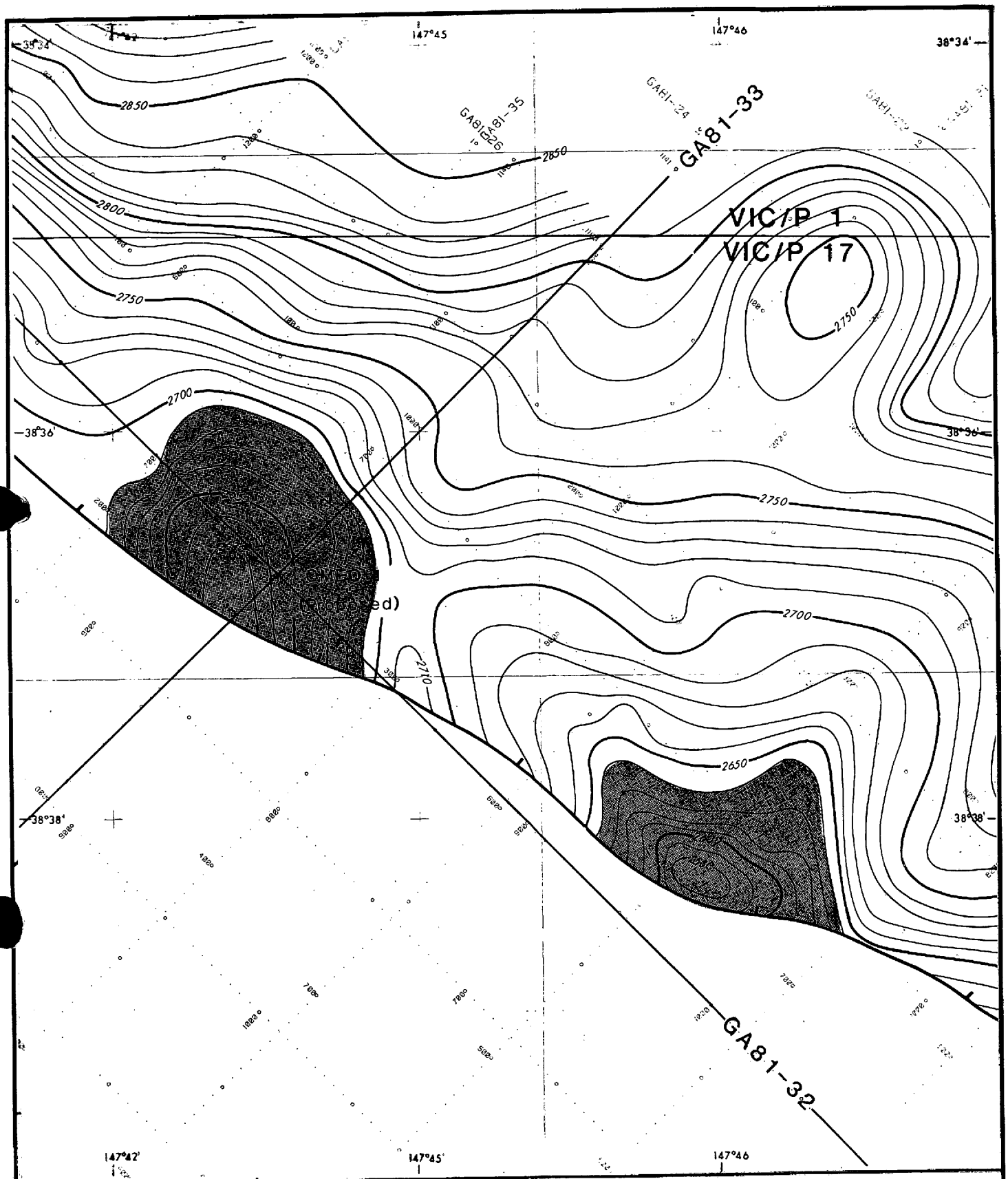

OMEO PROSPECT

Contour Interval

Datum: Sea Level 10 metres

SCALE 1: 50000

0 0·5 1 2 Kms

australian aquitaine petroleum pty. ltd.

GIPPSLAND BASIN
VIC/P17

INTRA-LATROBE
GREEN MARKER

Author: J. BURBURY	Date: JUNE 1982	Dwg No: 20661	FIG.4
Drafted by: J. PENHEY	Report No:	Base Plan: 20406	

FIG. 5

AUSTRALIAN AQUITAINE PETROLEUM PTY. LIMITED

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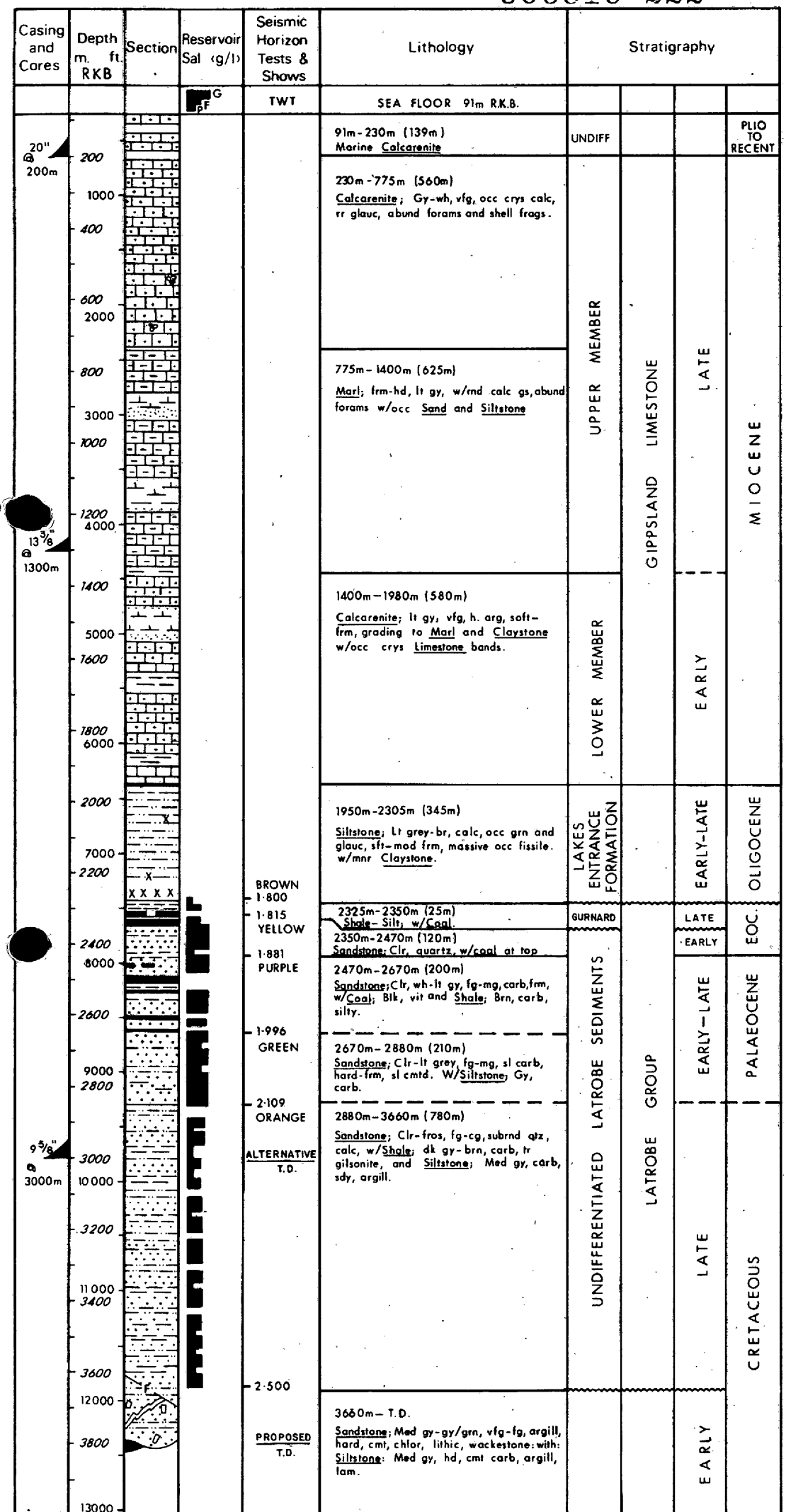
OMEO No. 1

PREDICTED SECTION



Permit Vic/P17

Location Line GA81-33

Latitude S.P. 920
38° 36' 45·6"S

Longitude 147° 43' 02·5"E

Rig "Ocean Digger"

K.B. 30m

M.S.L. 61m

P.T.D 3800m R.K.B. (or 3000m)*

Status New Field Wildcat

Spudded

Operator A.A.P.

Cost

Cost/ft.

Objectives
1. Possible intra-Latrobe hydrocarbon accumulations below the Green Horizon.
2. Stratigraphic test of Strzelecki Group.

Structure
Roll-over on NE (down-thrown) side of normal fault which forms southern closure, with Latrobe Grp. closing against Strzelecki Grp. Closure mapped on Purple, Green and Orange Horizons.

