AUSTRALIAN AQUITAINE PETROLEUM PTY LTD

WCR
Edina - 1
(W784)

EDINA NO. 1

WELL COMPLETION REPORT

VIC/P17

OFFSHORE GIPPSLAND BASIN

PG/190/83

V. Djokic
K. Ly

82/971

DISTRIBUTION

AAP - Sydney

Gippsland Team	1
Geophysical Library	1
Library	1

Partners

Australian Occidental Pty. Ltd	1
Alliance Resources Pty. Ltd	1
Agex Pty. Ltd	1
Consolidated Petroleum Aust. NL	1

SNEA(P) - France

DIFEX/Australia	1
Centre Micouleau	1
Archives	1

GOVERNMENT DEPARTMENTS

Victorian Department Of Minerals and Energy	2

Approved By: ________________________

AUSTRALIAN AQUITAINE PETROLEUM PTY LTD

EDINA NO. 1

WELL COMPLETION REPORT

VIC/P17

OFFSHORE GIPPSLAND BASIN

PG/190/83

V. Djokic
K. Ly

DISTRIBUTION

AAP - Sydney

Gippsland Team	1
Geophysical Library	1
Library	1

Partners

Australian Occidental Pty. Ltd	1
Alliance Resources Pty. Ltd	1
Agex Pty. Ltd	1
Consolidated Petroleum Aust. NL	1

SNEA(P) - France

DIFEX/Australia	1
Centre Micouleau	1
Archives	1

GOVERNMENT DEPARTMENTS

Victorian Department Of Minerals and Energy	2

Approved By: ________________________

CONTENTS

FIGURES

ENCLOSURES

APPENDICES

ATTACHMENTS

I. SUMMARY

Edina - 1, the first well to be drilled in Permit VIC/P17 by Australian Aquitaine and its partners, was spudded on 26th September, 1982 and reached a total depth of 2,594m on 25th October, 1982.

The well was designed to test a structure mapped at the top of the Latrobe Group. The structure is considered to be due to compaction and drape over an Eocene coastal barrier/deltaic sand reservoir sequence. It is presumed to be syn-depositional and independent of major faulting of later tectonics (Section D). Areal closure of the time structure at the top of the Latrobe Group was measured at 9.0km^2. Depth conversion reduced this to 3.4km^2 at a spillpoint of 2,320m MSL.

The well was located 8.3km west-southwest of Gurnard No. 1 and 14.1km southeast of Bream No. 3. It was drilled by the semi-submersible "Ocean Digger".

The top of the Latrobe Group was intersected at 2,242m KB, and 352m of Paleocene to Early Oligocene Latrobe sediments were penetrated before drilling stopped at 2,594m KB. Drilling ceased at this point as there was no structural closure interpreted below the Purple (Intra-Latrobe) Horizon; this horizon having been intersected at 2,520m. Significant shows were also absent down to this depth.

Log interpretation, sidewall cores and RFT analysis showed that the main reservoir objective, the Eocene coastal barrier/deltaic sand, as well as the Intra-Latrobe sands, have excellent reservoir properties. However, at the Edina-1 location these sands were water-saturated. The well was, therefore, plugged and abandoned on 1st November, 1982.

II INTRODUCTION

Edina No. 1 was drilled in permit area VIC/P17 by Australian Aquitaine Petroleum Pty. Ltd (25%), as operator for:-

Australian Occidental Pty. Ltd	25%
Alliance Resources Pty. Ltd	25%
Agex Pty. Ltd	12.5%
Consolidated Petroleum (Aust.) NL	12.5%

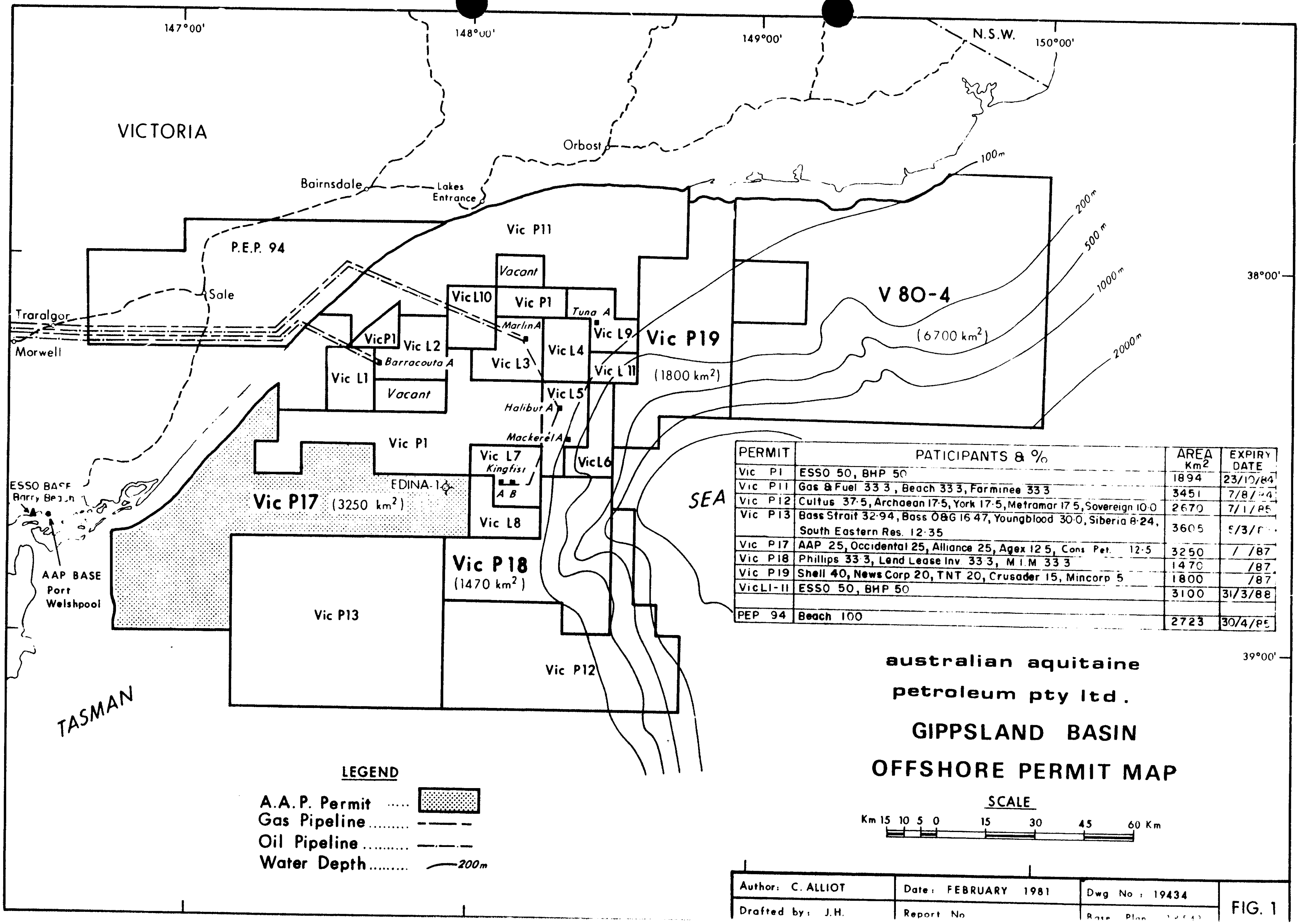
Prior to drilling, the GA-81 seismic survey was carried out and a total of 3,536 line-km of seismic was shot. This comprised a 1.5km x 1.5km grid over much of the permit area, with a wider spaced grid over the basement high in the southwestern part of the permit. Based on the interpretation of this survey and regional stratigraphic correlation with nearby wells, the Edina No. 1 well location was chosen at shotpoint 960 on line GA81-21.

The location was 126km east-northeast of Port Welshpool, where a supply and logistics base had been established by Aquitaine in association with Phillips & Shell.

The semisubmersible "Ocean Digger" was contracted to carry out drilling operations and spudded Edina No. 1 on 29th September, 1982. The well was plugged and abandoned as a dry hole and the rig released on 1st November, 1982 at a total cost of A$7,900,000 (provisional).

The structure tested had been mapped as a low northwest-plunging nose prior to the GA81 seismic survey. Interpretation of this survey resulted in the mapping of a closed structure at the level of the Brown and Yellow horizons. Closure decreased with depth and no structure was mapped below the Purple Horizon. The proposed T.D of 2,600m was, therefore, designed to penetrate the entire Latrobe sequence within structural closure.

The Edina structure was interpreted as being a predominantly, depositional feature and corresponding to an isopach 'thick' between the Brown and Yellow horizon. Shale drape and compaction of the Lakes Entrance Formation over this feature created the vertical seal for the trap.

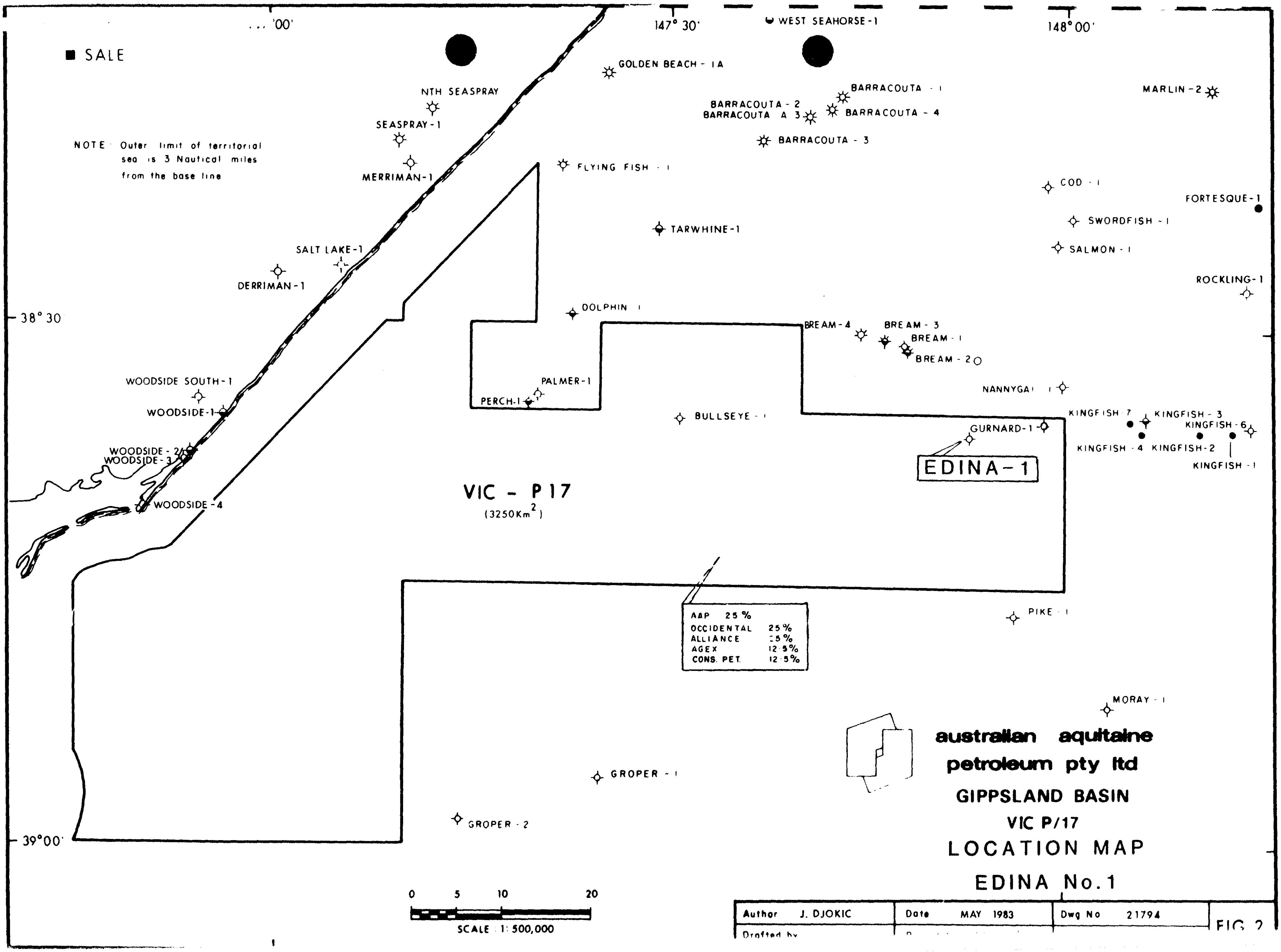


PERMIT	PATICIPANTS & %	AREA Km²	EXPIRY DATE
Vic P1	ESSO 50, BHP 50	1894	23/10/84
Vic P11	Gas & Fuel 33 3, Beach 33 3, Farminee 33 3	3451	7/8/84
Vic P12	Cultus 37·5, Archaean 17·5, York 17·5, Metramar 17 5, Sovereign 10·0	2670	7/1/85
Vic P13	Bass Strait 32·94, Bass O&G 16 47, Youngblood 30·0, Siberia 8·24, South Eastern Res. 12·35	3605	5/3/[illegible]
Vic P17	AAP 25, Occidental 25, Alliance 25, Agex 12 5, Cons Pet. 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

australian aquitaine petroleum pty ltd.

GIPPSLAND BASIN OFFSHORE PERMIT MAP

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


SALE
147° 30'
148° 00'
38° 30
39°00'
WEST SEAHORSE-1
GOLDEN BEACH - 1A
NTH SEASPRAY
SEASPRAY-1
MERRIMAN-1
NOTE Outer limit of territorial sea is 3 Nautical miles from the base line
BARRACOUTA - 1
BARRACOUTA - 2
BARRACOUTA A 3
BARRACOUTA - 4
BARRACOUTA - 3
MARLIN-2
FLYING FISH - 1
COD - 1
FORTESQUE-1
SWORDFISH - 1
TARWHINE-1
SALMON - 1
SALT LAKE-1
DERRIMAN-1
ROCKLING-1
DOLPHIN 1
BREAM-4
BREAM - 3
BREAM - 1
BREAM - 2
WOODSIDE SOUTH-1
PALMER-1
PERCH-1
NANNYGAI 1
WOODSIDE-1
BULLSEYE - 1
KINGFISH 7
KINGFISH - 3
KINGFISH - 6
GURNARD-1
KINGFISH - 4
KINGFISH-2
KINGFISH - 1
WOODSIDE - 2
WOODSIDE - 3
EDINA-1
VIC - P17
(3250Km²)
WOODSIDE - 4
AAP 25%
OCCIDENTAL 25%
ALLIANCE 25%
AGEX 12.5%
CONS. PET. 12.5%
PIKE - 1
MORAY - 1
australian aquitaine petroleum pty ltd
GIPPSLAND BASIN
VIC P/17
LOCATION MAP
EDINA No.1
GROPER - 1
GROPER - 2
0 5 10 20
SCALE 1: 500,000
Author J. DJOKIC
Date MAY 1983
Dwg No 21794
Drafted by
FIG. 2

III. WELL HISTORY

A. GENERAL DATA

Well Name & Number:	Edina No. 1
Name & Address of Operator:	Australian Aquitaine Petroleum P/L. 99 Mount Street, NORTH SYDNEY NSW 2060
Name & Address of Titleholder:	Australian Aquitaine Petroleum P/L. 99 Mount Street, NORTH SYDNEY NSW 2060.
	Australian Occidental P/L. 66 Berry Street, NORTH SYDNEY NSW 2060
	Alliance Resources P/L 5 Floor, Collins Tower, 35 Collins Street, MELBOURNE VIC 3000.
	Consolidated Petroleum Aust. N.L. Hartogen House, 15 Young Street, SYDNEY NSW 2000
	Agex Pty. Ltd. 16 Floor, AGL Building, 111 Pacific Highway, NORTH SYDNEY NSW 2060.
Petroleum Title:	Permit VIC-P17
District:	Gippsland Basin
Location:	SP No. 960 Line GA81.21 Latitude: 38°36'22.539"E Longtitude 147°52'41.949E Easting 576476 Northing 5726535 Zone 55 CM 147°
Elevation:	RKB Sealevel : 30.5m Water Depth 68.5m
Total Depth:	2594m
Date Drilling Commenced:	26th September, 1982.
Date Total Depth Reached:	26th October, 1982.
Date Well Abandoned:	1st November, 1982.

Date Rig Released:	1st November, 1982.
Drilling Time in Days to T.D:	31
Status:	Plugged and abandoned
Total Cost (by Technical Cost Control)	$7,900,000 (approx)

australian aquitaine petroleum pty ltd

GIPPSLAND BASIN
VIC/P17
EDINA No.1
TIME Vs DEPTH
DRILLING PROGRESS CHART

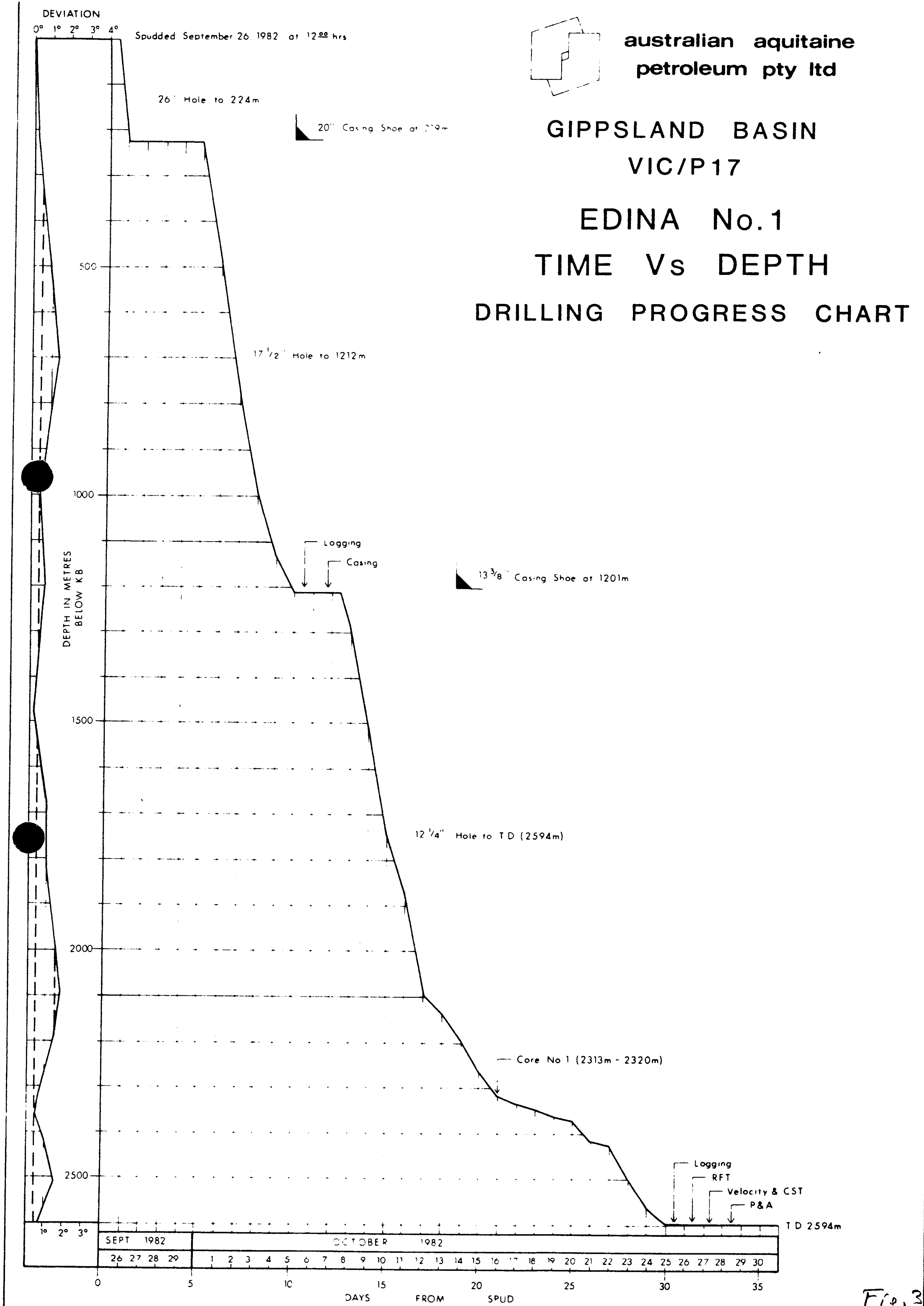


Fig. 3

B DRILLING DATA

(i) Drilling Contractor:
Australian Odeco P/L.
14th Floor, CAGA Centre,
256 Adelaide Terrace,
PERTH WA 6000.

(ii) Drilling Plant:

Semi Submersible rig "Ocean Digger" designed to drill to a depth of 5500 metres in water depths from 36 to 183 metres.
Power - Three Fairbanks - Morse. Model 38-D-8-1/8" diesel engines rated at 1800HP each.
Mooring System - Ten Baldt LWT 30,000lb anchors with 3,000 feet of 2 1/2" chain.
Mast - Lee C. Moore 40' x 40' x 142' 1,000,000lb static capacity.
Drawworks - Emsco A 1500 E. Mud Pumps - 2 of Emsco D-1350.
Mud Tanks - 1020 barrels capacity
Drill String - 5" 19.5 lb/ft drill pipe. 9 1/2", 7 3/4" + 6 1/2" drill collars.

(iii) Blowout Preventer Equipment

18 3/4" 10,000 psi WP BOP stack consisting of:-
-1 x CIW type "U" triple ram type preventer 10,000 psi WP' with 6 side outlets. Blind Shear Rams on top, 5" Pipe Rams in bottom and middle unit.
- 2 x CIW Collet Connectors 18 3/4" 10,000 psi.
- 1 x Hydril Type GL, 5,000 psi bag preventer.
- 1 x 18 3/4" Vetco pressure balanced ball joint.
4 x 3 1/8" Shaffer 10,000 psi Fail Safe Valves.
- 2 x 3" 10,000 psi safety pressure lines to surface. One as Choke Line, one as Kill Line.
-Payne 320 gallon BOP Control System.
-600 feet of 22" OD x 0.50" Regan integral marine riser with 45 foot stroke Slip Joint.
-Regan KFDS Diverter.
-10,000 psi WP surface choke manifold. Two hand adjustable, two fixed and one remote controlled chokes - all CIW.

(iv) Hole Sizes & Depths

Size	Interval
26"	224m
17 1/2"	1212m
12 1/4"	2594m

(v) Casing & Cementing Details

Size	Weight	Grade	Shoe Depth	Cement	Cement To
20"	133lb.ft	X56	219m	75T	Seabed
13 3/8"	68lb.ft	K55	1201m	73T	600m

(vi) <u>Drilling Fluid</u>

26" Hole: High viscosity spud mud, with returns to seafloor. Viscosity Marsh, 100 plus.

17 1/2" Hole: Type, Sea water/Q.Mix.

Average properties:-
SG: 1.09
VIS (March): 40
PV: 9
YP: 17
WL: 20
PH: 9
Clna: 30,000ppm

12 1/4" Hole: Type, Seawater Polymer

Average properties:
SG: 1.23
VIS.: 50
PV: 15
YP: 25
WL: 5
PH: 10
Clna: 16,500ppm

(vii) Water Supply

Potable water distilled on drilling vessel
Fresh water from Welshpool.

(viii) Perforation & Shooting Record

Perforate 13 3;8" casing at 170m RKB to squeeze cement to 13 3/8" x 20" annulus on plug and abandon.

(ix) Plugging back & Squeeze jobs

On abandonment:-
Plug No. 1: 12 1/4" hole. 2300m to 2410m.
11 tonnes Class "G" cement. SG 1.89
Plug No. 2: 12 1/4"/13 3/8" casing. 1150m to 1250m
12 tonnes Class "G" cement. SG 1.89
Plug No. 3: Surface plug. 140m to 200m
6 tonnes Class "G" cement. SG 1.89

NOTE: 13 3;8" casing cut at 121m RKB
20" casing cut at 115m RKB
sub sea wellhead recovered from seabed.

(x) Fishing Operations

Casing connector on 20" parted while running casing. All casing recovered.

(xi) Side-tracked Hole

Nil

(xii) Communications

VHF + UHF Radio link.
Ship to shore telex .
Telephone line with Facsimile.

(xiii) Base of Operations

Welshpool, Victoria.

LOCATION

(i) Site Investigations

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

After rig move, a side scan sonar survey was conducted on 5th November 1982, by Racal-Decca Survey personnel, to investigate the sea floor for any foreign objects that could be present in the area. (For operation details see Appendix 9).

An area of approximately 5.5 km^2 (2km x 2.8km) of sea floor around the wellhead was surveyed. This can be compared to the anchor pattern which was established on a 600m radius from the wellhead.

No debris could be detected on examination of the records.

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

(ii) Anchoring Methods

Rig anchors, (10) positioned approximately 600 metres from rig. Marked by special buoys.

(iii) Transportation

From Welshpool Base to rig location.
1 x 5,600 HP + 1 x 5,400 HP Supply, anchor handling towing vessels.
Landing, towing vessel.
1 x standby vessel.
1 x Puma SA 330J helicopter.
1 x Bell 412 helicopter.

C. FORMATION SAMPLING

(i) Ditch Cuttings

Lagged samples were collected from rig shale shakers by the mud logging personnel (Geoservices). These samples were collected at 10 metres interval from 20" casing depth (225m) to 1210 metres, 5 metres interval to 2000 metres and 3 metres interval thereafter to total depth (2594m).

Four sets of washed and dried cutting were collected. One complete set was deposited with B.M.R's core and cuttings laboratory in Fyshwick, A.C.T and another with the Mines Department Store, Oil & Gas Division, Port Melbourne. One complete set of cuttings was kept by Aquitaine in their Artarmon store in Sydney for further analysis and one set was sent to SNEA(P) in Pau - France for analysis. In addition, two sets of unwashed and air dried cuttings were collected and kept by Aquitaine in Artarmon store.

(ii) Coring

One core was taken as shown below.

A Christensen core barrel with 6 3/4" Stratapax core head was used.

Core No.	Interval	Metres Cut	Recovered	Recovery
1	2312.6m - 2320.2m	7.6	7.0	92%

The core was photographed and one inch plugs were taken for analysis by Auscore. A complete description and core analysis are presented in Appendix No. 3.

The core was slabbed longitudinally and a quarter was each dispatched to B.M.R's core and cuttings laboratory in Fyshwick - A.C.T and the Mines Department Store - Oil and Gas Division, in Port Melbourne, Victoria. A half portion was kept by Aquitaine in the Artarmon warehouse in Sydney.

(iii) Side Wall Cores

Sidewall cores were taken with Schlumberger CST equipment. One 51 shot gun was run during Run 1 and one 30 shot gun during Run 2.

Run No.	No of Shots	Recovery	Misfired	Lost	Empty	% Recovery
1	51	29	18	-	4	57%
2	30	19	2	9	-	63%
Total	81	48	20	9	4	59%

Recovered sidewall cores were sent to David Taylor (Paltech) and Wayne Harris (W.M.C) for Paleontological and Palynological analysis respectively.

Complete descriptions of sidewall cores are presented in Appendix No. 2.

(iv) Canned Cuttings

Canned cuttings were collected for Bureau of Mineral Resources for analysis of C1-C5.

One litre paint tins were used and samples were collected from 1900 metres to total depth at an interval of 30 metres.

D. LOGGING AND SURVEY

(i) Electric and Wireline Logging

Schlumberger ran the following:

Depth (m)	Date	Logs	Additional Services
Suite No. 1 1212.0	16.10.82	ISF-SLS-G LDL-G	
Suite No.2 2594.0	26.10.82	DLL-MSFL-GR LDL-CNL	RFT-Run 1 CST(Shot 81,Rec 48)
	27.10.82	BHC-NGS HDT	

Details of log interpretation are shown in Appendix No. 5.

(ii) Mud Log and Composite Log

The ditch gas was continuously monitored by Geoservices and the Master Log prepared by the Geoservices personnel is included in Enclosure 4.

A Field Wellsite Log was prepared by Aquitaine Geologists and has been incorporated into the composite log, Enclosure 3.

(iii) Velocity Survey

A velocity survey was conducted by Seismograph Services Limited, shooting at 19 levels from 225 metres to 2580 metres (KB). The results are included in Attachment 5.

(iv) Deviation Survey

The deviation of hole from vertical was measured by Totco Survey equipment. Maximum deviation recorded was 1 3/4° and details are listed in Appendix 6 and plotted on the composite log - Enclosure 3.

(v) Navigation Survey

The rig was positioned using an "OASIS" and "JMR-4A" positioning system. The survey was conducted by Deca Survey Australia. Results are summarised in Attachment 2.

CVSI BLOCK 28.10.82 2592M
Continuous Dipmeter 27.10.82
GEODIP 28.10.82 1850M → 2060M
" " 2060M → 2230M
" " 2230M → 2415M
" " 2415M → 2593M

E. Testing

The testing programme was designed to measure the pressure gradient of the reservoir fluids and to obtain an uncontaminated sample as far as possible.

Repeat Formation Tester:

A total of 14 formation pressures, from 2298 to 2562.5m, were obtained in addition to a full 2 3/4 US gallons and a full 1 US gallon sample chamber of water both from 2335 metres. Results are included in Appendix 7.

IV. GEOLOGY

A. PREVIOUS EXPLORATION AND SURVEYS

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

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

Exploration by Australian Aquitaine Petroleum and its partners commenced in November, 1981 after the granting of permit VIC/P17. During November the GA-81 seismic survey was carried out and a total of 3536 line km of seismic was shot. This survey was interpreted and the location for the first exploration well "Edina No. 1" chosen.

TABLE 1

GIPPSLAND BASIN EXPLORATION HISTORY

SIGNIFICANT DATES

1951 - 1956	BMR runs regional gravity and aeromag.
1960	BHP granted PEP 38 and 39 over the whole basin.
1961 - 1962	BHP runs aeromag surveys.
1962 - 1963	BHP reconnaissance seismic survey.
May 1964	Esso-BHP 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	Major relinquishments Esso/Hematite acreage

TABLE II

SURVEYS IN GIPPSLAND BASIN

YEAR	NAME OF SURVEY	BY	TYPE
1944	Morwell Brown Coal Field	B.M.R	Onshore Gravity
1948	Morwell Brown Coal Field	B.M.R	Onshore Gravity
1948-59	Traralgon South	B.M.R	Onshore Gravity
1951	Yallourn - Morwell - Traralgon	B.M.R	Onshore Gravity
1951	East Gippsland	B.M.R	Onshore Gravity
1951-52	Gippsland	B.M.R	Onshore Magnetic
1952	Avon Area	B.M.R	Onshore Seismic
1952	Darriman	B.M.R	Onshore Gravity
1952-53	Gippsland	B.M.R	Onshore Gravity
1954	Darriman	B.M.R	Onshore Seismic
1955	"Seven Mile" Nowa Nowa	B.M.R	Onshore Magnetic
1956	Gippsland Off-Shore	B.M.R	Onshore Magnetic
1958	Baragwarrath Anticline	B.M.R	Onshore Gravity
1959	Latrobe Valley	B.M.R.	Onshore Seismic
1960	Bairnsdale - Sale (E. Gippsland) Woodside		Onshore Seismic
1960	Bass Strait	B.H.P.	Offshore Magnetic
1960	Longford	B.M.R.	Onshore Gravity
1961	Anderson's inlet	Oil Dev.	Onshore Magnetic
1961	Bass Strait & Encounter Bay	Hematite	Onshore Magnetic
1961	Gippsland Basin	B.M.R.	Onshore Gravity

1961	Rosedale	B.M.R.	Onshore Seismic
1961	Sale - Lake Wellington	Woodside	Onshore Seismic
1962	Sale (Extended)	ARCO	Onshore Seismic (Woodside)
1962-63	Flinders Island	Hematite	Offshore Seismic
1962-63	Ninety Mile Beach	ARCO Woodside	Offshore Seismic
1963	Gormandale	A.P.M.	Onshore Seismic
1964	Gippsland Shelf (EG)	Esso	Offshore Seismic
1964	Seaspray	ARCO	Offshore Seismic
1965	Offshore Gippsland Basin	Shell	Offshore Seismic
1965	Paynesville	Woodside	Onshore Seismic
1965	Woodside - Paynesville	Woodside	Onshore Seismic
1966	ET 66 G.B.	Esso	Offshore Seismic
1966	Rosedale	A.P.M.	Onshore Gravity
1966	Stockyard Hill	Woodside	Onshore Gravity
1966-67	Hydrosonds Survey	B.O.C.	Onshore Seismic
1967	Eastern & Western Bass Strait	Magellan	Aeromagnetic
1967	Ex-67 G.B.	Esso	Offshore Seismic
1967	EC-67 G.B.	Esso	Offshore Seismic
1967	Golden Beach	B.O.C.	Offshore Seismic
1967	Sole Sparker	Shell	Sparker Offshore Seismic
1967	Venus Bay	Alliance	Sparker Offshore Seismic
1968	EH-68G.B.	Esso	Sparker Offshore Seismic

1968	Tarwin	AOD	Onshore Seismic
1968	Toongabbie	APM	Onshore Seismic
1968-69	East Gippsland	Magellan	Seis & Magnetic
1968-69	G69A	Esso	Offshore Seis & Mag
1969	Bemm River	WYP Dev.	Onshore Gravity & Magnetic
1969	Cape Patterson	Alliance Oil	Onshore Gravity & Seismic
1969	G69B	(Esso/ Shell)	Offshore Seis &
1969	Gippsland Basin Onshore	Woodside	Onshore Seismic
1969	Lakes Entrance Offshore	BOC & Woodside	Offshore Seismic
1969	Tasman - Bass Strait	Magellan	Offshore Seismic Sparker & Mag
1970	Bemm River	YPO Dev.	Onshore Seismic
1970	G69B (Sole Structure)	Hematite	Offshore Seismic
1970	G70A (Tuna Structure)	Hematite	Offshore Seismic
1970	Seaspray	Woodside Planet Etc.	Offshore Seismic
1970	Central High Survey	Shell	Offshore Seismic
1970	Tarwin	A.O.D.	Onshore Seismic
1970-73	Continental Margin	B.M.R.	Offshore Seismic
1971	G71A	Esso	Offshore Seismic
1971	G71B	Esso	Offshore Seismic
1972	G72A	Esso	Offshore Seismic
1972-73	Continental Margin	Shell Geophysical	Offshore
1973	North East Furneaux	Magellan	Offshore Seismic

1973	G73A	Esso	Offshore Seismic
1973	G73B	Esso	Offshore Seismic
1973	Offshore Gippsland Basin Survey	Shell	Offshore Seismic
1974	G74A	Esso	Offshore Seismic
1976	G76A	Esso	Offshore Seismic
1977-78	G77A	Esso	Offshore Seismic
1980	G80A	Esso	Offshore Seismic
1980	GB-79	Beach	Offshore Seismic
1980	GBS-80	Bass Strait O & G	Offshore Seismic
1980	GC-80	Cultus Pacific	Offshore Seismic
1980	MGS-80	Mincorp	Airborne Geochemical
1980	MSI-80	Mincorp	Airborne Geochemical
1981	GB-81	Beach	Offshore Seismic
1981	GBS-81	Bass Strait O & G	Offshore Seismic
1981	G81A	Esso	Offshore Seismic
1981	GM81A	Mincorp	Onshore Seismic
1981	GB81A	Beach	Onshore Seismic
1981	GA81A	Aust. Aquitaine	Offshore Seismic
1981	GA81A Ext	Bass Strait O & G	Offshore Seismic
1981	GP81A	Phillips	Offshore Seismic
1981	GC82A	Cultus Pacific	Offshore Seismic
1981-82	GS81A	Shell	Offshore Seismic
1981-82	G82A	Esso	Offshore Seismic
1981-82	G82B	Esso	Offshore Seismic
1982	GSR-82A	Sion Resources	Onshore Seismic

1982	GB-82A	Beach	Onshore Seismic
1982	GH-82A	Hudbay	Offshore Seismic
1982	G82C	Esso	Offshore Seismic
1982	GA82B	Aust. Aquitaine	Offshore Seismic

B. REGIONAL GEOLOGY

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

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

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

The separation of the Lord Howe Rise and New Zealand from eastern Australia abound 80 MY to 60 MY BP marked a general increase in the rate of subsidence within the Gippsland Basin. Fluviatile sedimentation continued in the Late Cretaceous but gave way to prograding deltaic complexes during the Palaeocene and Eocene. Individual complexes have yet to be delineated by well and seismic data although Loutit and Kennett (1981) have related sedimentary cycles within the Gippsland Basin to global eustatic and sea level changes. These depositional cycles are recognisable from the Late Cretaceous to Late Eocene Latrobe Group through to the Oligocene to Early Miocene Lakes Entrance Formation (figure 3).? At the top of the Latrobe Group a regional transgression inundated the basin and caused the formation of a series of barrier systems during periods of stillstand. Associated with these barrier systems are glauconitic, nearshore marine facies together with lagoonal and marsh facies in which coal-forming carbonaceous sediments were laid down. This transgressive sequence, which marks the final phase of Latrobe sedimentation, is termed the Gurnard Formation; although this classification is still informal.

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

The transgressive phase which resulted in the formation of the Gurnard and Lakes Entrance sediments has been related to the separation of Antarctica from southern Australia, which began about 45 MY BP. During this period and the Late Miocene en echelon anticlines and shear faults were generated. This pattern of faults and northeast-southwest trending anticlines is compatible with the existence of a dextral wrench couple operating in the region at the time. It is this phase of structuration which acted upon the Latrobe sediments and formed the major structural targets for hydrocarbon exploration within the basin.

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

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

C. REGIONAL STRATIGRAPHY

(1)

The Stratigraphy of the offshore Gippsland Basin is summarised in Figure 4.

Basement

The basement is composed of slighlty metamorphosed Paleozoic sediments of the Tasman Geosyncline. These rocks are exposed in the Victorian Ranges to the north and form islands along the Bassian Rise to the south. The geosyncline sediments are composed of deformed siltstones, shales, sandstones and igneous rocks of Ordovician and Silurian age which are overlain by Devonian - Carboniferous red beds made up of conglomerates, sandstones and pebbly sandstones with interbedded rhyolite, rhyodacite and trachytes (Threlfall et al., 1976). These Devonian - Carboniferous rocks are believed to have been the major source of coarse clastic sediments in the Gippsland Basin.

Four wells (Groper 1, Groper 2, Bluebone 1 and Mullet 1), located along the southern margin of the basin, reached basement rocks in granite and in red siltstones and sandstones. Although the basin centre has never been reached by drilling, aeromagnetic surveys suggest that basement rock will be similar to those found onshore.

Early Cretaceous (Strzelecki Group)

The Strzelecki Group represents the first sediments to have deposited in the Basin. The group consists of non-marine, immature greywackes, shales and coals. The greywackes are medium-grained and composed of quartz, rock fragments and feldspar grains held together by abundant chloritic and kaolinite clay matrix and minor calcareous cement. The shales are micaceous and slightly carbonaceous. The rocks are interpreted to have been deposited in alluvial fan and alluvial plain environments in a rapidly subsiding basin. The sandstones contain much volcanic material and have poor reservoir characteristics. Therefore, the group has been generally regarded as economic basement in the offshore area. The maximum thickness of the Group is estimated to be more than 3,500m (James and Evans, 1971).

The Strzelecki Group is exposed onshore at Narracan and Balook Highs. Offshore, in the areas where the group is reached by drilling or recognised seismically, it is separated from the overlying Latrobe by an angular unconformity.

Late Cretaceous - Eocene (Latrobe Group)

Latrobe undifferentiated: This sequence refers to the Late Cretaceous-Eocene sediments offlapping the Strzelecki Group and which contain major hydrocarbon accumulations. The maximum thickness of the sequence is estimated to be approximately 5,000m. In the western and central basin, non-marine deposition was predominant from Late Cretaceous to Early Eocene with the formation of alluvial and delta plain deposits comprising quartzose sandstone, coal, mudstone, siltstone and shale. Sand grains range from very fine to very coarse. Volcanic rock fragments and feldspars are less abundant than in the Strzelecki Group. The sandstones are poorly sorted but more mature than the underlying Strzelecki sandstones. At the end of the Late Cretaceous the southeastern side of the basin was encroached by a marine shoreline, but the centre of the basin was still largely a site of non-marine deposition. The upper section of Paleocene-Eocene age shows numerous point bar sandstones embedded in swamp deposits. The paleocurrent direction, as determined from the variation of these sandstones, is from the northwest (Threfall et al., 1976).

Gurnard Formation: This formation refers to the reworked sediments which were formed during the major transgression of the Eocene. These sediments vary from nearshore muds containing glauconite, to shoreline deposits including beach sand and backswamp coal. The unit, which has an erosional contact with the underlying deltaic sediments, is in turn overlain by marine sediments of the Lakes Entrance Formation.

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

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

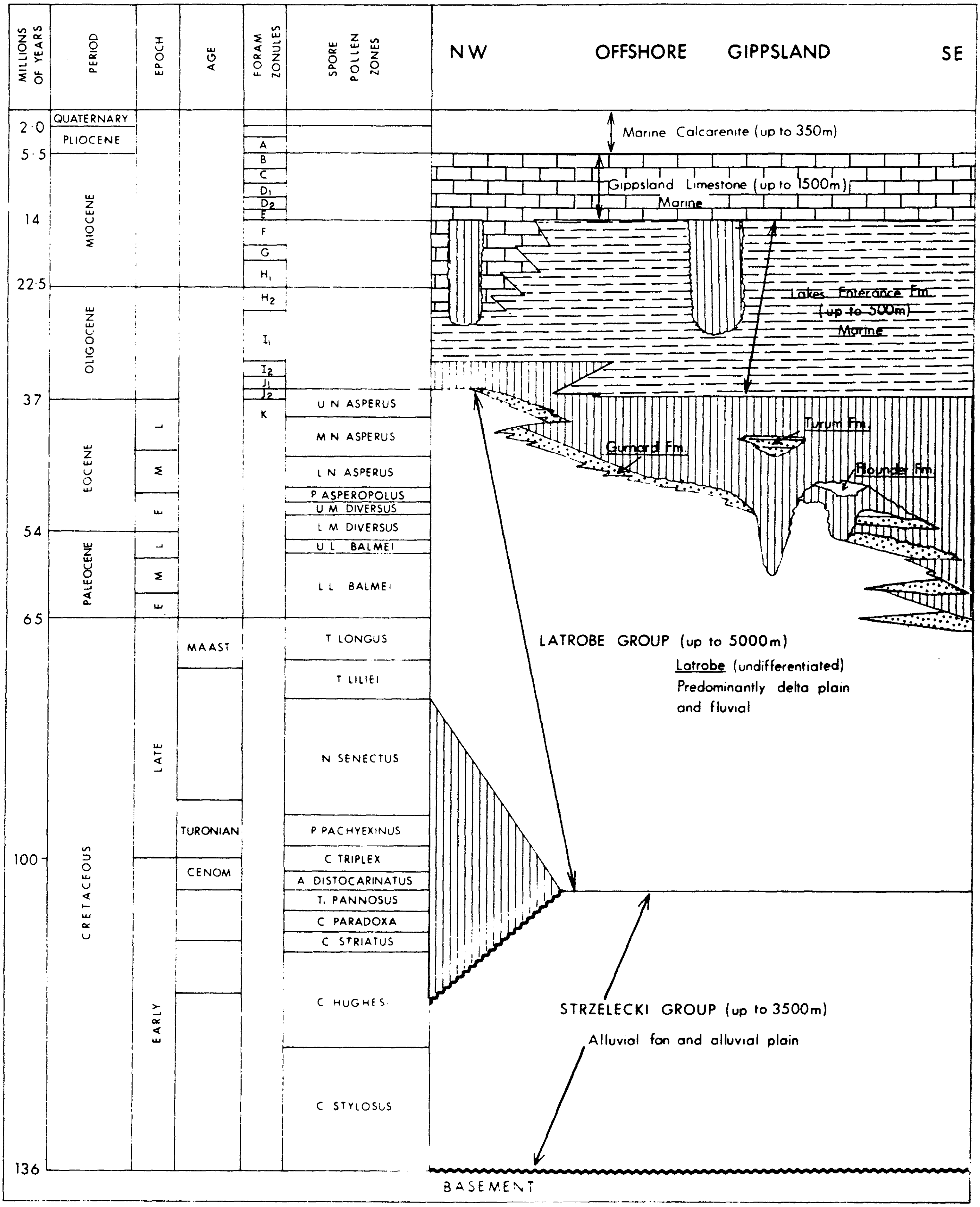
Oligocene - Miocene

The Oligocene-Miocene sequence consists of two formations: the Lakes Entrance Formation and the Gippsland Limestone (figure 4). Although these two formations represent two separate units onshore, their offshore contact is gradational. The Lakes Entrance Formation refers to the maximum 500m thick unit of marine mudstone overlying the Latrobe Group. The mudstone is light olive-green in colour, sometimes grey with a variable argillaceous and calcareous content. It contains pyrite, glauconite and marine fauna.

The Gippsland Limestone was first used to describe the onshore Miocene limestones and marls which overlie the Lakes Entrance Formation. Offshore, the Lakes Entrance Formation grades upward to a unit of 1500m of Miocene limestone, calcarenite and marl with occasional coarse clastics of mudstone. Slumping and sub-marine channelling are common in the Miocene and are probably related to the tectonic and structural movements in the basin and sea level changes.

Pliocene - Recent

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



australian aquitaine petroleum pty. ltd.

Gippsland Basin VIC/P17

STRATIGRAPHY

OFFSHORE GIPPSLAND BASIN

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

Dwg No: 20375

C. STRATIGRAPHY OF SEDIMENTS PENETRATED

(2)

The regional stratigraphy of offshore Gippsland Basin is summarised in Fig. 4. The stratigraphy and thickness of sediments penetrated in Edina No. 1 are summarised in Fig. 7 and Table 3.

TABLE NO. 3

<table>
<tr><th colspan="2">AGE</th><th>FORAM ZONULES</th><th>FORMATION</th><th>MEMBER OR GROUP</th><th>FORMATION TOP (KB)</th><th colspan="2">THICKNESS</th></tr>
<tr><td colspan="2">PLIOCENE TO RECENT</td><td></td><td>UNDIFFERENTIATED</td><td></td><td>99m</td><td colspan="2">207m</td></tr>
<tr><td rowspan="3">MIOCENE</td><td>LATE</td><td>*</td><td rowspan="2">GIPPSLAND LIMESTONE</td><td>UPPER</td><td>306m</td><td>1178m</td><td rowspan="2">1542m</td></tr>
<tr><td rowspan="2">EARLY</td><td rowspan="2">G to H</td><td>LOWER</td><td>1484m</td><td>364m</td></tr>
<tr><td>LAKES ENTRANCE</td><td></td><td>1848m?</td><td colspan="2">394m</td></tr>
<tr><td colspan="2">OLIGOCENE</td><td>J_2</td><td rowspan="2">GURNARD FORMATION</td><td rowspan="4">LATROBE GROUP</td><td>2242m</td><td>35m</td><td rowspan="2">91m</td></tr>
<tr><td rowspan="2">EOCENE</td><td>LATE</td><td>K</td><td>2278m</td><td>56m</td></tr>
<tr><td>EARLY</td><td>NFF</td><td rowspan="2">LATROBE CLASTICS (UNDIFFERENTIATED)</td><td>2333m</td><td>189m</td><td rowspan="2">26m</td></tr>
<tr><td colspan="2">PALEOCENE?</td><td></td><td>2522m</td><td>72m</td></tr>
</table>

* E1 and younger

NFF - No Fossil found

Pliocene - Recent (Undifferentiated) Sea Floor - 306m KB

Most of this section was drilled with no sample returns (sea floor to 224m KB). On a regional basis, up to 350m of marine calcarenites lie between the Miocene - Gippsland Limestone and sea floor. Stratigraphic data on this sequence are lacking and it has been suggested that the lower part of this sequence may belong to the Late Miocene. The base of this sequence has been picked at 306m from the log character and lithological changes of the cuttings after drilling out 20" casing shoe. The sequence (224m - 306m) is composed of Limestone Coquina (40 - 80%), abundant bryozoa, corals, sponges, coral debris, forams, bivalves with Limestone Biomicrite, light grey, grey-white, tan, cream, friable, chalky in part, with minor sparry calcite.

Miocene (306m - 2242m KB)

The Miocene sequence consists of two formations, the Gippsland Limestone and Lakes Entrance Formation. Although thesetwo formations represent two separate units onshore, their offshore contact is gradational.

Early to Late Miocene (306 - 1848m KB) D-Z to E-1 Zones

The Gippsland Limestone has been subdivided into Upper and Lower members.

The Upper Member - Middle to Late Miocene (306 - 1484m) is composed of a gradational sequence consisting of Limestone, Calcarenite, Marl, and Calcilutite and calcareous Claystone. Calcarenite is light grey, grey, occasionally tan, firm to friable, generally well cemented, fine to very fine grained, with common sparry calcite, well sorted, with common micritic fragments, minor sand grains and fossil fragments. Marl is grey, soft, sticky with fine calcareous grains in calcareous clay matrix, silty and sandy in part, minor fossil fragments, grading to calcilutite, grey - cream, firm - hard, silty, well cemented, glauconitic. Calcareous Claystone is grey to medium light grey, soft sticky with minor subangular clay chips.

The Lower Member - Early Miocene (1484 - 1848m KB) is composed mainly of calcareous Claystone, light grey - grey, buff grey, soft sticky, soluble, fossiliferous, trace of glauconite and pyrite, minor chalky carbonates and micritic limestone becoming arenaceous and silty in part.

Early Miocene (1848 - 2242m KB) G to H-I Zones

This sequence is interpreted as being Lakes Entrance Formation because of its rock type. However, its Miocene age could suggest a more argillaceous facies of the Gippsland Limestone. The top of the sequence has been picked at 1848m based on lithological change.

The sequence is composed of calcareous Claystone grey, brown grey, occasionally green grey, grading to Siltstone, soft-firm, sometimes moderately hard, calcareous, with occasional thin beds of fine to very fine grained, light brown grey Sandstone. The sandstone is poorly sorted, with quite high clay matrix, slightly fossiliferous and slightly pyritic.

The Miocene sequence is characterised by a basal unconformity picked from electric logs at 2242m KB.

Early Oligocene (2242 - 2278m KB)

The sequence unconformably underlies the Miocene sediments and has been interpreted as being a marine transgressive inner shelf sequence (See appendix 5).

The sequence is composed of Claystone, light grey - medium grey, light brown, occasionally cream, oxidised, irregularly iron-stain, silty and sandy, highly calcareous, firm - hard, subfissile to blocky grading to marl with minor Sandstone light grey - medium grey, cream, fine - grained, hard, tight, subangular, calcareous, argillaceous in part good trace glauconite and minor sandstone, clear, quartzose non argillaceous.

Eocene (2278 - 2522m KB) Asperus/Asperopolus

1. L.N. Asperus/P. Asperopolus Zone (2278-2333m KB)

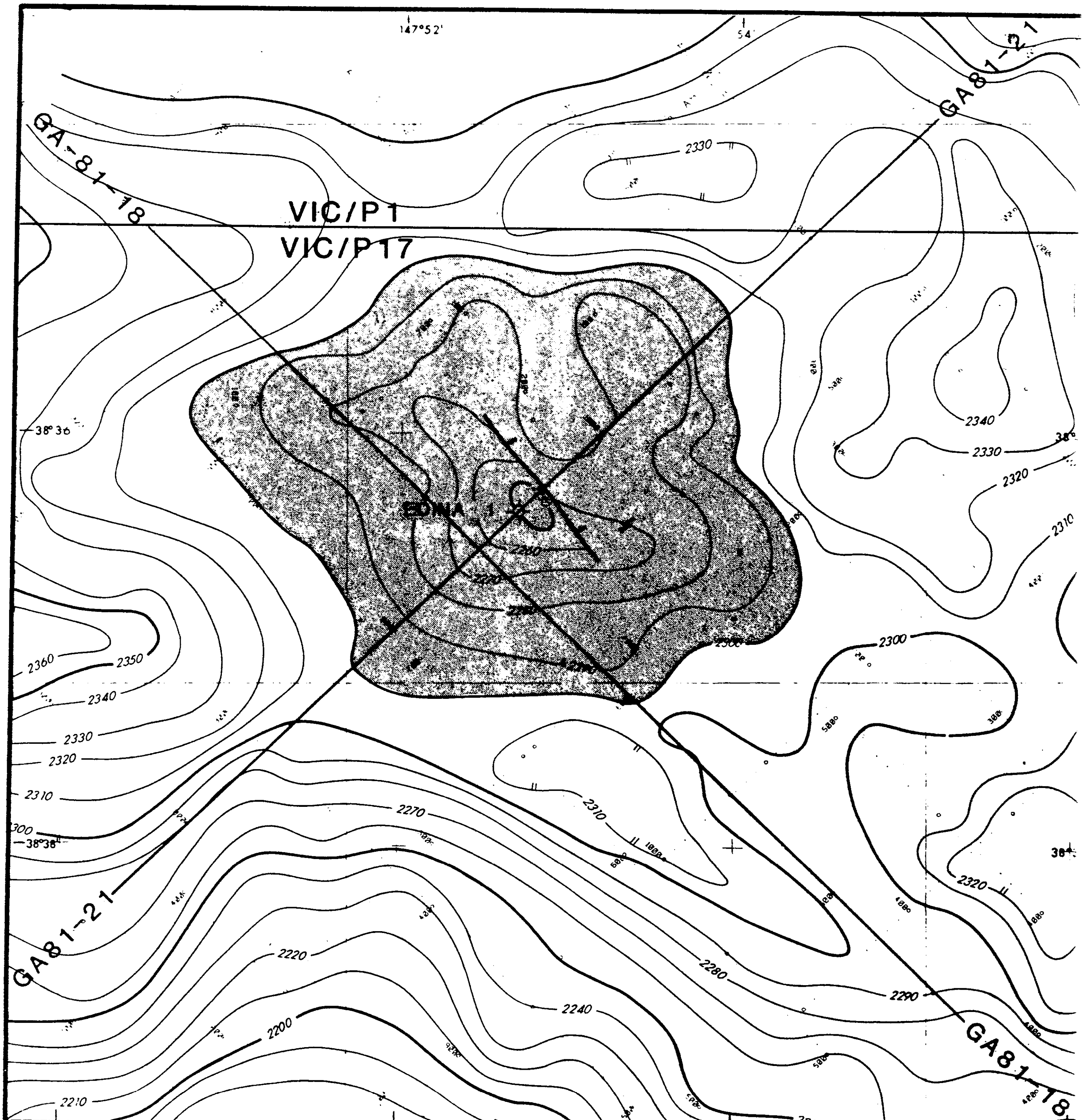
The sequence conformably underlies the Oligocene sediments. It is composed of Sandstone, brick red, red brown, medium grey, dark grey green, very fine to fine occasionally medium coarse, hard, argillaceous, calcareous at top becoming non calcareous at base, glaconitic, slightly micaceous in part, minor Siltstone, dark grey-green, glaconitic, hard, blocky, calcareous and claystone, brick red, soft amorphous at top and medium grey, calcareous, hard, subfissile, silty at bottom.

2. P. Asperopolus to U.M. Diversus Zone (2333 - 2522m KB)

This sequence consists of interbedded sandstones, mudstones and coal. The sandstone is generally fine to medium-grained, quartzose, non calcareous, slightly carbonaceous, non glauconitic. The mudstones are dark grey in colour, hard, carbonaceous, non calcareous and slightly micaceous. The coal is black and brittle. Due to the presence of coal the sequence has been interpreted as being a marginal marine deposit, probably a swampy detaic plain or back barrier.

Paleocene (2522 - TD)

The Paleocene sequence encountered in this well belongs to U.L Balmei palynological zone. As in the overlying Eocene unit, this sequence is also comprised of marginal marine deposits of sandstone, mudstone and coal. The contact between these two sequences is probably conformable and it has been placed at 2522m KB based on palynological data alone.



australian aquitaine petroleum pty ltd.

EDINA STRUCTURE

BROWN HORIZON DEPTH MAP
(Near Top of Latrobe Group)

CLOSURE :

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

VERTICAL — 53m (max.)

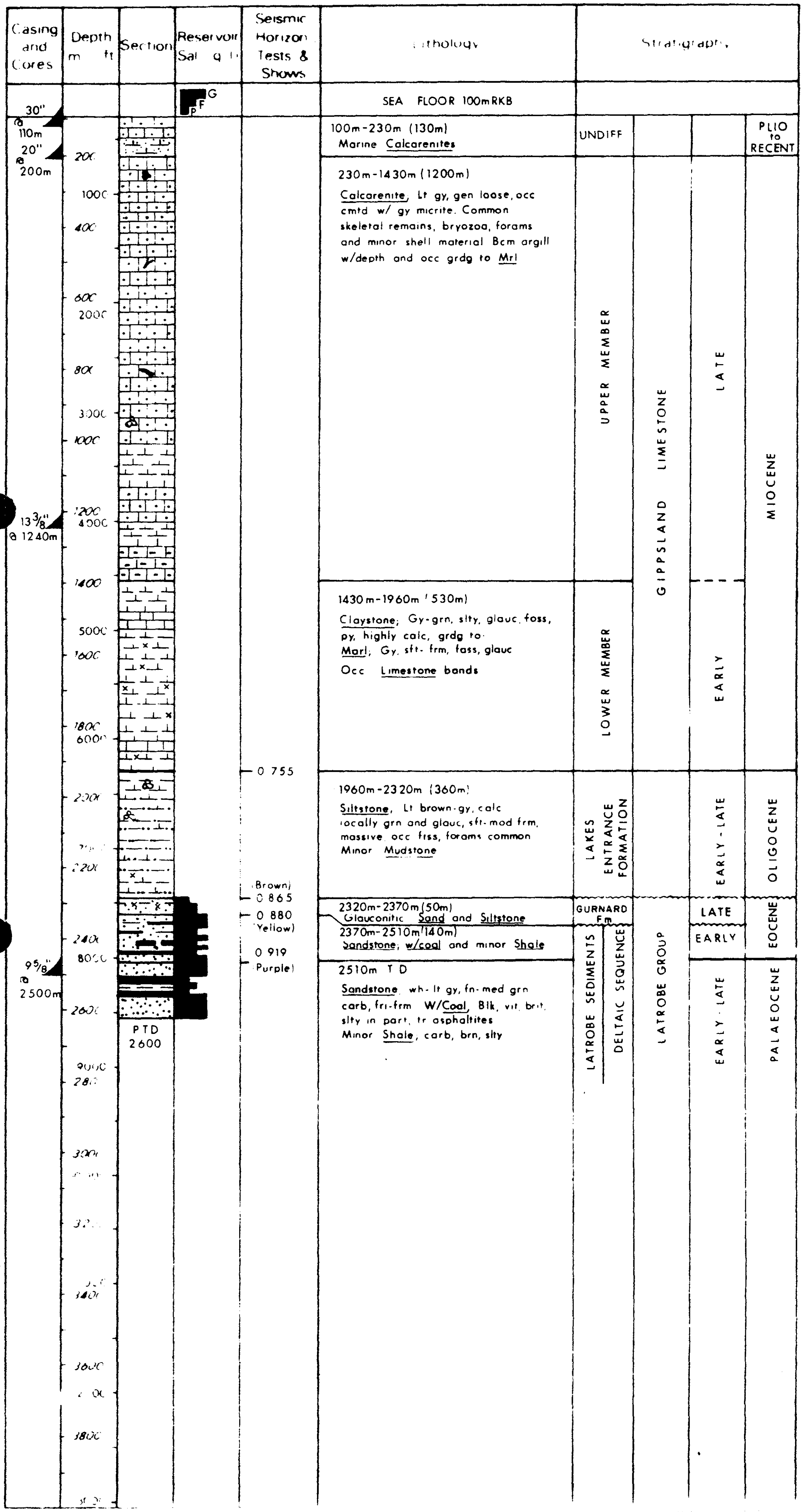
Contour Interval 10M.

SCALE 1:50,000

0 0·5 1 2 Kms

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

AUSTRALIAN AQUITAINE PETROLEUM PTY LIMITED



EDINA No. 1.

(PREDICTED SECTION)

Permit	Vic/P17
Location	Line GA81-21 SP 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 Latr[obe] Group
2. Intra-Latrobe cha[nnel] sands

Structure Un-named structural closure at top of Lat[robe] group Area of closur[e] 9.0 km² at 2340m M[...] from Isochron map

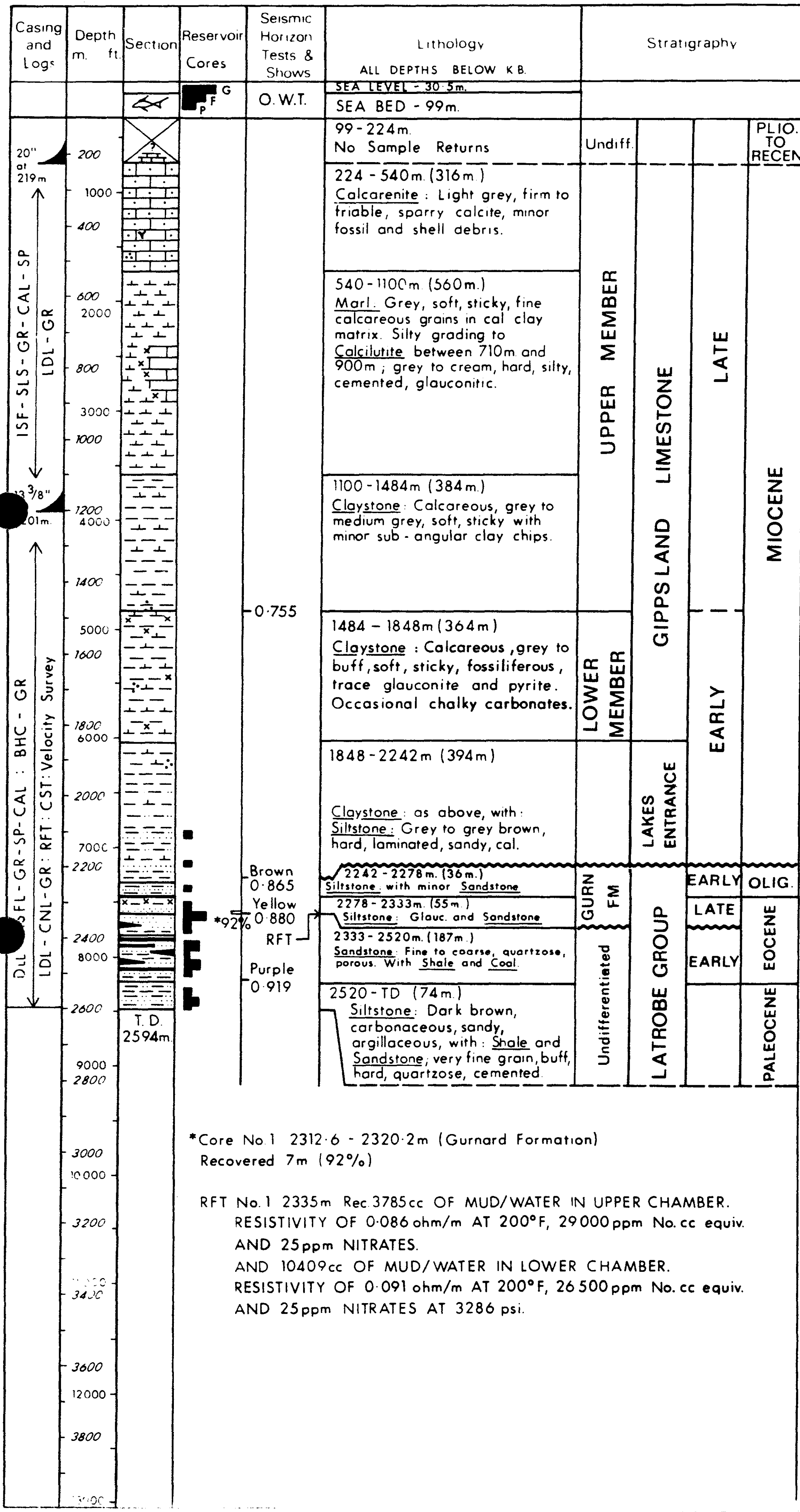
Comments 1. Velocity analysis o[...] structure used to calc[ulate] depths to seismic hor[izons]
2. Stratigraphy based regional well correla[tion] with Gurnard No. 1
Kingfish No 7
Nannygai No. 1
Bullseye No 1

Fig. 6

Author S FORDER
Date SEPTEMBER 1982
Base Map No 9112
Reference No 21108

australian aquitaine petroleum pty ltd

EDINA No. 1
COMPLETED SECTION



*Core No.1 2312·6 - 2320·2m (Gurnard Formation)
Recovered 7m (92%)

RFT No.1 2335m Rec.3785cc OF MUD/WATER IN UPPER CHAMBER.
RESISTIVITY OF 0·086 ohm/m AT 200°F, 29000ppm No.cc equiv.
AND 25ppm NITRATES.
AND 10409cc OF MUD/WATER IN LOWER CHAMBER.
RESISTIVITY OF 0·091 ohm/m AT 200°F, 26500ppm No.cc equiv.
AND 25ppm NITRATES AT 3286 psi.

Permit VIC/P17
Location SP960 Line GA81-2
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

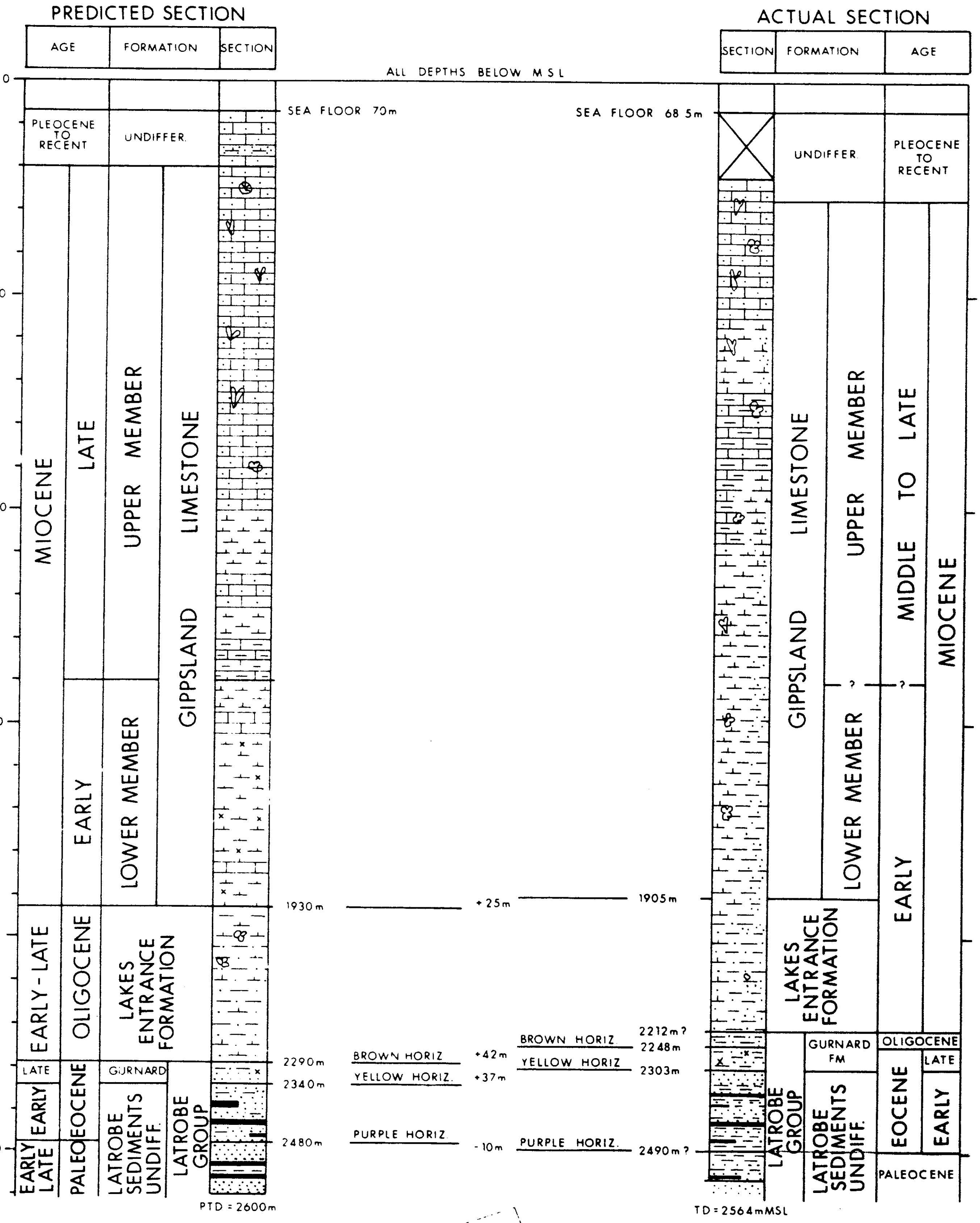
Objectives
1. Uppermost sand sequence within the Latrobe Group.
2. Intra-Latrobe channel san

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

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

Fig. 7

Author: S. FORDER
Date: APRIL 1983
Base Map No 9112
Reference No 21650



australian aquitaine petroleum pty ltd

COMPARISON OF PREDICTED TO ACTUAL DRILLED SECTION

VIC/P.17
GIPPSLAND BASIN
EDINA No. 1

Author J DJOKIC	Date MAY 1983	Dwg No 21798	FIG. 8
Drafted by R.E.	Report No PG/190/83	Base Plan :	

D. STRUCTURE

The Edina structure as mapped has maximum areal and vertical closure at the level of the Brown Horizon (top Latrobe Group) which was intersected in the well at 2278m KB. On time-structural maps the area of closure is 9 sq. kms at 1.760 millisec (T.W.T.); which relates to a depth to spillpoint of 2340 MSL. A depth map produced from normal move-out analyses of the velocity data produces a structure of 10.4 sq. kms x 40m with a spillpoint at 2290m subsea (see figure 5). Areal closure decreases with depth and does not exist below the Purple (intra-Latrobe) horizon. The Purple Horizon was penetrated at 2520m (KB). Therefore, the well was outside closure at the TD of 2,594m.

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 origin. 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 a Latrobe barrier bar sand body. Closure to the south of Edina may have been aided by channeling through the sand body as the Brown to Purple isopach shows a thin in this region.

A northwest-southeast trending normal fault with downthrow 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 intersect the top of this formation.

E. RESERVOIR PROPERTIES AND SOURCE ROCKS

The first major sands encountered in Edina No. 1 were from 2278 - 2333m, belonging to the Gurnard Formation of the Latrobe Group. Both logs and core (Core No. 1 2312.6 - 2303.2m) analyses indicate moderate to good porosity (11 - 19%, average 15%) but very low permeability (0.2 - 3.7md). The kerogen and spore colouration studies of sidewall cores in this sequence indicate very low total organic matter and immaturity for hydrocarbon generation. The sediments are a poor source for generating hydrocarbons.

The sequence below 2333m belongs to undifferentiated Latrobe Group. A number of potential reservoirs were encountered from 2333m - T.D., major zones being 2333 - 2371m, 2380 - 2389m, 2409 - 2418m, 2430 - 2443m, 2496 - 2505m, 2528 - 2532m, 2543 - 2553m, 2555 - 2559m and 2561 - 2571m. Log analyses indicate good to excellent porosity (16 - 25%). The permeabilities range from 10 - 100 md (based on pretest sampling curve and quick look determination from RFT). From log interpretation, Sw = 100% which is reflected in the pressure gradient of 1q/cc using formation pressures from RFT. Sampling during the RFT at 2335m recovered formation water of 29000 ppm Na Cl equivalent with a resistivity of 0.086 ohm-m at 93°C (see appendix 6) compared to an Rmf of 0.075 at the same temperature.

The kerogen and spore colouration study of sidewall cores in this sequence indicates that although there is adequate organic matter of a favourable nature in the Latrobe (see appendix 4) it is immature for the generation of hydrocarbons.

F. RELEVANCE TO THE OCCURRENCE OF HYDROCARBONS

No indications of oil or fluoresence were detected in the cuttings, cores or dilling fluid. Ditch gas readings were very small. The maximum reading obtained over Gurnard Fm. was 1% Total Gas (C1 = 0.8%, C2 = 0.035%, C3 = 0.02%) and a maximum of 0.9% Total Gas (C1 = 0.8%, C2 = 0.08%, C3 = 0.02%) over undifferentiated Latrobe Group. Log analysis and RFT verified the absence of hydrocarbon in the prospective reservoir zones.

G. CONTRIBUTION TO GEOLOGICAL CONCEPTS RESULTING FROM DRILLING

1. The top of Latrobe Group (comprising the Gurnard Formation plus Latrobe Formation) is proposed at 2,242m KB. This is confirmed by a major break in foraminiferal sequence at this level, between the Miocene (H assemblage zone) and the Early Oligocene (J2 assemblage zone) sediments of Upper N. Asperus palynological zone. The base of the Gurnard Formation is at 2,333m KB where it sharply overlies the Latrobe clastic sediments.

2. A distinct intra-Gurnard surface, shown by weathering evidence and sonic change, occurs at 2,278m KB. As there is no evidence of a faunal break, it may indicate only a surface corresponding to a stable sea level which was later buried by the Oligocene transgression.

3. The Gurnard Formation at Edina No. 1 consists of slightly calcareous, glauconitic sandstones, siltstones and mudstones, probably deposited in a shallow marine to shelf environment. Although there is a sharp change in lithology between the base of this formation and the underlying Latrobe clastics, their age seems to be identical and belongs to the P. Asperopolus palynological zone. Core analyses carried out in this unit between 2,312.6 and 2,320.2m indicate that the unit is almost impermeable, although porosities can reach up to 19%.

4. The top of Latrobe clastics occurs at 2,333m KB where it is overlain sharply by glauconitic sediments of the Gurnard Formation. The Latrobe clastics are composed of sandstones with good porosities and permeabilities, interbedded with mudstones, siltstones and claystones. The sandstone encountered between 2,333m and 2,371m has been interpreted as a coastal barrier or delta front (wave dominated) sand, whereas the interbedded sandstones, mudstones and coal are believed to have been deposited in a delta plain environment.

5. The lower M. Diversus zone is missing from the Latrobe Eocene sequence, thus indicating a discordance with the underlying Paleocene unit.

6. The top of the Paleocene is proposed at 2,526m. It is composed mainly of interbedded sandstones and mudstones with minor coal seams.

7. The increase of coal (content and thickness) toward the upper part of the Latrobe sequence probably indicates a general transgression from Paleocene to Eocene, resulting in deltaic sediments overlying fluvial deposits.

8. No hydrocarbons were detected in Edina which is mapped as a top Latrobe closure. This is unusual in the Gippsland Basin. A number of reasons have been forwarded which could explain the absence of hydrocarbons.

a) The closure of Edina was mapped at the level of the Brown Horizon. This horizon occurred in the well at 2278m KB. Edina was located on the northern extension of the Late Eocene Pike barrier system. In Pike No. 1, the Brown Horizon occurs at the top of the porous Latrobe sand. It is therefore possible that a map prepared on top of Latrobe porosity would reduce or perhaps eliminate closure at Edina.

b) The closure at Edina on the Brown Horizon is approximately $9km^2$ x 0.030 secs TWT. A depth map was prepared based on Western Geophysicals Horizon Velocity Analysis package which was applied to all lines. The resultant closure in depth derived was in the range 10.4km x 40m to $14.9km^2$ x 50m. However the variation in velocity gradient across the structure necessary to eliminate the closure is approximately 2%. This is of the order of the accuracy of the depth map. Therefore there may be no structural closure on the Brown Horizon.

c) The uppermost part of the Latrobe sand (2333-2371m KB) in Edina is interpreted to be of shoreface facies and the Edina structure due to compaction and drape over this body. The sand may be isolated from underlying sands (which are not closed at the location) as well as hydrocarbons migrating from mature Latrobe downdip. (No mature Latrobe was penetrated within closure at Edina). This barrier seems to be confirmed by a difference in salinity between the top Latrobe sand from 2333-2371m (33,000 ppm) and the sands below the shale unit at 2371-2380m (23,000 ppm).

d) The existence of a channel cutting accross the structure and filled by a coarse clastic material, would eliminate a seal and hence any accumulation.

Appendix 1

Cutting Sample Descriptions

Appendix 1

APPENDIX I

CUTTING SAMPLE DESCRIPTIONS

APPENDIX I

(CUTTING SAMPLE DESCRIPTIONS)

UNDIFFERENTIATED PLIOCENE - RECENT (SEA FLOOR TO 306m)

99 - 224m	No returns - Samples to seafloor
224 - 260m	Limestone, Coquina (50 - 80%) Abundant bryozoa, corals, sponges, coral debris, forams, shell, with light grey Biomicrite, friable, chalky, minor sparry calcite, occasionally with angular large shell fragments, and bryozoa, tube and fenestellid forms.
260 - 306m	Limestone, Biomicrite, grey-white, tan, cream, friable, minor calcarenite, loose, cemented in part, with sparry calcite grains, and fossil debris (40 - 50%) bryozoa, forams (bethonic) sponges, corals, spicules.

GIPPSLAND LIMESTONE - EARLY TO LATE MIOCENE (406 - 1848m KB)

Late Miocene (306 - 1484m KB)

306 - 350m	Limestone, Biomicrite, grey, medium grey, occasionally tan, cream with minor angular chips of sparry calcite, dense, hard, crypto-crystalline, dominant bryozoa, forams, fossill debris decreasing with increasing grain fraction.
350 - 420m	Limestone, Calcarenite, grey, off white, occasionally tan, firm - friable, cemented, with fine to very fine calcareous grains, sparry calcite, subangular-angular, well sorted, 10 - 20% micritic fragments, minor fossil, shell debris, slightly argillaceous in part, fair to good vugular porosity.
420 - 478m	Limestone Calcarenite, light grey, grey, firm - friable, well cemented with fine to very fine calcareous grains, sparry calcite, minor fine to very fine sand grains subangular -angular, well sorted, fair vugular porosity 10 - 20% micritic fragments, minor trace fossil fragments dominantly bryozoa, coral, forams.
478 - 494m	Limestone, Calcarenite, white, light grey, firm - friable, well cemented with calcareous grains, fine - very fine, subangular - angular, minor sand grains (50%) common sparry calcitic grains, minor biomicrite, and fossil fragments.
494 - 540m	Limestone Calcarenite, light grey, grey, firm - friable, becoming more silty and argillaceous in part, white calcareous cement, silty grains are more loosely bounded, gradational to silty calcareous claystone.

540 - 565m	Calcareous Claystone (Marl) grey, soft, sticky clay fraction washed out with 20 - 30% calcarenite grey, well cemented, with fine angular calcareous fragments, with silt and minor very fine sand grains, fine trace fossil fragments, minor lignitic fragments.
565 - 600m	Claystone, Calareous (Marl) grey, soft, sticky clay fraction generally washed out, very silty, minor calcareous angular fragments, fine calcite grains, silt and fine sand grains, embedded with fossil, bryozoa debris, glauconite, minor lignitic particles, slightly bioturbated in part.
600 - 660m	Claystone, Calcareous (Marl) grey - light grey calcareous clay matrix with assorted calcareous grains, clay chips, fossil, bryozoa debris, lignitic particles, good trace glauconite, silt and sand grains, bioturbated in part, occasionally sandy in part.
660 - 710m	Claystone (Marl) silty, soft, sticky, decreasing carbonate content, good trace lignitic particles, clay and calcareous grains well formed, good trace glauconite, bioturbated with worm faecal pellets, rounded grains, calcispheres.
710 - 730m	Claystone A/A becoming more compact, silty, grading to Calcilutite, grains more bounded (20%) with calcite grains, micritic fragments, bryozoa, spines, benthonic forams, calcispheres, trace worm pellets.
730 - 770m	Calcilutite grey to cream grey, hard, well cemented, with silt, calcite grains, glauconite, fossil fragments of bryozoa, benthonic forams, minor planktonic forms, also micritic in part, poor visible porosity.
770 - 805m	Calcilutite, gradational to Calcarenite, grey-cream grey, hard - firm, silty, well cemented, minor very fine sand grains, subangular, trace glauconite, occasionally micritic and crypto-crystalline angular fragments.
805 - 865m	Calcarenite gradational to Calcilutite, grey, cream grey, hard, brittle, occasionally friable, generally well bounded with calcareous grains, glauconite, lignitic particles, forams (benthonic) bryozoa, minor calcispheres, occasionally 5 - 10% micritic fragments, hard, dense, angular, poor visible porosity.

865 - 900m	Calcilutite/Calcarenite, light grey, firm, higher clay matrix, silty, becoming more argillaceous, clay fraction slightly washed out, sticky in part, less fossil fragments, lignite and glauconite than above sediments, occasionally white calcareous matrix, minor micritic and cryptocrystalline fragments.
900 - 960m	Calcilutite, Gradational to Calcareous Claystone (Marl), grey to light grey, tan, soft, becoming sticky and hydrophillic in part, clay fraction generally washed out, lower carbonate content than above sediments, minor trace fossils of bryozoa, sponges, both pelagic (?) and benthonic forms, minor angular micritic fractions (50%).
960 - 1020m	Intercalation of Calcareous Claystone (40 - 70%), light grey, generally soft, sticky, hydrophillic, occasionally blocky and firm in part, massive Calcilutite (30 - 60%) grey to medium grey, firm silty, partially grain supported, angular, minor trace fossil fragments, micritic in part minor glauconite. Calcilutite fraction becoming more indurated in part towards the base.
1020 - 1045m	Calcareous Claystone (50 - 70%), generally cream grey, soft, sticky, blocky, minor silt grains decreasing carbonate content Calcilutite (30 - 40%) grey - cream grey, generally A/A increasing argillaceous matrix, fine trace fossil fragments, 10 - 20% micritic fragments.
1045 - 1100m	Intercalation of Calcilutite and Calcareous Claystone generally gradational with argillaceous fraction being soft and sticky and slightly washed out, more calcareous fractions are firm and well cemented in part.
1100 - 1135m	Calcareous Claystone grey to medium grey, firm - soft, sediments more indurated in part, blocky, argillaceous and more massive in part.
1135- 1160m	Calcareous Claystone, grey to medium grey dominated clay supported matrix, soft, firm, blocky, becoming more silty in part, indurated fraction grading to Calcilutite with minor micritic fractions.
1160 - 1212m	Calcareous Claystone, grey to medium grey, minor brown grey, firm, silty and slightly arenaceous in part with good trace fossils, dominant benthonic forams, minor trace glauconite Calcilutite (40%) grey, brown grey, firm, indurated, silty, grading

	to Calcarenite (20%) cream grey firm to hard well cemented with calcareous grains, subangular, good trace glauconite, medium grained, fossil fragments dominant benthonic forams, calcispheres, 5 - 10% micritic fragments, 40% argillaceous fractions, generally soft to firm, slightly soluble and sticky, minor sparry calcity.
1212 - 1250m	Claystone, grey to medium grey soft-firm, blocky angular, highly contaminated by cement.
1250 - 1279m	Claystone calcareous, grey to medium grey, more argillaceous fraction dark grey, soft to firm, sticky, clay generally washed out, occasionally angular, firm, light grey, chalky micritic Limestone minor trace fossil fragments, bryozoa, forams, lower carbonate content. Ca Co3 Ñ 45%.
1279 - 1327m	Claystone, calcareous, grey to medium grey, generally as above with minor angular subfissile clay chips (5 - 10%) generally firmer and more indurated in part, very fine trace rounded quartz grains, fine trace fossil forams.
1327 - 1348m	Claystone, calcareous, grey to dark grey soft to firm, blocky, clay fraction generally washed out, increasing subfissile angular clay fragments (10 - 15%) slightly silty in part, fine trace fossil/forams.
1348 - 1380m	Claystone, clacareous, grey to dark grey, as above becoming more indurated and subfissile in part (20 - 25%) with minor very fine sand grains.
1380 - 1425	Claystone, calcareous, grey to dark grey, minor buff grey soft to firm, 15% subfissile angular clay fragments, splintery in part, remaining fraction generally soft, silty, associated with very fine microfossils (less than 1/16mm) dominantly pelagic, and planktonic (?) (globorotalia) very fine sand and calcite grains, trace very fine pyrite grains.
1425 - 1462m	Claystone, as above, argillaceous fraction generally soft sticky and soluble becoming more silty in part.
1462 - 1484m	Claystone generally as above, slightly silty and arenaceous in part with minor calcite grains, possibly slightly calcarenitic (less than 5%) in part, firm to friable, grey, minor glauconite.

Early Miocene (1484 - 2242m)

1484 - 1525m	Claystone, calcareous, grey to medium grey 50% buff grey fraction, generally soft, soluble, sticky, associated with good trace microfossils. Forams, good trace glauconite and pyrite 10 - 20% indurated subfissile clay fragments, splintery in part, minor trace white chalky carbonate.
1525 - 1580m	Claystone, calcareous, grey, buff grey as above high clay content washed out, 20% subfissile more indurated clay fragments (cavings in part) occasionally minor micritic limestone, encrusting microfossil, dominantly forams, good trace calcispheres at 1540m minor trace chalky, friable, grey-white carbonate.
1580 - 1625m	Claystone, calcareous, as above, samples flushed through riser, high percentage of sloughing clay.
1625 - 1645m	Claystone, calcareous grey to medium grey, minor buff grey firm indurated fraction generally subfissile, lighter grey fractions generally soft sticky, highly soluble, associated with micro-fossil, forams, globorotalia, trace pyrite, slightly silty in part.
1645 - 1683m	Claystone as above becoming silty and arenaceous in part with minor micritic Limestone, very fine calcareous sand grains, minor calcarenite.
1683 - 1755m	Claystone calcareous, grey to medium grey occasionally green grey, silty increasing sub-fissile clay fraction (high % of cavings dia. 2cm)firm indurated, also blocky in part, trace hard, dense, tan micritic limestone grains, trace forams and fine pyrite.
1755 - 1778m	Claystone calcareous, grey to dark grey, green grey, subfissile, splintery and shaly in part, high percentage cavings sloughing in, softer clay fractions (50%) lighter grey in colour, soft dispersive with occasionally silty and arenaceous layers, light grey, friable, assorted with forams and minor calcareous grains.
1778 - 1822m	Claystone calcareous generally as above with silty layers, friable, locally arenaceous in part good trace forams, calcispheres.
1822 - 1848m	Claystone as above with local arenaceous laminations, generally light grey, friable, poorly sorted, high clay matrix, decreasing subfissile firm fragments (less than 50%).

LAKES ENTRANCE FM - EARLY MIOCENE (1848 - 2242m KB)

1848 - 1870m	Claystone calcareous in part gradational to Siltstone, light grey, minor brown grey, soft, high clay matrix washing out, common very fine sand grains, subrounded, also assorted silty, calcareous lithic grains, forams, decreasing subfissile fractions, more soft and blocky.
1870 - 1907m	Claystone as above becoming more silty in part with fine trace pyrite and very fine trace glauconite (uncommon in these sediments).
1907 - 1935m	Claystone, calcareous gradational to Siltstone (30%) grey, brown grey minor green grey, green grey, generally blocky, soft to friable, locally arenaceous, minor fine to medium sand grains, also friable, white chalky carbonate, common forams, trace pyrite, pyritised gastropod at 1930m (1/4mm).
1935 - 2000m	Claystone, calcareous gradational to siltstone (15 - 25%) as above, clay fraction becoming more soluble and dispersive (80% washed out), decrease of subfissile indurated clay.
2000 - 2030m	Claystone, calcareous, gradational to siltstone (20 - 30%), increasing brown grey fractions, soft, 70% dispersive clay, leaving firmer silty and indurated fragments, thin Sandstone interbeds, light brown grey, friable, very fine to fine, poorly sorted, high clay matrix with assorted calcareous lithic grains, and forams, minor fine pyrite.
2030 - 2090m	Claystone calcareous, 20 - 30% grading to siltstone, grey to brown grey, green grey fragments, soft to firm, 70% dispersive clay, leaving firm, blocky silty fragments as above with minor trace pyrite locally.
2090 - 2170m	Claystone calcareous, as above (up to 70% of rock) with Siltstone grey to medium grey, grey brown, moderately hard, calcareous cement, occasionally fine sand grains, laminated with Claystone (10%) medium grey, hard calcareous, cemented, micro-laminar, non fossiliferous, occasionally pyritic.
2170 - 2242m	Claystone, light grey to cream, soft to firm, amorphous, highly calcareous, rarely fossil-iferous, occasionally forams, interbedded with Claystone medium grey, calcareous, hard, cemented, blocky to subfissile and laminated with Siltstone medium grey to grey brown, hard,

moderately calcareous, blocky with occasional sand; disseminated fine grain quartz, clear to frosty, rounded, rarely iron-stained, fine trace glauconite towards the base.

GURNARD FORMATION - LATE EOCENE TO OLIGOCENE (2242 - 2333m KB)

2242 - 2253m

Claystone, light grey to medium grey, light brown, occasionally cream, oxidised, irregular iron-stain, silty and sandy, highly calcareous firm - moderately hard, grading to Marl with occasional Sandstone bands, cream light grey, becoming clear towards the base, very fine grained, hard, tight, subangular, calcareous cement, trace glauconite.

2253 - 2278m

Claystone, medium grey, firm to hard, subfissile to blocky, grading in part to marl, light to medium grey, firm-soft, amorphous, minor

Sandstone, medium grey, very fine grained, highly calcareous and argillaceous, hard, decreasing with depth, trace glauconite and sandstone, clear, quartzose non argillaceous.

Late Eocene (2278 - 2333m)

2278 - 2294m

Sandstone, brick red, very fine grain, medium grey, highly calcareous, highly argillaceous, glauconitic, hard, cemented. Claystone, brick red soft, amorphous with Siltstone, dark grey - green, glauconitic, hard blocky, calcareous, grading to very fine grain sandstone.

2294 - 2333m

Sandstone, dark grey-green, very fine to fine grained, non calcareous, slightly micaceous and glauconitic, well sorted, hard, argillaceous wackestone, highly lithic. Sandstone, red-brown, amber, frosty, fine occaionally coarse grained, with granules, well rounded, subspherical, loose with red-brown clay matrix, minor Claystone, medium grey calcareous, hard, subfissile, splintery, silty, homogeneous (Core No. 1 2312.6 - 2320.2).

UNDIFFERENTIATED LATROBE GROUP - EARLY EOCENE TO PALEOCENE (2333m - T.D.)

Early Eocene (2333 - 2520m KB)

2333 - 2352m

Sandstone, medium grey, brown to dark brown, fine grain, friable, highly argillaceous, occasionally rounded coarse grain, but generally subangular and clear, moderate to well sorted, trace pyrite and mica, slightly lithic.

2352 - 2371m	Sandstone, light grey, clear, frosted, fine to medium grain, subangular, with occasional coarse grain, rounded, quartzose, loose to friable, well sorted, mature texture, minor silica cement, excellent visual porosity, trace disseminated pyrite on grains and in granular fractions, tr mica and lithic fragments, very minor trace carbonaceous cement.
2371 - 2380m	Sandstone/Wackestone, medium brown, fine - medium grain, with occasional coarse grain, poorly sorted , more than 15% brown clay matrix, quartzose, grains generally subangular and clear with subrounded, frosted coarse grains, hard, sucrosic, slightly recryst., and silica cement, highly carbonaceous in part. Claystone, light grey - medium grey, masive, moderately hard, blocky - subfissile, grading to shale in part, slightly, calcareous, silty, and carbonaceous in part, traces of pyrite minor Coal (at 2372 & 2374M) black, hard, sub- bituminous, occasional conchoidal fracture, resinous lustre, micropyritic.
2380 - 2389m	Sandstone, light grey, clear, medium to coarse, quartzose, angular to subangular, well sorted non calcareous, moderately silica cemented, firm, excellent visual porosity, trace lithic fragments. Minor Shale dark brown to grey brown, subfissile - fissile, carbonaceous, hard, non calcareous.
2389 - 2409m	Interbedded Siltstone, Shale, Coal and minor Sandstone. Siltstone medium brown, hard, blocky, highly argillaceous, carbonaceous, tr. pyrite Shale dark brown to grey brown, block, hard, carbonaceous, moderately calcareous. Coal, black, hard, sub-bituminous, resinous lustre, occasional conchoidal fracture. Sandstone, medium dark grey, fine to very fine grain, moderately hard-hard, argillaceous, subangular to subrounded occasional medium grain, quartzose, frosted, moderate - poor sorted, tr carbonaceous material and laminations of dark grey shale, slightly lithic and micromicaceous in part, poor visual porosity.
2409 - 2418m	Sandstone, medium - coarse grain, loose quartzose, clear occasional frosted, argillaceous and silty in part, tr of pyrite, slightly lithic and micaceous.

2418 - 2403m	Claystone, light to medium grey green, moderately hard, slightly calcareous, splintery to blocky, homogeneous, fracture along bedding planes with Coal, black, hard, sub-bituminous, resinous lustre, occasional conchoidal fracture, with minor Sandstone interbeds, very light grey to light brown, fine to very fine grain, subangular, occasional frosted, quartzose, friable, argillaceous and silty, slightly lithic and micaceous.
2430 - 2443m	Sandstone, clear, quartzose, medium to coarse, loose, subangular, with minor clay and fossil plant fragments.
2443 - 2496m	Interbedded Claystone/Shale, Coal and sandstone. Claystone, medium light grey, hard, blocky, calcareous. Coal, black, sub-bituminous, resinous lustre, micropyritic, hard, occasional conchoidal fractures. Sandstone, medium grey brown, fine to very fine, hard, silty, poor visible porosity, argillaceous, carbonaceous, quartz grains angular and clear, trace lithic fragments, non calcareous.
2496 - 2505m	Quartzwacke, very light grey, fine to medium grain, quartz grains in more than 50% white non carbonaceous, clay matrix, grains are generally quartz and occasional medium grey lithic, subrounded and frosted, poorly sorted, poor visible porosity, immature, soft, trace carbonaceous streaks.
2505 - 2520m	Interbedded Siltstone, Shale, Claystone and minor Sandstone and Coal. Siltstone, dark grey, brown, highly argillaceous carbonaceous, sandy in part, firm, occasional chloritic and lithic, micaceous, non calcareous. Shale, dark grey, silty, moderately hard, subfissile, splintery, grading to Claystone homogeneous, with thin laminae of coal. Sandstone, coarse grain, subangular, frosted loose, quartzose, clean, poorly cemented, minor silicae cement, trace pyrite and Coal as above.

Early - Late Paleocene (2520 - T.D.)

2520 - 2543m

Sandstone, medium to light grey, cream to buff, fine to very fine grain, sucrosic, moderately hard- friable, non calcareous, argillaceous, occasionally very fine quartz grains, subangular - angular, clear, highly argillaceous with cream and light brown matrix, minor intergranular cement, slightly calcareous, pyritic, interbedded with Claystone, cream firm to soft, microlaminated, non calcareous with abundant black carbonaceous specks and partings, Shale and Siltstone as above, minor Coal at 2536 black, sub-bituminous, resinous lustre, hard occasionally conchoidal fractures.