Comments
1. Stratigraphy based on ties to Bream-3, Bullseye-1 and Gurnard-1
2. Depths to horizons calculated using HVA from GA81 survey.
3. Areas of Closure:
a) Purple Horizon - 4·82 km² @ 2470m M.S.L.
b) Green Horizon - 4·2 km² @ 2690m M.S.L.
c) Orange Horizon 2·6 km² @ 2900m M.S.L.
* 4. T.D. may be set at 3000m if formation is unsuitable for intra-Latrobe hydrocarbon accumulations

Author: S. FORDER

Date: SEPTEMBER 1982

Base Map No 9112

Reference No. 20625

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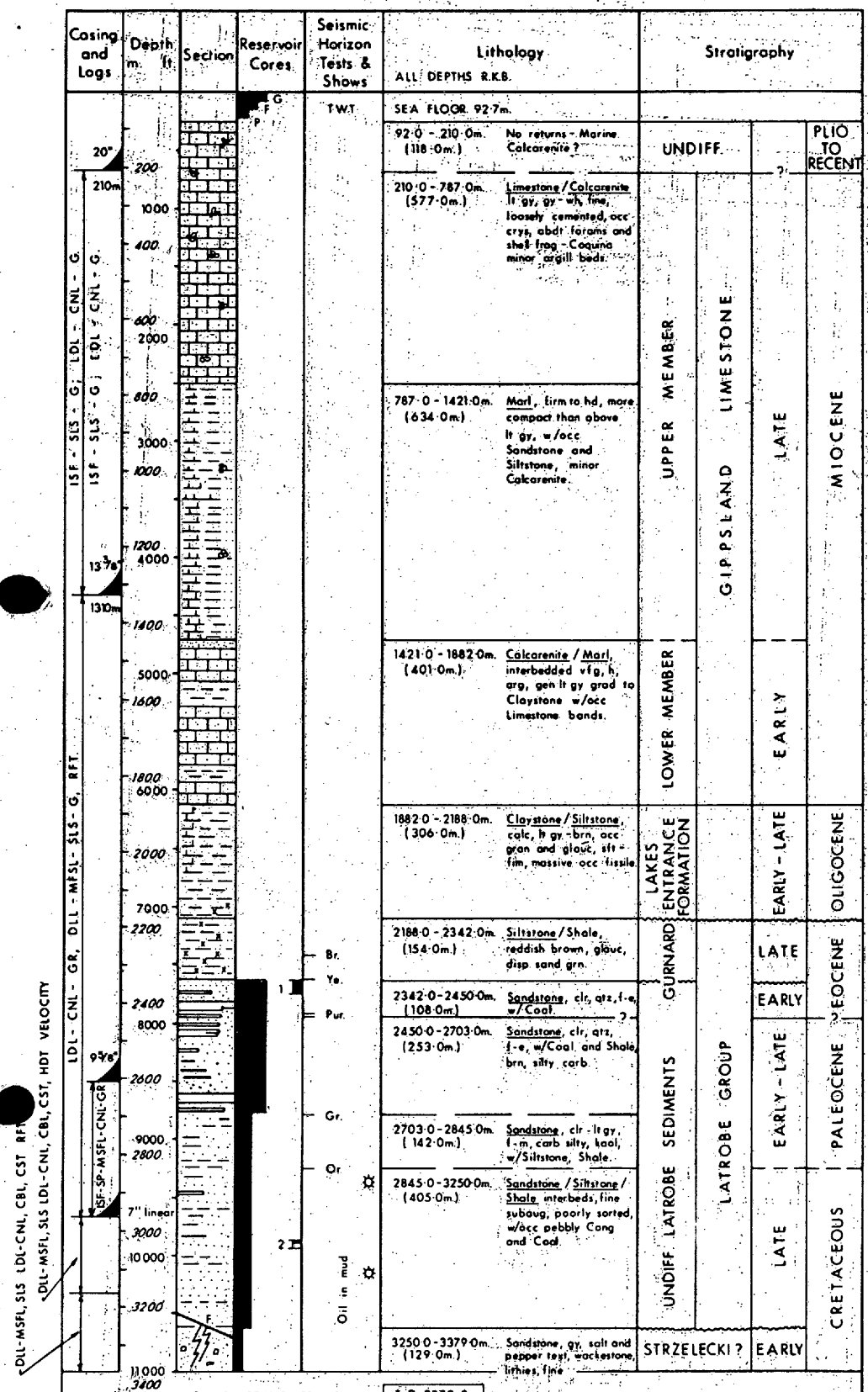
australian aquitaine petroleum pty ltd

OMEO N°1

(PROVISIONAL)



Core 1 2348·0 - 2366·0m. Rec. 80%

Core 2 3031·0 - 3040·0m. Rec. 31%

T.D. 3379·0m

RFT 1 2849·8m. FSIP 4114 PSIA
LC 9000cc water; 5·6 CF Gas
UC 5000cc water; 30 CF Gas.

RFT 2 2952·0m. FSIP 4322 PSIA
LC 9750cc water; No Gas
UC 9500cc water.
0·277 ohm-m at 62°F, 28,000 ppm Cl.

RFT 3 2936·5m FSIP 4344·5 PSIA
Stuck in hole

RFT 4 3125 0m FSIP 4517 PSIA
UC 3750cc fluid; 2000cc Gas at 460 psig
LC 7500cc fluid, 2000cc Gas at 180 psig
0·091 ohm-m at 222°F, film of oil/condensate

Permit	VIC P17
Location	S.P. 290 Line GA81-33
Latitude	38° 36' 45·16" S.
Longitude	147°43' 02·00" E.
Rig	OCEAN DIGGER
K.B.	30·0m. A.M.S.L.
S.B.	62·7m. B.M.S.L.
T.D.	3379·0m. R.K.B.
Status	P. & A.
Spudded	2. 11. 82
Operator	AAP
Cost	
Cost / ft.	

Objectives
(1) Intra-Latrobe below green Horizon.
(2) Stratigraphic test of Strzelecki Group.

Structure
Roll-over on NE (down-thrown) side of normal fault which forms southern closure, with Latrobe Group closing against Strzelecki Group. Closure mapped on Purple, Green and Orange Horizons.

Comments
(1) RFT stuck at 2936·0m., resulting in an attempt to sidetrack from 2666·0m., which failed due to hole conditions. 9 5/8" CSG set at 2606·0m. to continue 8 1/2" hole sidetrack from 2674·0m. to 2985·0m.
(2) Set 7" linear at 2984·0m. DA 6" hole to 3173·0m. Show on logs prompt DA to 3379·0m.
(3) Oil / condensate (0·005%) in mud only on wiper trips prior to logging assoc. 20-30% T.G.
(4) Short DST over 2918·0 - 2925·0m ; 2932·0 - 2939·0m. in 7" linear. No flow to surface. Mud and water recovered by reverse circ. 18·2 CF gas in apr. chamber.

Author P. Chan
Date Feb. 1983
Base Map No 9112
Reference No. 21607

ELF AQUITAINE
Australia

806916 224

Memorandum

TM/21/82

From	Department PETROLEUM EXPLORATION	Ref 5471:SF:efm	Date 2.8.1982
To	R. LAWS		
Copy to	C. ALLIOT, F. BROPHY, C. LAMBERT, K. LY, VIC/P17 PARTNERS S. GUYONNET		

Your Reference

Attachments

Subject "OMEO" AND "OMEO EAST" RESERVES

"OMEO" is the second structure in VIC/P17 for which final depth maps have been prepared, using spatially-filtered Vnmo profiles on the Brown Horizon (top Latrobe Group). A constant Intra-Latrobe interval velocity of 3540 m/sec was used to calculate depths from the Brown Horizon to the Intra-Latrobe Purple and Green markers. Below the Green Horizon a constant interval velocity of 3690 m/sec was used to calculate depth to the Orange Horizon.

The two main horizons of interest within the "Omeo" prospect are the Green and Orange Horizons which have fault closure to the south and southwest, sealing against Strzelecki Group sediments. Two separate areas of closure have been mapped (see figure 1) and are here referred to as "Omeo" (to the northwest) and "Omeo East" (to the southeast).

This memo sets out the parameters used to estimate reserves within each of the two closures, based upon the proposition of reservoirs being present at the levels of the Green and Orange Horizons.

In all cases the gross pay volumes have been calculated by plotting enclosed area versus vertical closure (figures 2 and 3). The gross pay volume is thus represented by the area under the graph and is expressed in cubic metres. The gross pay is then converted to net pay by multiplying by the relevant sand percentage. The sand percentages were obtained by log evaluation of relevant stratigraphic sequences from Bream #3 and Bullseye #1.

For the purpose of this study it has been assumed that we are dealing with an oil reservoir with reservoir pressures above bubble point, so that the system is undersaturated and no gas is present (cf. Kingfish). A water drive recovery mechanism is proposed.

.../2

Hydrocarbon parameters for the Kingfish Field have been used in this study and an initial oil formation volume factor (Boi) calculated for prevailing reservoir conditions of temperature and pressure. A pressure gradient of 0.46 psi/ft (0.106 kg/cm³/m) and a temperature gradient of 4.5°C/100m were used. Entering the values for bubble point pressure, reservoir temperature, oil gravity and gas-oil ratio in figure 4 a value is obtained for the gas gravity. Entering this value in figure 5 the Boi was found.

The following are calculations for reserves at the level of the Green and Orange Horizons in "Omeo" and "Omeo East". See pages 3 and 4.

The estimated recoverable reserves at the level of the two horizons studied in "Omeo" and "Omeo East" are summarised in the following table.

TABLE 1	GREEN HORIZON	ORANGE HORIZON	TOTAL IN STRUCTURE
OMEO	21.40×10^6 STB	6.95×10^6 STB	28.35×10^6 STB
OMEO EAST	10.60×10^6 STB	13.07×10^6 STB	23.67×10^6 STB

By combining these figures an estimate of total recoverable reserves within the two structures of 52 million stock tank barrels is arrived at.

The rationale behind the proposition of 'stacked' reservoirs in "Omeo/Omeo East" is based upon the hypothesis that shale and coal sequences within the marsh and fluvio-deltaic Latrobe environments may act as Intra-Latrobe seals within the structure. If such seals are present, then there could be more than two discrete, vertical reservoir systems created; with a consequent increase in the potential recoverable reserves, as estimated here. On the negative side it must be stated that the greatest potential for such seals is within the upper Latrobe marsh facies, which is present above the Purple Horizon and may be present down to the level of the Green Horizon. Thus this facies lies predominantly outside of closure, as there is no lateral seal above the level of the Green Horizon. The Green Horizon may, therefore, be sealed by shales and coals of the marsh facies, while lower Intra-Latrobe horizons must rely upon suitable fluvio-deltaic sequences for vertical seals. The decision to drill "Omeo" rather than "Omeo East", although based upon better seismic definition of the former structure, has a sound economic and geological basis as 75% of the estimated reserves within this structure are contained at the level of the Green Horizon where there is the greatest chance of vertical seals being present.

S. FORDER

OMEO RESERVES CALCULATION

This calculation is based upon reservoir zones at the level of the "Green" and "Orange" Horizons.

Parameters:

Green Horizon

Area of Closure	4.16 km² @ 2690m MSL
Gross Pay	75m
Sand Percentage	52%
Average Porosity	18%
Water Saturation	25%
Recovery Factor	50%
Formation Pressure	4000 psig @ 2615m (grad. 0.46 psi/ft)
Formation Temperature	118°C @ 2615m (4.5°C/100m) -244°F
Oil Gravity	47° API @ 60°F
Initial GOR	363 ft³/bbl
Bubble Point	853 psg (59.97 kg/cm²)
Boi	1.33 (from figures)

Reserves Calculation:

Area of Closure	4.16 km² @ 2690m MSL
Gross Pay Volume	$129 \times 10^6 m^3$
Net Pay Volume	$67.08 \times 10^6 m^3$

$$N = \frac{6.292 \times \emptyset \times (1-Sw) \times hA\ (net)}{Boi}$$

$$N = \frac{6.292 \times 0.18 \times 0.75 \times 67.08 \times 10^6}{1.33}$$

Total Barrels In Place	42.8×10^6 STB
Total Barrels Recoverable	21.4×10^6 STB

Parameters:

Orange Horizon

Area of Closure	2.56 km² @ 2900m MSL
Gross Pay	63m
Sand Percentage	47%
Average Porosity	16%
Water Saturation	30%
Recovery Factor	45%
Formation Pressure	4256 psig @ 2820m
Formation Temperature	127°C @ 2820m (260°F)
Oil Gravity	47° API @ 20°F
Initial GOR	363 ft³/bbl
Bubble Point	853 psig
Boi	1.34

Reserves Calculation:

Area of Closure	2.56 km² @ 2900m MSL
Gross Pay Volume	$62.51 \times 10^6 m^3$
Net Pay Volume	$29.38 \times 10^6 m^3$

$$N = \frac{6.292 \times 0.16 \times 0.70 \times 29.38 \times 10^6}{1.34}$$

Total Barrels In Place	15.45×10^6 STB
Total Barrels Recoverable	6.95×10^6 STB

OMEO EAST RESERVES CALCULATION

806916 227

These calculations are based upon reservoir zones at the level of the "Green" and "Orange" Horizons.

Parameters:

Green Horizon

Area of Closure	2.54 km² @ 2640m MSL
Gross Pay	65m
Sand Percentage	52%
Average Porosity	18%
Water Saturation	25%
Recovery Factor	50%
Formation Pressure	4000 psig @ 2615m MSL
Formation Temperature	118°C @ 2615m MSL (244°F)
Oil Gravity	47° API @ 60°F
Initial GOR	363 ft³/bbl
Bubble Point	853 psig
Boi (calculated)	1.33

Reserves Calculation:

Gross Pay Volume	$63.55 \times 10^6 m^3$
Net Pay Volume	$33.05 \times 10^6 m^3$
$N = \frac{6.292 \times \emptyset \times (1-Sw) \times hA\ (net)}{Boi}$	STB
$N = \frac{6.292 \times 0.18 \times 0.75 \times 33.05}{1.33}$	
Total Barrels In Place	21.1×10^6 STB
Total Barrels Recoverable	10.6×10^6 STB

Parameters:

Orange Horizon

Area of Closure	4.09 km² @ 2900m
Gross Pay	84m
Sand Percentage	47%
Average Porosity	16%
Water Saturation	30%
Recovery Factor	45%
Formation Pressure	4256 psig @ 2820m
Formation Temperature	127°C @ 2820m (260°F)
Oil Gravity	47° API @ 60°F
Initial GOR	363 ft³/bbl
Bubble Point	853 psig
Boi	1.34

Reserves Calculation:

Area of Closure	4.09 km² @ 2900m
Gross Pay Volume	$117.49 \times 10^6 m^3$
Net Pay Volume	$55.22 \times 10^6 m^3$
$N = \frac{6.292 \times \emptyset \times (1-Sw) \times hA\ (net)}{Boi}$	
$N = \frac{6.292 \times 0.16 \times 0.70 \times 55.22 \times 10^6}{1.34}$	
Total Barrels In Place	29.04×10^6 STB
Total Barrels Recoverable	13.07×10^6 STB