2543 - 2561m

Interbedded Sandstone, light grey, fine to very fine grain, sucrosic, firm - friable, slightly argillaceous, with cream clay matrix, occasional rounded dark grey lithic claystone, poorly to

slightly silica cemented, quartz grain subangular to angular, clear, well sorted, very good visible porosity, slightly micaceous with Claystone, medium grey, brown, blocky firm, and occasionally silty and highly carbonaceous Siltstone dark brown argillaceous, sandy, carbonaceous, firm, blocky.

2561 - 2571m

Sandstone, medium grain, quartzose, subangular frosted, non calcareous, with argillaceous matrix, silty and slightly lithic, with occasional bends of darker lithics, well sorted, good visible porosity.

2571 - 2594m (TD)

Interbedded Sandstone, Shale and Coal.

Sandstone, medium grey, buff, very fine to fine grain, quartzose, firm - hard, friable, non calcareous, subangular, well sorted, occasional argillaceous, comm. carbonaceous material on grain boundaries, trace mica and chloritised lithics.

Shale, very dark brown, carbonaceous hard fissile, microlaminated, platy, occasionally slightly silty and microcrystalline pyrite.

Coal, black, sub-bituminous, resinous to waxy lustre, splintery, very hard, occasional conchoidal fracture, micropyritic in laminae, minor Claystone, medium brown, firm-moderately hard, silty, blocky to platy, trace very fine carbonaceous debris.

Appendix 2

Sidewall Core Description

APPENDIX 2

SIDEWALL CORE DESCRIPTION

APPENDIX II

SIDEWALL CORE DESCRIPTION

Run No. 1

(SHOT 51: RECOVERED 29, MISFIRED 18, EMPTY 4)

SAMPLE NO.	DEPTH (KB)	RECOVERY	DESCRIPTION
1	2590m	25mm	COAL; Black, sub-bituminous, waxy, hard, massive.
2	2574m	12mm	SANDSTONE; Medium grey, fine to very fine grain, firm friable, non - calcareous, argillaceous with clay matrix, very minor lamination and specks of dark mineral, poor visible porosity. Dark material is carbonaceous, slightly darker and more argillaceous bands are interlaminated (2mm).
3	2562m	12mm	SANDSTONE; Quartzose, frosted, medium grain, subangular, non-calcareous, with argillaceous matrix, uncemented, soft, slightly lithic, with bands of darker and argillaceous sandstone with minor chloritic lithic fragments, well sorted, good visible porosity.
4	2560m	NIL	EMPTY
5	2548m	NIL	EMPTY

6	2536m	7mm	<u>SANDSTONE</u>; Light to medium grey, fine grain, subangular quartz grains, patchy, silty specks of lithic fragments, non-calcareous, minor clay matrix, good visible porosity, trace carbonaceous material and mica.
7	2528m	7mm	<u>SHALE</u>; Dark grey, silty, subfissile, splintery, moderately hard, grading to claystone in part, homogeneous, with very thin laminated coal streaks (greater than 1mm).
8	2514m	12mm	<u>SILTSTONE</u>; Dark grey, highly argillaceous, sandy, firm, micaceous. Sub-parallel laminations and chloritized lithic grains with disseminated carbonaceous fragments.
9	2498m	9mm	<u>QUARTZWACKE</u>; Very light grey, fine to medium grain with quartz grains in greater than 50% white clay matrix; grains predominantly quartzose with occasional medium grey lithic grains. Quartz grains subrounded and frosted. Rock is poorly sorted, poor visible porosity, texture immature, soft with minor sulphide development and trace carbonaceous streaks.
10	2487.5m	25mm	<u>COAL</u>; Black, resinous to vitreous lustre, sub-bituminous, microlaminated, blocky, hard, trace conchoidal fracture.
11	2470m	31mm	<u>COAL</u>; Black, waxy lustre, moderately hard, sub-bituminous massive.

12	2454m	9mm	SHALE; Very dark grey and grey/brown, carbonaceous, massive, subfissile, hard, silty, blocky to splintery.
13	2446.5m	25mm	COAL; Black, resinous lustre, sub-bituminous, microlaminated, blocky, hard, trace conchoidal fracture.
14	2419m	19mm	COAL; Black, hard, sub-bituminous tsilty to sandy with fine grain sand, faintly laminated, resinous lustre.
15	2406.5m	12mm	SANDSTONE; (Greywacke); Medium to dark grey, highly argillaceous, very fine grain, moderately hard, poor visible porosity, occasional medium grain. Grains subangular to subround, frosted, moderately to poorly sorted, common lithics, trace carbonaceous material and laminations of dark grey shale.
16	2390.5m	9mm	SILTSTONE; Very dark grey-brown, highly carbonaceous, sandy, with fine to medium quartz grains. Hard, friable, non-calcareous, argillaceous and slightly indurated with quartz cement and sub-parallel laminations in a carbonaceous shale matrix. Wackestone texture.
17	2378m	6mm	CLAYSTONE; Light grey, massive, moderately hard, very slightly calcareous, blocky, minor carbonaceous debris. Trace laminae and very slightly silty.

18	2372m	19mm	SANDSTONE; Wackestone, medium brown, medium to fine grain with very occasional coarse grain, poorly sorted, greater than 15% brown carbonaceous clay matrix, hard, quartzose. Grains generally subangular and clear with subround, frosted coarse grains. Sucrosic, with slight recrystalisation and silica cement. Contorted carbonaceous laminae are probable root casts.
19	2369m	9mm	SANDSTONE; Light grey, fine to medium grain, slightly banded, clean, quartzose, soft modeately consolidated, friable, sucrosic. Grains subangular and frosted with very minor siliceous cement. Slight pyrite deelopment and trace mica. Occasional carbonaceous laminae. Excellent visible porosity.
20	2359m	6mm	SANDSTONE; Light grey, fine to medium grain, slight banding, clean, quartzose, soft, moderately consolidated, friable and sucrosic. Grains are subangular and frosted with very minor siliceous cement. Trace pyrite and mica development. Excellent visible porosity.
21	2354m	12mm	SANDSTONE; Light grey, fine grain and subangular with occasional coarse, rounded grains. Quartzose with trace lithics, friable, clear and texturally mature with minor calcite cement and trace silica overgrowths. Excellent visible porosity.

22	2339m	NIL	EMPTY
23	2336m	NIL	EMPTY
24	2334.5m	12mm	SANDSTONE; Dark grey with submetallic lustre, coarse grain, indurated, very highly carbonaceous, argillaceous. Grains are quartzose, subrounded to round, frosted, with carbonaceous coatings and iron - stained surface. Micro-crystalline sulphide development in matrix. Very poor visible porosity. (Possible soil profile ?).
25	2328.5m	12mm	SANDSTONE; Dark grey/green, fine to very fine grain, glauconitic, argillaceous and trace carbonaceous. Wackestone texture with greater than 15% dark grey argillaceous matrix. Moderately hard and friable with poor visible porosity.
26	2304.5m	12mm	SANDSTONE; Dark grey/green, fine and occasionally coarse grain, highly argillaceous, glauconitic with dark clay matrix (greater that 15%). Wackestone texture as for 2328.5m but more poorly sorted, moderately hard, friable, very slightly micaceous, calcareous. Quartz grains are subangular to angular and clear with amber, coarse grains in a clay matrix.
27	2293m	25mm	SILTSTONE; Brick red, very heavily oxidised, lateritic, sandy with very fine to medium grain sand, grains generally subrounded and frosted. Hard, massive, highly calcareous. Very poorly sorted, very poor visible porosity. (Probably weathering profile).

28	2282m	22mm	SILTSTONE; Brick red, very heavily oxidised, very highly argillaceous and moderately sandy. Fien grain sediment (clay to very fine sand), poorly sorted, massive and hard. Grains are subrounded and frosted. Very poor visible porosity.
29	2279.5m	9mm	SILTSTONE; Dark grey/green, hard, tight, highly argillaceous and sandy. Very poorly sorted with trace glauconite. Calcareous with numerous angular lithic claystone and siltstone clasts.
30	2278m	28mm	SILTSTONE; Dark grey/green as for 2279.5m.
31	2276.5m	25mm	SILTSTONE; Grading to Sandstone; Dark grey/greeen, glauconitic, calcareous, highly sandy with subrounded, frosted to iron stained quartz grains. Highly argillaceous and blocky.
32	2275m	31mm	CLAYSTONE; Grey/green, hard, tight with abundant silt and fine to very fine grain sand in clay matrix. Poorly sorted sediment with dominant clay content. Grains are subrounded and quartzose.
33	2270.5m	28mm	CLAYSTONE; Dark grey, massive, hard, very slightly micaceous, slightly sandy and highly calcareous. Very poorly sorted and silty, homogeneous and tight with trace glauconite.

34	2260m	NIL	MISFIRE
35	2252m	NIL	MISFIRE
36	2241m	NIL	MISFIRE
37	2220m	NIL	MISFIRE
38	2211m	NIL	MISFIRE
39	2204m	NIL	MISFIRE
40	2197.5m	NIL	MISFIRE
41	2189m	NIL	MISFIRE
42	1918.5	NIL	MISFIRE
43	1910m	NIL	MISFIRE
44	1898.5m	NIL	MISFIRE
45	1890m	NIL	MISFIRE
46	1881.5	NIL	MISFIRE
47	1410m	NIL	MISFIRE
48	1390m	NIL	MISFIRE
49	1370m	NIL	MISFIRE
50	1354.5m	NIL	MISFIRE
51	1343.5m	NIL	MISFIRE

Run No. 2

(SHOT 30: RECOVERED 19, MISFIRED 2, LOST 9)

52	2562m	NIL	LOST
53	2556m	16mm	SANDSTONE; Light grey, fine to very fine grain, finely laminated, friable and sucrosic with very good visible porosity. Quartzose with slight silica cementation and quartz overgrowths. Well sorted, clean, non-calcareous, very slightly micaceous and texturally mature. Grains are subangular to angular and clear with occasional round, dark grey lithic clasts.
54	2548m	16mm	SANDSTONE; Very light grey, slightly argillaceous with cream clay matrix. Fine grain, sucrosic, firm, poorly cemented and slightly micaceous. Grains are subangular and clean with occasional lithics.
55	2529m	19mm	SANDSTONE; Light to medium grey, fine grain, sucrosic, moderately hard, ocasionally very fine grain. Highly argillaceous with cream and light brown matrix and minor intergrainular cement. Slightly calcareous, and moderately pyritic. Quartz grains are subangular to angular and clear.
56	2459m	NIL	LOST

57	2431m	NIL	LOST
58	2411m	NIL	LOST
59	2382m	12mm	SANDSTONE; Light grey, coarse to medium grain, quartzose, clean, very well sorted, non-calcareous, moderate silica cement, massive, friable. Grains subangular and clear with occasional coarse grain with quartz overgrowth. Good visible porosity.
60	2339m	19mm	SANDSTONE; Medium grey/brown to dark brown with moderately sharp contact between colour bands. Fine grain, friable, highly argillaceous with trace pyrite and mica. Moderately well sorted, texturally immature and slightly lithic. Grains are generally subangular and clear but occasionally coarse, round and iron-stained.
61	2336m	NIL	LOST
62	2296m	NIL	LOST
63	2287m	19mm	SILTSTONE; Red/brown, slightly glauconitic, highly argillaceous, weathered and oxidised, hard, moderately cemented, highly calcareous, micaceous. Sandy with fine grain, angular, clear to amber quartz grains.
64	2260m	NIL	LOST

65	2253m	22mm	SANDSTONE; Medium to dark grey, fine grain, banded with moderately sharp contact between colours. Argillaceous, highly glauconitic and moderately calcareous. hard and slightly cemented with poor to fair visible porosity and trace laminar banding. Grains are subangular to subrounded and frosted.
66	2241m	NIL	LOST
67	2220m	31mm	CLAYSTONE; Medium grey, laminated, homogeneous, blocky, with slight development of fissility. Calcareous, non-sandy and non-silty. Moderately hard and tight.
68	2211m	19mm	SILTSTONE; Medium grey, blocky, moderately hard, cemented, homogeneous, argillaceous and highly calcareous.
69	2204m	25mm	CLAYSTONE; Medium grey, hard, calcareous cement, blocky, slightly laminated, highly silty.
70	2197.5m	6mm	CLAYSTONE; Medium grey as for 2204m.
71	2189m	31mm	CLAYSTONE; Medium grey, hard, cemented, slightly calcareous, laminar with slight fissility. non-silty and non-sandy.
72	1918.5m	19mm	CLAYSTONE; Medium to dark grey, massive, blocky, silty and sandy, highly calcareous with sulphide development. Grading to Marl.

73	1910m	NIL	LOST
74	1898.5m	31mm	CLAYSTONE/MARL; Medium grey, massive blocky, silty, non-sandy, highly calcareous, moderately hard and cemented.
75	1890m	31mm	MARL; Medium grey with abundant white calcite flecks. Highly calcareous, moderately hard, cemented, massive and very slightly silty.
76	1881.5m	31mm	MARL; Medium grey as for 1890m but lacking calcite flecks.
77	1410m	NIL	MISFIRE
78	1390m	44mm	CLAYSTONE; Medium grey, massive, hard, blocky, homogeneous, moderately calcareous, non-silty and non-sandy.
79	1370m	38mm	CLAYSTONE; Medium grey, as for 1390m but exhibiting laminar parting.
80	1354.5m	NIL	MISFIRE
81	1343.5m	25mm	MARL; Medium grey, massive, hard, homogeneous, highly calcareous, very slightly silty.

Appendix 3

Core Description & Analyses

Appendix 3

APPENDIX 3

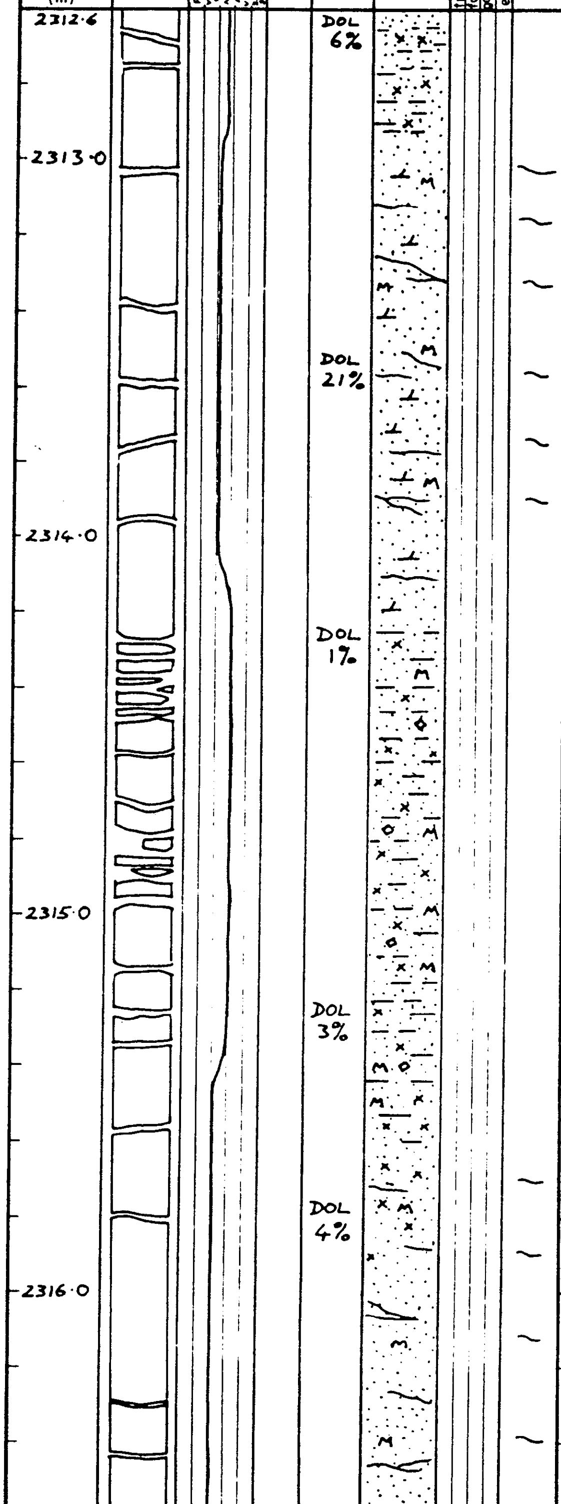
CORE DESCRIPTION AND ANALYSES

CORE DESCRIPTION

AAP

PERMIT	VIC/P17
BASIN	GIPPSLAND
CORING INTERVAL	7·6 m
RECOVERY LENGTH	7·0 m
% RECOVERY	92 %
OPERATION DATE	17-10-82
CORE TYPE	STRATAPAX
BARREL	CHRIS. DIA 6¼ x 4
MUD	SALTWATER GEL POLYMER
WELL	EDINA #1
CORE NO.	ONE
TOP	2312·6 m
BASE	2320 2 m
GEOLOGIST	S. FORDER

DEPTH (m) | AS RECOV | GRAINS | Ø | CO_3 | SECT. | Fluo. Dir | extr | STRS | LITHOLOGICAL DESCRIPTION



2312·73 m SANDSTONE; Dark green/grey, fine to occasionally medium grain, wackestone, hard, tight, cemented. Grains are quartzose, subangular, clear to frosted, well sorted. Medium grains are rounded, frosted, iron-stained. Matrix, (>15% of rock) is dark grey/green, argillaceous, non-calcareous with interstitial glauconite and trace biotite.

2313·05 m SANDSTONE; Medium brown to buff, speckled, fine to medium grain, hard, cemented, slightly calcareous, poor visible porosity. Grains quartzose, subangular, clear, well sorted. Medium grains are dark brown, rounded, altered lithics. Matrix is siliceous and slightly calcareous with little clay mineral development. Occasional very fine argillaceous laminae. Trace mica.

2314·3 M SANDSTONE; Dark grey to grey/green, fine grain with occasional medium grain. Moderately argillaceous and slightly pyritic, well sorted, dark grey clay matrix and abundant mica and interstitial glauconite development in matrix. Grains are quartzose, subangular, clear, very slightly calcareous, poorly cemented, friable, microscopic clay laminae.

2315·57 m SANDSTONE; Medium brown to buff as at 2313·05 m. Extensively mottled, cemented, hard, argillaceous with numerous altered, medium grain, lithic grains.

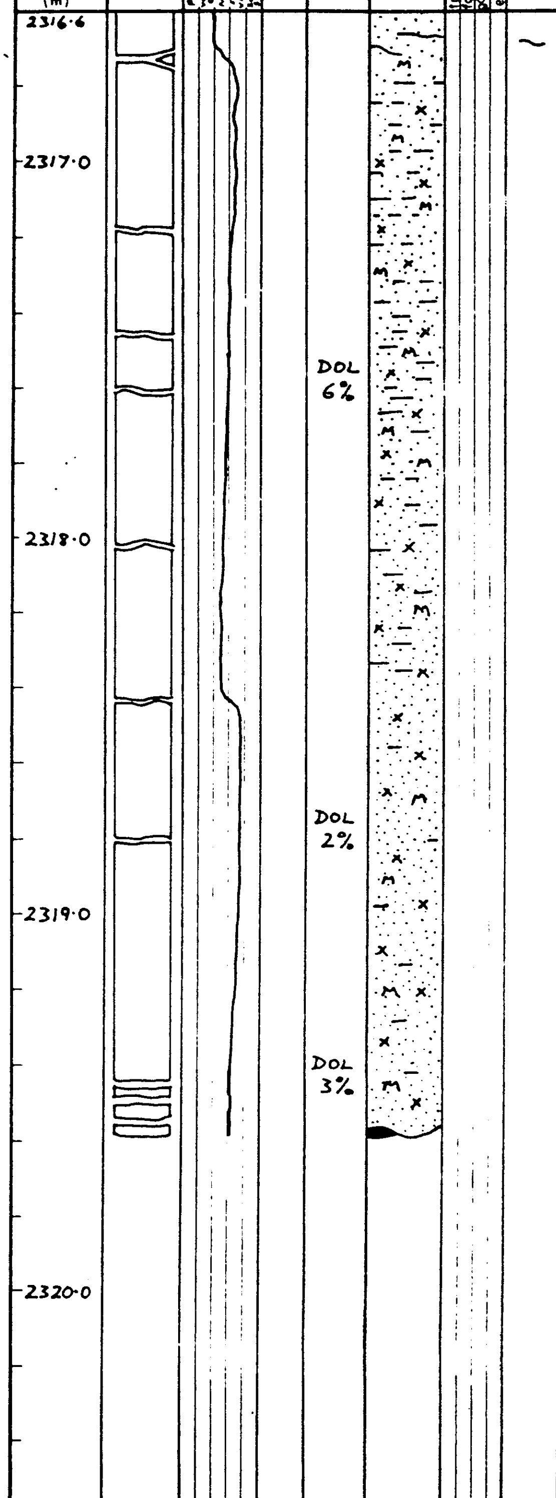
Dwg No 19913

CORE DESCRIPTION

AAP

PERMIT	VIC/P17
BASIN	GIPPSLAND
CORING INTERVAL	7·6 m
RECOVERY LENGTH	7·0 m
% RECOVERY	92 %
OPERATION DATE	17-10-82
CORE TYPE	BARREL CHRIS STRATAPAX DIA 6¾" x 4"
MUD	SALTWATER GEL POLYMER
WELL	EDINA #1
CORE NO.	ONE
TOP	2312·6 m
BASE	2320·2 m
GEOLOGIST	S. FORDER

DEPTH (m) | AS RECOV | GRAINS | Ø | CO_3 | SECT. | Fluo. Dir | STRS | LITHOLOGICAL DESCRIPTION



2316·72m SANDSTONE; Dark grey and dark grey/green, hard, cemented, slight interstitial carbonate, very fine to medium grain, moderately sorted, highly argillaceous, wackestone, quartz and dark brown altered lithic grains in clay matrix with mica.

2318·43 m SANDSTONE; Dark grey/green, mottled, as above, but increase in very fine grain to fine grain sand content at expense of matrix material. Rock is non-calcareous packstone.

Trace only of pin-point blue-white fluorescence was noted in core and poor diffuse blue-white cut.

Boundaries of individual sand units were too indistinct to be noticed in whole core. When core is slabbed the boundaries and any faint structures will be noted.

Dwg No 19913

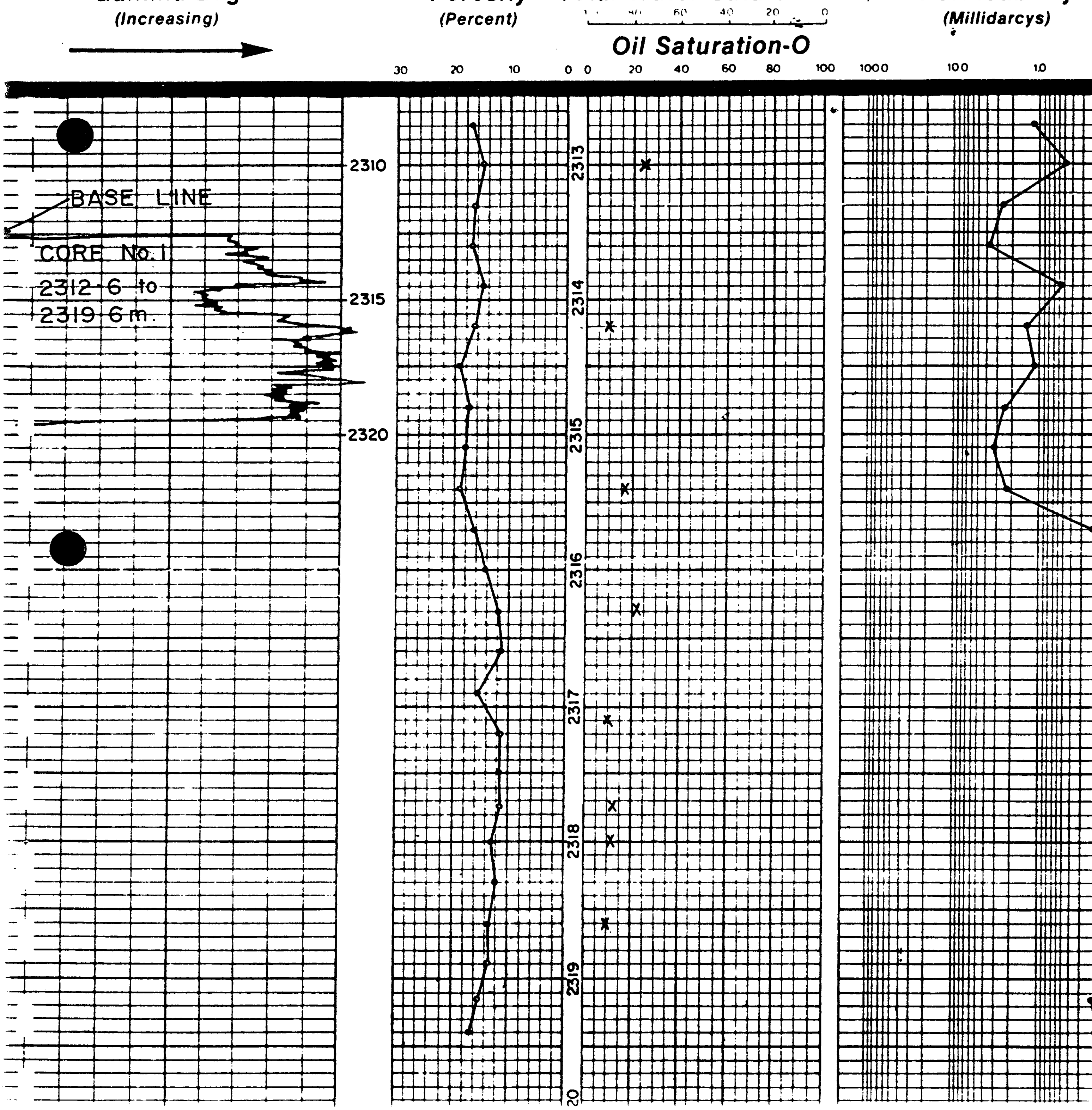
AUSCORE PTY. LTD.

THE SMALL AUSTRALIAN

Company	Australian Aquitaine Pet.	Country	AUSTRALIA	Date	20th. October, 1982
Well	EDINA No. 1	State	VICTORIA	Elevation	
Field		Location	VIC / P17	File No	C.A. 3 – C.A. 1.

The AusOil Group of Companies — United Tool Service Pty. Ltd — AusLog Pty. Ltd — AusCore Pty. Ltd

Gamma Log *(Increasing)* | **Porosity** *(Percent)* | **Total Water Saturation-X** | **Oil Saturation-O** | **Permeability** *(Millidarcys)*



AUSCORE

CONVENTIONAL CORE ANALYSIS
FINAL DATA REPORT

Company: AUSTRALIAN AQUITAINE Country: AUSTRALIA Date: 23.10.82

Well: EDINA #1 State: VICTORIA Elevation:

Field: Location: File: C.A.3-C.A.1

Sample No.	INTERVAL from - to	POROSITY (%)	Grain DENSITY	PERM (md) to air	Residual SATURATION (% pore vol) OIL	WATER
1	2312.70	17.7	2.69	1.22		
2	2313.00	15.0	2.76	0.49		75.7
3	2313.30	16.3	2.73	2.83		
4	2313.60	16.8	2.75	3.70		
5	2313.90	14.9	2.79	0.58		
6	2314.20	16.4	2.75	1.44		90.7
7	2314.50	19.0	2.74	1.12	Unnatural Fracture	
8	2314.80	17.6	2.70	2.49		
9	2315.10	18.0	2.66	3.13		
10	2315.40	19.0	2.71	2.24		83.4
11	2315.70	16.5	2.71	0.22		
12	2316.00	14.3	2.71	0.11		
13	2316.30	11.9	2.83	0.071		78.1
14	2316.60	11.3	2.85	0.036		
15	2316.90	15.6	2.76	0.050		
16	2317.20	11.3	2.79	0.054		90.9
17	2317.50	11.5	2.82	0.077		
18	2317.75	11.5	2.86	0.072		87.1
19	2318.00	12.6	2.88	0.060		88.0
20	2318.30	12.0	2.89	0.095		
21	2318.60	13.3	2.86	0.076		89.8
22	2318.90	13.4	2.83	0.098		
23	2319.15	15.2	2.79	0.22		
24	2319.40	16.4	2.78	0.20		

Form AO 00051

Appendix 4

Palynological Examination

APPENDIX 4

PALYNOLOGICAL EXAMINATION, SPORE COLOURATION AND KEROGEN TYPING

BY

W. K. HARRIS

EDINA NO. 1 WELL, GIPPSLAND BASIN

PALYNOLOGICAL EXAMINATION, SPORE COLOURATION AND KEROGEN TYPING.

by

W.K. Harris

PALYNOLOGICAL REPORT

Client : Australian Aquitaine Petroleum

Study : Edina No. 1 Well, Gippsland Basin.

Aims : Determination of age and distribution of kerogen types and spore colour.

INTRODUCTION

Twenty eight sidewall cores and two core samples from Edina No. 1 Well drilled in the Gippsland Basin at Lat. 38°36'22.4"S, Long. 147°5[illegible] in Vic. P17 were processed by normal palynological procedures.

The basis for the biostratigraphy and consequent age determinations are based on Stover and Partridge (1973) and Partridge (1976).

OBSERVATIONS AND INTERPRETATION

A. Biostratigraphy

Table I summarises the biostratigraphy and age determinations of the samples studied. Tables II and III indicate the distribution of spore/pollen and dinoflagellate species respectively.

Most samples yielded reasonably well preserved and moderately diverse assemblages. These data are also documented on Table I. Two samples from a core at 2317.46 and 2318.78m were virtually barren of plant microfossils.

1. Lygistepollenites balmei zone: - 2528-2590m.
   This zone is represented by only two samples with low diversity. In particular the presence of L. balmei with H. [illegible] and S. punctatus supports their correlation. The absence of Gambierina edwardsii, G. rudata and the presence of M. diversus would suggest that the Upper L. balmei subdivision is represented.

   An alternative interpretaion is that L. Balmei is reworked and the samples are of M. diversus age. However the absence of any thin characteristic L.balmei or older species is evidence against this. No marine indicators were recorded and the sediments are of terrestrial origin. The age of this assemblage is Middle to Late Paleocene.

2. Malvacipollis diversus zone: - 2419-2514m
   The onset of this zone is marked by the appearance of C. orthoteichus, S. prominatus and P. demarcatus. This assemblage at 2514.5m although not very diverse is consistent with an Upper M. diversus correlation. This is supported further by the inclusion in subsequent samples of H. astrus.

   Two incursions of dinoflagellates are recorded at 2514.5 and 2454m. The younger samples contains very few species but is consistent with assemblages of Upper M. diversus age. In particular D. pachyceros is commonly recorded from the M. diversus zone. The older sample contains two species of significance - A. homomorphum and K. leptocerata. These two support a correlation with the Upper M.

TABLE 1
EDINA NO. 1 WELL
SUMMARY OF PALYNOLOGICAL DATA

DEPTH	SWC	PRESERVATION	DIVERSITY	SPORE/POLLEN ZONE	CONFIDENCE LEVELS	ENVIRONMENT
2590	1	poor	very low	L. balmei (upper)	4	Non marine
2528	7	poor	low	L. balmei (upper)	4	Non marine
2574.5	8	fair	low	M. diversus (upper)	4	Marginal marine
2487.5	10	fair	very low	M. diversus (upper)	4	Non marine
2470	11	fair	very low	M. diversus (upper)	4	Non marine
2454	12	good	high	M. diversus (upper)	5	Marginal marine
2446.5	13	fair	very low	M. diversus (upper)	4	Non marine
2419	14	fair	very low	M. diversus (upper)	4	Non marine
2390.5	16	poor	moderate	P. asperopolus	5	Marginal marine
2372	18	fair	moderate	P. asperopolus	5	Marginal marine
2328.5	25	good	moderate	P. asperopolus	5	Near Shore marine
2318.78	Core	barren	-	-	-	-
2317.46	Core	barren	-	-	-	-
2304.5	26	poor	very low	un-named dino. unit	-	?Open Marine Shelf
2278	30	poor	very low	"	-	Open Marine Shelf
2276.5	31	poor	very low	"	-	Open Marine Shelf
2275	32	fair	very low	"	-	Open Marine Shelf
2270.5	33	good	very low	"	-	Open Marine Shelf
2220	67	good	very low	"	-	Open Marine Shelf
2211	68	good	very low	"	-	Open Marine Shelf
2204	69	good	very low	"	-	Open Marine Shelf
2197.4	70	fair	very low	"	-	Open Marine Shelf
2189	71	good	very low	"	-	Open Marine Shelf
1918.5	72	good	very low	"	-	Open Marine Shelf
1898.5	74	good	very low	"	-	Open Marine Shelf
1890	75	good	very low	"	-	Open Marine Shelf
1881.5	76	good	very low	"	-	Open Marine Shelf
1390	78	fair	very low	"	-	Open Marine Shelf
1370	79	good	very low	"	-	Open Marine Shelf
1343.5	81	good	very low	"	-	Open Marine Shelf

Confidence Levels.

1 cuttings sample, low diversity ± contaminants
2 cuttings sample, good assemblage
3 core or sidewall core, low diversity, ± contaminants

TABLE II

EDINA NO. 1 WELL

DISTRIBUTION OF SPORES AND POLLEN

Spores/Pollen	2590	2528	2514.5	2487.5	2470	2454	2446.5	2419	2390	2372	2328.5	2318.5	2317	2304.5	2278	2276.5	2275	2270.5	2220	2211	2204	2197.4	2189	1918.5	1898.5	1890	1881.5	1390	1370	1343.5
Baculatisporites comaumensis	X	X							X													X								
Cyathidites splendens	X																													
Dictyophyllidites sp.	X	X					X																							
Gleicheniidites circinidites	X	X	X	X	X	X	X	X		X	X				X			X	X	X						X		X		X
Haloragacidites harrisii	X	X		X	X	X				X					X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
Lygistepollenites balmei	X	X																												
Laevigatosporites major	X																							X						
Nothofagidites senectus cf.	X																													
Podocarpidites sp.	X	X		X	X	X			X	X					X	X	X	X			X	X	X	X	X	X	X	X	X	X
Phyllocladidites mawsonii	X	X	X			X					X				X		X	X					X					X		
Proteacidites parvus	X	X	X			X			X		X			X	X															
Simplicepollis meridianus	X	X				X																				X				
Stereisporites antiquisporites	X	X	X			X													X	X						X				
S. (Tripunctisporis) punctatus	X	X																												
Tetracolporites verrucosus	X	X																												
Araucariacites australis		X				X									X			X			X									
Cyathidites australis		X				X									X	X			X	X		X		X	X	X	X	X		X
Lygopodiumsporites sp.		X																												
Malvacipollis diversus		X	X			X			X	X					X		X		X	X										
Myrtaceidites parvus/mesonesus		X		X	X						X						X		X	X		X	X	X				X	X	
Nothofagidites brachyspinulosus		X	X			X			X	X	X			X	X	X	X	X												
N. endurus		X																												
N. flemingii		X				X				X	X				X	X	X	X												
Microcachryities antarcticus		X			X	X													X	X										
Podosporites sp.		X		X	X	X									X		X													
Proteacidites spp.		X					X	X								X	X													
Proteacidites reticuloscabratus		X	X		X	X			X																					
Cupanieidites orthoteichus			X			X			X		X																			
Laevigatosporites sp.			X			X	X	X	X									X												

	2590	2528	2514.5	2487.5	2470	2454	2446.5	2419	2390	2372	2328.5	2318	2317	2304.5	2278	2276.5	2275	2270.5	2220	2211	2204	2197.4	2189	1918.5	1898.5	1890	1881.5	1390	1370	1343.5
Matonisporites gigantis			X																											
Nothofagidites emgradys heterus			X				X	X		X	X			X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
Periporopollenites demarcatus			X			X									X		X	X	X	X										
Spinizonocolpites prominatus			X																											
Lygistepollenites florinii				X		X			X	X	X						X	X												
Proteacidites pseudomoides				X	X	X				X																				
Proteacidites incurvatus				X																										
Clavifera triplex					X	X																								
Proteacidites annularis					X				X	X																				
Tricolporites sp.					X					X																				
Cyathidites aff c. splendens						X																								
Dilwynites granulatus						X																								
Ilexpollenites anguloclavatus						X																								
Nothofagidites vansteenisii						X									X		X		X	X										
P. polyoratus						X																								
Proteacidites kopiensis						X			X																					
P. leightonii						X			X																					
P. incurvatus						X																								
P. pachypolus						X			X		X																			
Polypodiidites cf. speciosus						X																								
Rugulatisporites mallatus						X																								
Sapotaceoidaepollenites rotundus						X			X																					
Verrucosisporites kopukuensis						X					X																			
Camerozonosporites sp.							X																							
Ephedripites notensis									X								X													
Polycolpites esobalteus									X		X						X													
Cyathidities subtilis										X																				
Helciporites astrus							X			X																				
Myrtaceidites tenuis										X																				
Parvisaccites catastus										X																				
Proteacidites latrobensis										X																				
Schizocolpus marlinensis										X																				
Tricolporites mataurensis										X																				
Bysmapollis emaciatus aff.											X																			
Nothofagidites asperus cf.											X																			
Polypodiidites speciosus											X																			
Proteacidites asperopolus											X																			
Santalumidites cainozoicus											X																			
Nothofagidites asperus															X	X					X	X								
Tricolporites sphaerica cf.															X															

	2590	2528	2514.5	2487.5	2470	2454	2446.5	2419	2390	2372	2328.5	2318	2317	2304.5	2278	2276.5	2275	2270.5	2220	2211	2204	2197.4	2189	1918.5	1898.5	1890	1881.5	1390	1370	1343.5
Ischyosporites gremius															X															
Nothofagidites deminutus																X														
Graminidites sp.																	X													
Nothofagidites falcatus																	X													

TABLE III

EDINA NO. 1 WELL

DINOFLAGELLATE DISTRIBUTION

Dinoflagellates	2590	2528	2514.5	2487.5	2470	2454	2446.5	2419	2390.5	2372	2328.5	2318	2317	2304.5	2278	2276.5	2275	2270.5	2220	2211	2204	2197.4	2189	1918.5	1898.5	1890	1881.5	1390	1370	1343.4
Muratodinium fimbriatus			X																											
Thalosisphara pelagica			X								X																			
Apectodinium homomorpha			X																											
Operculodinium sp.			X			X																								
Kenloyia leptocerata			X																											
Spiniferites ramosus			X						X						X	X	X	X			X	X	X	X	X	X	X	X	X	X
Cordosphaeridium inodes			X																											
Deflandrea pachyceros						X																								
Phthanoperidinium sp.						X					X																			
Glaphyrocysta retiintexta cf.									X																					
Apectodinium hyperacontha									X																					
Vozzhennikovia sp.									X	X																				
Wetzeliella longispinosa									X																					
Apteodinium australiense cf.									X																					
Spinidinium essoi cf.										X	X																			
Wetzeliella longispinosa										X																				
Operculódinium centrocarpum										X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Areosphaeridium sp.											X						X		X	X										
Deflandrea darmooria											X																			
Cordosphaeridium fibrospinosum											X																			
C. gracile cf.											X																			
Tectatodinium sp.											X								X	X			X	X	X	X	X			
Cleistosphaeridium severinii											X										X		X							
Hystrichokolpoma rigaudae															X	X			X	X	X	X								
Deflandrea sp.															X															
Apteodinium australiense															X	X					X					X				
Impagidinium sp.															X	X			X	X			X			X			X	
Lingulodinium machaerophorum															X	X			X	X	X		X		X	X	X	X		

	2590	2528	2514.5	2487.5	2470	2454	2446.5	2419	2390	2372	2328.5	2318	2317	2304.5	2278	2276.5	2275	2270.5	2220	2211	2204	2197.4	2189	1918.5	1898.5	1890	1881.5	1390	1370	1343
Systmeatophora placecantha															X															
Hystrichokolpoma poculum															X															
Hystrichosphaeridium sp.															X	X		X												
Baltisphaeridium sp.															X															
Baltisphaeridium nanum																X														
Adnatospaeridium sp.																X		X	X	X	X	X	X	X	X	X	X	X		X
Impagidinium cf. victorianum																		X									X	X	X	
?Pentadinium sp.																		X												
Corrudinium sp.																		X				X			X	X	X			
Achomosphaera ramulifera																			X	X			X			X		X	X	X
Nematosphaeropsis balcombiana																			X	X	X	X		X	X	X	X		X	X
Opercul odinium acutulum(MS)																			X	X	X	X	X	X	X	X	X	X		
Hystrichostrogylon membranisphorum																			X	X		X								
Spiniferites adelaidensis(MS)																					X									
Tectatodinium sp.																					X									
Lophocysta sp.																					X									
Systematophora placecantha																						X	X							
Hystrichokolpoma rigaudae aff.																							X							
Spiniferites cingulatus																							X			X	X			
Polysphaeridium pseudocolligerum																							X		X					
Cyclopsiella sp.																							X							
Spiniferites pseudofurcatus																								X			X			
Operculodinium sp. nov.																								X	X	X		X	X	X
cf. Tuberculodinium sp.																										X	X		X	
Impagidinium dispertitum cf.																												X	X	
Impagidinium dispertitum aff.																												X		
Melitaesphaeridium choanophorum																													X	X
Batiacasphaera hirsuta																														

diversus zone but the dinoflagellate assemblage is not sufficiently diverse to permit a correlation with Partridge's (1976) zones. The presence of dinoflagellates in these two samples indicates deposition in near shore marginal marine environments. The age of this zone is Early Eocene.

3. Proteacidites asperopolus zone: 2328.5 - 2390.5m
The identification of this zone is based on an abundance of the pollen P. pachypolus and an associated dinoflagellate assemblage. Significant dinoflagellates include: Apectodinium hyperacantha, Wetzeliella longispina and Deflandrea dartmooria which are not inconsistent with this correlation.

Marine dinoflagellates were the dominant palynomorphs in the lowest sample in the zone and indicate deposition in a near shore marine environment. In the other samples dinoflagellates are less abundant but nevertheless indicate marginal marine conditions.

The age of the P. asperopolus zone is Early Eocene.

Mid Tertiary Assemblages 1343.5 - 2278m

Spores and pollen in this interval are very sparse and no correlation can be made on this basis with the onshore Gippsland Basin zones of this age. The assemblages although very sparse, are dominated by marine dinoflagellates. No formal or informal zones haave been proposed for these assemblages in Australia. There is some indication in the assemblages that subdivision of the sequence is possible that would need to be tested against other sections. The first appearance of aff. Tuberculodinium sp. and of M. choanosphorum with B. rirsuta may be of some significance. The other species recorded have long ranges from the Late Eocene through most of the remaining Tertiary and into the Holocene.

The palynomorphs in this section indicate an age no older than latest Eocene for the sample at 2278m but no further refinement is possible using palynomorphs.

Furthermore the dominance of dinoflagellates over terrestrial palynomorphs indicates deposition in an open marine environment.

B. Kerogen Types and Spore Colouration

During routine palynological processing of sidewall cores an unoxidised kerogen sample was taken and the nature of the kerogens and spore colouration are documented in Table V. Only those samples which yielded spore/pollen assemblages have been examined. Spore colour is expressed as the "Thermal Alteration Index" (TAI) of Staplin (1969) according to the scale in Table IV.

TABLE IV

Thermal - Alteration Index	Organic matter/spore colour
1 - none	fresh, yellow
2 - slight	brownish yellow
3 - moderate	brown
4 - strong	black
5 - severe	black and evidence of rock metamorphism.

Total organic matter (TOM) is expressed semi-quantitatively in the scale-abundant, moderate, low, very low, barren. Samples classed as having abundant or moderate amounts of TOM would be expected to have TOC's (total organic content) greater than 1%.

In this report four classes of organic matter are recognised - amorphogen, phyrogen, hylogen and melanogen and these terms are more or less synonymous with amorphous, herbaceous, woody and coaly. For reasons as outlined by Bujak et al. (1977) the former terms are preferred because they do not have a botanical connotation. The thermal alteration index scale follows that of Staplin (1969) and as outlined by Bujak et al. (1977): at a TAI of 2+ all four types of organic material contribute to hydrocarbon generation whereas at a TAI of 2, only amorphogen forms liquid hydrocarbons. The upper boundary defining the oil window is at a TAI of approximately 3 but varies acccording to the organic type. Above TAI 3+ all organic types only have a potential for thermal derived methane.

1. Early Tertiary Section

   Moderate to abundant TOM is present in most samples from T.D. up to the *T. asperopolus* zone. The two samples from the *L. balmei* zone are dominated by phyrogen and melanogen and these form the *M. diversus* zone show high melanogen with one sample showing high amorphogen. The latter sample at 2454m resulted from a marine incursion.

   The three samples from the *P. asperopolus* zone are characterised by high amorphogen and this also corresponds with another marine incursion. However these samples have low TOM values.

   TAI values from the Early Tertiary indicate immaturity with values barely reaching 2.

   Thus the Early Tertiary sequence at this location whilst it probably has adequate organic matter of a favourable nature, is immature for the generation of hydrocarbons.

2. Mid-Tertiary Sequence

   All samples from this sequence have low to very low TOM which is dominated by amorphogen. All TAI values are very low and these sediments therefore have low source potential for generating hydrocarbons.

TABLE V
EDINA WELL
SUMMARY OF MATURATION AND KEROGEN DATA

Depth	TOM	SWC No.	Phyr.	Amorpho	Hylogen	Melano	TAI
2590	mod	1	35	-	5	60	2
2528	mod	7	70	15	-	15	2
2514.5	low	8	50	10	Tr.	40	2-
2487.5	abund.	10	Tr.	-	10	90	2-
2470	abund.	11	10	80	Tr.	10	2-
2454	abund.	12	20	70	Tr.	10	2-
2446.5	abund.	13	Tr.	Tr.	15	85	2-
2419	abund.	14	Tr.	-	10	90	2-
2390.5	low	16	Tr.	80	-	10	2-
2372	low	18	50	40	Tr	10	2-
2328.5	v. low	25	20	60	Tr.	70	2-
2318.78	v. low	core	5	90	Tr.	5	ND
2317.46	v. low	core	5	90	Tr.	5	ND
2304.5	v. low	26	5	90	Tr.	5	1
2278	v. low	30	5	90	-	5	1
2276.5	v. low	31	Tr	95	-	5	1
2275	v. low	32	30	20	10	40	1
2270.5	v. low	33	30	30	10	30	1
2220	v. low	67	30	10	20	40	1
2211	low	68	40	20	10	30	1
2204	v. low	69	20	70	-	10	1
2197.4	v. low	70	10	80	5	5	1
2189	v. low	71	5	95	-	Tr	1
1918.5	v. low	72	5	90	Tr	5	1
1898.5	v. low	74	10	85	-	5	1
1890	v. low	75	10	90	-	Tr	1
1881.5	v. low	76	10	90	-	Tr	1
1390	v. low	78	10	85	-	5	1
1370	v. low	79	Tr	95	-	5	1
1343.5	v. low	81	Tr	95		5	1

REFERENCES

Bujak, J.P., Barss, M.S., and Williams, G.L., 1977: Offshore East Canada's Organic Type and Colour and Hydrocarbon Potential. Oil Gas J., 45 (14): 198-202.

Partridge, A.D., 1976: The Geological Expression of Eustacy in the Early Tertiary of the Gippsland Basin. J. Aust. Petrol. Expl. Assoc., 16: 73-79.

Staplin, F.L., 1969: Sedimentary Organic Matter, Organic Metamorphism and Oi. and Gas Occurrence. Bull. Can. Pet. Geol., 17: 47-66.