PG/172/82

AREA Vs DEPTH GRAPH

"OMEO" & "OMEO EAST" DEPTH STRUCTURE

"GREEN" HORIZON

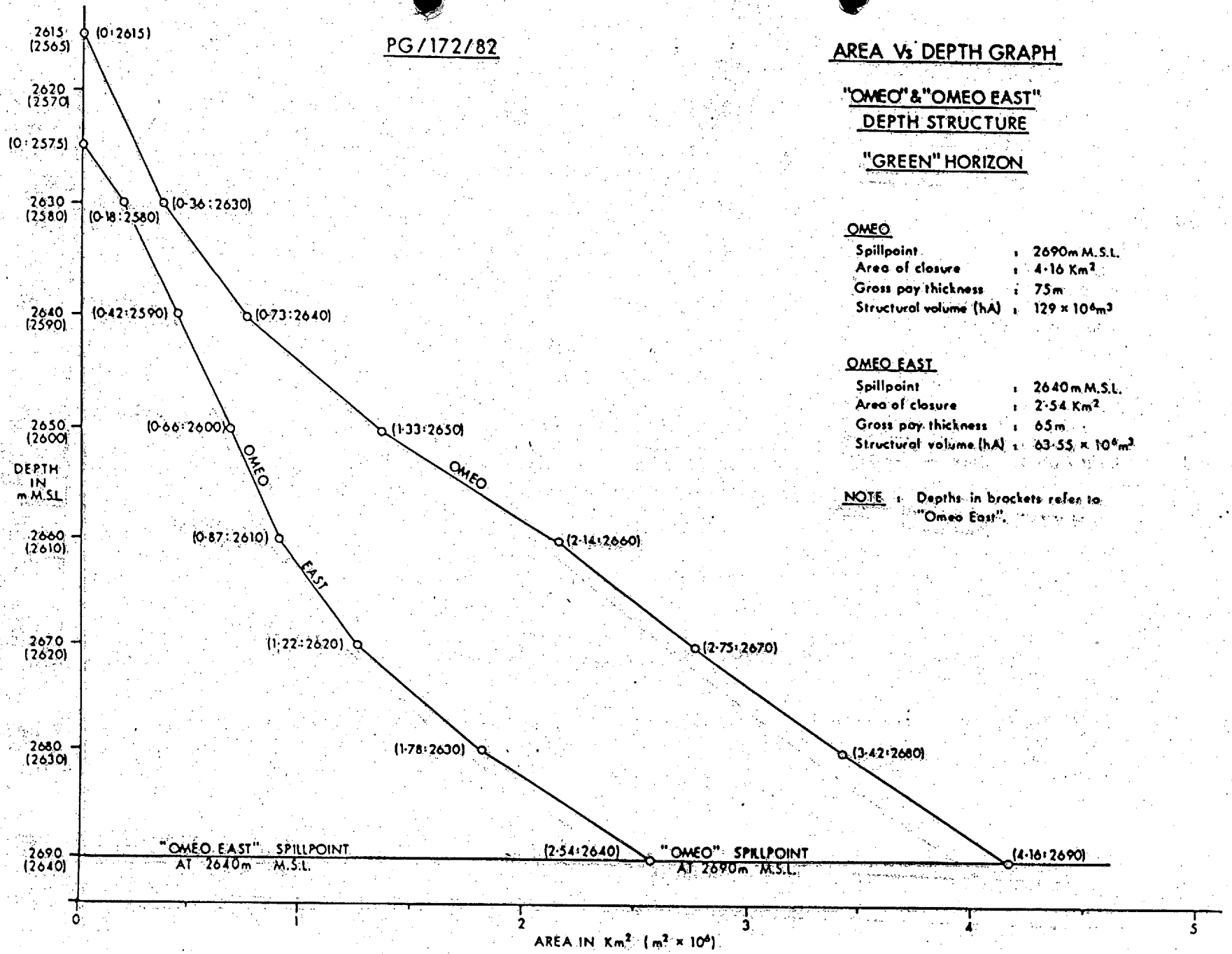
OMEO

Spillpoint	:	2690m M.S.L.
Area of closure	:	4·16 Km^2
Gross pay thickness	:	75m
Structural volume (hA)	:	129 × $10^6 m^3$

OMEO EAST

Spillpoint	:	2640m M.S.L.
Area of closure	:	2·54 Km^2
Gross pay thickness	:	65m
Structural volume (hA)	:	63·55 × $10^6 m^3$

NOTE : Depths in brackets refer to "Omeo East".



8069 16 228

FIGURE 2

Dwg. No.: 20906

PG/172/82

AREA Vs DEPTH GRAPH

"OMEO" & "OMEO EAST" DEPTH STRUCTURE

"ORANGE" HORIZON

OMEO

Spillpoint	:	2900m M.S.L.
Area of closure	:	2·56 Km^2.
Gross pay thickness	:	63m.
Structural volume (hA)	:	$62·51 \times 10^6 m^3$

OMEO EAST

Spillpoint	:	2900 m M.S.L.
Area of closure	:	4·09 Km^2.
Gross pay thickness	:	84 m
Structural volume (hA)	:	$117·49 \times 10^6 m^3$

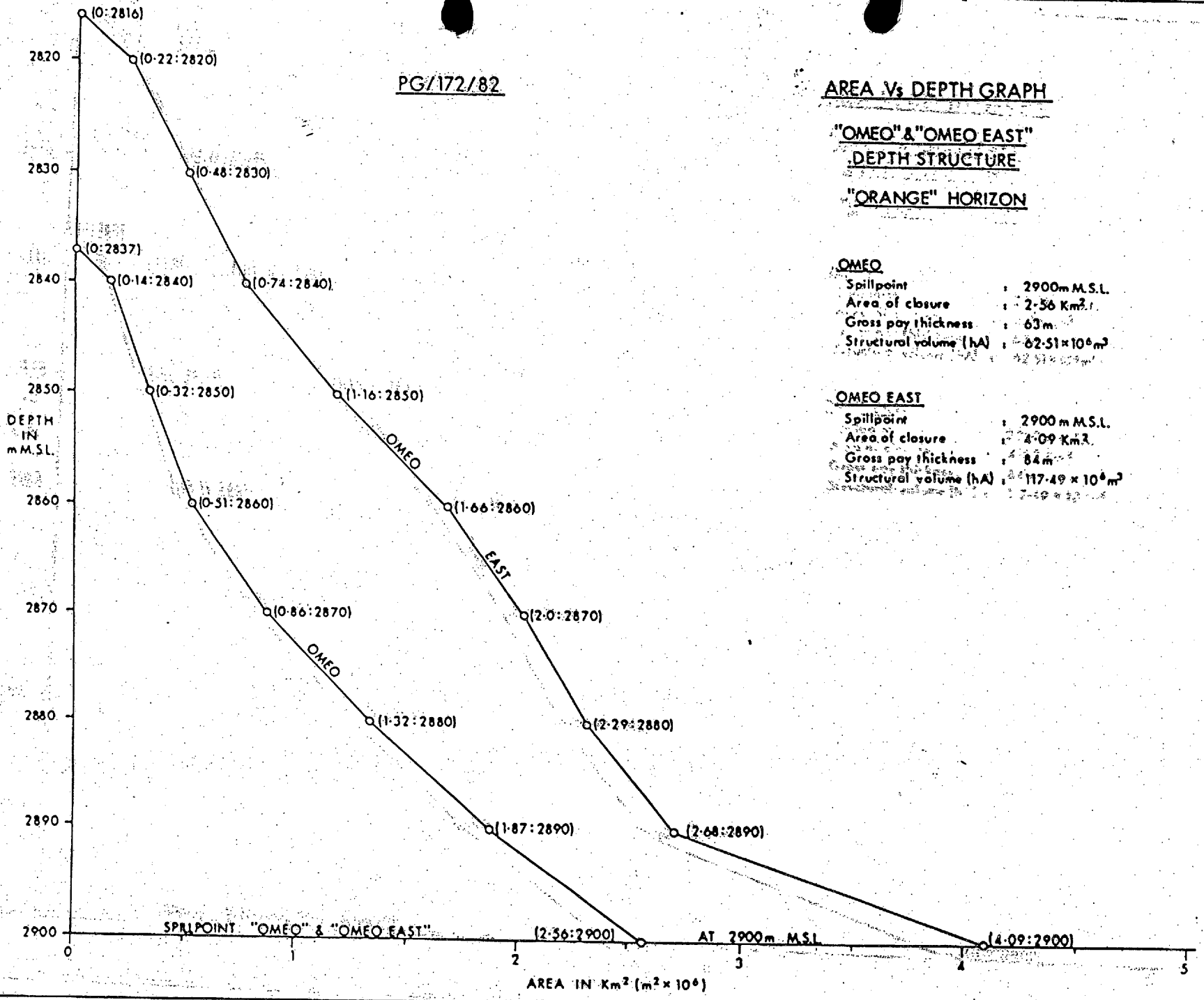


FIGURE 3

PE806928

This is an enclosure indicator page.
The enclosure PE806928 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806928 has the following characteristics:

ITEM_BARCODE	PE806928
CONTAINER_BARCODE	PE806916
NAME	Proposed Omeo-1 Prospect Montage
BASIN	GIPPSLAND
ONSHORE?	N
DATA_TYPE	WELL
DATA_SUB_TYPE	MONTAGE
DESCRIPTION	Proposed Omeo-1 Prospect Montage, Contains: Predicted Stratigraphic Section, Interpreted Seismic Sections, Structure Maps, Location Map and Well Data, Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	
DATE_PROCESSED	
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	Omeo-1
CONTRACTOR	
AUTHOR	
ORIGINATOR	Australian Aquitaine Petroleum Pty Ltd
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806937

This is an enclosure indicator page.
The enclosure PE806937 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806937 has the following characteristics:

ITEM_BARCODE	= PE806937
CONTAINER_BARCODE	= PE806916
NAME	= Final Stack Section for Line GA81-33
BASIN	= GIPPSLAND
ONSHORE?	=
DATA_TYPE	= SEISMIC
DATA_SUB_TYPE	= INTERP_SECTION
DESCRIPTION	= Final Stack Section for Line GA81-33, SP: 1 to 1141, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	=
DATE_WRITTEN	= 30-NOV-1981
DATE_PROCESSED	= 31-JAN-1982
DATE_RECEIVED	= 20-APR-1983
RECEIVED_FROM	= Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	=
CONTRACTOR	=
AUTHOR	=
ORIGINATOR	=
TOP_DEPTH	=
BOTTOM_DEPTH	=
ROW_CREATED_BY	= FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806938

This is an enclosure indicator page.
The enclosure PE806938 is enclosed within the container PE806916 at this location in this document.