Stover, L.E. & Partridge, A.D., 1973: Tertiary and Late Cretaceous spores and Pollen from the Gippsland Basin, southeastern Australia. Proc. R. Soc. Vict., 85: 237-286.

W.K. Harris
Consulting Geologist

10 January 1983

Appendix 5

Foraminiferal Sequence

APPENDIX 5

FORAMINIFERAL SEQUENCE

IN

EDINA NO. 1

BY

DAVID TAYLOR

FORAMINIFERAL SEQUENCE

in

EDINA # 1.

for: AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

December 20, 1982.

DAVID TAYLOR,
23 Ballast Point Road, BIRCHGROVE,2
AUSTRALIA (02)82.5

SUMMARY

THE FORAMINIFERAL SEQUENCE in EDINA # 1.

Depth† (m)	E-Log Pick	AGE*	ASSEMBLAGE* ZONE	PALEOENVIRONMENT¶	LITHO-UNIT¶
1343.5 to 1390.0		MID MIOCENE	D-2 to E-1	Prograding shelf/ slope edge (≃200m)	Deep water facies of GIPPSLAND LIMESTONE
		Sample gap, but probably continuous			
1881.0 to 2220.0		EARLY MIOCENE	G to H-1	Upper continental slope (<400m) with shelf edge slumping	Deep water facies of GIPPSLAND LIMESTONE
	2242	Time gap ≡ 10-12 m.y.			
2253.0 to 2278.0		EARLY OLIGOCENE	J-2	Marine transgressive inner shelf at top (≤40m) with water depth increase from Lagoonal/Estuarine at base (<10m)	LAKES ENTRANCE FORMATION with "GREENSAND" & COLQUHOUN SANDSTONE below 2278
	2278				
2279.5 to 2328.5		LATE EOCENE	K		
	2333				
2334.5 to 2369.0		?	no foraminifera found	Barrier/dune system with lateritic Paleo-soils	?
	2372				
2378.0 to 2556.0		?	no foraminifera found	Non-marine deltaic complex	LATROBE GROUP

*Biostratigraphy based on Taylor (in prep.). Planktonic foraminiferal distribution for EDINA # 1 is presented on Table 1 of this report with reliability of zonal determinations on the Data Sheet - Table 4.

¶Interpretations based on distribution of benthonic foraminifera and other sediment grains (>.075mm) as shown on Tables 2 & 3 of this report.
(Paleo-depth estimates are in parentheses).

†Individual depth of the thirty seven sidewall cores are listed on Tables 1, 2 & 3.
Three samples of ditch cuttings were examined between 2075 & 2090m; but for convenience, the results have been combined as one interval of the tabulations.

As shown from the summary, the sequence is divisible into four broad units.

Unit 4 - MIOCENE deep water MARINE CARBONATE (interval from 2220.0 to 1343.5m)

Unit 3 - LATE EOCENE/EARLY OLIGOCENE MARINE TRANSGRESSIVE argillaceous and arenaceous; depths progressively deepening up section, accompanied by increase in carbonate components. (Interval from 2253.0 to 2328.5m).

Unit 2 - BARRIER/DUNE SANDS with lateritic paleo-soil horizons (interval from 2334.5 to 2369.0m).

Unit 1 - NON-MARINE DELTAIC SANDS and SHALES (interval from 2378.0 to 2556.0m).

Because no foraminifera were found, no further comment can be made on Units 1 and 2; apart from reference to sediment grain data tabulated on Table 3.

UNIT 3 - As represented in sidewall cores, between 2253.0 and 2328.5m, this interval contains features very similar to those of the transgressive bio and litho facies of the Lakes Entrance Formation in the type area onshore, beneath Lakes Entrance (refer Crespin, 1943, and Hocking & Taylor, 1964). The uppermost Eocene to earliest Oligocene age range for this unit was slightly older in Edina # 1 than in the Lakes Entrance area.

The base of the unit, in Edina # 1 sidewall core at 2328.5m, is regarded here as being the equivalent of the Colquhoun Sandstone Member at the base of the Lakes Entrance Formation but it could be argued that it represents an abbreviation of the Gurnard Formation of James & Evans (1971).

HIATUS between UNIT 3 and UNIT 4 at 2242 (= E-log pick) - This widespread event in deep water sections of the Gippsland Basin was apparent in Edina # 1 and corresponds with the worldwide sea-level fall, designated as Eustatic Cycle TO^{2-1} by Vail & Hardenbol (1979). The signature of this event was both erosive and non-depositional. Some deposited early Oligocene sediment (= Zone J-1) was apparently removed, whilst late Oligocene sediment (Zones I-2, I-1 and H-2) was not permitted to accumulate; probably due to high velocity bottom currents. The time span not represented by sediment in Edina # 1 was some 10 to 12 million years. In shallower water, marginal sequences (e.g. at Lakes Entrance) this time interval was represented by the Lakes Entrance Formation.

A dramatic shift in paleo-bathymetry is interpreted on either side of this time break. In Edina # 1, the top of the early Oligocene (Zone J-2) sediment was deposited on a shallow shelf platform in approximately 40m of water; whilst the basal early Miocene (Zone H-1) benthonic faunas indicate a paleo-water depth of some 400m. These paleo-bathymetric water depths are based on comparative data, much of which is summarised by Hayward & Buzas (1979) for the early Miocene Tasman Sea.

UNIT 4 - These continental slope and shelf edge carbonate sediments between 2220.0 and 1343.5m represent a typical deep water, Miocene Gippsland sequence, although definite evidence of submarine carbonate fill deposition was not observed. However, periodic down-slope slumping was apparent with recycled Eo-Oligocene planktonic foraminifera, as well as shallow water benthonics and sediment grains present in several samples (e.g. in sidewall cores at 2220, 2211 and 2204m, as well as in ditch cutting between 2075 to 2090m; refer Tables 1, 2 & 3).

REFERENCES.

CRESPIN, I., 1943 - The Stratigraphy of the Tertiary Marine Rocks in Gippsland, Victoria. *Dept. Supply & Shipping - Min. Res. Surv. Pal. Bull.* 4.

HAYWARD, B.W. & BUZAS, M.A., 1979 - Taxonomy and Paleoecology of Early Miocene Benthic Foraminifera of Northern New Zealand and the North Tasman Sea. *Smithsonian Conts. to Paleobiology, 36;* 1-154.

HOCKING, J.B. & TAYLOR, D.J., 1964 - The Initial Marine Transgression in the Gippsland Basin, Victoria. *APEA Journ.* 125-144.

JAMES, E.D. & EVANS, P.R., 1971 - The Stratigraphy of the Offshore Gippsland Basin. *APEA Journ. 13;* 71-74.

VAIL, P.R. & HARDENBOL, J., 1979 - Sea-Level Changes during the Tertiary. *Oceanus, 22;* 71-79.

SELECTED BENTHONIC FORAMINIFERA

SHALLOW WATER SPECIES — LAGOONAL ↠ INNER SHELF (0-40m)

DEPTH in METRES of Sidewall Cores = → & ditch cuttings = α	Miliolids	*Cibicides perforatus/opacus*	*C. lobatulus*	*Siphouvigerina canariensis*	Nodosarids	*Ammonia beccarii*	*Vulvulina granulosa*	*Gaudryina spp.*	*Ammosphaeroidina sp.*	*Pseudoclavulina rudis*	*Cibicides brevoralis*	*Anomalina vitrinoda*	*Ammodiscus sp.*	*Vaginulopsis gippslandica*	*Anomalina macroglabro*	*Notorotalia crassimorra*	*Lingulina mectungensis*
1343.5→		x			D			o									
1370.0→		x			o												
1390.0→		x	x		x												
Sample gap																	
1881.0→																	
1890.0→																	
1895.5→																	
1918.0→					x												
2075-90α							R										R
2189.0→																	
2197.0→					x												
2204.0→					x												
2211.0→		R															
2220.0→							R										
2253.0→					x					x					x	x	
2270.5→		x		x						x		x			x		
2275.0→		x	x		x			x			o	o	o				
2276.5→		x	x								x						
2278.0→		o	o		o		o	o	o		o	o					
2279.5→		o					o	o	o								
2282.0→	o	o	o			o											
2287.0→	x	o	o	o	o												
2293.0→	N.F.F.																
2304.5→	Planktonics only																
2328.5→	Planktonics only																
2334.5→	NO FORAMINIFERA FOUND																
2339.0→	NO FORAMINIFERA FOUND																
2354.0→	NO FORAMINIFERA FOUND																
2359.0→	NO FORAMINIFERA FOUND																
2369.0→	NO FORAMINIFERA FOUND																
2378.0→	NO FORAMINIFERA FOUND																
2382.0→	NO FORAMINIFERA FOUND																
2390.5→	NO FORAMINIFERA FOUND																
2406.5→	NO FORAMINIFERA FOUND																
2454.0→	NO FORAMINIFERA FOUND																
2514.5→	NO FORAMINIFERA FOUND																
2529.0→	NO FORAMINIFERA FOUND																
2548.0→	NO FORAMINIFERA FOUND																
2556.0→	NO FORAMINIFERA FOUND																

DEEP WATER — UPPER SLOPE ↠ SHELF EDGE (400-200m)

DEPTH in METRES	*Nonionella novozealandica*	*Osangularia bengalensis*	*Pleurostomella tenuis*	*Textularia miozea*	*Karreriella bradyi*	*Siphouvigerina proboscidae*	*Melonis barleeanum*	*Discorbinella bertheloti*	*Cibicides subhaidingeri*	*Martinotiella communis*	*Discammina compressa*	*Cassidulina laevigata*	*Anomalina procolligera*	*Globobulimina pacifica*	*Allomorphina cubensis*	*Signoilopsis schlumbergeri*	*Cibicides mediocris*	*Euuvigerina miozea*	PLANKTONIC ASSEMBLAGE ZONE	Depth at Base
1343.5→					o			o											D-2	
1370.0→																		x	D-2	137
1390.0→						o		o							o		o	x	E-1	139
Sample gap																				
1881.0→									o	o				o	x	o	o		G	
1890.0→									o	o						o	o		G	
1895.5→								o	o				o	o	o	o	o		G	
1918.0→										o		x	o						G	191
2075-90α		o								o	o								H-1	
2189.0→									o	o	o								H-1	
2197.0→			o			o	o	x											H-1	
2204.0→					o	x													H-1	
2211.0→																			H-1	
2220.0→	o	o	o	o															H-1	222
2253.0→																			J-2	
2270.5→																			J-2	
2275.0→																			J-2	
2276.5→																			J-2	
2278.0→																			J-2	
2279.5→																			J-2	227
2282.0→																			K	
2287.0→																			K	
2293.0→																			K	
2304.5→																			K	
2328.5→																			K	232
2334.5→ – 2369.0→																			?	
2378.0→ – 2556.0→																			?	

KEY: o = <20 specimens
x = >20 specimens
D = Dominant >60% specimens
R = recycled Eo/Oligocene fossils
N.F.F. = no foraminifera found

TABLE 2: DISTRIBUTION of SELECTED BENTHONIC FORAMINIFERA - EDINA # 1.

David Taylor, 14/12/82.

PE905950

This is an enclosure indicator page.
The enclosure PE905950 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905950 has the following characteristics:

ITEM_BARCODE = PE905950
CONTAINER_BARCODE = PE905967
NAME = Residual Grain Analysis & Paleonenvironmental Assessment Table
BASIN = GIPPSLAND BASIN
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Residual Grain Analysis & Paleonenvironmental Assessment Table (from appendix 5 of WCR--Foraminiferal Sequence) for Edina-1
REMARKS =
DATE_CREATED = 16/12/82
DATE_RECEIVED = 6/06/83
W_NO = W784
WELL_NAME = EDINA-1
CONTRACTOR =
CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

TABLE 4

MICROPALEONTOLOGICAL DATA SHEET

BASIN: GIPPSLAND ELEVATION: KB: ______ GL: ______

WELL NAME: EDINA # 1 TOTAL DEPTH: ______

AGE		FORAM. ZONULES	HIGHEST DATA Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time	LOWEST DATA Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time
PLEISTOCENE		A_1										
		A_2										
PLIOCENE		A_3										
		A_4										
		B_1										
MIOCENE	LATE	B_2										
		C										
	MIDDLE	D_1										
		D_2	1343.5	1				1370.0	0			
		E_1	1390.0	0				1390.0	0			
		E_2	*					*				
	EARLY	F	*					*				
		G	1881.0	2	1890	1		1918.0	0			
		H_1	¶2090-75	3	2189	0		¶2220.0	1			
OLIGOCENE	LATE	H_2										
		I_1										
		I_2										
	EARLY	J_1										
		J_2	2253.0	1				2278.0	1	2276.5	0	
EOCENE		K	2279.5	1				2328.5	2	2304.5	1	
		Pre-K										

COMMENTS: *Sample gap between 1390 & 1881; but sequence probably continuous through early to mid Miocene.

¶Recycled Eo/Oligocene specimens within early Miocene assemblages.

CONFIDENCE RATING:
- 0: SWC or Core - Complete assemblage (very high confidence).
- 1: SWC or Core - Almost complete assemblage (high confidence).
- 2: SWC or Core - Close to zonule change but able to interpret (low confidence).
- 3: Cuttings - Complete assemblage (low confidence).
- 4: Cuttings - Incomplete assemblage, next to uninterpretable or SWC with depth suspicion (very low confidence).

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

DATA RECORDED BY: David Taylor DATE: December 14, 1982.

DATA REVISED BY: ______ DATE: ______

PE905951

This is an enclosure indicator page.
The enclosure PE905951 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905951 has the following characteristics:

ITEM_BARCODE = PE905951
CONTAINER_BARCODE = PE905967
NAME = Plantonic Foraminiferal Distribution Table
BASIN = GIPPSLAND BASIN
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Planktonic Foraminiferal Distribution Table (from appendix 5 of WCR--Foraminiferal Sequence) for Edina-1
REMARKS =
DATE_CREATED = 14/12/82
DATE_RECEIVED = 6/06/83
W_NO = W784
WELL_NAME = EDINA-1
CONTRACTOR =
CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

Appendix 6

Log Analysis

APPENDIX 6

LOG ANALYSES - FORMATION EVALUATION

BY

J. BOWLER.

AUSTRALIAN AQUITAINE
PETROLEUM PTY. LTD.

EDINA NO. 1
FORMATION EVALUATION

BOWLER LOG CONSULTING SERVICES PTY. LTD.

JACK BOWLER
Telephone: (051) 56 6170

P.O. BOX 2,
PAYNESVILLE. 3880
VICTORIA,
AUSTRALIA

29th October, 1982

Australian Aquitaine Petroleum Pty. Ltd.,
P.O. Box 725,
NORTH SYDNEY. N.S.W. 2060.

Attention: Mr. F. Brophy

Dear Frank,

Please find enclosed comments on Log Quality, Formation Evaluation and Repeat Formation Tester results for the final logging run on Edina No. 1 from 26 to 28 October, 1982.

No hydrocarbon bearing zones were identified by the logs or the RFT. The sands evaluated were clearly water wet, porous and permeable.

Yours very truly,

J. Bowler

J. Bowler.

Enc.

LOGS RUN

DATE	RUN	LOGS	INVERVAL	CIRC. TIME (HRS)	TIME CIRC. STOPPED (HRS)	TIME LOGGER BOTTOM (HRS)	MAX. RECORD TEMP. (BHT)	RM @ BHT (chm-m)	SCALE 1:200	1:500	OTHE
6/10/82	1	ISF-SLS-G	110m - 1216m	2½	2300/5th	0315/6th	110°F	0.318	X	X	
	1	LDL-G	219m - 1216m		2300/5th	0830/6th	115°F	0.305	X	X	
26/10/82	1	DLL-MSFL-G	1201m - 2592m	2½	1900/25th	0215/26th	179°F	0.136	X	X	
	2	LDL-CNL-G	1201m - 2592m		1900/25th	8000/26th	195°F	0.125	X	X	
	1	BHC-NGS*	1201m - 2593		1900/25th	2000/26th	212°F	0.115	X	X	
27/10/82	1	HDT	1201m - 2592	2½	1900/25th	0230/27th	222°F	0.110	X	X	
	1	RFT									
28/10/82	1	CST	1354m - 2590m								
	2	CST	1343m - 2562m								
PROCESSED	1	GEODIP	1900m - 2593m						X		1:40
	1	CLUSTERPLOT	1203m - 2593m							X	
LOGS	1	CYBERLOOK	2200m - 2592m						X		

* NGS Log is up to 1900m only

Sea Bed Temperature @ 99m (KB) = 67°F (19.3°c)
Extrapolated BHT @ 2594m (KB) 224°F (117.7°c)
Temperature Gradiant 3.9°c/100m or 2.16°F/100

Log Quality

The following logs were run with a Schlumberger CSU and log quality was generally good except where specifically mentioned below.
DLLMSFL, LDLCNL, BHCNGS, HDT, RFT, CST and a SSL velocity survey.
The hole was in gauge over the zones of interest which was important for the pad contact tools.

DLLMSFL - an unexplainable SP anomaly repeats at 2435.

LDLCNL - the Pe curve cannot be used due to the effect of barite in the mud. The bulk density measurement reads too low in rugose and washed out shales such as 2278 - 2208, 2100 - 1890 etc. If the density is to be used for a synthetic seismogram it will need editing in the washed out sections.

BHC - was run after 3 unsuccessful attempts to obtain a good long spacing sonic log. The BHC sonic is cycle skipping from 1680 - 1685 but otherwise is good.

HDT - in order to obtain good data in both sands and shales two extra passes were made over the lower part of the hole to attempt an improvement. Appropriate data files have been selected for CLUSTER and GEODIP processing. If structural dip is greater than 5 degrees it should be subtracted during GEODIP processing.

RFT - because a 5000 psi gauge was used to obtain 0.5 psi resolution the RFT pressures in the depth track must be divided by 2 as they are only appropriate for 10,000 psi gauge.

Formation Evaluation

Several interpretation techniques were used to evaluate the most promising zones. The first method was the RWA approach using the density-neutron porosity and LLD resistivity. These quick-look values are listed in Table No. 1. RWA ranges from 0.6 to 0.22 with an average around 0.7 to 0.12. This compares to a RW of 0.7 computed from the SP and RXO - RO methods and also compares well with a RW for water with 35,000 PPM Nacl used in the area. At this point it was obvious that no hydrocarbons were likely to be found in the section logged. The DLLMSFL and LDTCNL logs were run first in order to evaluate the formations as early in the logging run as possible. The DLL was chosen because of its superior ability to handle the many thin beds reported by the geologist. As the evaluation from the DLL proved adequate it was decided there was no need to run the ISF so it was dropped from the program. Both the CNL and MSFL were cut off after logging all potential reservoirs. The Pe curve of the LDT cannot be used due to the effect of the barite in the mud thus rendering it useless. The barite content is not accurately known at this point and is reported to range from 2 to 4 per cent. If the next well could be drilled without barite it would certainly help in lithology identification from the Pe. The lithology of the zones with mudcake, low gamma ray and density-neutron separation is basically quartz sandstone as can be seen on the attached density-neutron cross-plot. Those points falling between the sandstone line and the shale point do so due to increasing clay or shale content.

Table 2 lists the best looking sands and their porosity ranges and water saturations.

Table 3 lists the levels and log values used for the density-neutron cross-plot and the density-resistivity cross-plot. As the density of shale seems to be around 2.65, equal to that of quartz, the density reading will be little affected by shale so needs no shale correction in order to compute porosity. There are two groups of points present suggesting two RW values thus two 100 per cent water lines are drawn on the resistivity vs porosity cross-plot. One water line of RW=.075 (33,000 PPM Nacl) fits the data from 2315 to 2369 while the other water line of RW = .105 (23,000 PPM Nacl) fits the data from 2382.5 to 2569.5. This change in RW was suggested by the quicklook RWA data in Table No.1.

Schlumberger offered to run the NGT free of charge with the sonic so it was recorded from TD to 1900 over the zones of interest. The interpretation of the NGT is a lengthy process and is not attempted here. One of the useful techniques is to cross-plot NGT data such as Thorium/Potassium ratio or Potassium against Pe to identify sedimentary minerals such as clays. In addition the Thorium, Uranium and Potassium curves are 3 new curves available for correlation as well as their various ratios.

A CYBERLOOK was run also on a demonstration basis and may be considered as an adequate evaluation for the well. The Pass I includes a RWF which basically is an RWA curve using RT from DLLMSFL and cross-plot porosity or PHIA from the density-neutron. Porosity is sealed in sandstone porosity units.

Pass II includes a shale corrected effective porosity presented in quartz sandstone porosity units (PHIE) and a water saturation calculation recorded continuously (SW). The CYBERLOOK confirms the formations are water wet with rather uniform porosities of 20 to 24. There are some shoulder bed effects which result in sharp spikes in the SW curve which should be ignored. Otherwise the CYBERLOOK is quite realistic.

TABLE NO. 1

Depth	Porosity	RWA
2246	3	.03
2297	13	.12
2337	21	.07
2343	21	.07
2348	22	.07
2353	21	.06
2357	23	.08
2362	22	.09
2369	22	.08
2382	23	.10
2388	22	.10
2411	19	.14
2415	24	.21
2426	9	.22
2431	23	.10
2440	21	.11
2460	21	.16
2475	16	.13
2498	20	.10
2525	20	.15
2530	22	.11
2546	22	.11
2551	21	.11
2557	18	.12
2562	23	.10
2567	20	.13
2570	21	.11
2576	18	.12

It appears that an increase in RW or a decrease in formation water salinity may take place below the shale from 2370 to 2380.

TABLE NO. 2

Level	Depth	Porosity	Water Saturation
1	2561 - 2571	20 to 23	100
2	2555 - 2559	21	100
3	2548 - 2553	20 to 25	100
4	2545 - 2546	21	100
5	2529 - 2531.5	20 to 22	100
6	2524 - 2527	21	100
7	2497 - 2502	20	100
8	2474 - 2475	16	100
9	2459 - 2461	21	100
10	2430 - 2443	20 to 22	100
11	2410 - 2413	20	100
12	2387 - 2388	22	100
13	2380 - 2385	23	100
14	2337 - 2376	18 to 24	100
15	2335	18	100

All of the above sands have mudcake buildup indicating permeability. Formation water resistivity calculated from SP, porosity-resistivity, RXO - RT ratio equals .07 at 200 degrees F which is 35,000 PPM Nacl equivalent.

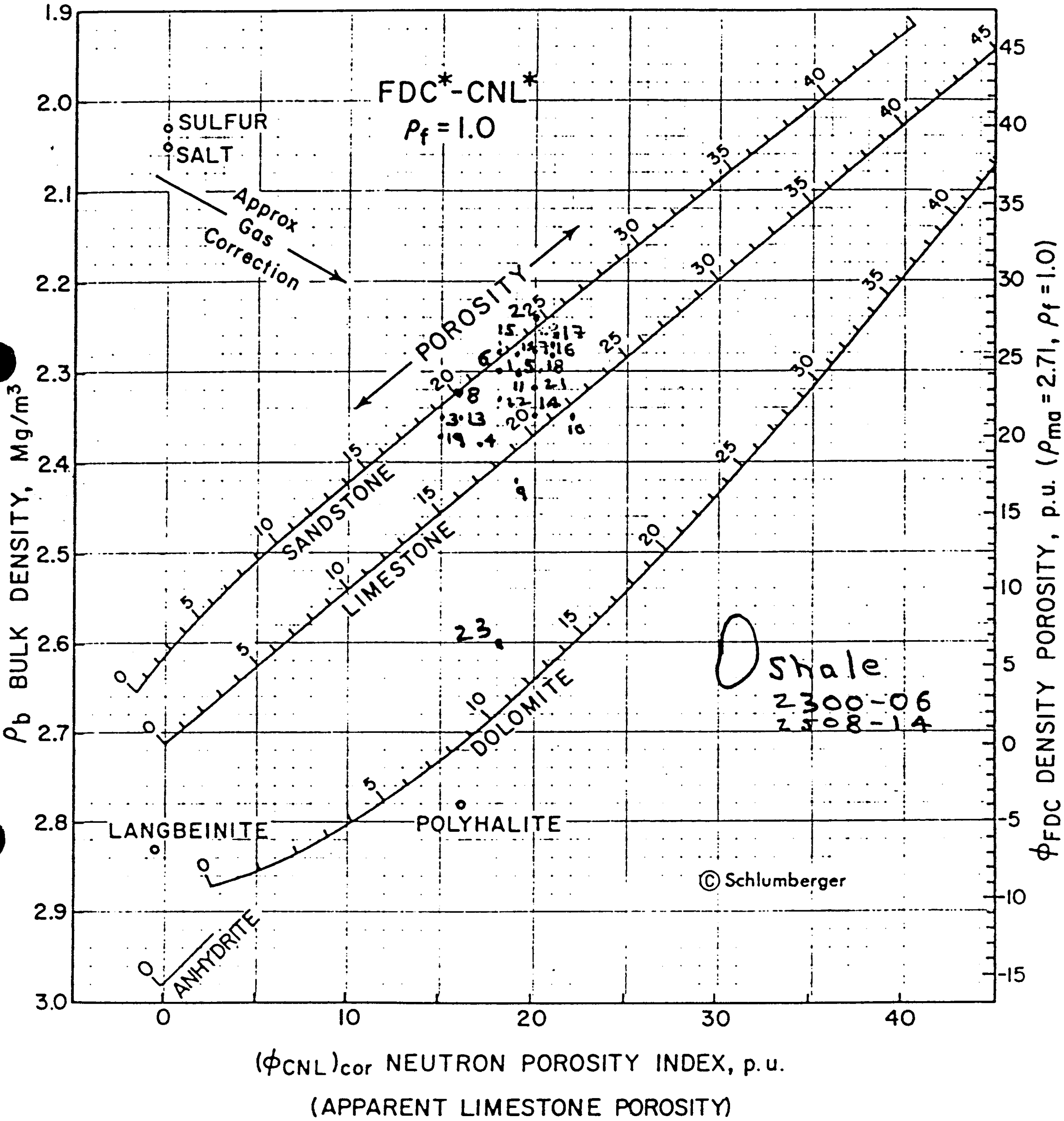
TABLE NO. 3

Level	Depth	RHOB	NPHI	DT	LLD
1	2569.5	2.30	18	82	2.0
2	2562.5	2.24	20	85	1.5
3	2576.5	2.35	15	80	3.0
4	2556.5	2.38	17	80	3.0
5	2551	2.30	18	83	2.0
6	2546	2.28	18	85	1.8
7	2529.5	2.28	20	85	1.8
8	2497.5	2.32	16	78	2.0
9	2474.5	2.42	19	81	4.1
10	2460	2.35	22	83	3.0
11	2440	2.30	19	83	2.0
12	2431	2.28	19	85	1.7
13	2411	2.35	16	80	3.1
14	2416.5	2.35	20	82	3.0
15	2387.5	2.27	18	81	1.6
16	2382.5	2.28	21	80	1.6
17	2369	2.26	21	81	1.1
18	2356	2.30	18	83	1.3
19	2349	2.37	15	78	1.3
20	2342	2.27	21	80	1.1
21	2337.5	2.32	20	80	1.5
22	2315	2.33	22	85	2.0
23	2245.5	2.60	18	66	28

POROSITY AND LITHOLOGY DETERMINATION FROM FORMATION DENSITY LOG AND COMPENSATED NEUTRON LOG (CNL*)

FRESH WATER, LIQUID-FILLED HOLES

Edina #1



*Mark of Schlumberger

CP-1c

Repeat Formation Tester Evaluation

A total of 14 formation pressures from 2298 to 2562.5 were obtained in addition to a full 2 3/4 US gallon and a full 1 US gallon sample chamber of water both from 2335 meters. With the exception of one point at 2298 which may be supercharged, all the other formation pressures fell on or very close to a 1.0 g/cc water gradient. The 5,000 psi gauge has an accuracy of ± 0.13 per cent full scale or ± 6.5 psi, a resolution of 0.5 psi and the repeatability of the system should be ± 3 psi. All pressures were taken on the way down to minimize gauge hysterisis except for tests Nos. 15, 16 and 17 which were repeats taken on the way up. The decreasing ability to repeat previous test pressures may be due to gauge hysterisis. In any case the almost perfect 1.0 g/cc water gradient obtained on the way down seems to indicate the pressure gauge is performing correctly within specifications.

Fluid characteristics and recoveries for the test at 2335 meters are :

Fluid Type	Resistivity at 200° F	PPM Nacl	PPM Nitrates	Color	Recovery CC
Formation Water	0.07	35,000	Nil		
Mud Filtrate	0.075	33,000	130	Dark Brown	
Lower Chamber	0.091	26,500	25	Light Brown	10,409
Upper Chamber	0.086	29,000	25	Yellow	3,785

The interpretation of the above results would suggest that if the formation water were more saline than the mud filtrate then the upper chamber, which was opened after the lower chamber, contains more formation water than the lower chamber. The nitrate determination would suggest that a great deal of formation water was obtained compared to filtrate. The Baroid engineer who ran the test said the uncertainty on the accuracy of the test is high because the nitrates apparently dissipate rapidly and sometimes completely disappear from the mud. In addition the test consists of adding a chemical to the sample which causes it to turn brown and then comparing its color with a non-treated sample of the same fluid. As the mud filtrate is already a dark brown this method seems to be rather inaccurate. Apparently another means of testing for nitrates has been requested by the Baroid engineer.

Because the mud filtrate and formation water resistivities are both less than that of the recovered fluid the amount of recovered formation water cannot be determined in the usual way. In any case, as mud filtrate and formation water have about the same salinities this method would be inaccurate. A recovered fluid with less salinity than either the formation water or mud filtrate is difficult to explain because it must be a mixture of both. It has been observed before and may be due to some sort of 'ion stripping' of the fluid as it passes through the formation into the sample chamber. Measured resistivities at 66 degrees F for the lower chamber fluid were 0.264 ohmm and 0.254 ohmm for the upper chamber fluid.

Several means of plotting and computation exist to compute permeability from RFT pretest pressure buildups and drawdown but as this is fairly time consuming only subjective comments regarding permeability from the appearance of the pretest sampling curve and a quicklook determination have been made. The results are presented in Table No. 5.

TABLE NO. 4

RFT PRESSURES
EDINA NO. 1

Test	Depth	Pressure (PSIG) Formation Read	Formation Corrected	Mud Read	Mud Corrected
0	2298.5	Seal Failure			
1	2298	3266	3249	4257	4240
2	2335	3290	3273	4324	4307
3	2351.5	3312.5	3295.5	4352	4335
4	2368.5	3337	3320	4383	4366
5	2383	3359	3342	4411	4394
6	2387.5	3366.5	3349.5	4418	4401
7	2410.5	3402	3385	4460	4443
8	2431	3429	3412	4496	4479
9	2437.5	3439	3422	4509.5	4492.5
10	2498.5	3520	3503	4626	4609
11	2530	3567	3550	4676.5	4659.5
12	2545.5	3587.5	3570.5	4704.5	4687.5
13	2550.5	3595.5	3578.5	4715	4698
14	2562.5	3612.5	3595.5	4738	4721
Repeated Tests					
15	2545.5	3591	3574	4705.5	4688.5
16	2410.5	3411	3394	4468	4451
17	2335	3303	3286	4333.5	4316.5
18	2298	Seal Failure			
19	2297.5	Seal Failure			
20	2298.5	Tight			
21	2243	Seal Failure			
22	2242.5	Seal Failure			

<u>TABLE NO. 5</u>

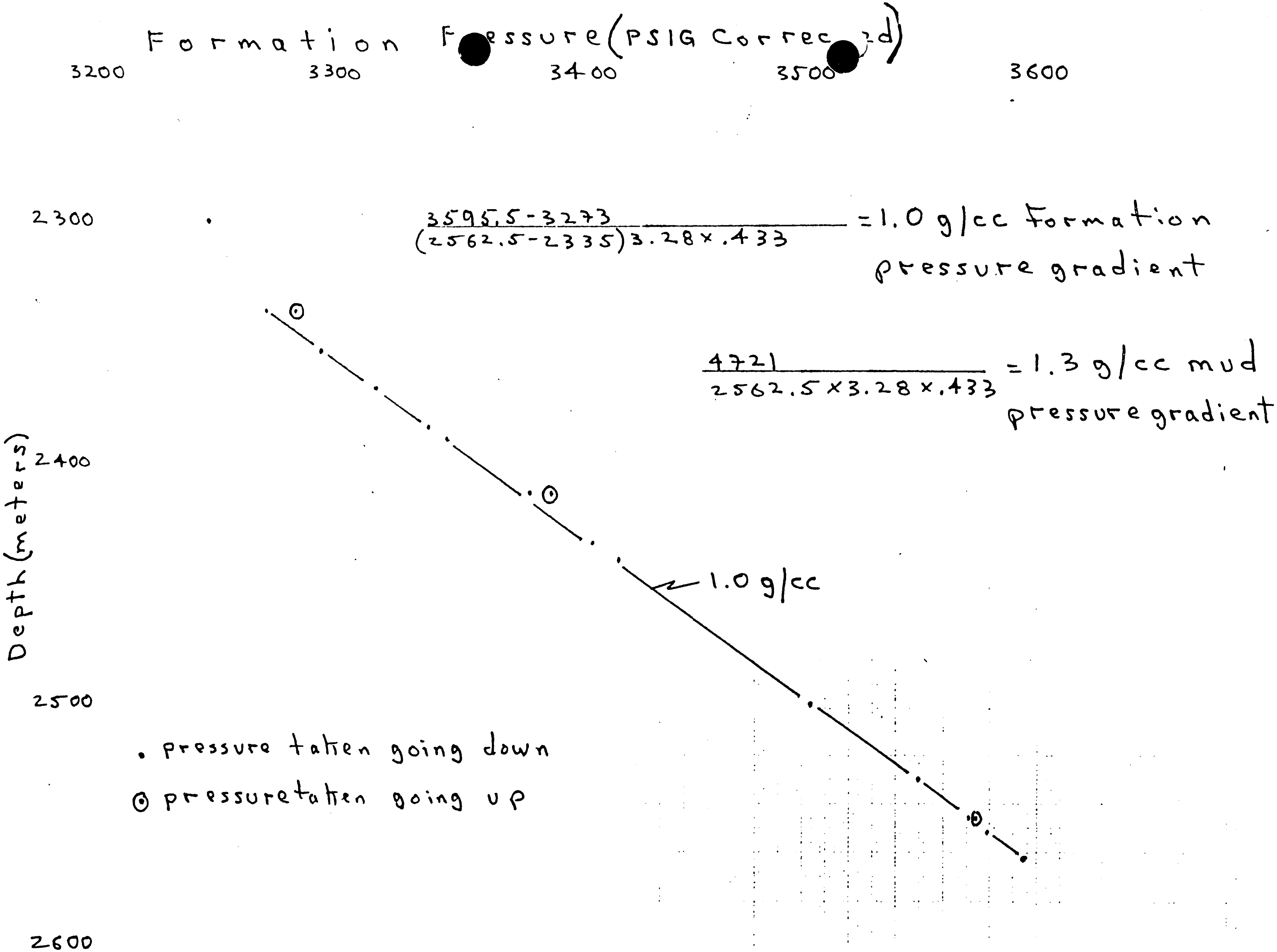
<u>PRETEST QUICKLOOK PERMEABILITY</u>

Depth	Observation of Buildup	20/T (Fillup)
2298	less than .1 md	.2 md
2335	about 10 md	

Drawdown permeability for this zone from the 2 3/4 gallon sample chamber is 3 darcy and 5.5 darcy for the 1 gallon sample chamber using the long nose probe. The improvement in permeability over that of the pretest may have been due to an improvement due to cleanup as the formation fluid flowed into the RFT.

2351	about 10 md
2368.5	about 10 md
2383	above 100 md
2387.5	above 100 md
2410.5	about 100 md
2431	above 100 md
2437.5	above 100 md
2498.5	above 100 md
2530	above 100 md
2545.5	about 1 md
2550.5	above 100 md
2562.5	about 10 md
2545.5	about 1 md
2410.5	about 10 md
2335	well above 100 md
2298.5	Tight

The above permeabilities are very rough but they do give the picture of permeable sands and with detailed drawdown and buildup computations a better estimate could be obtained.

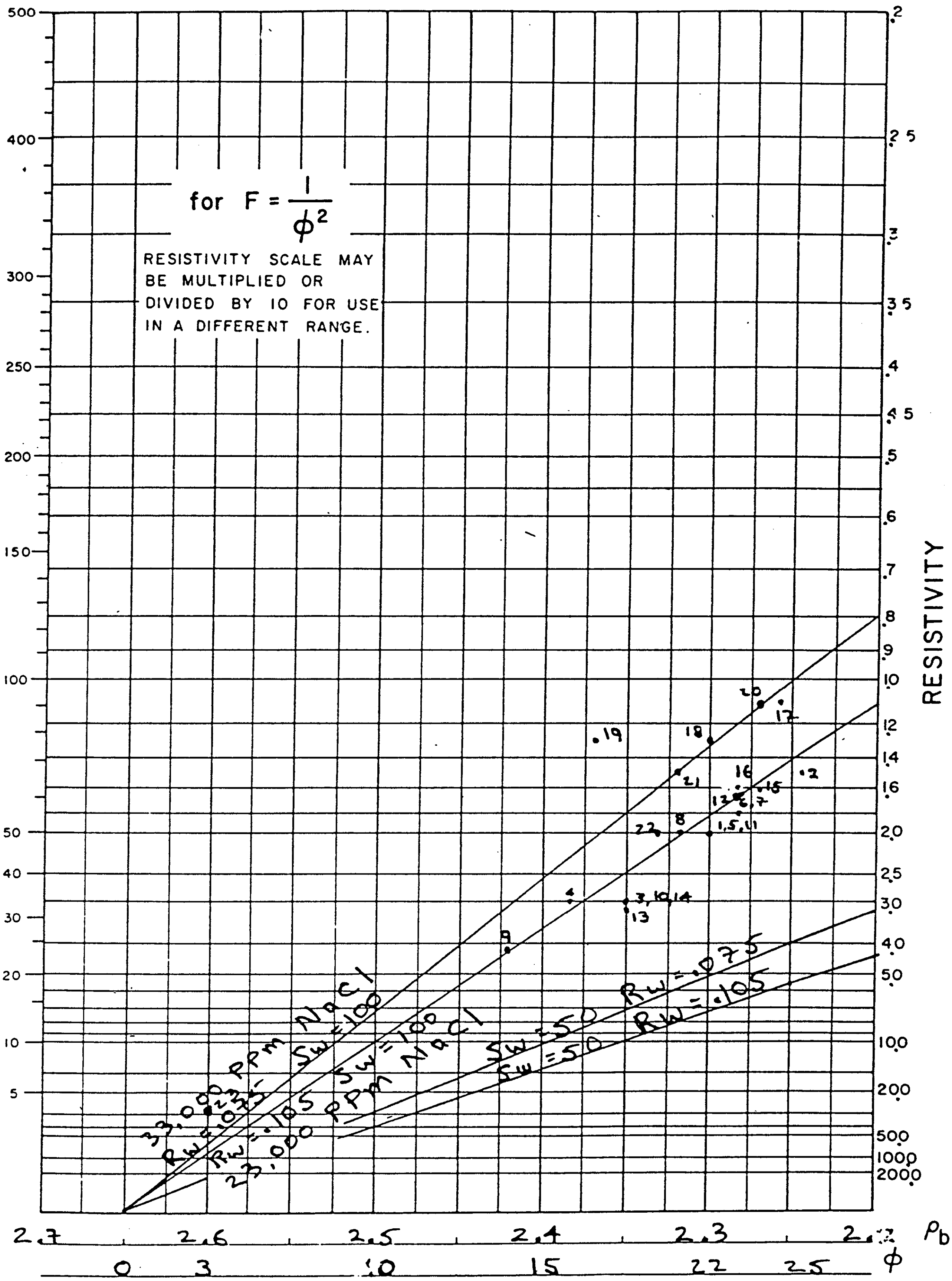


Formation F[illegible]essure(PSIG Correc[illegible]d)
3200
3300
3400
3500
3600
2300
2400
2500
2600
Depth (meters)
3595.5-3273 / (2562.5-2335)3.28×.433 = 1.0 g/cc Formation pressure gradient
4721 / 2562.5×3.28×.433 = 1.3 g/cc mud pressure gradient
1.0 g/cc
• pressure taken going down
⊙ pressuretaken going up

Schlumberger

Edina # 1

RESISTIVITY VS POROSITY



BHT = 200°F

Appendix 7

Test Result Summary

Appendix 7

APPENDIX 7

TEST RESULT SUMMARY

TEST RESULT SUMMARY

Both formation pressures and fluid sample obtained during repeat formation test indicat that all prospective reservoirs were water saturated. A total of 14 formation pressures from 2298 - 2562.5m were obtained, and all pressures with the exception of 2298m point (which may be supercharged) fell on or very close to a 1.0g/cc water gradiant (see appendix 6).

In addition, a full 2 3/4 US gallon and a full 1 US gallon sample chamber of water from 2335m were obtained.

Fluid characteristics and recovery for the test at 2335m are:-

FLUID TYPE	RESISTIUITY AT 200 F	NaCL ppm	NITRATE ppm	COLOUR	RECOVERY CC
Formation Water (from S.P)	0.07	35000	NIL		
Mud Filtrate	0.075	33000	130	Dark Brown	
Lower Chamber	0.001	26000	25	Light Brown	10409
Upper Chamber	0.086	29000	25	Yellow	3785

Measured resistiuity at 66 F for the Lower Chamber fluid were 0.264 ohmm and 0.254 ohmm for the Upper Chamber.

Appendix 8

Weekly Well Summary

Appendix 8

APPENDIX 8

WEEKLY WELL SUMMARY

WELL NAME: ....EDINA NO. 1.................. REPORT NO.: ....1...........

PERIOD: FROM: ...23.9.1982.................... TO: ....30.9.1982..........

All depths relate to Rotary Kelly Bushings at zero tide datum (Low Water Indian Springs) which is ...99... metres above seabed.

NOTE: Position Fix by Sat. Nav. - 38° 36' 22.321" South
147° 52' 42.183" East
1.6m from intended location.

HOLE	SIZE	36"	26"	17½"	12¼"	8½"	
	DEPTH (m)	NA	224	--	--	--	
CASING	SIZE	NA	20"	--	--	--	
	DEPTH (m)	NA	219	--	--	--	

DATE	DEPTH AT 2400 HRS.	PROGRESS	REMARKS
23.9.82	--	--	Ocean Digger arrive on location 1730 hrs. Drop No. 9 anchor. Run anchors 4, 3 and 7.
24.9.82	--	--	Run anchors 7, 2, 10 and 6. Rerun No. 8. Ballast rig. Raise derrick. Tension anchors. Take rig fix.
25.9.82	--	--	Reposition No. 9 anchor. Run Temporary Guide Base. Assemble Permanent Guide Base on Cellar Deck. Mix spud mud.
26.9.82	223M	124M	Rig up to spud. RIH 26" drilling assembly. Spud Edina No. 1 at 1200 hrs. Drill 26" hole. Spot HI VIS spud mud on connections.
27.9.82	224M	1M	Drill 26" hole to 224m. Circulate. Fill hole with 500 bbls HI VIS mud. Survey ¼ DEG. Run 20" casing. Casing parted at connector of wellhead housing due to lock ring. Retrieve 20" casing by jumping divers with elevators.
28.9.82	224M	--	Retrieve casing. RIH 26" bit. Ream and clean hole. Fill hole with 500 bbls HI VIS mud. Wiper Trip. Fill hole with 600 bbls HI VIS mud POOH.
29.9.82	224M	--	POOH. Run 20" 133lb/ft casing. Instal 18 3/4" housing and PGB. Land on TGB. Slope ½ DEG. Cement casing with 75 tonnes Class G with fresh water. Slurry Weight 1.85 SG. Displace with mud. Jump divers. Cement to seabed. Slope 1 DEG. POOH Running Tool. Test BOP Shear Rams 5000 PSI. Prepare to run BOP WOW.
30.9.82	224M	--	WOW - Roll to 5 DEG. Wind to 50 Knots. Run BOP stack and Riser. Run Wear Bushing. RIH 17½" BHA. Tag cement at 209m.

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

TIME SUMMARY

WELL NAME: ...EDINA NO. 1....... PERIOD: FROM: ..23.9.1982..... TO: ..30.9.1982.....

TIME ANALYSIS (HOURS)	FOR WEEK	TOTAL
D: MOVING		
D1 Moving of rig, rigging up/down, anchoring	54.5	54.5
D2 Waiting on weather during moving		
D3 Other waiting time	2	2
F: DRILLING - CASING		
F1 Drilling on bottom, incl. connection time	13	13
F2 Trips for new bit	8	8
F3 Ancillary Drilling Operations, incl. Totco, reaming, hole cleaning, testing BOP or casing.		
F4 Casing and Cementing	67.5	67.5
G: FORMATION SURVEYS		
G1 Coring		
G2 Related Coring Operations, incl. tripping etc.		
G3 Tests and associated operations		
G4 Electric Logging Operations		
A: INTERRUPTION OF OPERATIONS UNDER F OR G		
A1 Stuck Pipe and Fishing Operations	14	14
A2 Mud-Losses, Flows, Treatment		
A3 Waiting on Weather	8	8
A4 Other waiting time - Repairs	7.5	7.5
C: COMPLETION - PLUGGING		
C1 Completion, Stimulation, Production Tests		
C2 Abandonment of Well		
C3 WOW during completion, plugging, testing		
C4 Other Waiting time		
TOTAL TIME:	174.5	174.5

DOWN TIME: HOURS PERCENTAGE

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

WEEKLY SUMMARY - BITS AND MUD

BIT AND CORE RECORD

BIT NO.	SERIAL NO.	MAKE	TYPE	NOZZLES	FROM	TO	METRES	HOURS	m/h	CONDITION
1	SAS5656	SMI	DGJ	3 x 24	99	224	125	13	9.62	2 - 2 - I
2	XA7398	SMI	DSJ	3 x 18						RIH

MUD PRODUCT

CHEMICAL	UNIT KG	CONSUMPTION WEEK	CONSUMPTION CUMULATIVE	STOCK	CHEMICAL	UNIT KG	CONSUMPTION WEEK	CONSUMPTION CUMULATIVE	STOCK
CEMENT "G"	KG	75,000	--						
BARYTES	KG	44,000	--						
BENTONITE	KG	10,807	--						
CAUSTIC	KG	770	--						
SODA ASH	KG	440	--						
$CACL_2$	KG	1,650	--						

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

WEEKLY WELL SUMMARY

WELL NAME: ......EDINA NO. 1.................... REPORT NO.: ....2............

PERIOD: FROM: ..1st October, 1982............. TO: ....7th October, 1982......

All depths relate to Rotary Kelly Bushings at zero tide datum (Low Water Indian Springs) which is ..99.... metres above seabed.