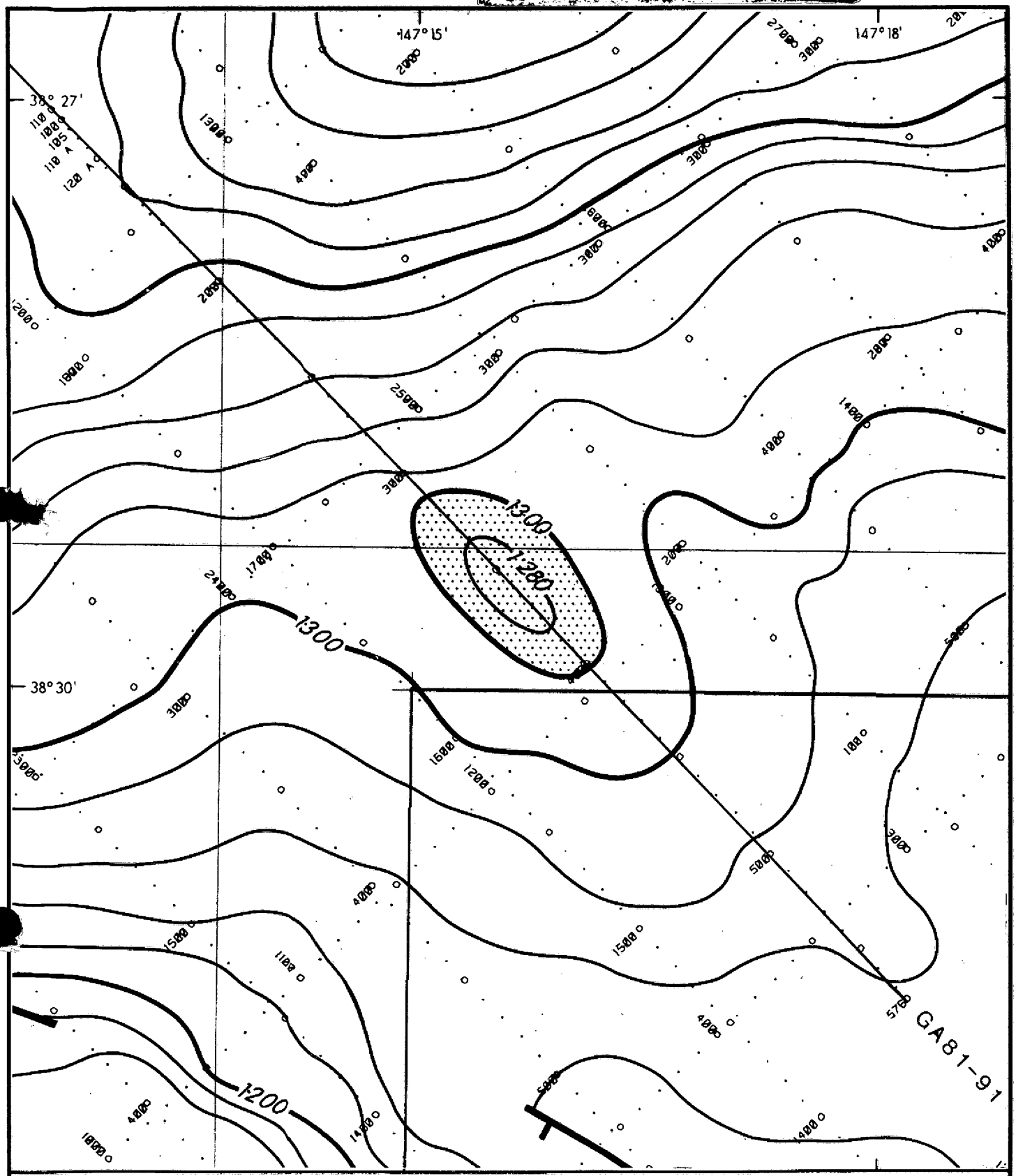
The enclosure PE806938 has the following characteristics:

ITEM_BARCODE	PE806938
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-32
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-32, SP: 1 to 1677, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

OONAH

PROSPECT



OONAH PROSPECT

Contour Interval 0.020 secs.

Datum: Sea Level

SCALE 1 : 50000

0 0·5 1 2 Kms

australian aquitaine petroleum pty ltd

GIPPSLAND BASIN

VIC//P17

TWO-WAY TIME TO INTRA-LATROBE PURPLE MARKER

Author : S. Mackie.	Date : JUNE 1982	Dwg No : 20659
Drafted by : L. Bailey	Report No.	Base Plan : 20405

PE806939

This is an enclosure indicator page.
The enclosure PE806939 is enclosed within the container PE806916 at this location in this document.

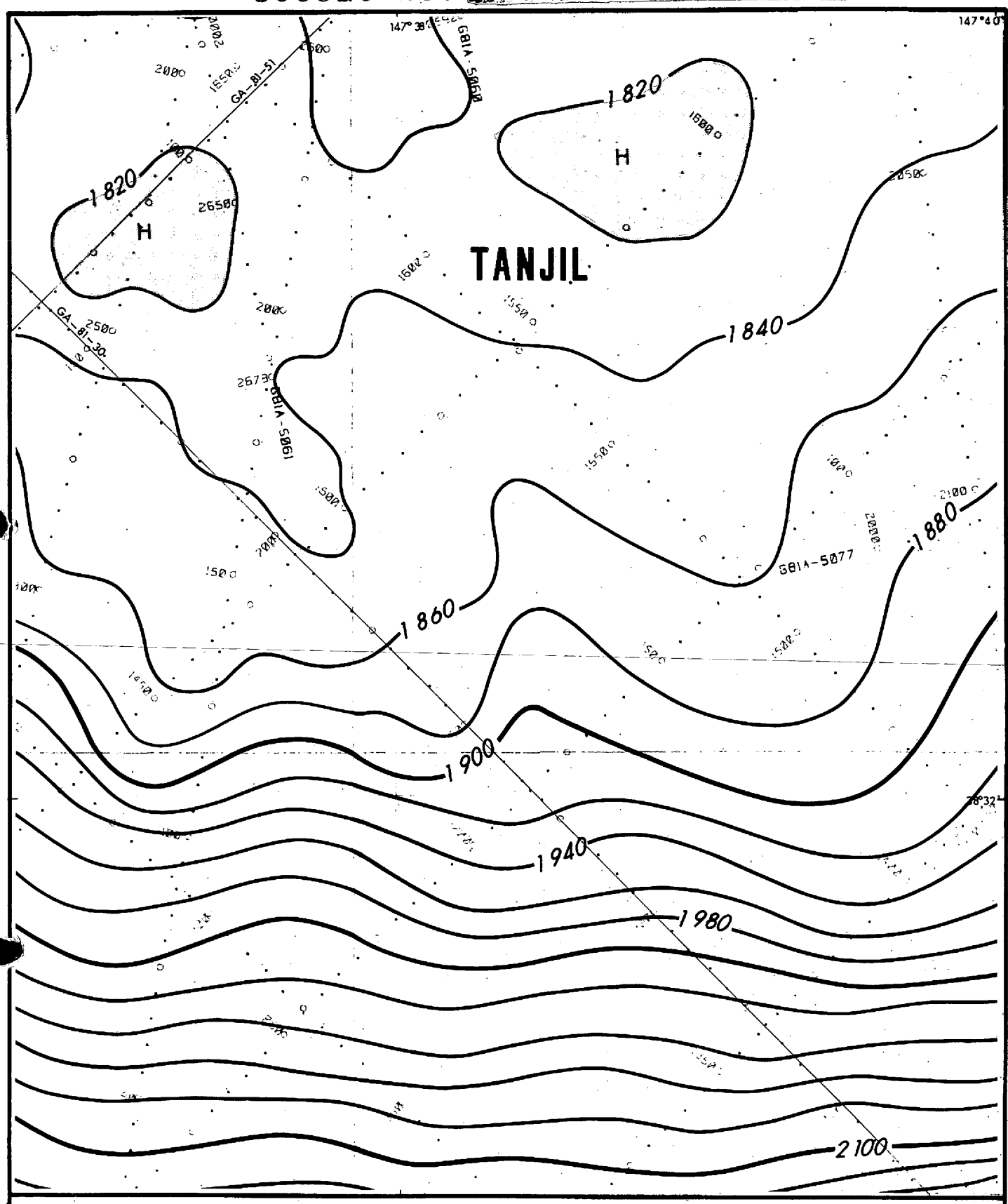
The enclosure PE806939 has the following characteristics:

ITEM_BARCODE	PE806939
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-91
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-91, SP: 110 to 576, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

TANJIL

PROSPECT



TANJIL PROSPECT

Contour Interval: 20m

Datum: Sea Level

SCALE 1:25000

0 500 1000 Metres

australian aquitaine petroleum pty. ltd.

GIPPSLAND BASIN VIC/P17

DEPTH TO TOP OF LATROBE GROUP

Author: C. HODGE	Date: FEBRUARY 1983	Dwg No: 21536
Drafted By: L. BAILEY	Report No:	Base Plan: 21300/21223

AUSTRALIAN AQUITAINE PETROLEUM PTY. LIMITED

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TANJIL No.1

PREDICTED SECTION
(PRELIMINARY)

Depth m.	Depth ft.
	200
	1000
	400
	600
	2000
	800
	3000
	1000
	1200
	4000
	1400
	5000
	1600
	1800
	6000
	2000
	7000
	2200
	2400
	8000
	2600
	9000
	2800
	3000
	10000
	3200
	11000
	3400
	3600
	12000
	3800
	13000

Casing and Cores

Section

Reservoir Sal (g/l)

Seismic Horizon Tests & Shows

0·745

1·370 (Brown)

1·570 (Purple)

Lithology

SEA FLOOR 52m

52m-200m (148m)
Marine Calcarenite

200m-860m (460m)
Calcarenite: Lt gy-wh, gen loose, occ cmtd, w/gy micrite. Common skeletal remains; abund gastrop, molluscs, forams, bryozoa. 8cm argil w/ depth and occ grdg to Mrl

860m-1474m (614m)
Marl: Gy, sft-frm, foss, glauc grdg to:
Claystone: Gy-grn, Slty, glauc, foss, py, highly calc.
Occ. Limestone bands.