HOLE	SIZE	36"	26"	17½"	12¼"	8½"	
	DEPTH (m)	NA	224	1212	--	--	
CASING	SIZE	NA	20	13 3/8"	9 5/8"	7"	
	DEPTH (m)	NA	219	1201	--	--	

DATE	DEPTH AT 2400 HRS.	PROGRESS	REMARKS
1.10.82	488M	264M 14HRS.	DRILL OUT CEMENT AND 20" SHOE. DRILL 17½" HOLE 224-231M. FPT, EQUIV. DENSITY 1.11 S.G. CHANGE BHA. DRILL 17½" HOLE. MUD S.G.: 1.09 VIS: 41 YP: 15 WL: 20
2.10.82	768M	280M 15½HRS.	DRILL 17½" HOLE TO 708M. CHANGE BIT. DRILL. DEVIATION: 1 DEG/488M, 1.5 DEG/708M. MUD: S.G. 1.10 VIS: 40 YP: 19 WL: 19
3.10.82	994M	226M 22HRS.	DRILL 17½" HOLE. SURVEY & WIPER TRIP TO 20" SHOE. MUD S.G.: 1.07 VIS: 39 YP: 22 WL: 17 HELD SAFETY DRILL (FIRE & BOAT).
4.10.82	1136M	142M 20½HRS.	WIPER TRIP. DRILL 17½" HOLE. DEVIATION: 0.5 DEG/994M. MUD: S.G. 1.08 VIS: 43 YP: 21 WL: 16
5.10.82	1212M	76M 9½HRS.	DRILL TO 1158M. HIGH TORQUE. CHANGE BIT. DRILL TO 1212M. CIRCULATE. WIPER TRIP. CIRCULATE. POH FOR SCHLUMBERGER LOGS. DEVIATION: 3/4 DEG/1158M. MUD: S.G. 1.10 VIS: 46 YP: 20 WL: 16
6.10.82	1212M	NIL	POH. RUN SCHLUMBERGER LOGS. ISF/SLS/GR/CAL. LDL/GR/CAL. CONDITION HOLE. RETRIEVE WEAR BUSHING. RUN 13 3/8" CASING. DEVIATION: 3/4 DEG/1212M.

7.10.82	1212M	NIL	RUN 92 JTS., 13 3/8", 68lb/ft CASING. SHOE AT 1201M. FLOAT COLLAR AT 1177M. CIRCULATE. CEMENT WITH 73 TONNES CLASS 'G' WITH D80/D81. SG: 1.89. DISPLACE CEMENT & BUMP PLUG TO 2000 PSI. RUN, SET & TEST SEAL ASSEMBLY TO 5000 PSI. TEST BOP STACK. RAMS, CHOKE & KILL TO 5000 PSI, ANNULAR 2500 PSI. RUN WEAR BUSHING. RIH 12¼" BHA.

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

TIME SUMMARY

WELL NAME: EDINA NO. 1 PERIOD: FROM: 1.10.82 TO: 7.10.82

TIME ANALYSIS (HOURS)	FOR WEEK	TOTAL
D: MOVING		
D1 Moving of rig, rigging up/down, anchoring		54.5
D2 Waiting on weather during moving		
D3 Other waiting time		2
F: DRILLING - CASING		
F1 Drilling on bottom, incl. connection time	81.5	94.5
F2 Trips for new bit	16	24
F3 Ancillary Drilling Operations, incl. Totco, reaming, hole cleaning, testing BOP or casing.	10.5	10.5
F4 Casing and Cementing	42	110
G: FORMATION SURVEYS		
G1 Coring		-
G2 Related Coring Operations, incl. tripping etc.		
G3 Tests and associated operations		
G4 Electric Logging Operations	18	18
A: INTERRUPTION OF OPERATIONS UNDER F OR G		
A1 Stuck Pipe and Fishing Operations		14
A2 Mud-Losses, Flows, Treatment		
A3 Waiting on Weather		8
A4 Other waiting time - Repairs		7
C: COMPLETION - PLUGGING		
C1 Completion, Stimulation, Production Tests		
C2 Abandonment of Well		
C3 WOW during completion, plugging, testing		
C4 Other Waiting time		
TOTAL TIME:	168	342.5

DOWN TIME: HOURS PERCENTAGE

NOTE: TIME DISTRIBUTION FOR REPORT NO. 5 (REFER WEEKLY WELL SUMMARY NO. 1) INCORRECTLY REPORTED. CORRECT TIMES ARE: F4: 21½, A3: 1, A4: 1½hrs.. A CORRECTED TIME SUMMARY SHEET IS ATTACHED FOR YOUR INFORMATION.

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

WEEKLY SUMMARY - BITS AND MUD

BIT AND CORE RECORD

BIT NO.	SERIAL NO.	MAKE	TYPE	NOZZLES	FROM	TO	METRES	HOURS	m/h	CONDITION
2	XA7398	DSJ	SMI	3x18	224	708	484	24½	19.76	2-6-I 17½"
3	XA7067	DSJ	SMI	3x18	708	1158	450	51	8.82	6-8-I 17½"
4	XA7194	DSJ	SMI	3x18	1158	1212	54	6	9.00	1-1-I 17½"
5	CB7277	SDS	SMI	3x14	RIH TO	DRILL OUT 13 3/8"				12¼"

MUD PRODUCT

CHEMICAL	UNIT KG	CONSUMPTION		STOCK	CHEMICAL	UNIT KG	CONSUMPTION		STOCK
		WEEK	CUMULATIVE				WEEK	CUMULATIVE	
CEMENT "G"	KG	73000	148000						
BARYTES	KG	20972	64972						
BENTONITE	KG	23678	34485						
CAUSTIC	KG	1680	2450						
SODA ASH	KG	600	1040						
$CACL_2$	KG	--	1650						
LIME	KG	300	300						
Q. BROXIN	KG	400	400						

WEEKLY WELL SUMMARY

WELL NAME: ....EDINA NO. 1..................... REPORT NO.: ......3.............

PERIOD: FROM: 8TH OCTOBER, 1982.............. TO: ......14TH OCTOBER, 1982...

All depths relate to Rotary Kelly Bushings at zero tide datum (Low Water Indian Springs) which is ..99.... metres above seabed.

HOLE	SIZE	36"	26"	17½"	12¼"	8½"	
	DEPTH (m)	N/A	224	1212	1292		
CASING	SIZE	N/A	20"	13 3/8"			
	DEPTH (m)	N/A	219	1201			

DATE	DEPTH AT 2400 HRS.	PROGRESS	REMARKS
8.10.82	1288M	76M 11HRS.	RIH 12¼" BHA. TOC AT 1176M. DRILL OUT 13 3/8" DRILL 1212-1224M. FORMATION PRESSURE TEST. DENSITY EQUIVALENT 1.50 SG. CHANGE BHA, (PICK UP STABILISERS). DRILL 12¼" HOLE. HELD BOP SAFETY DRILL. MUD SG: 1.11 VIC: 41 YP: 17 WL: 15.
9.10.82	1527M	239M 21HRS.	DRILL TO 1473M. SURVEY. WIPER TRIP. DRILL. DEVIATION: ¼ DEG/1473M. MUD SG: 1.13 VIS: 50 YP: 18 WL: 8
10.10.82	1743M	216M 19HRS	DRILL TO 1590M. WORK MUD RING. DRILL TO 1674M. DEVIATION: 1 DEG/1674M MUD SG: 1.13 VIS: 52 YP: 27 WL: 5.4.
11.10.82	1874M	131M 14HRS.	DRILL TO 1810M. HOLE SLOUGHING. RAISE MUD WEIGHT. CHANGE BIT. DRILL TO 1857M. HOLE PACKED OFF. CIRCULATE DRILL. DEVIATION: 1 DEG/1810M MUD SG: 1.19 VIS: 45 YP: 24 WL: 5.6
12.10.82	2092M	218M 23½HRS	DRILL 12¼" HOLE. MUD SG: 1.22 VIS: 47 YP: 25 WL: 5.4 HELD BOP DRILL FOR CREW CHANGE.
13.10.82	2132M	40M 6½HRS	SURVEY. WIPER TRIP. REAM. TRIP FOR BIT. TIGHT HOLE - SOME OVERPULL. DEVIATION: 1 3/4 DEG AT 2092M. MUD SG: 1.24 VIS: 49 YP: 19 WL: 6
14.10.82	2192M	60M 14½HRS	RIH. DRILL. TRIP FOR BIT. BIT BALLING UP. DEVIATION: 1½ DEG AT 2192M. MUD SG: 1.24 VIS: 45 YP: 24 WL: 5.2

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

TIME SUMMARY

WELL NAME: ....EDINA NO. 1...... PERIOD: FROM: ..8.10.82....... TO: .14.10.82.......

TIME ANALYSIS (HOURS)	FOR WEEK	TOTAL
D: MOVING		
D1 Moving of rig, rigging up/down, anchoring		54.5
D2 Waiting on weather during moving		
D3 Other waiting time		2
F: DRILLING - CASING		
F1 Drilling on bottom, incl. connection time	109.5	204
F2 Trips for new bit	23.5	47.5
F3 Ancillary Drilling Operations, incl. Totco, reaming, hole cleaning, testing BOP or casing.	27	37.5
F4 Casing and Cementing	7	117
G: FORMATION SURVEYS		
G1 Coring		
G2 Related Coring Operations, incl. tripping etc.		
G3 Tests and associated operations		
G4 Electric Logging Operations		18
A: INTERRUPTION OF OPERATIONS UNDER F OR G		
A1 Stuck Pipe and Fishing Operations		
A2 Mud-Losses, Flows, Treatment		14
A3 Waiting on Weather		8
A4 Other waiting time - Repairs	1	8
C: COMPLETION - PLUGGING		
C1 Completion, Stimulation, Production Tests		
C2 Abandonment of Well		
C3 WOW during completion, plugging, testing		
C4 Other Waiting time		
TOTAL TIME:	168	510.5

DOWN TIME: HOURS PERCENTAGE

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

[illegible]KLY SUMMARY - BITS AND MUD

BIT AND CORE RECORD

BIT NO.	SERIAL NO.	MAKE	TYPE	NOZZLES	FROM	TO	METRES	HOURS	m/h	CONDITION
5	CB7277	SMI	SDS	3x14	1212	1224	12	1	12.00	12¼"
6	AX9432	SMI	A1	2x16x8	1224	1810	586	58½	10.02	1-4-I 12¼"
7	AX6658	SMI	FDGH	3x14	1810	2132	322	35½	9.07	2-8-I 12¼"
8	XA6657	SMI	FDGH	3x14	2132	2192	60	14½	4.14	7-2-I

MUD PRODUCT

CHEMICAL	KG	CONSUMPTION		STOCK	CHEMICAL	KG	CONSUMPTION		STOCK
		WEEK	CUMULATIVE				WEEK	CUMULATIVE	
CEMENT "G"			148,000		DEXTRID		5,877	5,877	
BARYTES		74,979	139,951		PAC-R		409	409	
BENTONITE		3,700	38,185		NUT PLUG		1,005	1,005	
CAUSTIC		2,530	4,980		SOLTEX		3,000	3,000	
SODA ASH		1,000	2,040		AL STEARATE		25	25	
$CACL_2$			1,650						
LIME			300						
Q.BROXIN		4,280	4,680						
CMC LV		2,550	2,550						
CMC HV		675	675						
SAAP		409	409						

WEEKLY WELL SUMMARY

WELL NAME: EDINA NO. 1 REPORT NO.: 4

PERIOD: FROM: 15TH OCTOBER, 1982 TO: 21ST OCTOBER, 1982

All depths relate to Rotary Kelly Bushings at zero tide datum Low Water Indian Springs) which is 99 metres above seabed.

HOLE	SIZE	36"	26"	17½"	12¼"	8½"	
	DEPTH (m)	N/A	224	1212	2418	--	
CASING	SIZE	N/A	20"	13 3/8"	9 5/8"	7"	
	DEPTH (m)	N/A	219	1201	--	--	

DATE	DEPTH AT 2400 HRS.	PROGRESS	REMARKS
15.10.82	2267M	75M 13½HRS.	POOH. TEST BOPS - RAMS C & K 5000 PSI. HYDRIL 2500 PSI. RIH BIT NO. 9. REAM 2050-2192M DRILL. MUD SG: 1.24 VIS: 48 YP: 25 WL: 5.4
16.10.82	2313M	46M 7HRS.	DRILL. DRILLING BREAK 2309-2313M. CIRCULATE SAMPLE. WIPER TRIP. CLEAN HOLE. POOH. RIH CORE BARREL. DEVIATION: 3/4°/2313M. MUD SG: 1.24 VIS: 45 YP: 23 WL: 5.5
17.10.82	2335M DRILL 15m/3HRS. CORE 7m/3HRS.	22M 6HRS.	RIH. CUT CORE NO. 1, 2313-2320M. POOH. RECOVER CORE - 92%. RIH BIT NO. 10. REAM RAT HOLE. DRILL. MUD SG: 1.24 VIS: 46 YP: 21 WL: 5.2
18.10.82	2345M	10M 7HRS.	DRILL TO 2337M. TORQUE. POOH. CHANGE BIT. RIH. DRILL TO 2341M. TORQUE 3 STD WIPER TRIP. REAM 2330-2341. DRILL TO 2345M. EXCESSIVE TORQUE ON REAMING. POOH. MUD SG: 1.24 VIS: 50 YP: 31 WL: 4.5
19.10.82	2363M	18M 15½HRS.	CHANGE BIT. RIH. REAM 2310-2345M. TORQUE. DRILL INTERMITTENT TORQUE. MUD SG: 1.24 VIS: 49 YP: 30 WL: 4.2
20.10.82	2371M	8M 5½HRS.	DRILL TO 2365M. SURVEY. WIPER TRIP TO SHOE. DRILL TO 2367M. SLOW ROP & TORQUE. CHANGE BIT. DRILL. DEVIATION ½ DEG./2363M. MUD SG: 1.24 VIS: 52 YP: 36 WL: 4.4
21.10.82	2418M	47M 21½HRS.	DRILL. SURVEY. PERFORM KICK DRILL. POOH TO 1850M. RECOVER SURVEY. DEVIATION: 1 DEG/2418M. MUD SG: 1.24 VIS: 51 YP: 26 WL: 4.4

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

TIME SUMMARY

WELL NAME: EDINA NO. 1 PERIOD: FROM: 15.10.82 TO: 21.10.82

TIME ANALYSIS (HOURS)		FOR WEEK	TOTAL
D: MOVING			
D1	Moving of rig, rigging up/down, anchoring		54.5
D2	Waiting on weather during moving		
D3	Other waiting time		2
F: DRILLING - CASING			
F1	Drilling on bottom, incl. connection time	73	277
F2	Trips for new bit	34.5	82
F3	Ancillary Drilling Operations, incl. Totco, reaming, hole cleaning, testing BOP or casing.	28	65.5
F4	Casing and Cementing		117
G: FORMATION SURVEYS			
G1	Coring	3	3
G2	Related Coring Operations, incl. tripping etc.	26	26
G3	Tests and associated operations		
G4	Electric Logging Operations		18
A: INTERRUPTION OF OPERATIONS UNDER F OR G			
A1	Stuck Pipe and Fishing Operations		
A2	Mud-Losses, Flows, Treatment		14
A3	Waiting on Weather		8
A4	Other waiting time - Repairs	3.5	11.5
C: COMPLETION - PLUGGING			
C1	Completion, Stimulation, Production Tests		
C2	Abandonment of Well		
C3	WOW during completion, plugging, testing		
C4	Other Waiting time		
	TOTAL TIME:	168	678.5

DOWN TIME: HOURS PERCENTAGE

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

WEEKLY SUMMARY - BITS AND MUD

BIT AND CORE RECORD

BIT NO.	SERIAL NO.	MAKE	TYPE	NOZZLES	FROM	TO	METRES	HOURS	m/h	CONDITION
9	313KK	HTC	X3A	3x14	2192	2313	121	20½	5.90	6-7-I 12¼"
K1	82B09	CHRIS	RC3		2313	2320	7	3	2.33	8½"
10	XA6647	SMI	FDGH	3x14	2313	2320	7	2	REAM	CORE HOLE
10	XA6647	SMI	FDGH	3x14	2320	2337	17	4½	3.78	2-2-0 1/8" 12¼"
11	CD0352	SMI	SVH	3x14	2337	2341	4	4	1.00	12¼"
11	CD0352	SMI	SVH	3x14	(2330)	(2341)	(11)	(7½)	(1.47)	REAM 12¼"
11	CD0352	SMI	SVH	3x14	2341	2345	4	1½	2.67	4-2-0¼" 12¼"
12	XA5821	SMI	F2	3x14	2345	2367	22	19½	1.13	1-3-0¼" 12¼"
13	XB0997	SMI	FVH	3x13	2367	2418	51	23	2.22	DRILLING 12¼"

MUD PRODUCT

CHEMICAL	UNIT KG	CONSUMPTION		STOCK	CHEMICAL	UNIT KG	CONSUMPTION		STOCK
		WEEK	CUMULATIVE				WEEK	CUMULATIVE	
CEMENT "G"		--	148000		DEXTRID		1677	7554	
BARYTES		33637	173588		PAC-R		175	584	
BENTONITE		--	38185		NUT PLUG		--	1005	
CAUSTIC		1600	6580		SOLTEX		938	3938	
SODA ASH		360	2400		AL STEARATE		25	50	
$CACL_2$		--	1650		SOD. NITRATE		350	350	
LIME		--	300						
Q.BROXIN		2150	6830						
CMC LV		200	2750						
CMC HV		--	675						
SOAP		--	409						

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

WEEKLY WELL SUMMARY

WELL NAME: ......EDINA NO. 1.................... REPORT NO.: ....5...........

PERIOD: FROM: ..22ND OCTOBER, 1982............. TO: ......28TH OCTOBER, 1982...

All depths relate to Rotary Kelly Bushings at zero tide datum (Low Water Indian Springs) which is ..99.... metres above seabed.

HOLE	SIZE	36"	26"	17½"	12¼"	8½"	
	DEPTH (m)	NA	224	1212	2594	--	
CASING	SIZE	NA	20"	13 3/8"	9 5/8"	7"	
	DEPTH (m)	NA	219	1201	--	--	

DATE	DEPTH AT 2400 HRS.	PROGRESS	REMARKS
22.10.82	2424M	6M 6HRS.	SURVEY, WIPER TRIP. DRILL. POOH. TEST BOPS. RAMS 5000 PSI, HYDRIL 2500 PSI. RIH BIT. MUD SG: 1.24 VIS: 50 YP: 26 WL: 4.2
23.10.82	2500M	76M 19½HRS	RIH. DRILL 12¼" HOLE. MUD SG: 1.24 VIS: 47 YP: 25 WL: 4.7 PERFORM KICK DRILL.
24.10.82	2561M	61M 20HRS.	DRILL TO 2513M. SURVEY, WIPER TRIP. DRILL. DEVIATION: 1½DEG/2513M. MUD SG: 1.24 VIS: 48 YP: 27 WL: 4.8 FIRE & ABANDON SHIP DRILLS.
25.10.82	2594M	33M 12HRS.	DRILL TO 2594M. CIRCULATE. 30 STAND WIPERTRIP. CIRCULATE, SURVEY, POOH FOR ELECTRIC LOGS. DEVIATION - 3/4DEG/2594M. MUD SG: 1.24 VIS: 52 YP: 27 WL: 4.7
26.10.82	2594M	--	SCHLUMBERGER LOGS. RUN 1 - DLL/MSFL - 2592.5/1201M RUN 2 - LDT/CNL - 2594/1201M RUN 3 - SONIC/NGT - 2590/1201M
27.10.82	2594M	--	RUN 4 - HDT. RIH WITH BIT. CIRCULATE. POH. RUN SCHLUMBERGER RFT. (REFER GEOLOGICAL SUMMARY FOR ELECTRIC LOGS).
28.10.82	2594M	--	RUN RFT, VELOCITY SURVEY & SIDE WALL CORES. RIH OPEN END DRILL PIPE TO 2410M. CEMENT PLUG NO. 1 2410M TO 2300M, 257 SAX CLASS G CEMENT.

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

TIME SUMMARY

WELL NAME: EDINA NO. 1 PERIOD: FROM: 22.10.82 TO: 28.10.82

TIME ANALYSIS (HOURS)	FOR WEEK	TOTAL
D: MOVING		
D1 Moving of rig, rigging up/down, anchoring		54.5
D2 Waiting on weather during moving		
D3 Other waiting time		2
F: DRILLING - CASING		
F1 Drilling on bottom, incl. connection time	57.5	334.5
F2 Trips for new bit	11	93
F3 Ancillary Drilling Operations, incl. Totco, reaming, hole cleaning, testing BOP or casing.	15.5	81
F4 Casing and Cementing		117
G: FORMATION SURVEYS		
G1 Coring		3
G2 Related Coring Operations, incl. tripping etc.		26
G3 Tests and associated operations		
G4 Electric Logging Operations	74	92
A: INTERRUPTION OF OPERATIONS UNDER F OR G		
A1 Stuck Pipe and Fishing Operations		
A2 Mud-Losses, Flows, Treatment		14
A3 Waiting on Weather		8
A4 Other waiting time - Repairs		11.5
C: COMPLETION - PLUGGING		
C1 Completion, Stimulation, Production Tests		
C2 Abandonment of Well	10	10
C3 WOW during completion, plugging, testing		
C4 Other Waiting time		
TOTAL TIME:	168	846.5

DOWN TIME: HOURS PERCENTAGE

/ RAL. AQU INE RUL PTY D.

WEE[illegible] SUMMARY - BITS AND MUD

BIT AND CORE RECORD

BIT NO.	SERIAL NO.	MAKE	TYPE	NOZZLES	FROM	TO	METRES	HOURS	m/h	CONDITION
13.	XB0997	SMI	SVH	3x13	2367	2424	57	29	1.97	6-2-¼" 12¼"
14	XA5822	SMI	F2	13-13-14	2424	2594	170	51½	3.30	3-8-0 1/8" 12¼"

MUD PRODUCT

CHEMICAL	UNIT KG	CONSUMPTION		STOCK	CHEMICAL	UNIT KG	CONSUMPTION		STOCK
		WEEK	CUMULATIVE				WEEK	CUMULATIVE	
CEMENT "G"	KG	11000	159000		DEXTRID	KG	2016	9570	
BARYTES	KG	66812	240400		PAC-R	KG	--	584	
BENTONITE	KG	3408	41593		NUT PLUG	KG	--	1005	
CAUSTIC	KG	1010	7590		SOLTEX	KG	500	4438	
SODA ASH	KG	80	2480		AL STEARATE	KG	50	100	
$CACL_2$	KG	--	1650		SOD. NITRATE	KG	750	1100	
LIME	KG	--	300						
Q.BROXIN	KG	225	7055						
CMC LV	KG	--	2750						
CMC HV	KG	--	675						
SAPP	KG	--	409						

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

WEEKLY WELL SUMMARY

WELL NAME: EDINA NO. 1 REPORT NO.: 6

PERIOD: FROM: 29TH OCTOBER, 1982 TO: 1ST NOVEMBER, 1982

All depths relate to Rotary Kelly Bushings at zero tide datum (Low Water Indian Springs) which is ..99.... metres above seabed.

HOLE	SIZE	36"	26"	17½"	12¼"	8½"	
	DEPTH (m)	N/A	224	1212	2594	--	
CASING	SIZE	N/A	20"	13 3/8"	--	--	
	DEPTH (m)	N/A	219	1201	--	--	

DATE	DEPTH AT 2400 HRS.	PROGRESS	REMARKS
29.10.82	2594M	NIL	CEMENT PLUG NO. 2, 1250-1150M. 288 SAX CLASS "G". LAY DOWN PIPE. TEST PLUG NO. 2, 1000 PSI, 15 MINS. PERFORATE 13 3/8" CASING AT 171M. CEMENT PLUG NO. 3, 168-105M. 153 SAX CLASS "G". POOH TO 103M. SQUEEZE CEMENT IN TO 13 3/8" x 20" ANNULUS. RIH TO 168M. CEMENT PLUG NO. 4 168-140M, 140 SAX CLASS "G" RIG TO PULL BOP. TEST PLUG NO. 4, 1000 PSI, 15 MINS.
30.10.82	2594M	NIL	PULL BOP STACK. CUT 13 3/8" CASING AT 120M WITH TRI-STATE CUTTER. RIH SPEAR & RECOVER 13 3/8". CUT 20" CASING AT 114M WITH TRI-STATE CUTTER. RIH 18 3/4" RUNNING TOOL. RECOVER 20", PLUS GUIDE BASE/STRUCTURE. JUMP DIVERS TO CHECK WELLHEAD AREA - ALL CLEAR.
31.10.82	2594M	NIL	BACKLOAD BOAT. LAY DOWN PIPE & DRILL COLLARS. DEBALLAST RIG. PULL ANCHORS 1,2,5,6,7,8,10. LADY JANE TO NO. 3 ANCHOR.
1.11.82	2594M	NIL	PULL NO. 4 ANCHOR. LINE PARTED. CHASE NO. 4. RIG TO TOW WITH LADY JANE ON NO. 4 & SEA SAPPHIRE ON NO. 3 ANCHOR. PULL NO. 9 WITH RIG.
			RIG RELEASED FROM EDINA NO. 1 LOCATION AT 2100 HRS, 1.11.82. MOVE TO OMEO NO. 1 NOTE: CLOCKS ADVANCED ONE HOUR AT 0200 HRS 31.10.82 FOR DAY LIGHT SAVING.

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

TIME SUMMARY

WELL NAME: EDINA NO. 1 PERIOD: FROM: 29.10.82 TO: 1.11.82

TIME ANALYSIS (HOURS)	FOR WEEK	TOTAL	%
D: MOVING			
D1 Moving of rig, rigging up/down, anchoring	36.5	91	9.69
D2 Waiting on weather during moving			
D3 Other waiting time	1.5	3.5	0.37
F: DRILLING - CASING			
F1 Drilling on bottom, incl. connection time		334.5	35.60
F2 Trips for new bit		93	9.60
F3 Ancillary Drilling Operations, incl. Totco, reaming, hole cleaning, testing BOP or casing.		81	8.63
F4 Casing and Cementing		117	12.45
G: FORMATION SURVEYS			
G1 Coring		3	0.32
G2 Related Coring Operations, incl. tripping etc.		26	2.77
G3 Tests and associated operations	-		
G4 Electric Logging Operations		92	9.79
A: INTERRUPTION OF OPERATIONS UNDER F OR G			
A1 Stuck Pipe and Fishing Operations			
A2 Mud-Losses, Flows, Treatment		14	1.49
A3 Waiting on Weather		8	0.85
A4 Other waiting time - Repairs		11.5	1.22
C: COMPLETION - PLUGGING			
C1 Completion, Stimulation, Production Tests			
C2 Abandonment of Well	55	65	6.92
C3 WOW during completion, plugging, testing			
C4 Other Waiting time			
TOTAL TIME:	93	939.5	100%

DOWN TIME:	HOURS	PERCENTAGE
WAITING	11.5	1.22%
REPAIRS	11.5	1.22%

AUSTRALIA AQUITAINE PETROLEUM PTY. LTD.

WEEKLY SUMMARY - BITS AND MUD

BIT AND CORE RECORD

BIT NO.	SERIAL NO.	MAKE	TYPE	NOZZLES	FROM	TO	METRES	HOURS	m/h	CONDITION
										288
										153
										140
					NIL					--
										581

- FINAL REPORT -

MUD PRODUCT

CHEMICAL	UNIT KG	CONSUMPTION		STOCK	CHEMICAL	UNIT KG	CONSUMPTION		STOCK
		WEEK	CUMULATIVE				WEEK	CUMULATIVE	
CEMENT "G"		25036	184036		DEXTRID		--	9570	
BARYTES		--	240400		PAC-R		--	584	
BENTONITE		--	41593		NUT PLUG		--	1005	
CAUSTIC		--	7590		SOLTEX		--	4438	
SODA ASH		--	2480		AL STEARATE		--	100	
$CACL_2$		--	1650		SOD NITRATE		--	1100	
LIME		--	300						
Q.BROXIN		--	7055						
CMC LV		--	2750						
CMC HV		--	675						
SAPP		--	409						

Appendix 1

Appendix 9

Operation Report

APPENDIX 9

OPERATIONAL REPORT OF THE SIDESCAN SONAR SEABED CLEARANCE SURVEYS.

GIPPSLAND BASIN
SIDESCAN SONAR SEABED CLEARANCE SURVEYS
OF
DRILLING SITES IN VIC P17

FOR

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

PREPARED BY

RACAL-DECCA SURVEY AUSTRALIA

47 Talavera Road
North Ryde, NSW 2113
PO Box 368, North Ryde

Ph: (02) 888 2233
Tlx: AA 20365

Cnr. Stock & Stockdale Roads
PO Box 261
Hamilton Hill, WA 6163

Ph: (09) 331 1199
Tlx: AA 94341

R-DSA 1155

October 1982 - April 1983

CONTENTS

ABSTRACT

The following report gives details of the Sidescan Sonar Seabed Clearance Surveys carried out at the EDINA, OMEO, KYARRA and TARRA drilling locations during the Australian Aquitaine Petroleum drilling program in the Gippsland Basin Vic P17 between September 1982 and April 1983.

1- REQUIREMENTS

To conduct pre and post drilling Sidescan Sonar Surveys covering an area 2.0 km by 2.0 km centred around the drilling locations with the purpose of establishing the presence or absence of any debris on the seabed.

2- SUMMARY OF EVENTS

25/9/82 -	Drilling Rig 'OCEAN DIGGER' positioned at EDINA location
18/10/82 -	Sidescan Sonar equipment mobilised and installed in survey vessel MV 'CHRISTMAS CREEK'
28/10/82 -	OMEO pre-drill seabed survey
2/11/82 -	'OCEAN DIGGER' positioned at OMEO location
5-6/11/82 -	EDINA post-drill seabed survey
21-22/1/83 -	KYARRA pre-drill seabed survey
11/2/83 -	'OCEAN DIGGER' positioned at KYARRA location
12-13/2/83 -	OMEO post-drill seabed survey
27/2/83 -	TARRA pre-drill seabed survey
2/3/83 -	'OCEAN DIGGER' positioned at TARRA location
7/3/83 -	OMEO site re-runs to check anomaly
8-10/3/83 -	KYARRA post-drill seabed survey
23-24/4/83 -	TARRA post-drill seabed survey

3- WELLHEAD LOCATIONS

Australian Geodetic Datum - A.M.G. Zone 55

3.1 EDINA-1

Latitude 38° 36' 22".539 south
Longitude 147° 52' 41".949 east

Easting 576476 Northing 5726535

3.2 OMEO-1

Latitude 38° 36' 45".006 south
Longitude 147° 43' 02".245 east

Easting 562449 Northing 5725964

3.3 KYARRA-1A

Latitude 38° 40' 52".532 south
Longitude 147° 11' 12".288 east

Easting 516243 Northing 5718562

3.4 TARRA-1

Latitude 38° 38' 37".150 south
Longitude 147° 42' 08".207 east

Easting 561116 Northing 5722518

4- DRILLING SITE SEABED SURVEYS

Prior to the arrival of the drilling rig at a location a sidescan sonar survey was carried out covering an area 2.0 km x 2.0 km centred on the proposed location with the purpose of establishing the presence or absence of any debris on the seabed.

A similar sidescan sonar survey of each drilling site was made following the departure of the rig from the location to locate any debris resulting from the drilling operation and/or document the absence of oil-field debris.

A Klein Hydroscan 420 Dual Channel Sidescan Sonar was fitted in the Aquitaine survey/standby vessel MV 'CHRISTMAS CREEK' to carry out the surveys. Positioning of the survey vessel was by the RACAL-DECCA OASIS system which was also used to position the drilling rig 'OCEAN DIGGER' at each location. The OASIS system, an integrated satellite/acoustic navigation and position fixing system is fully described in the Rig Move Reports, together with details of the Acoustic Net Calibration at each site.

Survey lines at 100 metre intervals were run with the dual channel sidescan sonar operating at 100m or 150m range scale to ensure 100% overlap of the entire area. Any anomalies detected were examined by running interlines on an expanded range scale.

5- SUMMARY OF RESULTS

Generally the seabed proved to be flat and featureless.
No significant debris was detected at any of the sites except what appears to be the remains of No.3 anchor marker buoy at the OMEO-1 location.

A.M.G. Co-ordinates of this anomaly are:

Easting 561785 Northing 5725595

It was detected on the original OMEO survey and confirmed during re-runs in the area on 7/3/83. If it is a sunken marker buoy the rope mooring will eventually part releasing the buoy.

Track plots of the survey lines run at each location are enclosed as appendices.

N.L. Sanderson

N.L. Sanderson O.B.E. Assoc. I.S. Aust.
Racal-Decca Survey Australia

PE905952

This is an enclosure indicator page.
The enclosure PE905952 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905952 has the following characteristics:

ITEM_BARCODE = PE905952
CONTAINER_BARCODE = PE905967
NAME = Location Map
BASIN = GIPPSLAND BASIN
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = MAP
DESCRIPTION = Location Map (from appendix 9 of WCR--Operation Report) for Edina-1
REMARKS =
DATE_CREATED =
DATE_RECEIVED = 6/06/83
W_NO = W784
WELL_NAME = EDINA-1
CONTRACTOR =
CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE905953

This is an enclosure indicator page.
The enclosure PE905953 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905953 has the following characteristics:

ITEM_BARCODE = PE905953
CONTAINER_BARCODE = PE905967
NAME = Post Drilling Side Scan Sonar Survey
BASIN = GIPPSLAND BASIN
PERMIT = VIC/P17
TYPE = GENERAL
SUBTYPE = SRVY_MAP
DESCRIPTION = Edina-1 Post Drilling Side Scan Sonar Survey (from appendix 9 of WCR--Operation Report) for Edina-1
REMARKS =
DATE_CREATED =
DATE_RECEIVED = 6/06/83
W_NO = W784
WELL_NAME = EDINA-1
CONTRACTOR =
CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE905954

This is an enclosure indicator page.
The enclosure PE905954 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905954 has the following characteristics:

```
     ITEM_BARCODE = PE905954
CONTAINER_BARCODE = PE905967
             NAME = Post Drilling Side Scan Sonar Survey
            BASIN = GIPPSLAND BASIN
           PERMIT = VIC/P17
             TYPE = GENERAL
          SUBTYPE = SRVY_MAP
      DESCRIPTION = Omeo-1 Post Drilling Side Scan Sonar
                    Survey (from appendix 9 of
                    WCR--Operation Report) for Edina-1
          REMARKS = for Omeo-1 not Edina-1
     DATE_CREATED =
    DATE_RECEIVED = 6/06/83
             W_NO = W784
        WELL_NAME = EDINA-1
       CONTRACTOR =
     CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM
```

(Inserted by DNRE - Vic Govt Mines Dept)

PE905955

This is an enclosure indicator page.
The enclosure PE905955 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905955 has the following characteristics:

ITEM_BARCODE =	PE905955
CONTAINER_BARCODE =	PE905967
NAME =	Omeo-1 Sonar Survey
BASIN =	GIPPSLAND BASIN
PERMIT =	VIC/P17
TYPE =	GENERAL
SUBTYPE =	SRVY_MAP
DESCRIPTION =	Omeo-1 Sonar Survey (from appendix 9 of WCR--Operation Report) for Edina-1
REMARKS =	for Omeo-1 not Edina-1
DATE_CREATED =	4/03/83
DATE_RECEIVED =	6/06/83
W_NO =	W784
WELL_NAME =	EDINA-1
CONTRACTOR =	
CLIENT_OP_CO =	AUSTRALIAN AQUITAIN PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE905956

This is an enclosure indicator page.
The enclosure PE905956 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905956 has the following characteristics:

ITEM_BARCODE = PE905956
CONTAINER_BARCODE = PE905967
NAME = Kyarra-1 Post Drill Survey
BASIN = GIPPSLAND BASIN
PERMIT = VIC/P17
TYPE = GENERAL
SUBTYPE = SRVY_MAP
DESCRIPTION = Kyarra-1 Post Drill Survey (from appendix 9 of WCR--Operation Report) for Edina-1
REMARKS = for Kyarra-1 not Edina-1
DATE_CREATED = 10/03/83
DATE_RECEIVED = 6/06/83
W_NO = W784
WELL_NAME = EDINA-1
CONTRACTOR =
CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE905957

This is an enclosure indicator page.
The enclosure PE905957 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905957 has the following characteristics:

ITEM_BARCODE =	PE905957
CONTAINER_BARCODE =	PE905967
NAME =	Tarra-1 post drill Seabed Survey
BASIN =	GIPPSLAND BASIN
PERMIT =	VIC/P17
TYPE =	GENERAL
SUBTYPE =	SRVY_MAP
DESCRIPTION =	Tarra-1 Post drill Seabed Survey (from appendix 9 of WCR--Operation Report) for Edina-1
REMARKS =	for Tarra-1 not Edina-1
DATE_CREATED =	
DATE_RECEIVED =	6/06/83
W_NO =	W784
WELL_NAME =	EDINA-1
CONTRACTOR =	
CLIENT_OP_CO =	AUSTRALIAN AQUITAIN PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

Attachment 1

Final Technical Report

Attachment 1

82/971

ATTACHMENT 1

GIPPSLAND BASIN

BASS STRAIT - VIC P-17

EDINA NO. 1

FINAL TECHNICAL REPORT

OP 12/82

P. BUREAU.

SUMMARY

PAGE	TITLE
F3a	Well Data
F3a'	Logistics
F3b	Environment
F3b'	Means Used (ctd)
F3c	Technical Section
F3c'	Footage
F3d	Core Data Summary
F3d'	Formation Test Summary
F3e	Time Distribution
F3e'	Interruptions of Operations
F3f	Mud Summary by Interval (17½")
F3f	Mud Summary by Interval (26")
F3f	Mud Summary by Interval (12¼")
F3g	Drill String Composition and Deviation Surveys
F3h	Completion Status
F3h'	Well Technical Section (Completion Status)
F3i	Main Consumptions of the Well
F3i'	Main Consumptions of the Well
F3j	Costs Breakdown
F3j'	Breakdown of Consumables, Rental and Service Cost
F3k	Monthly Meteorological Sheet (pge 1)
f3K	Monthly Meteorological Sheet (pge 2)
F3-1	Penetration Chart
F6	Time Distribution (September)
F6	Time Distribution (October)
F6	Time Distribution (November)
F5	Casing and Cementing Report
F5	Detailed Composition of the Casing String
F5	Casing and Cementing Report
F5	Detailed Composition of the Casing String
F5	Detailed Composition of the Casing String
F7	Bit Record
F7	Bit Record

F3a Bis 2-78	WELL DATA	WELL: EDINA 1

1) WELL NAME : EDINA NO. 1

2) IDENT.: EDN 1

3) GEOGRAPHICAL AREA : AUSTRALIA BASS STRAIT

4) GEOLOGICAL BASIN : GIPPSLAND

5) FIELD : VIC-P17

6) BLOCK : VIC-P17

7) PERMIT HOLDERS : VIC-P17 AUSTRALIAN AQUITAINE PETROLEUM (AAP)

8) PARTNERS :

Name	%	Name	%
AUSTRALIAN OCCIDENTAL PET.	25	CONSOLIDATED PETROLEUM (CLUFF/HARTOGEN)	12.5
ALLIANCE RESOURCES PTY. LTD.	25		
AGEX PTY. LIMITED	12.5		

9) OPERATOR : AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

11) REFERENCE WELLS :

Name
GURNARD - 1
KINGFISH

10) INITIAL STATUS

- Exploration ☒
- Development ☐
- Other ☐

12) LOCATION COORDINATES

site: Land ☐ Offshore ☒ Swamp ☐ Other ☐

geographical coordinates: Latitude 38°38"22.321'S; Longitude 147°52"42.183'E

reference meridian: Paris ☐ Greenwich ☒

LAMBERT coordinates: X(m) ____ Y(m) ____ Z(m) ____

SITE	LAND	OFFSHORE		SWAMP		OTHER	
Distance RKB/REF.		99m	30m				
Reference	GROUND	MUD LINE	ZERO HYDRO				

13) DRILLING OBJECTIVES

Objective n°	Formation	Formation tops vertical depth	Departure	Direction
1	TOP LATROBE GROUP	+/- 2320m		

14) WELL COURSE

Vertical ☒ Deviated ☐ (Normal ☐ Scourse ☐)

15) WAS THE OBJECTIVE REACHED ?

	yes	no	Formation tops vertical depth	Departure	Direction
OBJECTIVE 1	☒	☐	2335		
OBJECTIVE 2	☐	☐			
OBJECTIVE 3	☐	☐			
OBJECTIVE 4	☐	☐			

16) RESULTS

- ☐ Oil production
- ☐ Gas production
- ☐ Water production
- ☐ Shows but no reservoir
- ☐ Injection well
- ☐ Dry well
- ☐ Temporarily plugged
- ☒ Plugged and abandonned
- ☐ Completed

17) DATES (·)

BEGINNING		END	
Well	23/09/82	Drilling	25/10/82
Drilling	26/09/82	Well	01/11/82 (2100 HRS)

TOTAL DURATION: Drilling : 30 days; Well 40 days

18) WELL END (··)

Total depth 2594m; Vertical depth : 2594m
Drilled footage : 2495m; Lost footage :
Total departure :; Direction :

19) COSTS

		CURRENCY UNIT
Before drilling	1,838,665	A$
During drilling	6,043,327	A$
After drilling		
Total well	7,881,992	A$

Imp 4996 SNEA(P) RGM 959 004 011

F3a' Bis 2-78	LOGISTICS	WELL: EDINA 1

Area management : AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

Located : 99 MOUNT STREET, NORTH SYDNEY N.S.W. 2060.,
P.O. BOX 725

Land Base : AQUITAINE WELSHPOOL SHORE BASE
MIDLAND HIGHWAY,

Located : WELSHPOOL VICTORIA 3966
P.O. BOX 27

- **SERVICE COMPANIES**

. Mud	: BAROID	. Under water T.V.	: ODECO
. Mud logging	: GEOSERVICES	. Testing	: HALLIBURTON
. Production tests	: FLOPETROL	. Well head	: CAMERON
. Fishing	: TRISTATE	. Depollution	: A.A.P.
. Positioning	: DECCA SURVEY	. Air transportation	: COMMERCIAL AVIATION LLOYD HELICOPTERS
. Electrical logging	: SCHLUMBERGER	. Sea transportation	: LOMBARDO MARINE
. Meteo	: OCEANROUTES		: GROUP/AOS
. Diving	: OCEANEERING		: LADY JANE A.O.S.
. H.P. Pumping	: DOWELL SCHLUMBERGER		: SEA SAPPHIRE A.O.S.
. Bulking	: BAROID		: STAND-BY
	:		: CHRISTMAS CREEK L.M.G.

Beginning of well = first moving in date (if this date is known)
Beginning of drilling = spudding date
End of drilling = date of last bit pulling out or end of electrical logging operations, or pressure surge at the end of production casing cementing operation
End of well = end of well plugging operations laying down included or end of completion

** - Depths ot be calculated from the rotary table
- Drilled footage: distance RKB/ground (or mud line) not included, but side tracks resulting from fishing included
- Lost footage resulting from fishing or course modification without changing the geological objective. Should the geological objective vary, well name or number will change, and the previous well drilled footage is not considered as a lost footage
- Except change in geological objective requiring a side track, the formula is: Drilled footage - Lost footage = Total depth - Distance RKB/ground

F3b Bis 2-78	ENVIRONMENT	WELL: EDINA 1

• AREA • LAND [ ] SEA [X] SWAMP [ ] LAKE [ ]

ALTITUDE : SEA LEVEL WATER DEPTH : 99m

DISTANCE FROM BASE : ______ DISTANCE FROM SHORE : ______

• RELIEF	Flat	[X]	Slightly undulate	[ ]	Undulate	[ ]	Very undulate	[ ]		
• SEA CONDITIONS	Calm	[ ]	Medium	[ ]	Strong	[X]	Very strong	[ ]		
• POLLUTION RISK	Low	[ ]	Medium	[X]	High	[ ]	Very high	[ ]		
• WEATHER	Equatorial	[ ]	Hot	[ ]	Temperate	[ ]	Cold	[X]	Arctic	[ ]
• POPULATION DENSITY	Nil	[X]	Low	[ ]	Medium	[ ]	High	[ ]	Very high	[ ]

MEANS USED

• NAME OF THE RIG (LAND) : ______

• SUPPORT •

• TYPE

Land	[ ]	Artificial island	[ ]	Jack-up	[ ]	Drillship	[ ]	Semi-submersible	[ ]
Swamp barge	[ ]	Non assisted Platform	[ ]	Assisted platform	[ ]	Tender	[ ]	Other	[ ]

• SEA SUPPORT NAME : OCEAN DIGGER

• PROPULSION:

Towed [X]

Self propelled [ ]

Power : ______

Speed : ______

• POSITIONING

Mooring: Classical [X] / Dynamic [ ]

Head : 262 DEGREES

Imp 4996 SNEAIP) RGM 959 004 011

F3b' Bis 2-78 — MEANS USED (ctd) — WELL : EDINA 1

• DRILLING EQUIPMENT •

DRAWORK MANUFACTURER: EMSCO MODEL A 1500 E — CONTRACTOR: ODECO

• RANGE • Light [ ] Medium [ ] Heavy [X] Super Heavy [ ] Extra Heavy [ ]

• TRANSMISSION • Mechanical [ ] Electric [X] Hydraulic [ ]

• MAIN PUMPS • Number [2] EMSCO D-1350 hp — Total hydraulic power [ ]

• RIG DESIGN • Normal design [X] Compact [ ] Portable [ ] Helirig [ ]

Flexorig [ ] Automatic racking [ ] Winterised [ ] [ ]

• SURFACE OR SUBSEA EQUIPMENT

B.O.P. STACK	Diameter	API WP
Number 1	18-3/4" CAMERON "U"	10,000 PSI
Number 2	18-3/4" HYDRIL	5,000 PSI
Number 3		

WELL HEAD	Manufacturer	Type	Diameter	API WP
Number 1	CAMERON	TORQUE SET	18-3/4"	10,000 PSI
Number 2				
Number 3				

MUD LINE SUSPENSION: yes [ ] no [X] — Manufacturer :

RISER

	Number 1	Number 2
Diameter	50' x 22" O.D x 0.50" WALL	
Connector	VETCO MR-4B	
Buoyancy system	no [X] yes [ ]	no [ ] yes [ ]

F3c Bis 2-78

TECHNICAL SECTION

WELL : EDN 1

OPEN HOLE SECTIONS		CASINGS				
DIAMETER	TOTAL DEPTH	DIAMETER	COMPOSITE STRING DIAMETERS	SHOE DEPTH	HANGER DEPTH	TOP CEMENT IN ANNULUS
26"	224 m	20" - 133 lbs		219 m	98 m	SEA BED
17½"	1212 m	13-3/8, 68 lbs, K55		1201.00	100.38	600 m
12¼	2594 m					

F3c' Bis 2-78

FOOTAGE (METERS OR FEET)

WELL : EDN 1

Interval	Total footage in the interval	DRILLING			CORING			TURBODRILLING			SIMULTANEOUS PILOT DRILLING AND HOLE OPENING			HOLE OPENING		RE-DRILLING AND/OR REAMING		Abandonned footage in the interval	Drilling fluid
		Ø	m ~~or ft~~	h	Ø	m ~~or ft~~	h	Ø	m or ft	h	Ø	m or ft	h	m ~~or ft~~	h	m ~~or ft~~	h		
26"	125m	26	125	13												115	3	5m	SEA WATER ~~HI-VIS~~ PILLS
$17\frac{1}{2}$"	988m	$17\frac{1}{2}$	998	$82\frac{1}{2}$														11m	LOW SOLID SEA WATER MUD
$12\frac{1}{4}$"	1382m	$12\frac{1}{4}$	1375	240	$8\frac{1}{2}$	7	3							7	$2\frac{1}{2}$	438	19	1393	FCL/ POLYMER 1.24 SG 48 mv 4.8 WL PV14YP27

F3d Bis 2-78

CORE DATA SUMMARY

WELL : EDINA 1

Core Number	DEPTH ft or m. from	to	% Recovered	Formation	Core Number	DEPTH Ft or m. from	to	% Recovered	Formation
1	2313	2320	92	GURNARD SANDSTONE					

CLABS

Run N°	DEPTH ft or m. from	to	Number of samples	Formation	Run N°	DEPTH ft or m. from	to	Number of samples	Formation
1	2590	1343.5	51 SHOTS 29 REC. 57% REC	-					
2	2592	1343.5	30 SHOTS 19 REC. 9 LOST	2 MISFIRED -					

F3d' Bis 2-78

FORMATION TEST SUMMARY

WELL : EDN 1

Test N°	Date	Type of test *	Tested interval from ft or m.	Tested interval to ft or m.	Succeful Yes	Succeful No	Reason of failure (**)	Observations
1	27/10/82	R.F.T	2335	2562	X			13 PRESSURES
	27/10/82		2335		X			2 SAMPLES: 3785 cc WATER = 29000 NaCl 10409 cc WATER = 26500 NaCl

* TOHP - Test open hole full diameter
TOHR - Test open hole - rat hole
STOHP - Straddle test open hole full diameter
STOHR - Straddle test open hole rat hole
TCSG - Test casing
STCSG - Straddle test casing
FIT - Formation interval tester

** FP - Packer leak
BO - Tool plugged
NO - Test not opened
IN - Test interrupted
XX - Other (to be specified)

ELECTRICAL LOGGING SUMMARY

Interval	Date	Nature and Run N°	DEPTH ft or m. from	DEPTH ft or m. to	Scales 1 20	Scales 1 200	Scales 1 500
17½	7/10/82	IFS/SLS/CAL	110	1212		X	X
"	"	LDL - CAL	219	1212		X	X
12¼	26/10/82	1. DLL - MSFL - GR - SP - CAL 2. LDL - CNL - GR - CAL - PE	2592 2594	1201 1201		X	X
"	27/10/82	3. BHCSONIC - NGT - GR 4. HDT	2594 2594	1201 1201		X	X

F5e Bis 2-78 — **TIME DISTRIBUTION** — **WELL : EDN 1**

ITEMS			INTERVALS : Duration in hours									Duration
			D	26"	$17\frac{1}{2}$"	$12\frac{1}{4}$"	C	D				% by total duration
MOVING	D1	Rigging up, transportation and tearing down	$54\frac{1}{2}$					36.5				91 9.68
	D2	Waiting on weather										---
	D3	Waiting : other	2					1.5				3.5 0.37
DRILLING - CASING	F1	New hole drilling		13	82.5	239						334. 35.6
	F2	Drilling trips		8	21.5	63.5						93 9.9
	F3	Miscellaneous drilling operations			10.5	70.5						81 8.62
	F4	Casing and cementing		71.5	45							116.5 12.40
FORMATION SURVEYS	G1	Coring				3						3 0.32
	G2	Coring trips and miscellaneous				26						26 2.79
	G3	Testing and related operations										---
	G4	Electrical logging			18	74						92 9.80
INTERRUPTIONS OF OPERATIONS UNDER F & G	A1	Sticking - Fishing		14								14 1.50
	A2	Losses and well flowing mud treatment										---
	A3	Waiting on weather		8								8 0.85
	A4	Waiting : other		7.5	0.5	4						12 1.28
COMPLETION AND PLUGGING	C1	Completion - Formation treatment and Production tests										---
	C2	Abandon					65					65 6.92
	C3	Waiting on weather										---
	C4	Waiting · other										---
DURATION BY INTERVAL →			$56\frac{1}{2}$	122	178	480	65	38				939. 100%
%			6.01	12.98	18.95	51.10	6.92	4.04				939.5 100 %

F5e' Bis 2-78

INTERRUPTIONS OF OPERATIONS

WELL : EDN 1

OPERATIONS IN PROGRESS	DURATION ↓ / REASONS →	STICKING FISHING		LOSSES, FLOWING MUD TREATMENT		WAITING ON WEATHER		WAITING : OTHER	
		Number	Duration (h)	Number	Duration (h)	Number	Duration (h)	Number	Duration (h)
Moving (D2-D3)	Less than 24 h							1	1.5
	From 1 to 5 days								
	More than 5 days								
	TOTAL →								
Drilling, casing formation surveys (A1-A2-A3-A4)	Less than 24 h	2	14			1	8	5	11.5
	From 1 to 5 days								
	More than 5 days								
	TOTAL →								
Completion (C3-C4)	Less than 24 h								
	From 1 to 5 days								
	More than 5 days								
	TOTAL →								
TOTAL →		2	14			1	8	6	13

TOTAL DURATION OF INTERRUPTIONS

- During moving : 1.5
- During drilling - Casing or formation surveys : 33.5
- During completion and plugging :

TOTAL IN HOURS → 35

TOTAL IN DAYS → 1 DAY 11 HRS

F3f Bis 2-78

MUD SUMMARY BY INTERVAL

WELL : EDINA 1

INTERVAL : 17-1/2" HOLE-13-3/8" CSG From 219 M to 1212 M

Mud type used in this interval : SEA WATER/Q MIX

• USEFUL DATA •

CASINGS

- Diameter : 13-3/8
- Hanger : 98 M
- Shoe : 1201 M
- Casing : K55-68 lbs/ft
- Lenght : 1103 M

BALANCE OF VOLUMES bbl or m3

- Initial volume : 24
- Added volume : 758
- Jetted volume : 562
- Losses in formation : -
- Final volume : 220

DRILLING

Drilled (m or ft) from 219 to 1212 — duration (date) from 30/9/82 to 7/10/82

Footage (m or ft) : 993 in : 9 DAYS

Average dllg rate 14.16 drilling hours 74.05 Hrs

Internal casing vol. : 90 losses : -

Pumping rate : 3290 Lit/Min

• MUD CHARACTERISTICS •

		mini	maxi	average
Weight	in flow	1.05	1.10	1.09
	out flow	1.08	1.11	1.10
Viscosity	M.V.	34	46	40
	A.V.	18	19	18.5
	P.V.	7	11	9
	Y.P.	9	25	17
Gels	0'	3	5	4
	10'	6	18	12
API WL	API	16	25	20
	HP-HT	-	-	-
	Pressure	-	-	-
	T°	-	-	-
	Ph	9.0	9.5	9.0
	Pf	0.2	0.4	0.4
	Pm	0.1	0.2	0.1
	Ca^{++} (g/l)	9.0	200	100
	SO4Ca	-	-	-
	Clna	28.000	35.000	30.000
	CaCl2	-	-	-
	% water	96	98	97
	% oil	0	0	0
	oil water ratio	-	-	-
	% solids	2	4	3
	Solids density	-	-	-
	% Sand	0.2	0.5	0.3
	T °C	-	-	-

Depth (m)	Lithology
219 - 1000	ARGILACEOUS LIMESTONE
1000-1212	MARL

• CONSUMPTIONS •

CHEMICALS	QUANTITY Total m^3 or T	Kg ft or m drilled	Kg m^3	COST Unit Price	Total Cost
BARITE	12.672	12.76	16.2	8.00	2232.0
BENTONITE	26.400	26.59	33.76	14.00	8120.0
CAUSTIC	1.890	1.90	2.42	74.70	2016.9
SODA ASH	0.600	0.60	0.77	13.88	208.2
BICARB	0.080	0.080	0.10	16.98	33.96
LIME	0.300	0.302	0.38	6.75	81.0
Q BROXIN	0.4000	0.403	0.51	29.50	472.0
TOTAL	42.342				13164.06

Total cost of Interval : 13164.06 $A

Total cost of Drilled meter/foot : 13.26 $A/M

Currency : AUSTRALIAN DOLLARS

Conversion rate used :

FSI Bis 2-78 | MUD SUMMARY BY INTERVAL | WELL : EDINA 1

INTERVAL : 26" HOLE From 0 m to 224 m

Mud type used in this interval : SEA WATER/GEL SPUD-MUD

• USEFUL DATA •

CASINGS

- Diameter : 20"
- Hanger : 98 m
- Shoe : 219 m
- Casing : 133 /ft
- Lenght : 120 m

BALANCE OF VOLUMES (bbl on m3)

- Initial volume : 159
- Added volume : 184
- CaCl2 volume : 82
- Losses in SEA : 425
- Final volume : 0

DRILLING

- Drilled (m or ft) from 0 to 224 — duration (date) from 0 to 224
- Footage (m or ft) : 224 — in :
- Average dllg rate 18.51 — drilling hours : 12¼
- Internal casing vol. : — losses :
- Pumping rate : 3290 lts/min

• MUD CHARACTERISTICS •

		mini	maxi	average
Weight	in flow		DISPLACE CMT	
	out flow	1.0	1.5	1.0
Viscosity	M.V.	100+	100+	100+
	A.V.			
	P.V.			
	Y.P.			
Gels	0'			
	10'			
API WL	API			
	HP-HT			
	Pressure			
	T°			
Ph				
Pf				
Pm				
Ca^{++} (g l)				
SO4Ca				
Clna				
CaCl2				
% water				
% oil				
oil water ratio				
% solids				
Solids density				
% Sand				
T °C				

Depth (ft)	Lithology
224 m	-

• CONSUMPTIONS •

CHEMICALS	QUANTITY: Total m^3 or T	Kg ft or m drilled	Kg m^3	COST: Unit Price	Total Cost
BARITE	54.9	247	131	8.0	9760
GEL	17.01	76.5	40.6	14.00	5292
CACL2	3.28	14.7	7.4	11.46	1512.72
CAUSTIC	0.55	2.5	1.2	74.70	576.60
SODA ASH	0.32	1.4	0.8	13.88	111.04
TOTAL	76.06			A$	17273.36

Total cost of
- Interval : 0 - 224m 26" = $ 17273.36
- Drilled meter/foot FOR 224m = 77.11 $

Currency : AUSTRALIAN DOLLARS

Conversion rate used : -

F3f Bis 2-78

MUD SUMMARY BY INTERVAL

WELL : EDINA 1

INTERVAL : 12¼" From : 1201 m to : 2594 m

Mud type used in this interval : SOLTEX / FCL / POLYMER

• USEFUL DATA •

CASINGS

- Diameter : –
- Hanger : –
- Shoe : –
- Casing : –
- Lenght : –

BALANCE OF VOLUMES ~~bbl on~~ m3

- Initial volume : 220
- Added volume : 430
- Jetted volume : 334
- Losses in formation : 0
- Final volume : 316

DRILLING

Drilled (m ~~or ft~~) from : 1201 to : 2594 duration (date) from 8/10/82 to 25/10/82

Footage (m ~~or ft~~) : 1394 m in : 18 DAYS

Average dllg rate 3.95 m/hr drilling hours : 352.5

Internal casing vol. ______ losses : ______

Pumping rate : 13.25 Bbl/min / 2105 L/m

• MUD CHARACTERISTICS •

		mini	maxi	average
Weight	in flow	1.11	1.24	1.23
	out flow	1.12	1.25	1.24
Viscosity	M.V.	41	60	50
	A.V.	16.5	37	27
	P.V.	8	19	15
	Y.P.	17	36	25
Gels	0'	5	10	7
	10'	17	28	22
API WL	API	4.2	25	5
	HP-HT	–	–	–
	Pressure	–	–	–
	T°	–	–	–
	Ph	8.5	10.5	10.0
	Pf	0.1	0.4	0.2
	Pm	0.05	0.35	0.2
	Ca^{++} (ppm)	80	540	100
	SO4Ca	–	–	–
	Clna	15500	17600	16500
	CaCl2	–	–	–
	% water	86	96	87
	% oil			
	oil/water ratio			
	% solids	4	14	13
	Solids density	–	–	–
	% Sand	0.1	0.5	0.25
	T °C	35.5	58.2	45

Depth (m)	Lithology
1527 m	CLAYSTONE
2191 m	CLAYST/SILTST
2313 m	SANDSTONE
2424 m	COAL/SAND

• CONSUMPTIONS •

CHEMICALS	QUANTITY: Total m^3 or KG	QUANTITY: Kg ft or m drilled	QUANTITY: Kg m^3	COST: Unit Price $/sack	COST: Total Cost	%
BARITE	186,785.0	133.9	434.4	8.00	32880.00	36.
BENTONITE	7,977.0	5.7	18.55	14.00	2464.00	2.
CAUSTIC	4,540.0	3.3	10.6	65.12	5925.92	6.5
Q BROXIN	7,525.0	5.4	17.5	29.50	8879.5	9.8
S.ASH	1,440.0	1.0	3.35	13.88	499.68	0.6
SOLTEX	4,438.0	3.2	10.32	78.50	15386.00	17.
SAPP	409.0	0.3	0.95	30.0	540.00	0.6
CMC HV	300.0	0.2	0.69	48.68	584.16	0.6
CMC LV	1,325.0	0.95	3.1	45.85	2430.05	2.
DEXTRID	6,579.0	4.7	15.3	51.60	15170.40	16.
PAC-R	311.0	0.2	0.72	106.06	1378.78	1.5
NUT PLUG	1,005.0	0.7	2.34	48.22	2652.10	2.9
AL STEARATE	350.0	0.25	0.8	85.22	1193.08	1.3
BICARB	320.0	0.2	0.76	16.98	135.84	0.1
TOTAL					90119.51	

Total cost of Interval : 90110.51 $

Total cost of Drilled meter ~~foot~~ 64.65 $

Currency : AUSTRALIAN DOLLARS

Conversion rate used : ______

Imp. 4996 SNEAP RGM 959 004 011

F3g Bis 2-78 — DRILL STRING COMPOSITION AND DEVIATION SURVEYS

WELL : EDN 1

RUN NUMBER	INTERVAL	DRILL STRING	DRILLING: Weight on bit	DRILLING: R.P.M.	DRILLING: Flow rate	SURVEYS: Number	SURVEYS: Date	SURVEYS: Drilled depth (m or ft)	SURVEYS: Inclination (°)	SURVEYS: Direction (°)
1	26"	26" BIT+FLOAT SUB+2x9½ DC+26" STAB+1x9½ DC+X OVER+3x7¾DC + BUMPER SUB 7¾+ 3x7¾ DC + X OVER+ HWDP	2/10	60/80	3290	1	26/9/82	224 m	1/4	-
2	(CONTROL) 26"	26" BIT+FLOATSUB+10'x9½ DC+26" STAB+3x9½ DC+XO+3x7¾ DC+ 7¾ BUMPER SUB+3x7¾ DC+XO+9 HWDP	2/5	60/80	3290					
3	17½"	17½" BIT+BITSUB+3x9½ DC+XO+3x7¾ DC+B/SUB+3x7¾ DC+XO+ 9 HWDP								
4	17½"	17½" BIT+FLOAT SUB+1x9½ DC+17½ STAB+2x9½ DC+XO+3x7¾ DC+ BUMPER SUB+3x7¾ DC+XO+6 HWDP+XO+EQ JARS+XO+3 HWDP	2/12	85/100	3000	2	1/10/82	488 m	1	-
5	17½"	17½" BIT+BIT SUB+2x9½ DC+17½ STAB+1x9½ DC+XO+6x7¾ DC+ BUMPER SUB+3x7¾ DC+XO+9 HWDP	8/18	80/140	3000	3	2/10/82	708 m	1½	-
6	17½"	17½" BIT+BIT SUB+1x9½ DC+STAB+2x9½ DC+XO+6x7¾ DC+ BUMPER SUB+3x7¾ DC+9 HWDP	10	60/70	3000	4 5	3/10/82 5/10/82	994 m 1158 m	1/2 3/4	- -
7	12¼"	12¼" BIT+JUNK SUB+FLOAT SUB+6x7¾ DC+7¾ BUMPER SUB+6x7¾DC +7¾ EQ JARS+9 HWDP	12	60	2325	6	6/10/82	1212 m	3/4	-
8	12¼"	12¼" BIT+NB STAB+10' DC 7¾+12¼ STAB+CUSHION SUB+1x7¾ DC +STAB+3x7¾DC+BUMPER SUB+6x7¾DC+XO+EQ JARS+XO+9 HWDP	15	90/125	2325	7	9/10/82	1473 m	1/4	-
9	12¼"	12¼" BIT+NB STAB+10'DC 7¾+12¼ STAB+CUSHION SUB+1x7¾ DC+ STAB+7x7¾ DC+BUMPER SUB+6x7¾ DC+XO+EQ JARS+XO+9 HWDP	20	125	2300	8 9	10/10/82 11/10/82	1674 m 1810 m	1 1	- -
10	12¼"	8½ COREHEAD+CORE Bbl+XO+XO+2x7¾ DC+12¼ STAB+2x7¾ BUMPER SUB+12¼ STAB+6x7¾ DC+XO+EQ JARS+XO+1 HWDP+HYDRIL SUB+ 8 HWDP	6	90	1050	10 11	13/10/82 14/10/82	2092 m 2192 m	1¾ 1½	- -
11	12¼"	BIT+JUNK SUB+NB STAB+10'8"DC+STAB+CUSHION SUB+1x7¾ DC+ STAB+7x7¾ DC+BUMPER SUB+6x7¾ DC+XO+EQ JARS+1 HWDP+HYDRIL SUB+8 HWDP	10/20	80/100	2200	12 13	19/10/82 19/10/82	2363 m 2313 m	1/2 3/4	- -
12	12¼"	BIT+NB STAB+10'8"DC+STAB+CUSHION SUB+1x7¾ DC+STAB+7x7¾DC +BUMPERSUB+6x7¾DC+XO+EQ JARS+XO+1 HWDP+HYDRILSUB+8 HWDP	5/15	100/120	2200					
13	12¼"	BIT+BIT SUB+SHORT 10'x8" DC+STAB+2x7¾ DC+STAB+2x7¾ DC+ BUMPER SUB+4x7¾ DC+BUMPER SUB+6x7¾ DC+XO+EQ JARS+XO+ 1 HWDP+HYDRIL SUB+8 HWDP	15/20	70/100	1950	14	21/10/82	2418 m	1	-
14	12¼"	BIT+NB REAMER+10'x8"DC+STAB+2x7¾ DC+STAB+10x7¾ DC+BUMPER SUB+8x7¾ DC+XO+EQ JARS+XO+1 HWDP+HYDRIL SUB+8 HWDP	15/23	90/120	2000	15	24/10/82	2513 m	1½	

F3 h Bis 2-78	COMPLETION STATUS	WELL : EDN 1

1) COMPLETION (If carried out by the drilling rig)

yes ☐

no ☒

2) - CASINGS, TUBINGS AND ANNULUS STATUS

CASING AND TUBING DIAMETER	SHOE DEPTH	HANGER DEPTH	CASING CUT DEPTH (event)	CEMENT TOPS		ANNULUS FLUIDS	
				OD	ID	NATURE	SG
20"	219 m	98 m		SEA BED	171 m	CMT	1.85
13-3/8	1201 m	100 m		600 m	140 m	SEA WATER LOW SOLIDS DRILLING MUD	1.10

Depths of perforations :

Tubing anchoring device and pocker depth(s) :

3) - CEMENT PLUGSAND BRIDGE PLUGS (CP and BP)

CEMENT PLUG (CP) or BRIDGE PLUG (BP)	C.P	C.P	SQUEEZE	C.P					
FROM (m or ft)	2410	1250	170	200					
TO (m or ft)	2300	1150	4 SHOTS	140					
TESTED	☐ yes ☒ no	☒ yes ☐ no	☐ yes ☐ no	☒ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no
BY { PRESSURE OR WEIGHT		1000 PSI 15 mins	SQUEEZE 5m³	1000 PSI 15 mins					

4) - WELL HEAD

Description of abandonned equipment : NONE

13-3/8 CUT 21 M BELOW MUD LINE

20" CUT 15 m BELOW MUD LINE

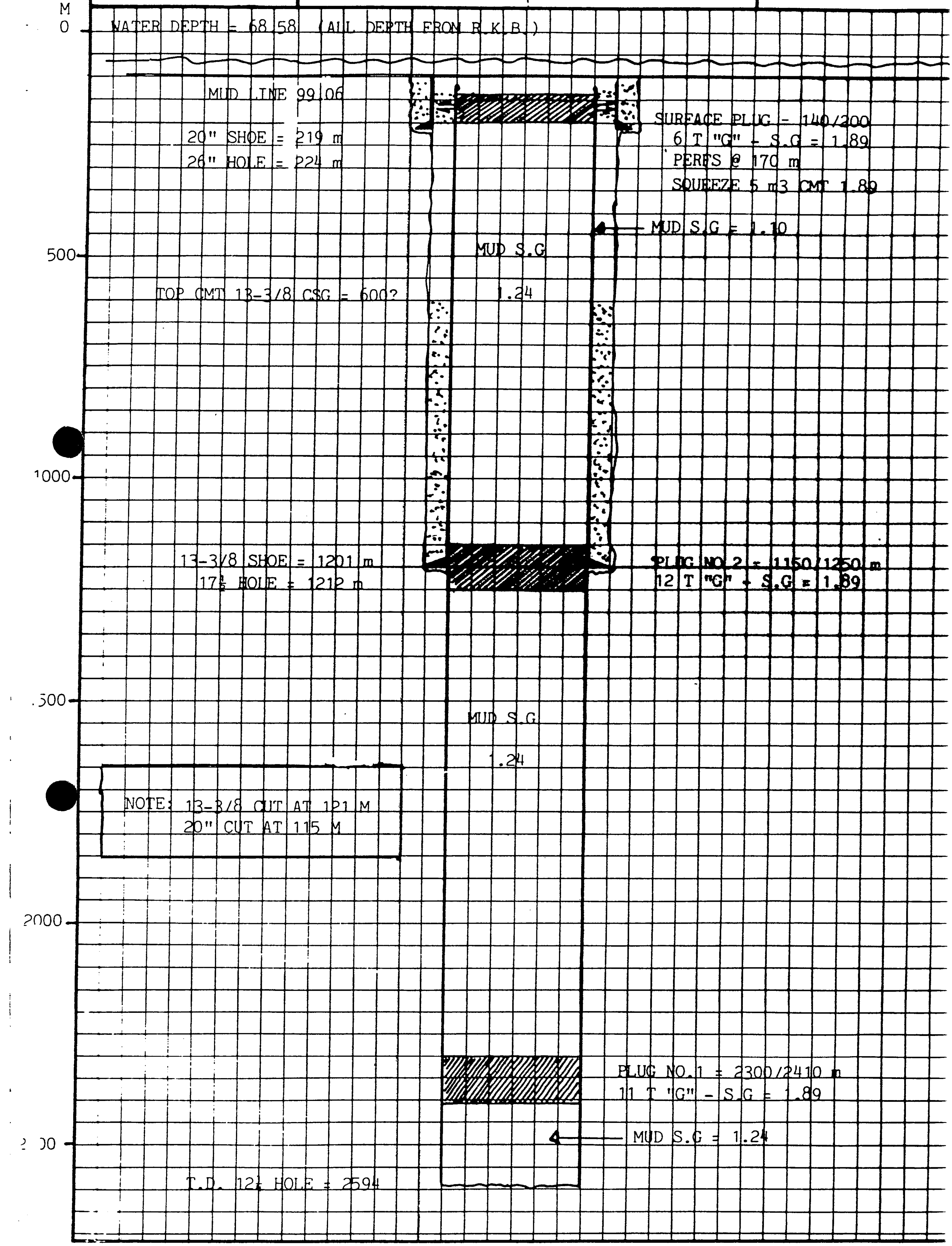
RECOVER 13-3/8 CASING 18¾ x 20" PILE JOINT - TGB AND PBG

DIVERS INSPECT W/HEAD AREA = ALL CLEAR OF DEBRIS

RELOCALIZATION DEVICE { yes ☐ no ☒ TYPE :

Imp 4996 SNEA(P) HGM 959 004 U11

Fon Bis 2-78 | WELL TECHNICAL SECTION (COMPLETION STATUS) | WELL : EDN 1



F3 i Bis 2-78 | MAIN CONSUMPTIONS OF THE WELL | WELL: EDN 1

ROCK BITS AND CORE BITS

BIT DIAMETER	CONE BITS				DIAMOND BITS			BITS		Total by interval
	Tooth tricone bits	Insert tricone bits	Removable center	Bicone bits	Drilling bits	Core bits	Removable center	Drag bits	Special bits	
26"	1									1
17½"	3									3
12¼"	9			1		1				11
TOTAL →										15

CASINGS

Diameter	Weight (lbs/Ft)	Thread	Grade	Length (Ft or m)	Observations
20"	133	CAMERON "CC"	X56	110.3	PILE JT 12.7 m
13-3/8	68	BUTTRESS	K55	1099.12 m	

imp 4996 SNEA(P) RGM 959 004 011

F51' Bis 2-78 | MAIN CONSUMPTIONS OF THE WELL | WELL: EDN 1

• CEMENTS •

Class	QUANTITY (T) Casing	Well abandon	Plugging losses	Class	QUANTITY (T) Casing	Well abandon	Plugging losses
"G"	20" 75 T						
"G"	13-3/8" 73 T						
"G"		36 T					

CHEMICALS

CHEMICAL NAME	QUANTITIES ADDED Kg or T	CHEMICAL NAME	QUANTITIES ADDED Kg or T
BARITE	254.35	DEXTRID	6.579
BENTONITE	51.39	PAC - R	.311
CAUSTIC SODA	6.98	NUT PLUG	1.005
SODA ASH	2.36	AL. STEARATE	.350
SOLTEX	4.438	LIME	.300
SAPP	.409	SODIUM NITRATE	.750
CMC H.V	.300	CACL2	3.28
CMC L.V	1.325	BICARB	.400
Q. BROXIN	7.925		

WATER - DIESEL/OIL (not added in mud)

FRESH WATER (m^3)	2070 m3		
DIESEL-OIL (Kg) T	276 T		

WELL HEADS, HANGERS (Ø - API working pressure - Type)

CAMERON 18¾ x 20" PILE JOINT 10,000 PSI

CAMERON 18¾ x 13-3/8 HANGER W/SEAL ASSMY LOW TORQUE 10,000 PSI

C.I.W. 18¾ HOUSING. WEAR BUSHING

C.I.W. DRILLING TEMPLATE & P.G.B

C.I.W. 18¾ x 13-3/8 WEAR BUSHING

F3j Bis 2-78	COSTS BREAKDOWN	WELL: EDINA 1

	OPERATIONS	BEFORE DRILLING	DRILLING	AFTER DRILLING
I	Operation preparation	40.000	---	---
II	Access and drilling site works or sea bottom surveys	60.000	---	---
III	Rig mobilization and moving in	1,303,140	---	---
IV	Drilling Contractor	177.080	2.868.389	---
V	Consumables	71.882	997.178	---
VI	Rental and services	39.945	785.055	---
VII	Operator supervision	27.665	130.272	---
VIII	Transportation (air - land - sea)	101.002	1.040.655	---
IX	Insurances	6.165	75.778	---
X	Operating bases	11.786	146.000	---
XI	Rig demobilization and moving out Included in Item 3.			
XII	Finalization of operations			
	TOTAL	A 1,838,665	B 6,043,327	C

TOTAL COST OF WELL: A + B + C 7,881,992

- Drilled footage (meter or feet): 2495 m
- Drilling duration (d): 3+39 = 42 in total days
- Cost per drilled meter $\frac{B}{m}$: 2422.17; or drilled foot $\frac{B}{ft}$: 738.5
- Daily cost $\frac{B}{d}$: 154957.1

Currency: AUST $ Conversion rate:

Imp 4996 SNEA(P) RGM 959 004 011

F3j' Bis 2-78	BREAKDOWN OF CONSUMABLES, RENTAL AND SERVICE COST	WELL: EDN1

CONSUMABLES (Item 5) X 1.000$

– Fuel and lubricants	257	– Casing and miscellaneous	255
– Drilling bits	76	– Wellhead and miscellaneous	240
– Core - Bits	16	– Bottom hole equipment	7
– Mud chemicals	134	– Surface equipment	4
– Cements	69	– Offshore or anchoring equipment	-
– Water	6	– Anti-pollution products	5
–		–	

TOTAL : 1,069,000

RENTAL AND SERVICES (Item 6) X 1,000$

– Electrical logging	394	– Mud logging	59
– Cementing and pumping	38	– Mud services	13
– Fishing	6	– Directional survey	-
– Turbodrill	-	– Tong service	(RENTAL) SEE BELOW
– Testing	48	– Air drilling	-
– Subsea operations (diving)	149	– Other services	-
– Welding		– Bottom hole equipment rental	33
– Oceano-meteorological assistance	13	– Surface equipment rental	7
– Velocity survey	6	– Wellhead equipment rental	
– Subsea television	-	– Anti-pollution equipment rental	
– Positioning	60	–	
–		–	

TOTAL: 826,000

[illegible] Bis 2-78 — [illegible] — ELL: EDN 1

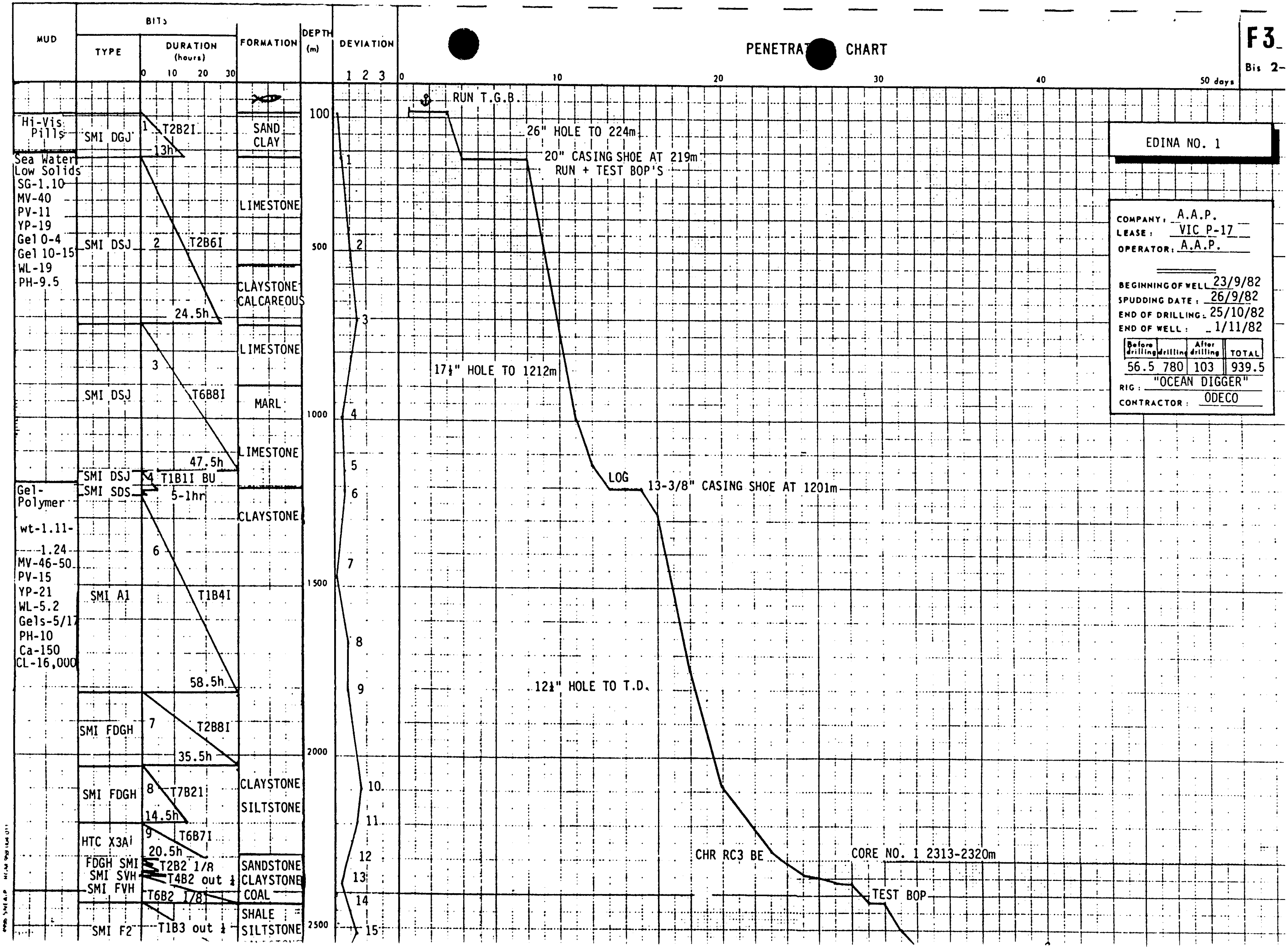
MONTH: SEPTEMBER — WELL: EDINA NO.1 — (Page 1)

YEAR 1982	DAILY MORNING OBSERVATIONS – 6 am –							UNIT MOTIONS			Temperature °C	Visibility (miles)
	Wind KNT		Waves			Current						
DATE	Speed	Direction	Height (Ft or m)	Period (sec.)	Direction	Speed (Knt)	Direction	Roll (°)	Pitch (°)	Heave (Ft or m)		
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23	3	NNE	1.5	6	E			0.5	1		16	
24	15	NNE	1.5	3	SW			0.3	0.4		16.5	
25	30	SW	1.5	3	SW			0.3	0.5	0.5	13	
26	20	E	2.5	4	S			0.3	0.6	0.3	12.5	
27	30	WSW	4	4	E			0.5	0.3	0.5	17.5	
28	30	WSW	4	4	E			0.5	0.3	0.5	17.5	
29	45	S	6	6	S			5	1	1.5	14	
30	45	WSW	5	6	SW			2.5	1	1.2	15	
31												

F3k Bis 2-78	MONTHLY METEOROLOGICAL SHEET	WELL: EDN 1

MONTH: OCTOBER WELL: EDINA NO.1 (Page 2)

YEAR 1982	DAILY MORNING OBSERVATIONS							UNIT MOTIONS				
	Wind		Waves			Current						
DATE	Speed kts	Direction	Height (Ft or m)	Period (sec.)	Direction	Speed (Knt)	Direction	Roll (°)	Pitch (°)	Heave (Ft or m)	Temperature °C	Visibility (miles)
1	35	SW	6	6	SW			1	1.5	1.5	14	
2	20	NNE	2	4	SW			.7	.6	1	16	
3	16	W	2	8	SW			.4	.3	.8	16	
4	40	SW	5	7	SW			1.2	1	1	14	
5	10	SSW	2.5	7	SSW			.6	.5	.8	17	
6	16	ENE	2	6	SE			.4	.3	.5	15	
7	15	SW	2	6	SW			.4	.3	.5	17	
8	35	SW	3.5	6	SW			.4	.3	.6	14	
9	28	SW	4	7	SW			.5	.4	.8	13	
10	30	WSW	4	6	SW			.5	.5	1	14	
11	14	WSW	2	4	SW			.4	.3	.8	16	
12	18	WNW	1.5	6	SW			.3	.2	.5	18.5	
13	30	SW	1.8	4	SW			.4	.4	.8	14.5	
14	32	SW	4.5	7	SW			.5	.5	.8	13.5	
15	25	SW	4.5	6	SW			.5	.5	.8	14	
16	30	SW	4	7	SW			.5	.5	.8	15.5	
17	30	SW	4	6	SW			.5	.5	.8	14	
18	18	WSW	2.5	VARIABLE				.2	.2	1	16	
19	50	W	4.5	7	WSW			.4	.8	1.5	12	
20	50	W	6	7	WSW			.4	1	1.8	12.5	
21	35	WSW	5	7	SW			.5	1	2	12.5	
22	40	WSW	6	7	WSW			.7	1	1.5	12.5	
23	35	WSW	5	8	S			.8	.9	1	14	
24	25	E	3	8	SE			.5	.6	.7	14.5	
25	25	ENE	3.5	7	E			.5	.6	1.5	15.5	
26	22	ENE	2	7	E			.6	.4	.6	17	
27	35	WSW	1.8	5	WSW			.5	.4	1	19.5	
28	25	NNE	1.5	6	VAR			.2	.3	.5	14.5	
29	30	W	3.5	6	E			.4	.3	.8	20	
30	25	W	4	6	SW			.4	.3	N/A	16.5	
31	25	W	2	6	SW			1	.8	N/A	14	



F3_
Bis 2-
MUD
BITS
TYPE
DURATION (hours)
0 10 20 30
FORMATION
DEPTH (m)
DEVIATION
1 2 3
PENETRA CHART
0 10 20 30 40 50 days
RUN T.G.B.
26" HOLE TO 224m
20" CASING SHOE AT 219m
RUN + TEST BOP'S
17½" HOLE TO 1212m
LOG
13-3/8" CASING SHOE AT 1201m
12¼" HOLE TO T.D.
CHR RC3 BE
CORE NO. 1 2313-2320m
TEST BOP
EDINA NO. 1
COMPANY: A.A.P.
LEASE: VIC P-17
OPERATOR: A.A.P.
BEGINNING OF WELL 23/9/82
SPUDDING DATE: 26/9/82
END OF DRILLING: 25/10/82
END OF WELL: 1/11/82
Before drilling | drilling | After drilling | TOTAL
56.5 | 780 | 103 | 939.5
RIG: "OCEAN DIGGER"
CONTRACTOR: ODECO
Hi-Vis Pills
Sea Water Low Solids
SG-1.10
MV-40
PV-11
YP-19
Gel 0-4
Gel 10-15
WL-19
PH-9.5
Gel-Polymer
wt-1.11-1.24
MV-46-50
PV-15
YP-21
WL-5.2
Gels-5/17
PH-10
Ca-150
CL-16,000
SMI DGJ 1 T2B2I 13h
SMI DSJ 2 T2B6I 24.5h
SMI DSJ 3 T6B8I 47.5h
SMI DSJ 4 T1B1I BU
SMI SDS 5-1hr
SMI A1 6 T1B4I 58.5h
SMI FDGH 7 T2B8I 35.5h
SMI FDGH 8 T7B2I 14.5h
HTC X3A 9 T6B7I 20.5h
FDGH SMI T2B2 1/8
SMI SVH T4B2 out ¼
SMI FVH T6B2 1/8
SMI F2 T1B3 out ¼
SAND CLAY
LIMESTONE
CLAYSTONE CALCAREOUS
LIMESTONE
MARL
LIMESTONE
CLAYSTONE
CLAYSTONE SILTSTONE
SANDSTONE
CLAYSTONE
COAL
SHALE SILTSTONE
100
500
1000
1500
2000
2500

elf aquitaine

TIME DISTRIBUTION

F6 bis/12-80

OPERATOR	COUNTRY	WELL	RIG	CONTRACTOR	MONTH/YEAR
A.A.P	AUSTRALIA	EDINA No.1	OCEAN DIGGER	ODECO	SEPTEMBER, 82

DAY	Number of day from start drilling	D MOVING			F DRILLING CASING				G FORMATION SURVEYS				A INTERRUPTION OF OPERATIONS UNDER F or G				C COMPLETION AND PLUGGING			
		D_1	D_2	D_3	F_1	F_2	F_3	F_4	G_1	G_2	G_3	G_4	A_1	A_2	A_3	A_4	C_1	C_2	C_3	C_4
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23		6.5					ON LOCATION													
24		24																		
25		22		2																
26	1	2			12	8		2												
27	2				1			11					11			1				
28	3							16.5					3			4.5				
29	4							17							7					
30	5							21.5				26"			1	1.5				
31																				
TOTAL		54.5		2	13	8		68					14		8	7				

TIME OF SIDE-TRACK DRILLING

TIME OF LOGGING BY A FISHING JOB

Causes of side track:
- Fishing job unsolved ☐
- Accidental on Plug ☐
- Correction of drill-path ☐

N.B. : 1) Add an asterisk to each following day times :
- Time spent on F1, F2, F3 for technical side-tracks, until the initial depth of the old hole is reached.
- Time spent on G4 for logging necessitaded by a fishing job

2) Side-track drilling further to a change in the geological target is considered as a new hole, whose the name changes (add G to the old one). A new form is open up from the first day of the side track.

elf aquitaine	TIME DISTRIBUTION	F6 bis / 12-80

OPERATOR	COUNTRY	WELL	RIG	CONTRACTOR	MONTH/YEAR
A.A.P.	AUSTRALIA	EDINA NO.1	OCEAN DIGGER	ODECO	OCTOBER 82

DAY	Number of day from start drilling	D MOVING			F DRILLING CASING				G [illegible] SURVEYS				A INTERRUPTION OF OPERATIONS UNDER F or G				C COMPLETION AND PLUGGING			
		D1	D2	D3	F1	F2	F	F3	G	G2	G	G4	A1	A2	A3	A4	C1	C2	C3	C4
1	6				14	5	1	4												
2	7				15.5	5.5	3													
3	8				22		2													
4	9				20.5		3.5													
5	10				9.5	5.5	1					8								
6	11							14				10								
[illegible]	12							24												
8	13				1 10	5.5		7								0.5				
9	14				21		3													
10	15				19		5													
11	16				14	7	3													
12	17				23.5											0.5				
13	18				6.5	6	11.5													
14	19				14.5	5	4.5													
15	20				13.5	4	6.5													
16	21				7	0.5				16.5										
17	22				3	5			3	9.5						3.5				
18	23				7	7.5	9.5													
19	24				5.5	6.5	2													
20	25				5.5	11	7.5													
21	26				21.5		2.5													
22	27				6	7	11													
23	28				19.5	4	0.5													
24	29				20		4													
25	30				12							12								
26	31											24								
27	32											24								
28	33											14						10		
29	1C																	24		
30	2C																	24		
31	1D	17																7		
TOTAL		17			321.5	85	81	49	3	26		92				4.5		65		

26"

17½"

12¼"

TIME OF SIDE-TRACK DRILLING			TIME OF LOGGING BY A FISHING JOB	

Causes of side-track:
- Fishing job unsolved ☐
- Accidental on Plug ☐
- Correction of drill-path ☐

N.B. : 1) Add an asterisk to each following day times :
- Time spent on F1, F2, F3 for technical side-tracks, until the initial depth of the old hole is reached.
- Time spent on G4 for logging necessitaded by a fishing job

2) Side-track drilling further to a change in the geological target is considered as a new hole whose the name changes (add G to the old one). A new form is open up from the first day of the side track.

[illegible]

elf aquitaine — TIME DISTRIBUTION — F6 bis / 12-80

OPERATOR	COUNTRY	WELL	RIG	CONTRACTOR	MONTH/YEAR
A.A.P	AUSTRALIA	EDINA 1	OCEAN DIGGER	ODECO	NOVEMBER 82

DAY	Number of day from start drilling	D MOVING			F DRILLING CASING				G FORMATION SURVEYS				A INTERRUPTION OF OPERATIONS UNDER F or G				C COMPLETION AND PLUGGING			
		D_1	D_2	D_3	F_1	F_2	F_3	F_4	G_1	G_2	G_3	G_4	A_1	A_2	A_3	A_4	C_1	C_2	C_3	C_4
1	2D	19.5		1.5																
2																				
3		RIG DEPARTED EDINA 1 AT 2100 HRS																		
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				
25																				
26																				
27																				
28																				
29																				
30																				
31																				
TOTAL		19.5		1.5																

TIME OF SIDE-TRACK DRILLING		TIME OF LOGGING BY A FISHING JOB	

Causes of side track:
- Fishing job unsolved ☐
- Accidental on Plug ☐
- Correction of drill-path ☐

N.B. : 1) Add an asterisk to each following day times :
- Time spent on F1, F2, F3 for technical side-tracks, until the initial depth of the old hole is reached
- Time spent on G4 for logging necessitaded by a fishing job

2) Side-track drilling further to a change in the geological target is considered as a new hole whose the name changes (add G to the old one). A new form is open up from the first day of the side track.

CASING AND CEMENTING REPORT

F5 a Bis 2-78

WELL (Country)	RIG (Contractor)	R K B Height: Ground [ ] M.L. [X]	ø Casing [X] Liner [ ]	SHOE MEASURED DEPTH	SHOE VERTICAL DEPTH	SUSPENSION DEPTH	OPERATION DATE
DINA NO. 1 (AUSTRALIA)	OCEAN DIGGER (ODECO)	99M	20	219	219		29/9/82

1 - WELL CONDITION

Open hole diameter : 26 Deviation : Maxi ¼ ° to 224 m. Mini ° to m

Important caving (location - average diameter..) NO CALIPER

Losses during drilling (levels, extent) DRILLING WITH RETURN TO SEA

Reamer runs (number) 2 Reamer at 3M m from the bit

Previous casing : Diameter Shoe at m

Bo. Ps on well when running in (Type - equipment, test pressure)

MUD CHARACTERISTICS BEFORE INJECTING SLURRY	S.G.	W.L.	P.V.	Y.V.	VISCOSIMETER READINGS Vs R.P.M.					
					600	300				
	1.02									

Observations HOLE FILL UP WITH HI VIS MUD (VIS 100+)

2 - COMPOSITION OF CASING STRING

ELEMENT	MFG AND TYPE	THICKNESS mm	GRADE	UNIT WEIGHT kg/m	INSIDE VOLUME l/m	LENGTH (m)	NUMBER OF JOINTS
SHOE	FLOAT SHOE	20"	X56	133lbs/ft			X
COLLAR	FLOAT	20"	X56	133lbs/ft			X
CASING			X56	133lbs/ft	177.8	110.3	
W.H PIL JT						12.7	10
Tripping joint : 5" DP						98	X
					TOTAL ➤	219 m.	10

Drift diameter in the thickest joint 118.2 M

Maximum permissible tension 143 T

Theoretical weight of the casing string : In air 35 T in mud : 30.4 T

3 - EQUIPMENT OF CASING STRING

CENTRALIZERS	SCRATCHERS	OTHER EQUIPMENT (Description - Location)
MGF : -	MGF :	18-3/4" WELLHEAD HOUSING WITH
TYPE :	TYPE :	24" x 3" PILE JOINT EXTENSION
NUMBER :	NUMBER :	(10 M LONG)
DEPTH/RKB :	DEPTH/RKB :	

4 . RUNNING CASING

Making-up of joint :
Grease type used for threads :
Average torque to make-up the joints
Filling frequency EACH JOINT
Intermediate circulation (duration - depth)

Total running time (with circulations) 6 h ½ average rate ______ joints/h
Troubles during running NO

Bottom hole circulation : Duration ½ HRS Rate 800 Lit/min Pressure
Reciprocating : No Duration Rate Amplitude
M.D. indications after stop of bottom hole circulation :
Observations : CASING STRING CLAMPED INTO PGB

5 - SINGLE STAGE OR FIRST STAGE CEMENTING

Service cy DOWELL
Mixing pump B.J 2" x 3" x 11"
Slurry injection pump 4½" x 3-3/4"
Displacement pump(s) AS ABOVE

Beginning of slurry making at 0913 h
End of slurry making at 1006 h.
End of displacement at 1025 h.
Pressure released in casing at 1025 h.

	NATURE OR CLASS OF CEMENTS	SACKS or BULK	CEMENT WGT INCREASE %	WATER USED	ADDITIVES USED	TONNAGES USED
1	G	BULK	200	FRESH WATER	+ 290 $CaCl_2$ (1650Kg)	75 T.
2						T.
3						T.