1474m-1630m (156m)
Shale: calc, lt gy-gy, Slty-Sdy gauc

1630m-1650m (20m)
Siltstone: Grn, H gauc, arg

1650m-1925m (275m)
Sandstone: wh-lt gry, fn-med gn, carb, fri-frm w/coal: Blk, wit, brit Slty, min and
Shale: carb, brn, silty.

1925m-2024m (117m)

2042m-T.D (1458m)
Sandstone: Gy-brngy, lithic, wackestone, mod srtd, occ w sorted, med gn, poss tr volc frag. w/
Siltstone: Lt gry to med gy, arg, sdy. mod hd, carb. w/
minor Coal: blk
and Shale: carb, brn, silty

Stratigraphy

UNDIFF			PLIO to RECENT
UPPER MEMBER	GIPPSLAND LIMESTONE	LATE	MIOCENE
LOWER MEMBER		EARLY	
LAKES ENTRANCE FORMATION		EARLY-LATE	OLIGOCENE
GURNARD FM	LATROBE GROUP	LATE	EOCENE
DELTAIC MEMBER		EARLY	
FLUVIATILE MEMBER			PALEOCENE
			CRETACEOUS

Permit	Vic/P17
Location	Line GA 81-51 SP 130
Latitude	38° 30' 40·8"S
Longitude	147° 36' 58·1 E
Rig	"Glomar Grand Isle"
K.B.	10 m
G.L.	52 m
T.D.	3,500 m M.S.L.
Status	Wildcat
Spudded	
Operator	A.A.P.
Cost	
Cost /ft.	

Objectives
1. Uppermost sand sequences within Latrobe Group
2. Intra-Latrobe channel sands

Structure
Un-named structural closure at top of Latrobe Group. Areal closure increasing with depth

Comments
1. Bream-3 T.D curve used to obtain depths to horizons.
2. Stratigraphy based on regional well correlation with: Bream-3, Bullseye-1, Barracouta-1

Author: S. MACKIE
Date: 6-4-82
Base Map No 9112
Reference No. 20385

PE806940

This is an enclosure indicator page.
The enclosure PE806940 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806940 has the following characteristics:

ITEM_BARCODE	PE806940
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-51
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-51, SP: 1 to 1674, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806941

This is an enclosure indicator page.
The enclosure PE806941 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806941 has the following characteristics:

ITEM_BARCODE	PE806941
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-30
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-30, SP: 1 to 1867, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

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TARRA

PROSPECT

FIG.5

AUSTRALIAN AQUITAINE PETROLEUM PTY. LIMITED

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TARRA No. 1

PREDICTED SECTION

Casing and Cores	Depth m.	Depth ft.	Section	Reservoir Sal (g/l)	Seismic Horizon Tests & Shows	Lithology	Stratigraphy		
					TWT	SEA FLOOR 93m R.K.B.			
20" at 2000m	200					93m - 1075m (982m) Calcarenite or Limestone : white-grey, skeletal to detrital, abundant fossil fragments, argillaceous, with occasional arenaceous layers.	GIPPSLAND LIMESTONE	LATE	MIOCENE
	1000	400							
		600							
		2000							
		800							
	3000								
13 3/8" at 1000m	1000								
						1075m - 1480m (405m) Limestone or Calcarenite : grey-white, firm, skeletal and argillaceous - Forams with occasional quartz sand grains.		EARLY	
	1200	4000							
	1400								
	5000					1480m - 1865m (385m) Marl : light grey, firm-hard. Abundant forams with occasional quartz sand grains.			
	1600								
	1800	6000							
	2000					1865m - 2160m (295m) Claystone : calcareous light grey, fossiliferous, glauconitic, sub-fissile.	LAKES ENTRANCE FORMATION	EARLY - LATE	OLIGOCENE
	7000								
	2200				Brown (1·695)	2160m - 2220m (60m) Claystone : sandy, calcareous, glauconitic.			
						2220m - 2270m (50m) Sandstone : cg - fg, v. glauconitic, argillaceous.	LATROBE GROUP	EARLY - LATE	EOCENE
					Purple (1·775)	2270m - 2547m (277m) Sandstone : grey, quartzose, cg - fg, moderately sorted, subrounded to subangular. Interbedded with shales and coals.		EARLY - LATE	PALEO - CENE
	2400	8000							
	2600				Blue (1·906)	2547m - PTD (453m) Sandstone : grey - green, lithic mg - fg, poorly sorted, angular carbon. Interbedded with shales and minor coals. Weathering at top grading downwards to fresher sediments.	STRZELECKI GROUP	EARLY	CRETACEOUS
	9000	2800							
	3000				Green (2·141)	PTD *			
		10000							
		3200							
		11000							
		3400							
		3600							
		12000							
		3800							

Permit VIC/P17

Location SP440 line GA81-31

Latitude 38°38'37·4" S

Longitude 147°42'09·8" E

Rig Ocean Digger

K.B. 30m

G.L. 63m

T.D. 3000m *

Status New Field Wildcat

Spudded

Operator AAP

Cost

Cost/ft.

Objectives

Accumulations below the Blue Horizon.

Structure

Tilted - fault block sealed by faults.

Comments

* PTD of 3000m or 300m into the strzelecki, whichever first occurs.

Author: K. LY

Date: 1-2-83

Base Map No 9112

Reference No. 21464

PE806929

This is an enclosure indicator page.
The enclosure PE806929 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806929 has the following characteristics:

ITEM_BARCODE	PE806929
CONTAINER_BARCODE	PE806916
NAME	Proposed Tarra-1 Prospect Montage
BASIN	GIPPSLAND
ONSHORE?	N
DATA_TYPE	WELL
DATA_SUB_TYPE	MONTAGE
DESCRIPTION	Proposed Tarra-1 Prospect Montage, Contains: Predicted Stratigraphic Section, Interpreted Seismic Sections, Structure Maps, Location Map and Well Data, Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	
DATE_PROCESSED	
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	Tarra-1
CONTRACTOR	
AUTHOR	
ORIGINATOR	Australian Aquitaine Petroleum Pty Ltd
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806942

This is an enclosure indicator page.
The enclosure PE806942 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806942 has the following characteristics:

ITEM_BARCODE	= PE806942
CONTAINER_BARCODE	= PE806916
NAME	= Final Stack Section for Line GA81-38
BASIN	= GIPPSLAND
ONSHORE?	=
DATA_TYPE	= SEISMIC
DATA_SUB_TYPE	= INTERP_SECTION
DESCRIPTION	= Final Stack Section for Line GA81-38, SP: 1 to 1673, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	=
DATE_WRITTEN	= 30-NOV-1981
DATE_PROCESSED	= 31-JAN-1982
DATE_RECEIVED	= 20-APR-1983
RECEIVED_FROM	= Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	=
CONTRACTOR	=
AUTHOR	=
ORIGINATOR	=
TOP_DEPTH	=
BOTTOM_DEPTH	=
ROW_CREATED_BY	= FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806943

This is an enclosure indicator page.
The enclosure PE806943 is enclosed within the container PE806916 at this location in this document.