CHARACTERISTICS OF SLURRIES	S.G.	P.V.	Y.V.	VISCOSIMETER READINGS VS R.P.M. 600	300				
1	1.85								
2									
3									
SPACER PLUGS									
1	SEAWATER								
2									

Slurry injection rate 1270 Lit/min Displacement rate 1110 Lit/min

Displacement fluid nature 1.50 SG (HEAVY MUD) Pumped volume 19 m³
Pressure at the beginning of displacement 750 psi at the end 500 psi at the surge
Estimated losses NIL
Casing string pressuring up at ______ Result
Residual pressure (eventual) after bleeding off

. . ETT... ON SPOOL

M.D. indication at the end of displacement
M.D. indication after cement betting ______ setting tension on spool → SEA BED T.
Casing string set on spool ______ h. after the end of displacement
Spool : MFG ______ Nominal dimensions ______ API WP.
Suspension and seal type
Additional seal (type - dimensions)
Distance between the upper part of the spool and R.K.B.
Cut casing ______ cm above the spool

7 - CONTROL

Temperature well logging after ______ h. setting
Cementing log after ______ h. setting Top cement annulus → 500 psi m
Result of these logs (or enclose a copy)

Test casing string + B.O.P.(blind and pipe rams) Test pressure →
Packer depth :
Test result :

DETAILED COMPOSITION OF THE CASING STRING | F 5 c Bis/3-79

Well site	EDINA NO.1	Casing diameter	20"	RKB height/M. L.	99m	Shoe meas.d depth	

Joint Number	Equip.[t] central.	Equip.[t] scratch	Weight per foot, grade and thread of joints / Other equipments	Unit Length	Cumulated Length	Joint Number	Equip.[t] central.	Equip.[t] scratch	Weight per foot, grade and thread of joints / Other equipments	Unit Length	Cumulate Length
RKB TO	TOP	18-	3/4 WH		98.00						
1	"PI	LE"	JT	12.70	110.70						
2				11.97	122.67						
3				11.96	134.63						
4				11.96	146.59						
5				11.94	158.53						
6				11.95	170.48						
7				11.88	182.36						
8				11.88	194.24						
9			FC AT 212.5	11.95	206.19						
10			SHOE	12.81	219.00						
			NOTE: T.G.B. DROPPED 0.60m DUE TO WASHING FROM BELOW								

THE DETAILED COMPOSITION OF THE CASING STRING SHOULD BE GIVEN :

- EITHER from top to bottom. For the upper joint, the length under RKB will only be considered. So, each cumulated length will be the RKB Measured Depth at the bottom of each corresponding joint.
- OR bottom to top, beginning by the shoe. So the RKB Measured Depth at the bottom of each joint will be the difference between the shoe Measured Depth and the cumulated length at the corresponding joint. The composition of the extension string should be detailed.

CASING AND CEMENTING REPORT

F5 a Bis 2-78

WELL (Country)	RIG (Contractor)	RKB: Ground ☐ Height M.L. ☒	ø Casing ☒ Liner ☐	SHOE MEASURED DEPTH	SHOE VERTICAL DEPTH	SUSPENSION DEPTH	OPERATION DATE
EDINA 1 (AUSTRALIA)	OCEAN DIGGER (ODECO)	99.9m	13-3/8"	201m			07/10/82

1 - WELL CONDITION

Open hole diameter : 17½ Deviation : Maxi 1 ° ½ to 708 m. Mini ½ ° to 994

Important caving (location - average diameter..)

Losses during drilling (levels, extent) NO

Reamer runs (number) 3 Reamer at 18 M and 9 M m from the bi

Previous casing : Diameter 20" Shoe at 229

Bo. Ps on well when running in (Type - equipment, test pressure) C.I.W. 18-3/4" SERIAL 10000 PSI

MUD CHARACTERISTICS BEFORE INJECTING SLURRY	S.G.	W.L.	P.V.	Y.V.	VISCOSIMETER READINGS Vs R.P.M. 600	300				
	1.10	16	9	18						

Observations

2 - GENERAL COMPOSITION OF CASING STRING

ELEMENT	MFG AND TYPE	THICKNESS mm	GRADE	UNIT WEIGHT kg/m	INSIDE VOLUME l/m	LENGTH (m)	NUMBER OF JOINTS
SHOE	FLOAT SHOE	13-3/8	K55	68 lbs/ft	7	0.70	X
COLLAR	FLOAT SHOE	13-3/8	K55	68 lbs/ft		0.60	X
CASING	R II	13-3/8	K55	68 lbs/	78.08	1099.12	92
HANGER	C.I.W.	13-3/8		TORQUE SET		0.70	
Tripping joint :	HW	5"		50lbs/ft	4.61		X
					TOTAL ➤	1101.12 m.	92

Drift diameter in the thickest joint 311.4mm

Maximum permissible tension (COLLAR) = 185 T

Theoretical weight of the casing string : In air 111T In mud : 95.4 T

3 - EQUIPMENT OF CASING STRING

CENTRALIZERS

MGF : -

TYPE : WEATHERFORD

NUMBER : 6

DEPTH/RKB : 178 M, 202 M, 1110 M, 1134 M, 1158 M, 1182 M

SCRATCHERS

MGF :

TYPE :

NUMBER : NIL

DEPTH/RKB :

OTHER EQUIPMENT (Description - Location)

C.I.W. 13-3/8" SEAL ASSY. LOW TORQUE SET SYSTEM. SCREW ON TOP 13-3/8" HANGER.

(TOP SEAL ASSY AT 100.15 M)

4 - RUNNING CASING

Making-up of joint : WEATHERFORD LAMB
Grease type used for threads : JET LUBE SEAL THREAD COMPOUND
Average torque to make-up the joints 12,000 ft/lbs (TO TRIANGLE)
Filling frequency EACH CASING - COMPLETE FILL EVERY 5 JOINTS
Intermediate circulation (duration - depth) NONE

Total running time (with circulations) 10 h 30 min average rate 8 joints/h
Troubles during running STABBING FIRST 5 JTS. DUE TO WEATHERFORD CREW NOT FAMILIAR WITH FLOATING RIG.
Bottom hole circulation : Duration 58 Min Rate 1400 lt/min Pressure 450 PSI
Reciprocating : Duration NONE Rate Amplitude
M.D. indications after stop of bottom hole circulation :
Observations :

5 - SINGLE STAGE OR FIRST STAGE CEMENTING

Service cy DOWELL
Mixing pump DOWELL
Slurry injection pump DOWELL
Displacement pump(s) RIG PUMP

Beginning of slurry making at 7/10/82 1018 h
End of slurry making at 1108 h
End of displacement at 1220 h
Pressure released in casing at 1235 h

	NATURE OR CLASS OF CEMENTS	SACKS or BULK	CEMENT WGT INCREASE %	WATER USED	ADDITIVES USED	TONNAGES USED
1	G	B	CALIPER	FRESH WATER	30.5m³	73 T
2				D80	643.5 Lit	T
3				D81	193 Lit	T

CHARACTERISTICS OF SLURRIES	S.G.	P.V.	Y.V.	VISCOSIMETER READINGS VS R.P.M. 600	300				
1	189								
2									
3									
SPACER PLUGS									
1									
2									

Slurry injection rate 1316 lit/min Displacement rate 1316 lit/min

Displacement fluid nature LOW SOLIDS MUD SG = 1.10 Pumped volume 531 bbls
Pressure at the beginning of displacement 250 psi at the end 1,000 psi at the surge 2,000 psi
Estimated losses NONE
Casing string pressuring up at 2000 Result HELD 15 Min. OK
Residual pressure (eventual) after bleeding off - 0 -

6 - SETTING ON SPOOL

M.D. indication at the end of displacement
M.D. indication after cement betting setting tension on spool ➤ T
Casing string set on spool h. after the end of displacement
Spool : MFG Nominal dimensions API WP
Suspension and seal type
Additional seal (type - dimensions)
Distance between the upper part of the spool and R.K.B.
Cut casing cm above the spool

7 - CONTROL

Temperature well logging after h. setting
Cementing log after h. setting Top cement annulus ➤ 600 m
Result of these logs (or enclose a copy)

Test casing string + B.O.P. (blind and pipe rams) Test pressure ➤ 2,000 psi
Packer depth :
Test result :

DETAILED COMPOSITION OF THE CASING STRING

F 5 c Bis/3·79

Well site	EDINA 1	Casing diameter	13-3/8	RKB height/ ~~XXXX~~ M. L.	99.66	Shoe meas.d depth	1201 m.

Joint Number	Equip.[†] central.	Equip.[†] scratch	Weight per foot, grade and thread of joints / Other equipments	Unit Length	Cumulated Length	Joint Number	Equip.[†] central.	Equip.[†] scratch	Weight per foot, grade and thread of joints / Other equipments	Unit Length	Cumulated Length
DISTANCE ROTARY TABLE TO TOP						39				12.08	568.82
18-3/4 HOUSING				99.06	99.06	40				12.00	580.82
DISTANCE TOP 18-3/4 HOUSING						41				12.05	592.87
TO TOP 18-3/4 HANGER				1.32	100.38	42				12.08	604.95
HANGER	CIW			0.70	101.08	43				12.08	617.03
1			68lbs-K55-BUTT	11.57	112.65	44				11.88	628.91
2				12.10	124.75	45				12.07	640.98
3				12.01	136.76	46				12.04	653.02
4				11.96	148.72	47				11.81	664.83
5				12.07	160.79	48				12.07	676.30
6				11.82	172.61	49				12.07	688.97
7				12.06	184.67	50				12.07	701.04
8				12.18	196.85	51				12.08	713.12
9				12.19	209.04	52				12.04	725.16
10				12.20	221.24	53				12.08	737.24
11				12.14	233.38	54				11.86	749.10
12				12.06	245.44	55				11.90	761.00
13				11.78	257.22	56				11.29	772.29
14				12.09	269.31	57				11.45	783.74
15				12.01	281.32	58				11.35	795.09
16				12.00	293.32	59				11.95	807.04
17				12.07	305.39	60				12.00	819.04
18				12.08	317.47	61				11.98	831.02
19				11.06	328.53	62				11.89	842.91
20				12.07	340.60	63				12.08	854.99
21				11.91	352.51	64				12.08	867.07
22				11.95	364.46	65				11.82	878.89
23				12.08	376.54	66				11.94	890.83
24				12.06	388.60	67				12.02	902.85
25				12.07	400.67	68				12.02	914.87
26				12.08	412.75	69				12.02	926.89
27				12.08	424.83	70				11.84	938.73
28				12.06	436.89	71				11.98	950.71
29				12.08	448.97	72				12.05	962.76
30				11.94	460.91	73				11.65	974.41
31				11.99	472.90	74				12.03	986.44
32				12.08	484.98	75				12.05	998.49
33				12.08	487.06	76				11.98	1010.47
34				11.87	508.93	77				12.01	1022.48
35				11.70	520.63	78				11.97	1034.45
36				12.00	532.63	79				11.21	1045.66
37				12.07	544.78	80				11.26	1056.92
38				11.96	556.74	81				11.85	1068.77

THE DETAILED COMPOSITION OF THE CASING STRING SHOULD BE GIVEN :

- EITHER from top to bottom. For the upper joint, the length under RKB will only be considered. So, each cumulated length will be the RKB Measured Depth at the bottom of each corresponding joint.
- OR from bottom to top, beginning by the shoe. So the RKB Measured Depth at the bottom of each joint will be the difference between the shoe Measured Depth and the cumulated length at the corresponding joint.
The composition of the extension string should be detailed.

DETAILED COMPOSITION OF THE CASING STRING | F 5 c Bis/3-79

Well site	EDINA 1	Casing diameter	13-3/8"	RKB height / M. L.	99.66	Shoe meas. depth	1201 m.

Joint Number	Equip. central.	Equip. scratch	Weight per foot, grade and thread of joints / Other equipments	Unit Length	Cumulated Length	Joint Number	Equip. central.	Equip. scratch	Weight per foot, grade and thread of joints / Other equipments	Unit Length	Cumulated Length
82			68lbs/K55/BUTT	12.02	1080.79						
83				12.02	1092.81						
84				11.89	1104.70						
85	1			11.95	1116.65						
86				11.94	1128.59						
87	1			11.83	1140.42						
88				11.87	1152.29						
89	1			12.08	1164.37						
90				11.93	1176.30						
FLOAT				0.60	1176.90						
91	1			12.07	1188.97						
92	1			11.33	1200.30						
SHOE				0.70	1201.00						

THE DETAILED COMPOSITION OF THE CASING STRING SHOULD BE GIVEN :

- EITHER from top to bottom. For the upper joint, the length under RKB will only be considered. So, each cumulated length will be the RKB Measured Depth at the bottom of each corresponding joint.
- OR from bottom to top, beginning by the shoe. So the RKB Measured Depth at the bottom of each joint will be the difference between the shoe Measured Depth and the cumulated length at the corresponding joint. The composition of the extension string should be detailed.

GENERAL DATA			DRILLING BIT								PERFORMANCES					PARAMETERS				MUD				DULL BIT CONDITION				GEOLOGICAL FORMATION	Reason for tripping	TURBODRILLED			
Run number	Operation	Drive	Bit type	Bit Diameter	Manufacturer	Code IADC	Serial number	Nozzles 1 /32	Nozzles 2 /32	Nozzles 3 /32	Operation starting depth	Footage in this operation M	Drilling time (hours)	Drilling rate	Déviation	Weight on bit T	R.P.M.	Flow rate L/min	Pressure PSI	Density (mud weight)	Plastic Viscosity (cp)	Solid content (%)	Water loss (cc)	T	B	G	Observations on grading			Type of turbodrill	Turbodrill diameter	Turbodrilled footage	Total time (hours)
1	F	R	T	26	SMI	DGJ131	SA5656	24	24	24	99	125	13	9.60	1/4	2/10	80	3290	500	S.W	W/HI	VIS	PILL	2	2	1		A.S	Ex				
1RR	RA	R	T	26	SMI	DGJ131	SAS656	24	24	24	109	115	3	38.3	1/4	2/10	60/80	3290	500	S.W	W/HI	VIS	PILLS	2	2	1		A.S	Ex				
2	RA	R	T	17½	SMI	DSJ	XA7398	18	18	18	209	15	4	3.75		0/2	55	2400	1500	1.09	8	3	20	--INC--				CMT	E				
2RR	F	R	T	17½	SMI	DSJ	XA7398	18	18	18	224	444	24.5	18.1	1½	2/12	80/110	2600	1800	1.10	11	4	19	2	6	I		CM	B				
3	F	R	T	17½	SMI	SSJ	XA7067	18	18	18	708	428	47.5	9	1/2	15/20	90/140	3000	2000	1.10	9	4	16	6	8	I	ET FC CL	CM	BA				
4	F	R	T	17½	SMI	DSJ	XA7194	18	18	18	1158	54	6	9	3/4	15/20	100/140	3000	2100	1.10	10	4	16	1	1	I	ET FC CL	CM	Ex				
5	RA	R	T	12¼	SMI	SDS	CB7277	14	14	14	1176	25	3	8.3		15	60	1975	1800	1.11	8	4	15	-INC-				CMT					
5	F	R	T	12¼	SMI	SDS	CB7277	14	14	14	1212	12	1	12		15	70	1975	1800	1.11	8	4	15	1	1	I		CM	Ex				
6	F	R	B	12¼	SMI	A1	AX9432	16	16	8	1224	586	58.5	10	1	12/15	125	2325	2325	1.19	12	8	5.6	1	4	I		A	A				
7	F	R	T	12¼	SMI	FDGH	XA6658	14	14	14	[----INCOMPLETE [1810	-------- 282	29	] 9.7]	1	20	120	2300	2200	1.22	15	9	5.4	INC				A		CONTROL TRIP			
7	RA	R	T	12¼	SMI	FDGH	XA6658	14	14	14	1463-1493 1784-1879	30 95	1 1.5	30 63.3	1¾	5/10	120	2300	2200	1.24	15	12	6	INC				A					
7	F	R	T	12¼	SMI	FDGH	XA6658	14	14	14	1810	322	35.5	9	1¾	20	125	2300	2350	1.24	15	12	6	2	8	I	CL SF	B	B				
8	RA	R	T	12¼	SMI	FDGH	XA6657	14	14	14	1954	35	1	35		0/5	120	2300	2300	1.24	16	10	5.2	INC				A					
8	F	R	T	12¼	SMI	FDGH	XA6657	14	14	14	2132	60	14.5	4.1	1½	22	120	2300	2350	1.24	16	10	5.2	7	2	I	BU	A	A				
9	RA	R	T	12¼	HTC	X3A	313KK	14	14	14	2050	142	1.5	94.7		5/10	150	2200	2450	1.25	15	11	5.4	INC				A					
9	F	R	T	12¼	HTC	X3A	313KK	14	14	14	2192	121	20.5	5.9	3/4	20	150/170	2200	2450	1.24	15	12	5.5		INC			AM		CONTROL TRIP FOR CORE			
9	RA	R	T	12¼	HTC	X3A	313KK	14	14	14	2180	10	0.5	20		0/5	150	2200	2450	1.24	15	12	5.5	6	7	I		AMG	Ex				
K1	C	R	SC	8½	CHR	RC3	83B0932	WATER COURSE			2313	7	3	2.3		6/7	90	1050	700	1.24	15	12	5.2				BE	G	A				
10	RA	R	T	12¼	SMI	FDGH	AX6647	14	14	14	2313	7	2.5	2.8		5	75	2200	2450	1.24	15	12	5.2		INC			G		REAM CORE RAT HOLE			
10	F	R	T	12¼	SMI	FDGH	AX6647	14	14	14	2320	17	4.5	3.8		15	75	2200	2450	1.24	15	12	5.2	2	2	1/8	RG	SM	B	DRILLED WITH VERY HIGH TORQUE			

OPERATION
- F Drilling
- K Coring
- RA { Redrilling (formation or cement) / Reaming and control trip. / milling washing over
- P Pilot hole drilling
- E Hole opening
- PE Simultaneous piloting and hole opening

Note: Use one line for each operation

DRIVE
- R – Rotary
- T – Turbine
- M – Bottom hole motor other than turbine

BIT DESIGN
- T – Tricones (rock bits)
- B – Bicones
- M – Other cone rock bits
- F – Mill
- D – Diamond bit
- C – Diamond core head
- A – Rock bit w/removable center
- [illegible]

MANUFACTURER
The code constitute the first three letters of the manufacturer name
- HUG – Hughes
- SMI – Smith
- REE – Reed
- SEC – Security
- SMF – SMF
- DIA – Diamond boart
- DRI – Drilling service
- CHR Christensen

CODE

DULL BIT CONDITION
- T1 - Tooth hight 1/8 gone
- T2 - Tooth hight 1/4 gone
- T3 - Tooth hight 3/8 gone
- T4 - Tooth hight 1/2 gone
- T5 - Tooth hight 5/8 gone
- T6 - Tooth hight 3/4 gone
- T7 - Tooth hight 7/8 gone
- T8 - Tooth hight all gone

Bearing wear B1 to B8

OBSERVATION ON GRADING :

Teeth and cones
- CT Chipped teeth
- ET – Eroded teeth or inserts
- BT – Broken teeth or inserts
- BU – Bit balled up
- RG – Rounded gauge teeth or inserts
- WG Worn + lost gauge teeth or inserts
- FC Flat crested
- EC Eroded cone shell
- BS Broken worn or lost spear point

Bearings
- CL – Cone(s) locked
- BF Bearing failure
- SF Seal failure
- LC Lost cone(s)
- BP Broken bearing pins or journals

Bit body
- BL Bent legs Pinched
- PN Plugged nozzle(s)
- EN Eroded nozzle(s)
- LN Lost nozzle(s)

FORMATION
- A Clay
- C Limestone of dolomite
- M Marl or shale
- D Chalk
- S Sand
- G Sandstone
- Q Quartz
- V Chert
- X Granite
- K Conglomerate
- I Gypsum Anhydrite
- L Saltz

The lithology drilled in the previous 24 Hrs will be defined by the codes of the last formations drilled, with a maximum of three placed in order of relative importance

Ex. (1) Ap Plastic clay
(2) AS Clay and sand
(3) Mct Marl and soft limestone
(4) MChv Marl and tight dolomite w Chert

REASON FOR TRIPPING
- A Penetration slowing down
- B Increasing torque
- C Hydraulic problems
- D — Maximum allowed rotating time reached or bit dulled enough not to allow an other normal drilling run
- E Reason other than bit problems

Ex (1) Drillstring modification
(2) Casing
(3) Test

F7 Bis

BIT RECORD

WELL: EDN 1

GENERAL DATA: Run number	Operation	Drive	DRILLING BIT: Bit type	Bit Diameter	Manufacturer	Code IADC	Serial number	Nozzles 1 /32	Nozzles 2 /32	Nozzles 3 /32	PERFORMANCES: Operation starting depth	Footage in this operation	Drilling time (hours)	Drilling rate m/hr	Déviation	PARAMETERS: Weight on bit T	R.P.M.	Flow rate Lts	Pressure PSI	MUD: Density (mud weight)	Plastic Viscosity (cp)	Solid content (%)	Water loss (cc)	DULL BIT CONDITION: T	B	G	Observations on grading	GEOLOGICAL FORMATION	Reason for tripping	TURBODRILLED: Type of turbodrill	Turbodrill diameter	Turbodrilled footage	Total time (hours)
11	F	R	T	12 1/4	SMI	SVH	CD0352	14	14	14	2337	4	4	1		22	75	2000	2050	1.24	17	13	4.5	INC				GM					
11	RA	R	T	12 1/4	SMI	SVH	CD0352	14	14	14	2330	45	7.5	6		0/10	80/150	2000	2050	1.24	17	13	4.5	INC				GM					
11	F	R	T	12 1/4	SMI	SVH	CD0352	14	14	14	2337	8	5.5	1.4		22	80	2000	2050	1.24	17	13	4.5	4	2	0-1/4		GM	B				
12	RA	R	T	12 1/4	SMI	F2	KA5821	14	14	14	2310	35	2	17.5		0/5	110	2000	2000	1.24	17	14	4.2	INC				AG					
12	F	R	T	12 1/4	SMI	F2	KA5821	14	14	14	2345	22	19.5	0.8	1/2	5/14	100/150	2100	2400	1.24	17	14	4.2	1	3	0-1/4	RG	A	B				
13	RA	R	T	12 1/4	SMI	FVH	XB0997	13	13	13	2365	2	0.5	4		0/5	80	1950	2700	1.24	19	14	4.4		INC			ASG					
13	F	R	T	12 1/4	SMI	FVH	XB0997	13	13	13	2367	57	29	1.96	1	15/20	70/100	1950	2700	1.24	19	14	4.4	6	2	0-1/8	RG	AS COAL					
14	RA	R	T	12 1/4	SMI	F2	XA5822	13	13	14	2405	19	0.5	38	1 1/2	0/5	80	2100	2550	1.24	15	13	4.7		INC			AS					
14	F	R	T	12 1/4	SMI	F2	XA5822	13	13	14	2424	170	51.5	3.3	1 1/2	17/25	70/120	2200	2800	1.24	15	13	4.7	3	8	0-1/8	CT	AS	A+B				
											T.D 2594				3/4																		

OPERATION
F Drilling
K - Coring
RA { - Redrilling (formation or cement) Reaming and control trip milling, washing over
P Pilot hole drilling
E Hole opening
PE Simultaneous piloting and hole opening

Note: Use one line for each operation

DRIVE
R Rotary
T Turbine
M - Bottom hole motor other than turbine

BIT DESIGN
T Tricones (rock bits)
B Bicones
M - Other cone rock bits
F - Mill
D - Diamond bit
C - Diamond core head

MANUFACTURER
The code constitute the first three letters of the manufacturer name
HUG - Hughes
SMI - Smith
REE - Reed
SEC - Security
SMF - SMF
DIA - Diamond board
DRI - Drilling service
CHR Christensen

DULL BIT CONDITION
T1 - Tooth hight 1/8 gone
T2 - Tooth hight 1/4 gone
T3 Tooth hight 3/8 gone
T4 - Tooth hight 1/2 gone
T5 - Tooth hight 5/8 gone
T6 - Tooth hight 3/4 gone
T7 - Tooth hight 7/8 gone
T8 - Tooth hight all gone

OBSERVATION ON GRADING
Teeth and cones
CT Chipped teeth
ET Eroded teeth or inserts
BT Broken teeth or inserts
BU Bit balled up
RG Rounded gauge teeth or inserts
WG
WG Worn or lost gauge teeth or inserts
FC Flat tested
EC Eroded cone shell

Bearings
CL - Cone(s) locked
BF - Bearing failure
SF - Seal failure
LC - Lost cone(s)
BP - Broken bearing pins or journals

Bit body
BL Bent legs Pinched
PN Plugged nozzle(s)

FORMATION
A Clay
C Limestone of dolomite
M - Marl or shale
D Chalk
S Sand
G Sandstone
Q Quartz
V Chert
X Granite
K Conglomerate
I Gypsum Anhydrite

The lithology drilled in the previous 24 Hrs will be defined by the codes of the last formations drilled, with a maximum of three placed in order of relative importance

Ex. (1) Ap Plastic clay
(2) AS Clay and sand
(3) Mct Marl and soft limestone
(4) MChv Marl and tight dolomite

REASON FOR TRIPPING
A Penetration slowing down
B Increasing torque
C Hydraulic problems
D — Maximum allowed rotating time reached or bit dulled enough not to allow an other normal drilling run
E Reason other than bit problems
Ex (1) Drillstring modification
(2) Casing

NEA.P. RGM 950 004 015 F

Attachment 2

Rig Positioning Report

Attachment 2

82/971

ATTACHMENT 2

RIG POSITIONING REPORT

RIG MOVE REPORT
OASIS AND JMR-4A POSITIONING
AT
EDINA-1 LOCATION
FOR
AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD

Prepared by:

RACAL-DECCA SURVEY AUSTRALIA

96 Reserve Road
P.O. Box 355
ARTARMON NSW 2064

Telephone : (02) 439 7595
Telex : AA 25441

Cnr Stock and Stockdale Roads
P.O. Box 261
HAMILTON HILL W.A. 6163

Telephone : (09) 331 1199
Telex : AA 94341

DSA 1115

10 September - 28 September 1982

CONTENTS

APPENDICIES

A AREA OF OPERATIONS

B PERSONNEL LIST AND SUMMARY OF PROJECT DIARY (2)

C TEMPERATURE AND SALINITY READINGS (2)

D "CHRISTMAS CREEK" OFFSET DATA

E (i) COMPUTER PLOT OF RELATIVE GEOMETRY/ORIENTATION
(ii) SATELLITE FIXES USED IN CALIBRATION OF NET.
(iii) FINAL TRANSIT FIX (Clockwise)
(iv) FINAL TRANSIT FIX (Anti Clockwise)

F JMR-4A SCATTER PLOT OF ACCEPTED PASSES.

ABSTRACT

The following report gives details of the survey operations involved in moving the drilling rig "OCEAN DIGGER" onto the EDINA-1 location in the GIPPSLAND BASIN VIC P17, carried out by Racal-Decca Survey Australia on behalf of Australian Aquitaine Petroleum Pty. Ltd.

The project commenced on the 10 September, 1982 when the survey vessel M.V. "Christmas Creek" arrived at Port Welshpool to be fitted out for the Rig Move. "OCEAN DIGGER" was finally positioned on 25 September 1982.

Laying of the location marker buoys and provisional positioning of the "OCEAN DIGGER" was by means of the Decca OASIS system. The final position was determined by independent 3D Satellite/ Doppler observations by a JMR-4A Satellite Receiver.

1. REQUIREMENTS

The Edina-1 location co-ordinates were supplied by Australian Aquitaine Petroleum Pty. Ltd. by telex No. 9265 on 22 April 1982.

The co-ordinates were as follows:

LATITUDE	38°	36'	22"4	South
LONGITUDE	147°	52'	42"1	East

AUSTRALIAN GEODETIC DATUM

A.M.G., Zone 55, Central Meridian 147° East

Easting 576479 Northing 5726539

The requirements of the project were as follows:

a) To lay and calibrate a pattern of acoustic transponders to be used as the position fixing system.

b) To lay location and anchor position marker buoys to guide the "OCEAN DIGGER" on to location.

c) To provide provisional positioning co-ordinates for the "OCEAN DIGGER" prior to the commencement of drilling operations.

d) To carry out a 3D satellite doppler fix on the "OCEAN DIGGER" for final positioning co-ordinates.

2. SUMMARY OF EVENTS

10 Sept 1982	- Survey Party mobilised Port Welshpool.
	- M.V. "Christmas Creek" arrived Port Welshpool.
	- Commence fitting out M.V. "Christmas Creek" as Survey vessel.
14 Sept	- Deployed Sea-Bed Transponder Net - Commence calibration of OASIS System.
18 Sept	- 0342 - 19 Satellite Passes Received - weather deteriorates - return to Port Welshpool. Weather Stand-by.
22 Sept	- 0930 Return to Location. Complete OASIS calibration.
23 Sept	- Lay Location and Anchor Marker Buoys. 1730 - "OCEAN DIGGER" arrives at location.
25 Sept	- 0830 - Final OASIS TRANSIT FIX. 1630 - JMR-4A observations commence on "OCEAN DIGGER"
27 Sept	- 2130 - JMR-4A observations completed - 30 acceptable passes processed.

3. THE RACAL-DECCA SURVEY OASIS SYSTEM

OASIS is an integrated satellite/acoustic navigation and position fixing system, it is independent of shore based radio navigation aids and is capable of the following operations.

a) Navigation of a vessel to a particular location using Satellite Navigation and Gyro data, with manual inputs of speed and drift.

b) Precise calibration (Geographical Positioning) of an acoustic net of up to 5 sea-bed transponders.

c) Accurate tracking of a vessel's position within coverage of the acoustic net.

d) In the "relay" mode, accurate remote tracking of up to two further vehicles within coverage of the net.

4. OPERATING PROCEDURES

4.1 NAVIGATION TO LOCATION AND REFERENCE BUOY POSITION

This is undertaken using single-pass solutions from consecutive acceptable satellite passes using gyro data input for heading information and a manual input of ships speed based either on the ships log, or distance and time between satellite fixes. Given a reasonable frequency of acceptable satellite passes, by the time the vessel arrives at location its position should be known accurately enough to enable a reference buoy to be dropped within range of the proposed acoustic net. The vessel can then be either anchored or hove-to alongside this buoy and further satellite positions taken until a satisfactory fix is obtained. Once this has been accomplished the acoustic transponders may be approximately positioned relative to this buoy.

4.2 CALIBRATION OF ACOUSTIC NET

This takes place in 3 phases:

4.2.1 PHASE 1 NET RELATIVE GEOMETRY

This is achieved by navigating through the acoustic net collecting a series of 140 good range sets. The quality of these range sets is ensured by a rigid system of range checking whereby each accepted set is preceded by six correctly predicted sets, the accepted set then must also fall in the predicted "box". The range sets are alternately divided into two groups, the groups are processed and a direct solution for each is found. The operator compares the two results and if acceptable, a least squares solution for each group is generated with a third result being the mean of the two least squares solutions. If this result is accepted by the operator then this mean solution becomes the relative geometry solution - which remains throughout the calibration.

The results are in the form of X-Y co-ordinates based on a line from transponder A to transponder B as the X-axis with A as origin. Values are in metres.

The time needed for this phase is dependent on the number of transponders involved, and the sea-state.

However, with a 5 transponder net and reasonable weather this phase may take up to six hours.

4.2.2 ORIENTATION PHASE 1A

This phase comprises navigating three legs on as constant headings as possible within coverage of all transponders. The legs should be at 90^{o}-120^{o} to each other but need not be at any particular orientation with respect to the net.

Using three legs reduces errors due to ship's drift.

The result of this phase is the orientation of the perpendicular to the line drawn from transponder A to transponder B with respect to true north.

The orientation result is based on the gyro and is progressively modified during repositioning Phase 2.

This phase may be expected to take up to 1 hour,

4.2.3 REPOSITIONING PHASE 2

Having completed the geometry and orientation phases, the system now automatically enters the satellite repositioning phase.

At this stage the ship's track may be displayed on the plotter, however the ship's position will be based on the results of the relative geometry, and orientation, with the operator's original estimate of the position of transponder A. Repositioning of the net takes place after the second and subsequent successful satellite passes. Each result is in the form of a block shift of the net in metres and a change of orientation in degrees.

The new positions of all transponders with the new orientation are output after each successful pass.

At pass 15 the programme reconsiders the previous pass information and edits out any passes which appear to be contributing unreasonable errors.

The absolute accuracy of the geographical positions of the transponders depends on the number of passes processed. After twenty passes ± 25 metres is reasonable and after 30 passes ± 10 metres.

This phase of the calibration may take up to 72 hours depending on the frequency and quality of satellite passes.

4.3 ACOUSTIC TRACKING OF VESSELS POSITION

Once the positions of the sea-bed transponders have been established to the degree of accuracy required, the programme may be run in the "Navigate" mode, once this has been done any further satellite data is ignored.

The tracking programme enables the vessels position to be continuously monitored on the plotter, and manual, distance, or time initiated fixes to be generated, with a fix relay closure for automatic marking of echo sounder or sonar records which may be required for a site-survey.

4.4 "RELAY" MODE TRACKING"

Although outside the scope of this report and not used during this operation, the relay mode enables remote acoustic tracking on the survey vessel, of up to two further relay transponders which may be attached to other vehicles, working in the same area.

4.5 OPERATOR INPUTS TO THE OASIS SYSTEM

4.5.1 SPHEROID AND DATUM TRANSFORMATION CONSTANTS

The following spheroid data, and datum transformation constants from WGS72 to A.G.D were input during the initialisation of the programme.

Note that the $\Delta X, \Delta Y, \Delta Z$, signs are reversed from normal convention for datum transformations from WGS72 to A.G.D, this is a programme requirement.

$a = 6378160 \quad 1/f = 298.25$

$\Delta X = -122, \ \Delta Y = -41, \ \Delta Z = 146$

4.5.2. TIDAL INFORMATION

The programme requires an input of variation of height of tide from mean sea level, this is needed both for the satellite programme antenna height and for the acoustic programme slant range correction.

At the Edina-1 Location the tidal range is less than 2 metres and therefore not significant to the OASIS System.

4.5.3 VELOCITY PROFILE

An important input to the programme is velocity of sound in seawater, this was measured frequently using an MC5 Temperature/Salinity bridge, taking readings at 10 metre intervals from the sea surface to the seabed. The programme uses these results to compute a velocity profile. Measured values can be found at the end of this report.

4.5.4 SAT/DOP TROPOSPERIC CORRECTION

This is calculated by the programme based on operator inputs of temperature, pressure and relative humidity. These were measured at regular intervals using an Aspirated Hygrometer and a "Baromec M1915 " barometer.

4.5.5. OFFSET BETWEEN TOWFISH AND SAT-NAV ANTENNA

During the calibration of the net the offset between the towpoint and the satellite Navigation Antenna must be entered in the programme, thus the position plotted at this stage refers to the Antenna position.
Prior to the final transit fix on the "OCEAN DIGGER" the offsets were changed to plot the wheelhouse position, from where the transit fixes were observed. Measured offsets can be found at the end of this report.

5. NET CALIBRATION RESULTS

5.1 RELATIVE GEOMETRY, PHASE 1

The results are in the form of X-Y co-ordinates based on a line between transponder A and transponder B with A as origin. Values are in metres.

	X	Y
A	0.0	0.0
B	1137.6	0.0
C	1626.4	1054.7
D	631.0	1789.6
E	-239.1	1174.9

Discrepancy = 1.46

The discrepancy is a measure of the agreement between the two least squares solutions used to produce the final mean solution.

A value less than 5 is considered satisfactory.

5.2 ORIENTATION PHASE 1A

The result is the orientation of the perpendicular to the line joining transponder A and transponder B, this is later modified during the satellite repositioning phase.

ORIENTATION = 354.2°

5.3 REPOSITIONING PHASE 2

The end result of an oasis calibration is a set of geographical co-ordinates for each transponder and the net orientation.

TRANSPONDER FINAL POSITION

	Latitude South			Longitude East			Depth (M)
A	38°	36'	50".76	147°	52'	20.22"	69
B	38°	36'	46".15	147°	53'	06.87"	69
C	38°	36'	10".24	147°	53'	21.46"	69
D	38°	35'	50".62	147°	52'	36.86"	69
E	38°	36'	13".93	147°	52'	04.36"	69

ORIENTATION

Using 22 Passes R.M.S. = 25.22

An indication of the probable error in position of the acoustic net can be obtained from the R.M.S. value and the number of passes used:

$$\text{PROBABLE ERROR} = \sqrt{\frac{\text{R.M.S.}^2}{\text{NO OF PASSES USED}}} = 5.4 \text{ Metres}$$

5.4 TRANSPONDERS

The five transponder used had the following channel numbers, codes and serial numbers:

A Channel 6	Code	AC 14	Ser No. 339
B Channel 3	Code	A 14	Ser No. 329
C Channel 4	Code	AC123	Ser No. 322
D Channel 8	Code	AC 23	Ser No. 341
E Channel 7	Code	AC 15	Ser No. 340

6. MARKER BUOYS

A fix was taken on the position of all buoys prior to the arrival on location of the "OCEAN DIGGER" and information regarding the "set" of the buoys passed to the drillship.

Marker buoys were supplied by Australian Aquitaine Petroleum and were laid as follows:

6.1 LOCATION BUOY

On location.

6.2 HEADING BUOY

914 Metres (3000 feet) from location on rig heading of 260°.

6.3 ANCHOR BUOYS

No's 3, 4, 8, and 9.

7. PROVISIONAL DERRICK CO-ORDINATES

Numerous transit fixes were made to enable the rig to manoeuvre on to location, the final transit fix was completed at 0830 on 25 September and gave the derrick position as 14 metres on a bearing of 222^{o} from the intended location, with a heading of 263^{o}. Co-ordinates for this position were calculated and passed to the "OCEAN DIGGER" as provisional derrick co-ordinates.

PROVISIONAL DERRICK CO-ORDINATES FOR "EDINA No. 1"

Latitude	Longitude
38^{o} 36' 22".74 South	147^{o} 52' 41".72 East.

A.M.G. co-ordinates, Zone 55, Central Meridian 147^{o} E

576470 - Easting	5726529 - Northing

Heading of drillship 263^{o}

8. JMR-4A - SATELLITE DOPPLER FIX AT EDINA No. 1 LOCATION

JMR-4A Satellite Doppler observations were taken on board the "OCEAN DIGGER" to confirm the location of EDINA-No 1 well head which had been positioned by the "OASIS" System.

The JMR-4A contains its own microprocessor for processing of doppler count data obtained from the U.S Navy Transit Satellite System. Using frequencies transmitted from these satellites it extracts timing information, satellite ephemeris and doppler shift data to provide an accurate position fix anywhere on the earth's surface.

The raw data was recorded on JMR-1 certified cassette tapes and processed in real time using the JMR-4A programme. The following criteria were used for the computations:

a)	Tropospheric constant	: 0.00020
b)	Atmospheric Pressure	: 1020
c)	Doppler edit	: tight
d)	Pass elevation low angle cut off	: 20°
e)	Pass elevation high angle cut off	: 78°
f)	Drill rig heading	: 263°
g)	Offset antenna to drill stem	: brg. 069°06
		: Dist. 41.09m
h)	Co-ordinate transformation constants WGS-72 to A.G.D.	: Δ X 0.122
		: Δ Y 0.41
		: Δ Z-0.146
i)	Australian National Spheroid (A.N.S.)	: a = 6378160
		: f = $\frac{1}{298.25}$

9. SUMMARY OF RESULTS

Final position of EDINA-No 1 observed and processed by JMR-4A. 30 Acceptable passes.

Australian Geodetic Datum - (1966)(A.G.D.)

Latitude	38°	36'	22".539	South
Longitude	147°	52'	41".949	East

Australian Map Grid Co-ordinates, Zone 55, Central Meridian 147° East.

Eastings	576476
Northings	5726535

Proposed Location → JMR-4A Final Location 5 metres.

Proposed Location → OASIS Prov. Co-Ords. 14 metres

OASIS Prov. Co-Ords→ JMR-4A Final Location 8 metres

Approved: N.L. Sanderson O.B.E. Assoc I.S. Aust.
Chief Surveyor
RACAL DECCA SURVEY AUSTRALIA

PE905958

This is an enclosure indicator page.
The enclosure PE905958 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905958 has the following characteristics:

```
     ITEM_BARCODE = PE905958
CONTAINER_BARCODE = PE905967
             NAME = Location Map
            BASIN = GIPPSLAND BASIN
           PERMIT = VIC/P17
             TYPE = WELL
          SUBTYPE = MAP
      DESCRIPTION = Location Map (from attachment 2 of
                    WCR--rig Positioning Report) for
                    Edina-1
          REMARKS =
     DATE_CREATED =
    DATE_RECEIVED = 6/06/83
             W_NO = W784
        WELL_NAME = EDINA-1
       CONTRACTOR =
     CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM
```

(Inserted by DNRE - Vic Govt Mines Dept)

APPENDIX B

PERSONNEL LIST AND SUMMARY OF PROJECT DIARY

Personnel List

I.A. FREEMAN	B Surv. M.I.S. AUST Senior Surveyor	R-DSA SYDNEY
K. PERRY	U.W./OASIS Engineer	R-DSA GREAT YARMOUTH

Summary of Project Diary

9 Sept - Equipment and personnel mobilised ex Sydney and Perth.

10 Sept - Commence fitting out M.V. "Christmas Creek" with OASIS equipment.

13 Sept - 1415 - Sail from Port Welshpool for location.

14 Sept - Lay Acoustic Transponder Net. Complete relative geometry and orientation of net.

15 Sept - Lost starfish - return to Port Welshpool for replacement.

16 Sept - 1030 - Resume operations - commence repositioning Phase 2.

18 Sept - 0700 - 19 Passes accepted - weather deteriorating rapidly, return to shelter at Port Welshpool.

19,20,21- Weather Standby at Port Welshpool.

22 Sept - Return to Location.

23 Sept - 1044 - Complete Calibration - lay location and marker buoys.
1730 - Ocean Digger arrives on site.

24 Sept -	"OCEAN DIGGER" Running Anchors
25 Sept -	0830 Final Acoustic Transit Fixes positions OCEAN DIGGER 14 metres off location. "Christmas Creek" released from survey duties. 1630 - JMR-4A Observations commenced on "OCEAN DIGGER".
27 Sept	2130 - Pass 30 processed. JMR-4A observations completed.
28 Sept	Operator & equipment helicopter to Welshpool Base.
29 Sept	Demobilise to Sydney.

APPENDIX C

TEMPERATURE AND SALINITY READING

14 Sept 1982 - 1500

Depth (m)	Temp (C^o)	Salinity p.p.t.
0	20.0	29.7
10	19.1	19.7
20	18.8	30.0
30	18.8	30.0
40	18.6	30.0
50	18.6	30.0
60	18.8	29.8
69	19.1	29.8
	Mean	29.9

16 Sept 1982 - 1000

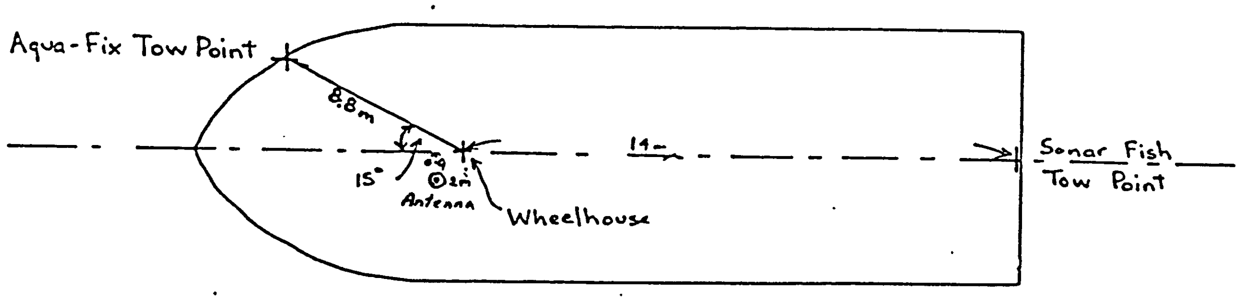
Depth (m)	Temp (C^o)	Salinity p.p.t.
0	19.4	29.7
7	18.9	29.8
14	18.9	29.8
21	18.8	29.7
28	19.0	29.5
35	19.0	29.5
42	19.2	29.4
50	19.3	29.3
57	19.3	29.3
	Mean	29.6

TEMPERATURE AND SALINITY READINGS

22-Sept 1982 - 1015

Depth (m)	Temp (C^o)		Salinity p.p.t.
0	19.2		29.7
10	19.2		29.9
20	19.2		29.7
30	19.1		29.8
40	19.2		29.6
50	19.5		29.6
60	19.5		29.6
69	19.5		29.6
		Mean	29.7

"CHRISTMAS CREEK" OFFSETS



TOWFISH TO SAT NAV ANTENNA

L = 17 metres H = 3.5 metres B = 28° D = 7·3 metres

TOWFISH TO WHEELHOUSE

L = 17 metres H = 3.5 metres B = 15° D = 8.3 metres

Sonar fish towpoint to wheelhouse datum = 14 metres

L = Length of tow cable
H = Height of tow point above water line
B = bearing of tow point w.r.t. ships head
D = distance of tow point from ships datum

PE905959

This is an enclosure indicator page.
The enclosure PE905959 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905959 has the following characteristics:

ITEM_BARCODE =	PE905959
CONTAINER_BARCODE =	PE905967
NAME =	Relative Geometry/ Orientation of Acoustic Net
BASIN =	GIPPSLAND BASIN
PERMIT =	VIC/P17
TYPE =	WELL
SUBTYPE =	DIAGRAM
DESCRIPTION =	Relative Geometry/Orientation of Acoustic Net (from attachment 2 of WCR--rig Positioning Report) for Edina-1
REMARKS =	
DATE_CREATED =	
DATE_RECEIVED =	6/06/83
W_NO =	W784
WELL_NAME =	EDINA-1
CONTRACTOR =	
CLIENT_OP_CO =	AUSTRALIAN AQUITAIN PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE905960

This is an enclosure indicator page.
The enclosure PE905960 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905960 has the following characteristics:

ITEM_BARCODE = PE905960
CONTAINER_BARCODE = PE905967
NAME = Satellite Fixes Used in Calibration of Acoustic Net
BASIN = GIPPSLAND BASIN
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Satellite Fixes Used in Calibration of Acoustic Net (from attachment 2 of WCR--rig Positioning Report) for Edina-1
REMARKS =
DATE_CREATED =
DATE_RECEIVED = 6/06/83
W_NO = W784
WELL_NAME = EDINA-1
CONTRACTOR =
CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE905961

This is an enclosure indicator page.
The enclosure PE905961 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905961 has the following characteristics:

ITEM_BARCODE = PE905961
CONTAINER_BARCODE = PE905967
NAME = Final Transit Fix (clockwise)
BASIN = GIPPSLAND BASIN
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Final Transit Fix, clockwise, (from attachment 2 of WCR--rig Positioning Report) for Edina-1
REMARKS =
DATE_CREATED = 25/09/83
DATE_RECEIVED = 6/06/83
W_NO = W784
WELL_NAME = EDINA-1
CONTRACTOR =
CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE905962

This is an enclosure indicator page.
The enclosure PE905962 is enclosed within the container PE905967 at this location in this document.