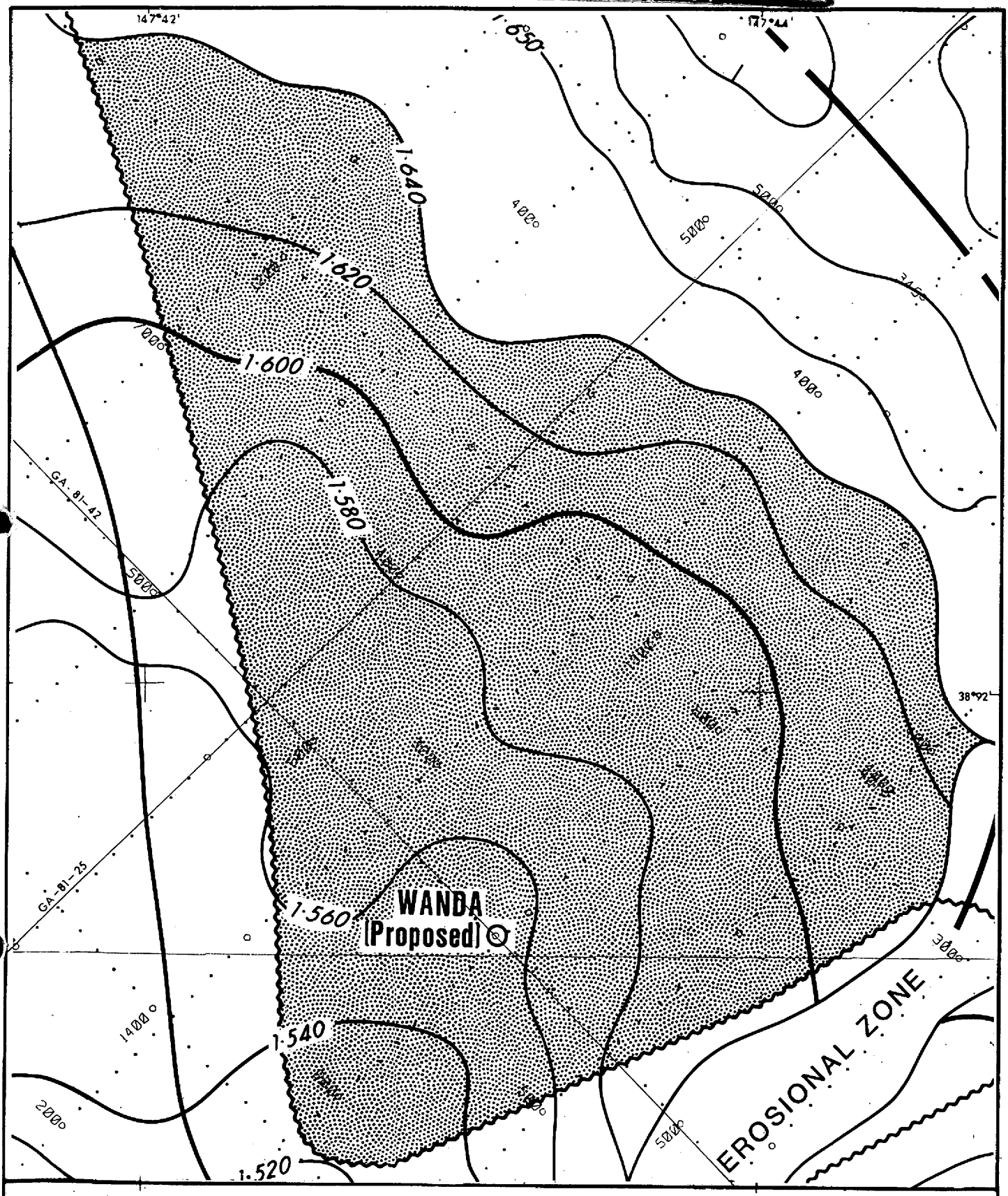
The enclosure PE806943 has the following characteristics:

ITEM_BARCODE	PE806943
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-31
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-31, SP: 1 to 1149, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

WANDA

PROSPECT



WANDA PROSPECT

Contour Interval: 0.020sec

Datum: Sea Level

SCALE : 1:25 000

0 500 1000 Metres

australian aquitaine petroleum pty ltd.

GIPPSLAND BASIN

VIC/P17

TWO WAY TIME TO NEAR-TOP LATROBE HORIZON

Author : P. POULAIN.	Date : FEBRUARY 1983	Dwg No : 21534
Drafted By : L.BAILEY	Report No:	Base Plan : 21385

PE806944

This is an enclosure indicator page.
The enclosure PE806944 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806944 has the following characteristics:

ITEM_BARCODE	PE806944
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-42
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-42, SP: 1 to 1912, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806945

This is an enclosure indicator page.
The enclosure PE806945 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806945 has the following characteristics:

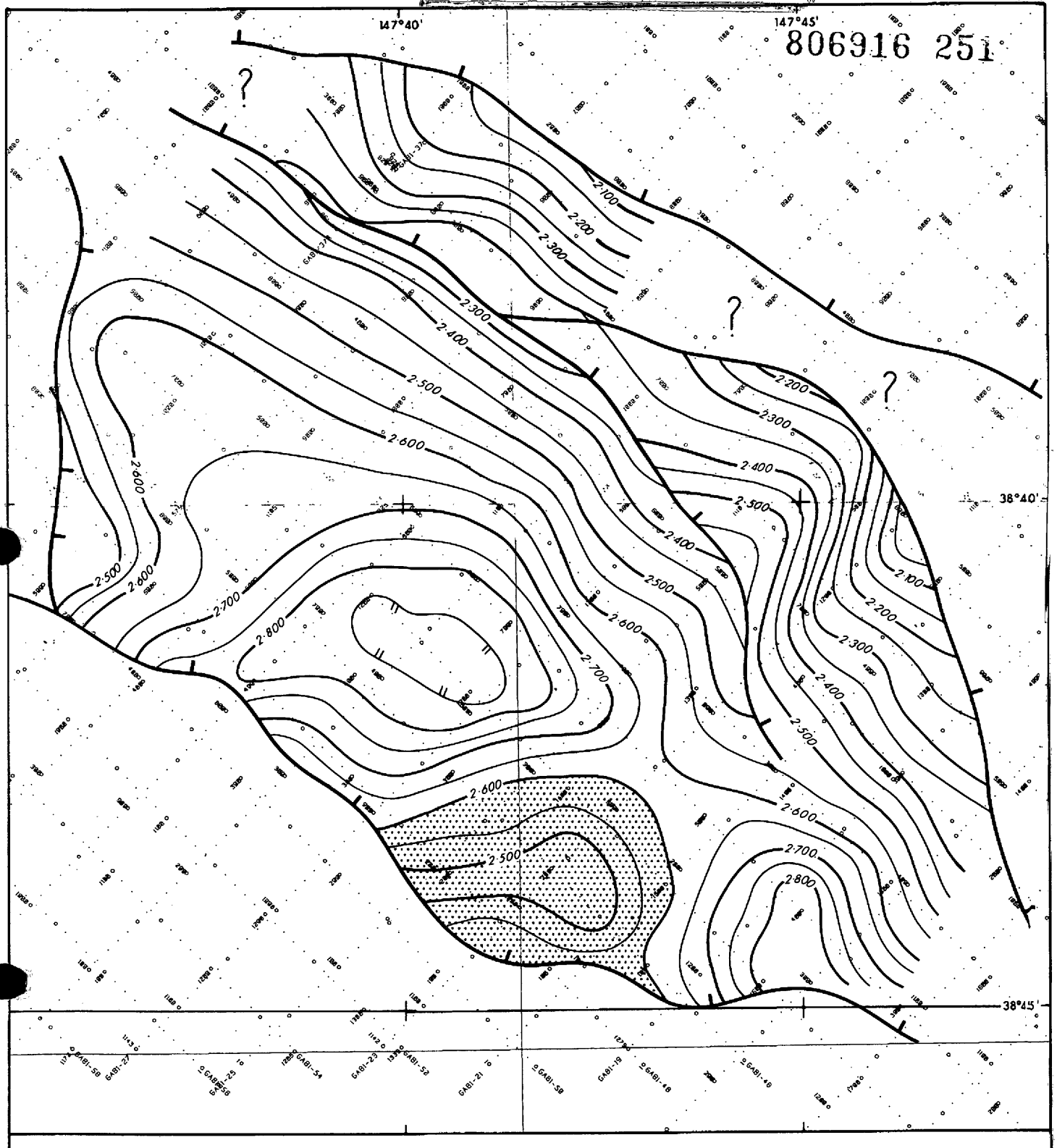
ITEM_BARCODE	PE806945
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-25
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-25, SP: 1 to 1143, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

806916 250

WONGALA

PROSPECT



WONGALA PROSPECT

Contour Interval 0.050 secs.

Datum : Sea Level

SCALE 1 : 100 000

0 1 2 4 Kms

australian aquitaine petroleum pty ltd

GIPPSLAND BASIN

VIC/P17

TWO-WAY TIME TO INTRA-STRZELECKI MARKER

Author : S. MACKIE	Date : OCTOBER 1982	Dwg. No. : 21177
Drafted by : R.E.	Report No. :	Base Plan :20596/20597

PE806946

This is an enclosure indicator page.
The enclosure PE806946 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806946 has the following characteristics:

ITEM_BARCODE	PE806946
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-23
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-23, SP: 1 to 1142, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806947

This is an enclosure indicator page.
The enclosure PE806947 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806947 has the following characteristics:

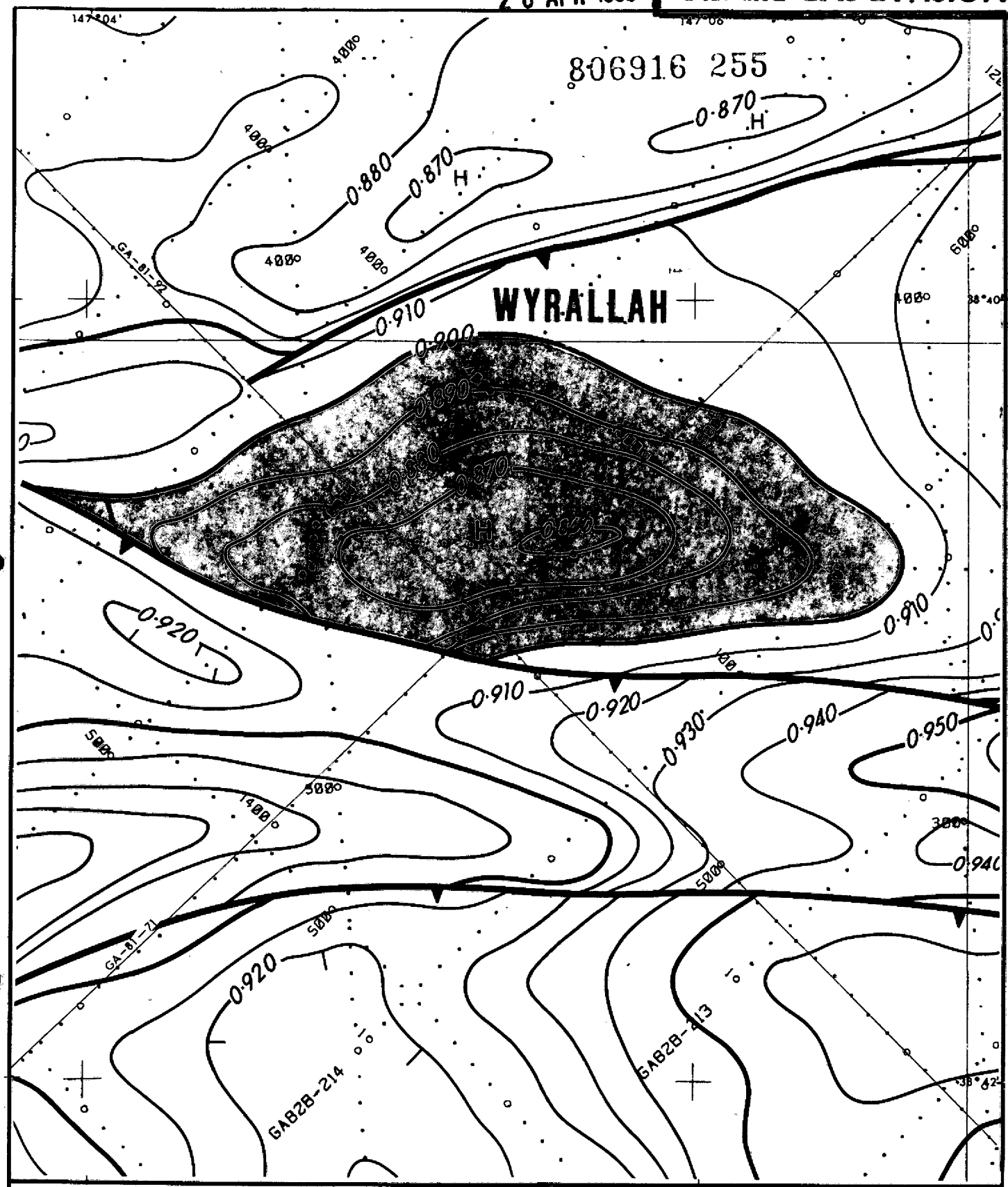
ITEM_BARCODE	PE806947
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-46
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-46, SP: 1 to 1621, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

806916 254

WRYALLAH

PROSPECT



WYRALLAH PROSPECT

Contour Interval: 0.010 secs

Datum Sea Level

SCALE 1:25 000

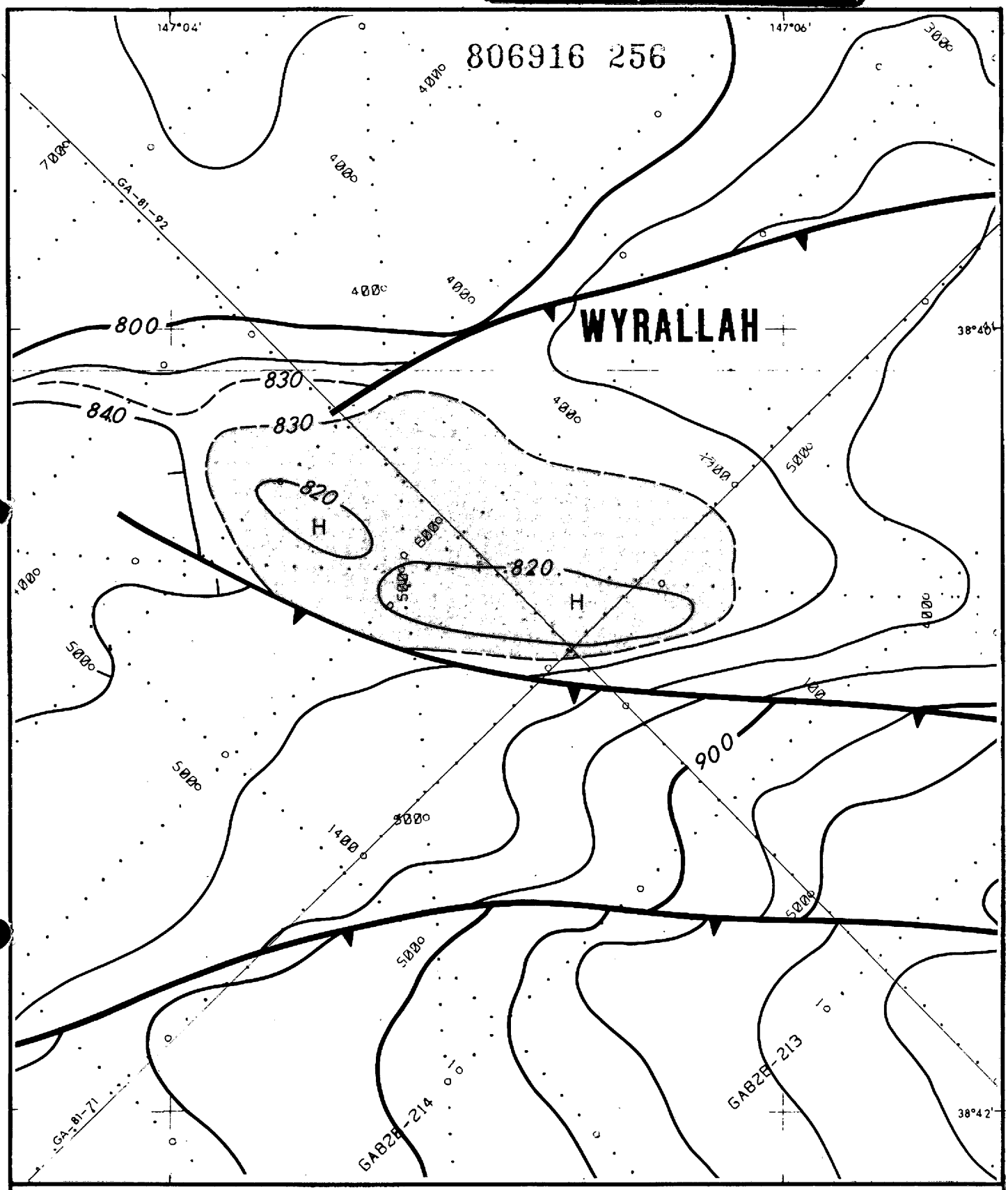
0 500 1000 Metres

australian aquitaine petroleum pty. ltd.

GIPPSLAND BASIN VIC/P17

TWO WAY TIME TO LATROBE FORMATION TOP

Author: C.HODGE.	Date: FEBRUARY 1983	Dwg No: 21497
Drafted By: L.BAILEY	Report No:	Base Plan: 21324 / 21284



WYRALLAH PROSPECT

Contour Interval: 20 metres

Datum: Sea Level

SCALE 1:25 000

0 500 1000 Metres

australian aquitaine petroleum pty. ltd.

GIPPSLAND BASIN

VIC/P17

DEPTH TO TOP OF LATROBE GROUP

Author: C. HODGE.	Date: FEBRUARY 1983	Dwg No: 21502
Drafted By: L.BAILEY	Report No:	Base Plan: 21384

PE806948

This is an enclosure indicator page.
The enclosure PE806948 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806948 has the following characteristics:

ITEM_BARCODE	PE806948
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-92
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-92, SP: 1 to 1036, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE806949

This is an enclosure indicator page.
The enclosure PE806949 is enclosed within the container PE806916 at this location in this document.

The enclosure PE806949 has the following characteristics:

ITEM_BARCODE	PE806949
CONTAINER_BARCODE	PE806916
NAME	Final Stack Section for Line GA81-71
BASIN	GIPPSLAND
ONSHORE?	
DATA_TYPE	SEISMIC
DATA_SUB_TYPE	INTERP_SECTION
DESCRIPTION	Final Stack Section for Line GA81-71, SP: 1 to 2981, GA81 Seismic Survey, VIC/P17, By Western Geophysical for Australian Aquitaine Petroleum Pty Ltd.
REMARKS	
DATE_WRITTEN	30-NOV-1981
DATE_PROCESSED	31-JAN-1982
DATE_RECEIVED	20-APR-1983
RECEIVED_FROM	Australian Aquitaine Petroleum Pty Ltd
WELL_NAME	
CONTRACTOR	
AUTHOR	
ORIGINATOR	
TOP_DEPTH	
BOTTOM_DEPTH	
ROW_CREATED_BY	FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)