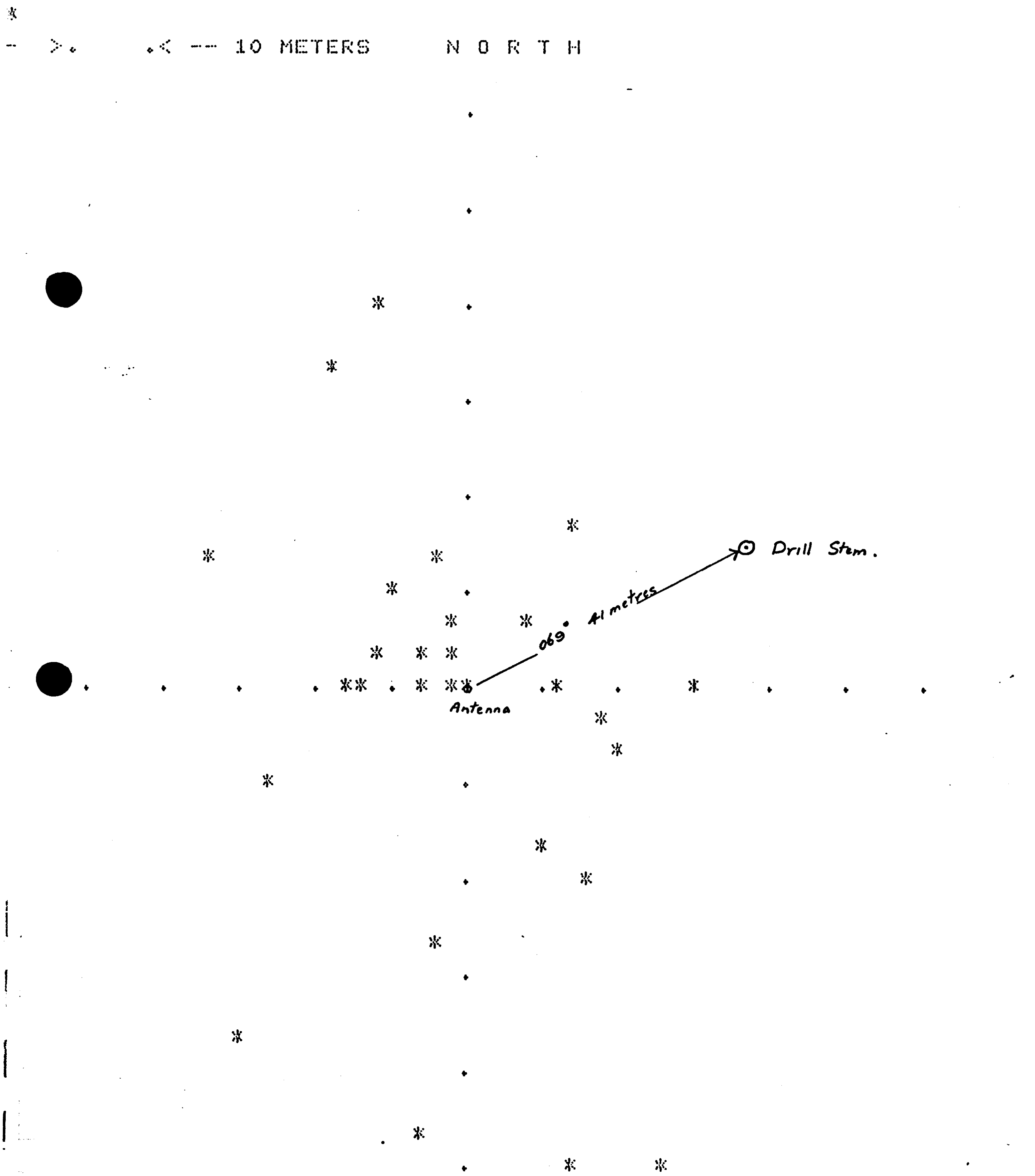
The enclosure PE905962 has the following characteristics:

```
     ITEM_BARCODE = PE905962
CONTAINER_BARCODE = PE905967
             NAME = Final Transit Fix (anti-clockwise)
            BASIN = GIPPSLAND BASIN
           PERMIT = VIC/P17
             TYPE = WELL
          SUBTYPE = DIAGRAM
      DESCRIPTION = Final Transit Fix, anti-clockwise,
                    (from attachment 2 of WCR--rig
                    Positioning Report) for Edina-1
          REMARKS =
     DATE_CREATED = 25/09/83
    DATE_RECEIVED = 6/06/83
             W_NO = W784
        WELL_NAME = EDINA-1
       CONTRACTOR =
     CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM
```

(Inserted by DNRE - Vic Govt Mines Dept)

ST=194 NLAT=26 NLON=25
HGTM= 41.72 LATM=- 38 36 23.014 LONM= 147 52 40.364
HT= 0.5 ERLT= 3.8 ERLG= 2.7

Scatter Plot of Antenna Position



Attachment 4

Velocity survey

Attachment 4

82/971

Seismograph Service Limited
Inc in England registered in W A
182 - 184 FULLARTON ROAD.
DULWICH. S.A. 5065
P.O. BOX 287.
GLENSIDE. S.A. 5065
TELEPHONE: 332 5155
TELEX: AA82316

Directors
R.C. ANDERSON (U.S.A.)
B.G. BAUGH (U.S.A.)
J.K. SMITH
H.W. LAWRENCE (U.S.A.)
E.E. WOLF

TEL FARNBOROUGH KENT 53355
TELEX 24450
CABLES
"SEISLIM LONDON"
INLAND TELEGRAMS
"SEISLIM BROMLEY TELEX"
HOLWOOD,
WESTERHAM ROAD,
KESTON, KENT
ENGLAND
BR2 6HD
REGISTERED IN ENGLAND No. 409888

Australian Aquitaine Petroleum Pty Ltd. Well: Edina No. 1

Listing of level Nos. Depths & Stacks relating to unfiltered and filtered traces.

Level No.	Depth in m below RT.	Stack (Nos from original DM)
1	225	1,2,3
2	300	52,53,54,55
3	400	4,5,6,7,8
4	400	50,51
5	500	48,49
6	600	9,10
7	800	11,12
8	1000	13,14
9	1195	15,16
10	1216	17,18
11	1450	19,20
12	1600	46,47
13	1650	26,27
14	1675	23
15	1698	43,45
16	1850	29,30
17	2050	41,42
18	2250	31,32
19	2350	39,40
20	2450	33,34
21	2580	35,36,37,38

SEISMOGRAPH SERVICE (ENGLAND) LTD

WELL SURVEY DIVISION

COMPANY: AUSTALIAN AQUITAINE PETROLEUM PTY LTD

WELL: EDINA NO.1

LISTING OF : TWO-WAY TRAVEL TIME IN SECONDS BELOW DATUM OF MEAN SEA LEVEL

VERTICAL DEPTH IN METRES BELOW DATUM OF MEAN SEA LEVEL

VELOCITIES IN M/SEC

REFLECTION COEFFICIENTS

TWO-WAY TRANSMISSION LOSS

ELEVATION OF RT AT 3Ø.2 METRES ABOVE DATUM OF MEAN SEA LEVEL

TIMES START AT TOP OF VELOCITY LOG AT Ø.218Ø SECONDS TWØ-WAY TIME

Ø.ØØ2

TIME INCREMENT IS Ø.ØØ[illegible] SECONDS TWO-WAY TIME

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
0.2180	192.7	1767.9	1767.9	1767.9		
0.2200	194.6	1834.0	1768.5	1768.5	0.0184	0.0003
0.2220	196.5	1963.8	1770.3	1770.4	0.0342	0.0015
0.2240	198.6	2075.0	1773.0	1773.3	0.0275	0.0023
0.2260	200.5	1922.3	1774.3	1774.7	-0.0382	0.0037
0.2280	202.6	2088.3	1777.1	1777.7	0.0414	0.0054
0.2300	204.7	2082.3	1779.7	1780.6	-0.0014	0.0054
0.2320	206.8	2118.3	1782.7	1783.8	0.0086	0.0055
0.2340	209.0	2186.6	1786.1	1787.6	0.0159	0.0058
0.2360	211.0	2018.4	1788.1	1789.7	-0.0400	0.0073
0.2380	213.2	2124.3	1790.9	1792.7	0.0256	0.0080
0.2400	215.3	2185.8	1794.2	1796.4	0.0143	0.0082
0.2420	217.5	2165.8	1797.3	1799.7	-0.0046	0.0082
0.2440	219.7	2168.1	1800.3	1803.1	0.0005	0.0082
0.2460	221.8	2147.2	1803.1	1806.1	-0.0048	0.0082
0.2480	223.9	2093.4	1805.5	1808.6	-0.0127	0.0084
0.2500	226.0	2135.4	1808.1	1811.5	0.0099	0.0085
0.2520	228.1	2042.5	1810.0	1813.4	-0.0222	0.0090
0.2540	230.1	2008.9	1811.5	1815.0	-0.0083	0.0091
0.2560	232.1	2050.6	1813.4	1817.0	0.0103	0.0092
0.2580	234.2	2085.1	1815.5	1819.2	0.0083	0.0092
0.2600	236.4	2167.5	1818.2	1822.2	0.0194	0.0096
0.2620	238.6	2240.5	1821.4	1825.7	0.0165	0.0099
0.2640	240.9	2235.4	1824.6	1829.2	-0.0011	0.0099
0.2660	243.1	2186.5	1827.3	1832.1	-0.0110	0.0100
0.2680	245.1	2004.8	1828.6	1833.5	-0.0434	0.0119
0.2700	247.1	1999.8	1829.9	1834.8	-0.0012	0.0119
0.2720	249.2	2170.1	1832.4	1837.4	0.0408	0.0135
0.2740	251.4	2159.2	1834.8	1840.0	-0.0025	0.0135
0.2760	253.6	2240.5	1837.7	1843.2	0.0185	0.0138
0.2780	255.7	2091.0	1839.5	1845.1	-0.0345	0.0150
0.2800	257.7	1984.4	1840.6	1846.1	-0.0262	0.0157
0.2820	259.9	2235.8	1843.4	1849.2	0.0596	0.0192
0.2840	262.2	2290.5	1846.5	1852.7	0.0121	0.0193
0.2860	264.6	2378.1	1850.2	1856.9	0.0188	0.0197
0.2880	267.0	2351.2	1853.7	1860.7	-0.0057	0.0197
0.2900	269.3	2352.2	1857.1	1864.6	0.0002	0.0197
0.2920	271.7	2356.8	1860.6	1868.4	0.0010	0.0197
0.2940	274.0	2326.4	1863.7	1871.9	-0.0065	0.0198
0.2960	276.4	2435.7	1867.6	1876.3	0.0229	0.0203
0.2980	279.0	2520.1	1872.0	1881.3	0.0170	0.0206
0.3000	281.4	2458.5	1875.9	1885.7	-0.0124	0.0207
0.3020	283.9	2466.8	1879.8	1890.2	0.0017	0.0207
0.3040	286.3	2452.4	1883.6	1894.4	-0.0029	0.0207
0.3060	288.8	2460.0	1887.3	1898.7	0.0015	0.0207
0.3080	291.2	2427.4	1890.8	1902.6	-0.0067	0.0208
0.3100	293.6	2397.5	1894.1	1906.2	-0.0062	0.0208
0.3120	296.0	2369.6	1897.2	1909.5	-0.0058	0.0208
0.3140	298.4	2410.1	1900.4	1913.1	0.0085	0.0209
0.3160	300.8	2410.7	1903.7	1916.7	0.0001	0.0209
0.3180	303.2	2431.5	1907.0	1920.3	0.0043	0.0209
0.3200	305.7	2429.0	1910.2	1923.9	-0.0005	0.0209
0.3220	308.1	2440.9	1913.5	1927.6	0.0024	0.0209
0.3240	310.6	2456.3	1916.9	1931.3	0.0032	0.0209
0.3260	313.0	2437.8	1920.1	1934.8	-0.0038	0.0209
0.3280	315.5	2455.2	1923.3	1938.4	0.0035	0.0210
0.3300	317.9	2413.4	1926.3	1941.6	-0.0086	0.0210
0.3320	320.3	2409.7	1929.2	1944.8	-0.0008	0.0210

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
0.3340	322.7	2370.0	1931.9	1947.6	-0.0083	0.0211
0.3360	325.0	2345.1	1934.3	1950.2	-0.0053	0.0211
0.3380	327.4	2372.2	1936.9	1953.0	0.0058	0.0212
0.3400	329.8	2397.5	1939.6	1955.9	0.0053	0.0212
0.3420	332.2	2382.3	1942.2	1958.6	-0.0032	0.0212
0.3440	334.6	2411.3	1944.9	1961.6	0.0060	0.0212
0.3460	337.0	2467.5	1948.0	1964.9	0.0115	0.0214
0.3480	339.5	2434.2	1950.8	1967.9	-0.0068	0.0214
0.3500	341.9	2439.9	1953.5	1970.9	0.0012	0.0214
0.3520	344.3	2441.7	1956.3	1973.9	0.0004	0.0214
0.3540	346.8	2478.3	1959.3	1977.1	0.0074	0.0215
0.3560	349.2	2418.7	1961.8	1979.9	-0.0122	0.0216
0.3580	351.7	2421.7	1964.4	1982.6	0.0006	0.0216
0.3600	354.1	2469.8	1967.2	1985.6	0.0098	0.0217
0.3620	356.6	2449.6	1969.9	1988.5	-0.0041	0.0217
0.3640	359.0	2448.6	1972.5	1991.3	-0.0002	0.0217
0.3660	361.5	2454.8	1975.2	1994.1	0.0013	0.0217
0.3680	364.0	2468.3	1977.8	1997.0	0.0027	0.0217
0.3700	366.4	2489.6	1980.6	2000.0	0.0043	0.0217
0.3720	369.0	2509.5	1983.4	2003.1	0.0040	0.0218
0.3740	371.5	2527.2	1986.4	2006.3	0.0035	0.0218
0.3760	373.9	2449.6	1988.8	2008.9	-0.0156	0.0220
0.3780	376.4	2506.2	1991.6	2011.8	0.0114	0.0221
0.3800	378.9	2490.1	1994.2	2014.7	-0.0032	0.0222
0.3820	381.4	2463.6	1996.6	2017.3	-0.0054	0.0222
0.3840	383.8	2439.3	1998.9	2019.7	-0.0050	0.0222
0.3860	386.3	2476.6	2001.4	2022.3	0.0080	0.0223
0.3880	388.8	2491.8	2004.0	2025.0	0.0027	0.0223
0.3900	391.3	2491.6	2006.5	2027.7	0.0000	0.0223
0.3920	393.8	2498.1	2009.0	2030.4	0.0013	0.0223
0.3940	396.3	2518.8	2011.5	2033.2	0.0041	0.0223
0.3960	398.8	2524.3	2014.1	2035.9	0.0011	0.0223
0.3980	401.3	2484.0	2016.5	2038.4	-0.0081	0.0224
0.4000	403.9	2540.9	2019.1	2041.2	0.0113	0.0225
0.4020	406.4	2555.9	2021.8	2044.1	0.0029	0.0225
0.4040	408.9	2528.5	2024.3	2046.8	-0.0054	0.0225
0.4060	411.5	2537.6	2026.8	2049.5	0.0018	0.0225
0.4080	414.0	2546.9	2029.4	2052.2	0.0018	0.0225
0.4100	416.6	2606.1	2032.2	2055.3	0.0115	0.0227
0.4120	419.2	2584.0	2034.9	2058.2	-0.0043	0.0227
0.4140	421.7	2498.9	2037.1	2060.6	-0.0168	0.0229
0.4160	424.2	2485.9	2039.3	2062.8	-0.0026	0.0230
0.4180	426.7	2511.3	2041.5	2065.2	0.0051	0.0230
0.4200	429.3	2557.2	2044.0	2067.8	0.0091	0.0231
0.4220	431.8	2568.3	2046.5	2070.5	0.0021	0.0231
0.4240	434.4	2597.1	2049.1	2073.3	0.0056	0.0231
0.4260	437.0	2556.0	2051.4	2075.8	-0.0080	0.0232
0.4280	439.5	2545.6	2053.8	2078.2	-0.0020	0.0232
0.4300	442.1	2546.9	2056.0	2080.7	0.0002	0.0232
0.4320	444.7	2566.8	2058.4	2083.2	0.0039	0.0232
0.4340	447.2	2532.3	2060.6	2085.5	-0.0068	0.0232
0.4360	449.7	2500.2	2062.6	2087.6	-0.0064	0.0233
0.4380	452.2	2474.7	2064.5	2089.5	-0.0051	0.0233
0.4400	454.6	2483.2	2066.4	2091.4	0.0017	0.0233
0.4420	457.1	2503.0	2068.4	2093.5	0.0040	0.0233
0.4440	459.7	2544.1	2070.5	2095.7	0.0081	0.0234
0.4460	462.2	2526.4	2072.6	2097.9	-0.0035	0.0234
0.4480	464.8	2575.3	2074.8	2[illegible].2	0.0096	0.0235

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
0.4500	467.3	2539.5	2076.9	2102.4	-0.0070	0.0235
0.4520	469.9	2554.1	2079.0	2104.6	0.0029	0.0235
0.4540	472.4	2528.9	2081.0	2106.7	-0.0050	0.0235
0.4560	474.9	2531.7	2082.9	2108.7	0.0005	0.0235
0.4580	477.4	2420.5	2084.4	2110.2	-0.0225	0.0240
0.4600	479.9	2490.3	2086.2	2112.0	0.0142	0.0242
0.4620	482.4	2533.3	2088.1	2114.0	0.0086	0.0243
0.4640	484.9	2544.4	2090.1	2116.0	0.0022	0.0243
0.4660	487.5	2541.0	2092.0	2118.0	-0.0007	0.0243
0.4680	490.0	2526.2	2093.9	2119.9	-0.0029	0.0243
0.4700	492.5	2534.1	2095.7	2121.9	0.0016	0.0243
0.4720	495.1	2558.5	2097.7	2123.9	0.0048	0.0243
0.4740	497.7	2594.7	2099.8	2126.1	0.0070	0.0244
0.4760	500.3	2605.0	2101.9	2128.4	0.0020	0.0244
0.4780	502.9	2575.3	2103.9	2130.4	-0.0057	0.0244
0.4800	505.5	2579.8	2105.9	2132.5	0.0009	0.0244
0.4820	508.0	2584.5	2107.9	2134.6	0.0009	0.0244
0.4840	510.6	2587.6	2109.9	2136.6	0.0006	0.0244
0.4860	513.2	2568.8	2111.7	2138.6	-0.0036	0.0244
0.4880	515.8	2569.4	2113.6	2140.5	0.0001	0.0244
0.4900	518.3	2571.3	2115.5	2142.5	0.0004	0.0244
0.4920	520.9	2606.6	2117.5	2144.6	0.0068	0.0245
0.4940	523.5	2587.0	2119.4	2146.5	-0.0038	0.0245
0.4960	526.2	2654.7	2121.5	2148.8	0.0129	0.0247
0.4980	528.8	2582.3	2123.4	2150.7	-0.0138	0.0249
0.5000	531.3	2566.6	2125.2	2152.6	-0.0030	0.0249
0.5020	533.9	2553.1	2126.9	2154.3	-0.0026	0.0249
0.5040	536.5	2579.8	2128.7	2156.2	0.0052	0.0249
0.5060	539.0	2490.6	2130.1	2157.6	-0.0176	0.0252
0.5080	541.4	2490.6	2131.5	2159.0	0.0000	0.0252
0.5100	544.0	2541.5	2133.1	2160.6	0.0101	0.0253
0.5120	546.6	2631.7	2135.1	2162.7	0.0174	0.0256
0.5140	549.3	2682.6	2137.2	2164.9	0.0096	0.0257
0.5160	552.1	2759.5	2139.6	2167.5	0.0141	0.0259
0.5180	554.7	2603.1	2141.4	2169.4	-0.0292	0.0267
0.5200	557.3	2617.0	2143.2	2171.3	0.0027	0.0267
0.5220	560.0	2673.5	2145.3	2173.4	0.0107	0.0268
0.5240	562.6	2599.0	2147.0	2175.2	-0.0141	0.0270
0.5260	565.1	2582.7	2148.6	2176.9	-0.0031	0.0270
0.5280	567.8	2715.1	2150.8	2179.2	0.0250	0.0276
0.5300	570.4	2568.6	2152.4	2180.8	-0.0277	0.0284
0.5320	573.0	2554.5	2153.9	2182.3	-0.0028	0.0284
0.5340	575.5	2560.4	2155.4	2183.9	0.0011	0.0284
0.5360	578.0	2516.0	2156.8	2185.2	-0.0088	0.0285
0.5380	580.7	2648.8	2158.6	2187.1	0.0257	0.0291
0.5400	583.3	2573.2	2160.1	2188.7	-0.0145	0.0293
0.5420	585.9	2616.7	2161.8	2190.4	0.0084	0.0294
0.5440	588.6	2704.5	2163.8	2192.5	0.0165	0.0296
0.5460	591.2	2609.3	2165.4	2194.2	-0.0179	0.0300
0.5480	593.9	2660.6	2167.2	2196.1	0.0097	0.0300
0.5500	596.4	2535.7	2168.6	2197.4	-0.0240	0.0306
0.5520	599.1	2657.1	2170.3	2199.2	0.0234	0.0311
0.5540	601.6	2521.8	2171.6	2200.5	-0.0261	0.0318
0.5560	604.2	2604.8	2173.2	2202.1	0.0162	0.0321
0.5580	606.9	2692.5	2175.0	2204.0	0.0166	0.0323
0.5600	609.5	2632.8	2176.7	2205.7	-0.0112	0.0324
0.5620	611.9	2394.6	2177.4	2206.4	-0.0474	0.0346
0.5640	614.2	2287.9	2177.8	2206.7	-0.0228	0.0351

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
0.5660	616.5	2344.9	2178.4	2207.2	0.0123	0.0353
0.5680	619.1	2563.3	2179.8	2208.5	0.0445	0.0372
0.5700	621.7	2566.9	2181.1	2209.9	0.0007	0.0372
0.5720	624.3	2655.5	2182.8	2211.6	0.0170	0.0374
0.5740	626.7	2380.0	2183.5	2212.2	-0.0547	0.0403
0.5760	628.9	2235.4	2183.7	2212.3	-0.0313	0.0413
0.5780	631.5	2548.5	2184.9	2213.6	0.0655	0.0454
0.5800	634.2	2670.7	2186.6	2215.3	0.0234	0.0459
0.5820	636.8	2694.1	2188.3	2217.1	0.0044	0.0459
0.5840	639.6	2759.3	2190.3	2219.2	0.0120	0.0461
0.5860	642.3	2684.2	2192.0	2221.0	-0.0138	0.0462
0.5880	644.9	2601.9	2193.4	2222.4	-0.0156	0.0465
0.5900	647.6	2721.5	2195.2	2224.2	0.0225	0.0470
0.5920	650.4	2830.2	2197.3	2226.6	0.0196	0.0473
0.5940	653.3	2843.7	2199.5	2228.9	0.0024	0.0473
0.5960	656.1	2773.8	2201.4	2231.0	-0.0124	0.0475
0.5980	658.8	2757.4	2203.3	2233.0	-0.0030	0.0475
0.6000	661.6	2808.7	2205.3	2235.1	0.0092	0.0476
0.6020	664.4	2819.3	2207.3	2237.3	0.0019	0.0476
0.6040	667.3	2830.2	2209.4	2239.5	0.0019	0.0476
0.6060	670.2	2895.9	2211.7	2242.0	0.0115	0.0477
0.6080	673.1	2886.4	2213.9	2244.4	-0.0016	0.0477
0.6100	676.0	2961.5	2216.3	2247.2	0.0128	0.0479
0.6120	678.8	2773.4	2218.2	2249.1	-0.0328	0.0489
0.6140	681.7	2918.4	2220.4	2251.6	0.0255	0.0495
0.6160	684.7	2980.9	2222.9	2254.3	0.0106	0.0496
0.6180	687.7	2992.2	2225.4	2257.1	0.0019	0.0496
0.6200	690.7	3003.4	2227.9	2259.9	0.0019	0.0496
0.6220	693.5	2847.6	2229.9	2262.1	-0.0266	0.0503
0.6240	696.4	2828.6	2231.8	2264.1	-0.0033	0.0503
0.6260	699.1	2712.0	2233.3	2265.7	-0.0210	0.0507
0.6280	702.1	3003.2	2235.8	2268.4	0.0510	0.0532
0.6300	705.0	2899.9	2237.9	2270.7	-0.0175	0.0535
0.6320	707.9	2920.5	2240.1	2273.0	0.0035	0.0535
0.6340	710.8	2884.2	2242.1	2275.2	-0.0063	0.0535
0.6360	714.4	3594.0	2246.4	2280.6	0.1096	0.0649
0.6380	717.4	3044.0	2248.9	2283.3	-0.0829	0.0713
0.6400	720.3	2890.1	2250.9	2285.5	-0.0259	0.0719
0.6420	723.3	3018.0	2253.2	2288.1	0.0217	0.0724
0.6440	726.4	3055.0	2255.7	2290.9	0.0061	0.0724
0.6460	729.4	2994.0	2258.0	2293.4	-0.0101	0.0725
0.6480	732.5	3101.5	2260.6	2296.4	0.0176	0.0728
0.6500	735.5	3048.6	2263.0	2299.1	-0.0086	0.0728
0.6520	738.5	3014.3	2265.4	2301.6	-0.0057	0.0729
0.6540	741.6	3073.8	2267.8	2304.3	0.0098	0.0730
0.6560	744.7	3129.0	2270.4	2307.3	0.0089	0.0730
0.6580	747.8	3054.1	2272.8	2309.9	-0.0121	0.0732
0.6600	750.8	3033.2	2275.1	2312.5	-0.0034	0.0732
0.6620	754.0	3118.5	2277.7	2315.3	0.0139	0.0734
0.6640	757.0	3074.7	2280.1	2318.0	-0.0071	0.0734
0.6660	760.1	3041.2	2282.4	2320.5	-0.0055	0.0734
0.6680	763.1	3081.0	2284.8	2323.1	0.0065	0.0735
0.6700	766.2	3056.9	2287.1	2325.7	-0.0039	0.0735
0.6720	769.5	3257.7	2290.0	2329.0	0.0318	0.0744
0.6740	772.6	3156.0	2292.5	2331.9	-0.0159	0.0747
0.6760	775.6	2968.5	2294.5	2334.0	-0.0306	0.0755
0.6780	778.4	2763.0	2295.9	2335.4	-0.0359	0.0767
0.6800	780.9	2540.5	2296.6	23[illegible]0	-0.0420	0.0783

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
0.6820	783.5	2622.2	2297.6	2336.9	0.0158	0.0786
0.6840	786.1	2633.9	2298.6	2337.9	0.0022	0.0786
0.6860	788.7	2541.0	2299.3	2338.5	-0.0180	0.0789
0.6880	791.3	2655.9	2300.3	2339.5	0.0221	0.0793
0.6900	794.3	2954.0	2302.2	2341.5	0.0531	0.0819
0.6920	797.0	2747.0	2303.5	2342.8	-0.0363	0.0831
0.6940	799.5	2490.1	2304.0	2343.2	-0.0491	0.0853
0.6960	802.1	2557.7	2304.8	2343.8	0.0134	0.0855
0.6980	804.9	2790.9	2306.1	2345.2	0.0436	0.0872
0.7000	807.9	3020.2	2308.2	2347.4	0.0395	0.0887
0.7020	810.7	2832.5	2309.7	2349.0	-0.0321	0.0896
0.7040	813.7	2953.3	2311.5	2350.9	0.0209	0.0900
0.7060	816.8	3124.3	2313.8	2353.5	0.0281	0.0907
0.7080	819.8	2957.3	2315.6	2355.4	-0.0275	0.0914
0.7100	822.7	2931.5	2317.4	2357.2	-0.0044	0.0914
0.7120	825.6	2931.6	2319.1	2359.0	0.0000	0.0914
0.7140	828.3	2667.2	2320.1	2359.9	-0.0472	0.0935
0.7160	831.1	2770.5	2321.3	2361.2	0.0190	0.0938
0.7180	833.8	2711.5	2322.4	2362.2	-0.0108	0.0939
0.7200	837.2	3382.9	2325.4	2365.7	0.1102	0.1049
0.7220	840.3	3111.6	2327.5	2368.1	-0.0418	0.1064
0.7240	843.4	3139.7	2329.8	2370.5	0.0045	0.1065
0.7260	846.7	3319.7	2332.5	2373.7	0.0279	0.1072
0.7280	849.9	3130.9	2334.7	2376.1	-0.0293	0.1079
0.7300	853.1	3242.6	2337.2	2378.9	0.0175	0.1082
0.7320	856.2	3133.6	2339.4	2381.3	-0.0171	0.1085
0.7340	859.5	3223.1	2341.8	2384.0	0.0141	0.1086
0.7360	862.7	3222.8	2344.2	2386.6	0.0000	0.1086
0.7380	866.0	3270.2	2346.7	2389.5	0.0073	0.1087
0.7400	869.2	3231.4	2349.1	2392.2	-0.0060	0.1087
0.7420	872.2	3019.0	2350.9	2394.1	-0.0340	0.1097
0.7440	875.4	3171.3	2353.1	2396.5	0.0246	0.1103
0.7460	878.6	3266.6	2355.5	2399.3	0.0148	0.1105
0.7480	882.0	3322.1	2358.1	2402.2	0.0084	0.1105
0.7500	885.3	3279.6	2360.6	2405.0	-0.0064	0.1106
0.7520	888.3	3037.1	2362.4	2406.9	-0.0384	0.1119
0.7540	891.6	3271.2	2364.8	2409.6	0.0371	0.1131
0.7560	894.8	3238.4	2367.1	2412.1	-0.0050	0.1131
0.7580	898.0	3191.4	2369.3	2414.5	-0.0073	0.1132
0.7600	901.2	3201.3	2371.4	2416.9	0.0016	0.1132
0.7620	904.2	3001.2	2373.1	2418.6	-0.0323	0.1141
0.7640	907.1	2958.8	2374.6	2420.2	-0.0071	0.1141
0.7660	910.4	3290.8	2377.0	2422.9	0.0531	0.1166
0.7680	913.4	2956.9	2378.5	2424.4	-0.0534	0.1192
0.7700	916.5	3079.8	2380.4	2426.4	0.0204	0.1195
0.7720	919.6	3135.7	2382.3	2428.5	0.0090	0.1196
0.7740	922.6	3008.2	2383.9	2430.1	-0.0208	0.1200
0.7760	925.5	2830.5	2385.1	2431.3	-0.0304	0.1208
0.7780	928.5	3043.1	2386.8	2433.0	0.0362	0.1219
0.7800	931.6	3064.4	2388.5	2434.9	0.0035	0.1220
0.7820	934.6	3004.6	2390.1	2436.5	-0.0098	0.1220
0.7840	937.3	2761.0	2391.0	2437.4	-0.0422	0.1236
0.7860	940.5	3127.1	2392.9	2439.4	0.0622	0.1270
0.7880	943.6	3188.6	2394.9	2441.6	0.0097	0.1271
0.7900	946.5	2813.9	2396.0	2442.6	-0.0624	0.1305
0.7920	949.5	3037.0	2397.6	2444.3	0.0381	0.1317
0.7940	952.4	2955.1	2399.0	2445.7	-0.0137	0.1319
0.7960	955.5	3021.2	2400.6	2447.3	0.0111	0.1320

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
0.7980	958.5	3066.2	2402.2	2449.0	0.0074	0.1321
0.8000	961.4	2865.4	2403.4	2450.2	-0.0339	0.1331
0.8020	964.4	2978.2	2404.8	2451.6	0.0193	0.1334
0.8040	967.5	3134.2	2406.6	2453.6	0.0255	0.1339
0.8060	970.6	3134.2	2408.4	2455.5	0.0000	0.1339
0.8080	973.6	2947.2	2409.8	2456.8	-0.0308	0.1348
0.8100	976.8	3222.6	2411.8	2459.0	0.0446	0.1365
0.8120	979.8	3021.9	2413.3	2460.6	-0.0321	0.1374
0.8140	982.8	2959.8	2414.6	2461.9	-0.0104	0.1375
0.8160	985.8	2996.3	2416.1	2463.4	0.0061	0.1375
0.8180	988.7	2902.9	2417.2	2464.5	-0.0158	0.1377
0.8200	991.7	2954.5	2418.6	2465.8	0.0088	0.1378
0.8220	994.8	3159.3	2420.4	2467.8	0.0335	0.1388
0.8240	997.9	3085.4	2422.0	2469.5	-0.0118	0.1389
0.8260	1000.9	2968.2	2423.3	2470.8	-0.0194	0.1392
0.8280	1003.9	3040.2	2424.8	2472.3	0.0120	0.1393
0.8300	1006.9	2992.7	2426.2	2473.7	-0.0079	0.1394
0.8320	1010.0	3122.4	2427.8	2475.5	0.0212	0.1398
0.8340	1013.2	3138.8	2429.5	2477.3	0.0026	0.1398
0.8360	1016.2	3004.6	2430.9	2478.7	-0.0219	0.1402
0.8380	1019.0	2879.9	2432.0	2479.7	-0.0212	0.1406
0.8400	1021.9	2890.9	2433.1	2480.8	0.0019	0.1406
0.8420	1024.9	2948.1	2434.3	2482.0	0.0098	0.1407
0.8440	1027.9	3048.4	2435.8	2483.5	0.0167	0.1409
0.8460	1030.9	3020.1	2437.1	2484.9	-0.0047	0.1409
0.8480	1033.9	2974.8	2438.4	2486.1	-0.0076	0.1410
0.8500	1036.9	2932.7	2439.6	2487.3	-0.0071	0.1410
0.8520	1039.9	3045.4	2441.0	2488.7	0.0189	0.1413
0.8540	1042.9	3018.7	2442.3	2490.1	-0.0044	0.1413
0.8560	1046.0	3051.4	2443.8	2491.6	0.0054	0.1414
0.8580	1049.0	3018.5	2445.1	2492.9	-0.0054	0.1414
0.8600	1052.0	3003.5	2446.4	2494.2	-0.0025	0.1414
0.8620	1054.9	2939.9	2447.5	2495.4	-0.0107	0.1415
0.8640	1058.0	3050.0	2448.9	2496.8	0.0184	0.1418
0.8660	1061.1	3149.3	2450.6	2498.5	0.0160	0.1420
0.8680	1064.2	3092.2	2452.0	2500.0	-0.0092	0.1421
0.8700	1067.4	3138.8	2453.6	2501.7	0.0075	0.1421
0.8720	1070.6	3232.5	2455.4	2503.6	0.0147	0.1423
0.8740	1073.7	3093.9	2456.9	2505.1	-0.0219	0.1427
0.8760	1076.7	3002.0	2458.1	2506.4	-0.0151	0.1429
0.8780	1079.8	3068.4	2459.5	2507.8	0.0109	0.1430
0.8800	1082.9	3093.8	2460.9	2509.3	0.0041	0.1430
0.8820	1085.9	3068.5	2462.3	2510.7	-0.0041	0.1430
0.8840	1089.1	3128.2	2463.8	2512.2	0.0096	0.1431
0.8860	1092.1	3003.3	2465.0	2513.5	-0.0204	0.1435
0.8880	1095.0	2931.4	2466.1	2514.5	-0.0121	0.1436
0.8900	1098.1	3105.9	2467.5	2516.0	0.0289	0.1443
0.8920	1101.3	3182.2	2469.1	2517.7	0.0121	0.1444
0.8940	1104.3	3068.3	2470.5	2519.0	-0.0182	0.1447
0.8960	1107.5	3172.0	2472.0	2520.7	0.0166	0.1450
0.8980	1110.7	3158.5	2473.6	2522.3	-0.0021	0.1450
0.9000	1113.8	3092.8	2474.9	2523.7	-0.0105	0.1451
0.9020	1116.8	3041.1	2476.2	2524.9	-0.0084	0.1451
0.9040	1119.9	3110.4	2477.6	2526.4	0.0113	0.1452
0.9060	1123.1	3140.9	2479.1	2527.9	0.0049	0.1452
0.9080	1126.1	3021.2	2480.3	2529.1	-0.0194	0.1456
0.9100	1129.2	3110.8	2481.6	25[illegible]0.5	0.0146	0.1458
0.9120	1132.4	3162.0	2483.1	2[illegible].1	0.0082	0.1458

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
0.9140	1135.3	2979.0	2484.2	2533.1	-0.0298	0.1466
0.9160	1138.4	3050.6	2485.5	2534.4	0.0119	0.1467
0.9180	1141.5	3150.9	2486.9	2535.9	0.0162	0.1469
0.9200	1144.7	3137.6	2488.3	2537.4	-0.0021	0.1469
0.9220	1147.8	3084.5	2489.6	2538.7	-0.0085	0.1470
0.9240	1150.9	3182.8	2491.1	2540.2	0.0157	0.1472
0.9260	1154.0	3103.9	2492.4	2541.6	-0.0125	0.1473
0.9280	1157.1	3104.3	2493.8	2542.9	0.0001	0.1473
0.9300	1160.4	3215.4	2495.3	2544.6	0.0176	0.1476
0.9320	1163.4	3079.0	2496.6	2545.8	-0.0217	0.1480
0.9340	1166.5	3104.3	2497.9	2547.2	0.0041	0.1480
0.9360	1169.8	3284.2	2499.5	2549.0	0.0282	0.1487
0.9380	1173.0	3145.4	2500.9	2550.4	-0.0216	0.1491
0.9400	1176.1	3101.6	2502.2	2551.7	-0.0070	0.1491
0.9420	1179.1	3045.4	2503.4	2552.8	-0.0091	0.1492
0.9440	1182.1	3014.8	2504.4	2553.9	-0.0051	0.1492
0.9460	1185.2	3079.1	2505.7	2555.1	0.0106	0.1493
0.9480	1188.2	3032.3	2506.8	2556.2	-0.0077	0.1493
0.9500	1191.2	2939.6	2507.7	2557.1	-0.0155	0.1496
0.9520	1194.0	2799.4	2508.3	2557.6	-0.0244	0.1501
0.9540	1196.9	2932.8	2509.2	2558.5	0.0233	0.1505
0.9560	1199.9	2941.1	2510.1	2559.3	0.0014	0.1505
0.9580	1202.5	2678.7	2510.4	2559.6	-0.0467	0.1524
0.9600	1205.4	2842.9	2511.1	2560.2	0.0297	0.1531
0.9620	1208.2	2859.7	2511.8	2560.9	0.0029	0.1531
0.9640	1211.0	2788.1	2512.4	2561.4	-0.0127	0.1533
0.9660	1213.8	2755.2	2512.9	2561.8	-0.0059	0.1533
0.9680	1216.6	2850.7	2513.6	2562.4	0.0171	0.1535
0.9700	1219.2	2608.3	2513.8	2562.5	-0.0444	0.1552
0.9720	1222.1	2900.4	2514.6	2563.3	0.0530	0.1576
0.9740	1224.9	2783.1	2515.2	2563.7	-0.0206	0.1579
0.9760	1227.6	2665.6	2515.5	2563.9	-0.0216	0.1583
0.9780	1230.3	2724.2	2515.9	2564.3	0.0109	0.1584
0.9800	1233.0	2731.2	2516.3	2564.6	0.0013	0.1584
0.9820	1235.8	2712.4	2516.7	2564.9	-0.0035	0.1585
0.9840	1238.5	2692.8	2517.1	2565.2	-0.0036	0.1585
0.9860	1241.2	2731.1	2517.5	2565.5	0.0071	0.1585
0.9880	1244.0	2793.4	2518.1	2566.0	0.0113	0.1586
0.9900	1246.8	2786.3	2518.6	2566.5	-0.0013	0.1586
0.9920	1249.5	2752.6	2519.1	2566.9	-0.0061	0.1586
0.9940	1252.3	2770.1	2519.6	2567.3	0.0032	0.1587
0.9960	1255.1	2843.8	2520.3	2567.9	0.0131	0.1588
0.9980	1257.8	2674.2	2520.6	2568.1	-0.0307	0.1596
1.0000	1260.7	2854.3	2521.2	2568.7	0.0326	0.1605
1.0020	1263.4	2749.9	2521.7	2569.1	-0.0186	0.1608
1.0040	1266.1	2729.4	2522.1	2569.4	-0.0037	0.1608
1.0060	1269.0	2854.0	2522.8	2570.0	0.0223	0.1612
1.0080	1271.7	2749.2	2523.2	2570.4	-0.0187	0.1615
1.0100	1274.4	2642.9	2523.4	2570.5	-0.0197	0.1618
1.0120	1276.9	2514.3	2523.4	2570.4	-0.0249	0.1623
1.0140	1279.6	2733.2	2523.8	2570.8	0.0417	0.1638
1.0160	1282.3	2709.6	2524.2	2571.0	-0.0043	0.1638
1.0180	1285.1	2773.0	2524.7	2571.4	0.0116	0.1639
1.0200	1287.8	2732.3	2525.1	2571.8	-0.0074	0.1640
1.0220	1290.4	2558.1	2525.2	2571.7	-0.0329	0.1649
1.0240	1293.2	2755.3	2525.6	2572.1	0.0371	0.1660
1.0260	1295.9	2712.7	2526.0	2572.4	-0.0078	0.1661
1.0280	1298.5	2622.7	2526.2	2572.5	-0.0169	0.1663

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.0300	1301.1	2616.1	2526.3	2572.6	-0.0013	0.1663
1.0320	1303.9	2792.0	2526.9	2573.0	0.0325	0.1672
1.0340	1306.6	2748.9	2527.3	2573.4	-0.0078	0.1673
1.0360	1309.2	2507.7	2527.3	2573.2	-0.0459	0.1690
1.0380	1311.7	2579.7	2527.4	2573.3	0.0142	0.1692
1.0400	1314.5	2718.9	2527.7	2573.5	0.0263	0.1697
1.0420	1317.1	2608.2	2527.9	2573.6	-0.0208	0.1701
1.0440	1319.6	2582.6	2528.0	2573.6	-0.0049	0.1701
1.0460	1322.3	2634.1	2528.2	2573.8	0.0099	0.1702
1.0480	1324.9	2635.7	2528.4	2573.9	0.0003	0.1702
1.0500	1327.4	2473.5	2528.3	2573.7	-0.0317	0.1710
1.0520	1330.0	2575.6	2528.4	2573.7	0.0202	0.1714
1.0540	1332.5	2551.3	2528.4	2573.6	-0.0047	0.1714
1.0560	1334.9	2413.7	2528.2	2573.4	-0.0277	0.1720
1.0580	1337.6	2686.8	2528.5	2573.6	0.0535	0.1744
1.0600	1340.2	2572.8	2528.6	2573.6	-0.0217	0.1748
1.0620	1342.7	2501.1	2528.5	2573.4	-0.0141	0.1750
1.0640	1345.2	2554.6	2528.6	2573.4	0.0106	0.1751
1.0660	1347.7	2451.4	2528.4	2573.2	-0.0206	0.1754
1.0680	1350.3	2638.1	2528.6	2573.3	0.0367	0.1765
1.0700	1352.8	2436.1	2528.5	2573.0	-0.0398	0.1778
1.0720	1355.3	2496.1	2528.4	2572.9	0.0122	0.1779
1.0740	1357.8	2565.0	2528.5	2572.9	0.0136	0.1781
1.0760	1360.2	2400.8	2528.2	2572.6	-0.0331	0.1790
1.0780	1362.7	2451.8	2528.1	2572.4	0.0105	0.1791
1.0800	1365.3	2623.0	2528.3	2572.5	0.0337	0.1800
1.0820	1367.7	2424.0	2528.1	2572.2	-0.0394	0.1813
1.0840	1370.2	2459.1	2528.0	2572.0	0.0072	0.1813
1.0860	1372.6	2453.6	2527.8	2571.8	-0.0011	0.1813
1.0880	1375.1	2464.1	2527.7	2571.6	0.0021	0.1813
1.0900	1377.6	2462.1	2527.6	2571.4	-0.0004	0.1813
1.0920	1380.0	2411.8	2527.4	2571.1	-0.0103	0.1814
1.0940	1382.5	2472.6	2527.3	2570.9	0.0124	0.1815
1.0960	1384.9	2464.0	2527.2	2570.7	-0.0017	0.1816
1.0980	1387.4	2493.6	2527.1	2570.6	0.0060	0.1816
1.1000	1389.8	2397.7	2526.9	2570.3	-0.0196	0.1819
1.1020	1392.4	2603.1	2527.0	2570.4	0.0411	0.1833
1.1040	1394.8	2421.2	2526.8	2570.1	-0.0362	0.1843
1.1060	1397.3	2490.6	2526.7	2569.9	0.0141	0.1845
1.1080	1399.8	2440.2	2526.6	2569.7	-0.0102	0.1846
1.1100	1402.2	2441.3	2526.4	2569.5	0.0002	0.1846
1.1120	1404.7	2467.4	2526.3	2569.3	0.0053	0.1846
1.1140	1407.2	2491.2	2526.3	2569.2	0.0048	0.1846
1.1160	1409.7	2494.4	2526.2	2569.0	0.0006	0.1846
1.1180	1412.2	2539.3	2526.2	2569.0	0.0089	0.1847
1.1200	1414.7	2524.1	2526.2	2568.9	-0.0030	0.1847
1.1220	1417.3	2544.1	2526.3	2568.9	0.0040	0.1847
1.1240	1419.8	2570.5	2526.3	2568.9	0.0052	0.1847
1.1260	1422.4	2535.1	2526.3	2568.8	-0.0069	0.1848
1.1280	1425.0	2587.3	2526.5	2568.8	0.0102	0.1849
1.1300	1427.6	2627.8	2526.6	2568.9	0.0078	0.1849
1.1320	1430.2	2593.3	2526.8	2569.0	-0.0066	0.1850
1.1340	1432.7	2561.7	2526.8	2569.0	-0.0061	0.1850
1.1360	1435.4	2645.5	2527.0	2569.1	0.0161	0.1852
1.1380	1438.0	2576.3	2527.1	2569.1	-0.0133	0.1853
1.1400	1440.5	2582.6	2527.2	2569.2	0.0012	0.1853
1.1420	1443.1	2555.2	2527.3	2569.1	-0.0053	0.1854
1.1440	1445.6	2512.4	2527.2	2569.0	-0.0085	0.1854

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.1460	1448.2	2580.2	2527.3	2569.0	0.0133	0.1856
1.1480	1450.8	2562.4	2527.4	2569.0	-0.0035	0.1856
1.1500	1453.2	2475.4	2527.3	2568.9	-0.0173	0.1858
1.1520	1455.8	2605.7	2527.4	2568.9	0.0257	0.1864
1.1540	1458.4	2599.4	2527.6	2569.0	-0.0012	0.1864
1.1560	1461.0	2609.8	2527.7	2569.1	0.0020	0.1864
1.1580	1463.6	2594.9	2527.8	2569.1	-0.0029	0.1864
1.1600	1466.2	2549.2	2527.9	2569.1	-0.0089	0.1864
1.1620	1468.8	2606.2	2528.0	2569.1	0.0111	0.1865
1.1640	1471.4	2624.5	2528.2	2569.2	0.0035	0.1865
1.1660	1474.0	2579.3	2528.2	2569.3	-0.0087	0.1866
1.1680	1476.5	2540.6	2528.3	2569.2	-0.0076	0.1866
1.1700	1479.1	2595.7	2528.4	2569.3	0.0107	0.1867
1.1720	1481.7	2567.5	2528.4	2569.2	-0.0055	0.1868
1.1740	1484.3	2573.6	2528.5	2569.3	0.0012	0.1868
1.1760	1486.9	2615.8	2528.7	2569.3	0.0081	0.1868
1.1780	1489.5	2656.4	2528.9	2569.5	0.0077	0.1869
1.1800	1492.2	2624.9	2529.0	2569.6	-0.0060	0.1869
1.1820	1494.8	2626.3	2529.2	2569.7	0.0003	0.1869
1.1840	1497.4	2579.0	2529.3	2569.7	-0.0091	0.1870
1.1860	1499.9	2504.8	2529.3	2569.6	-0.0146	0.1871
1.1880	1502.4	2512.1	2529.2	2569.5	0.0015	0.1871
1.1900	1505.0	2580.2	2529.3	2569.5	0.0134	0.1873
1.1920	1507.5	2508.1	2529.3	2569.4	-0.0142	0.1874
1.1940	1510.0	2557.2	2529.3	2569.4	0.0097	0.1875
1.1960	1512.6	2553.6	2529.4	2569.4	-0.0007	0.1875
1.1980	1515.1	2546.3	2529.4	2569.3	-0.0014	0.1875
1.2000	1517.7	2527.4	2529.4	2569.3	-0.0037	0.1875
1.2020	1520.2	2497.2	2529.3	2569.1	-0.0060	0.1876
1.2040	1522.7	2525.9	2529.3	2569.1	0.0057	0.1876
1.2060	1525.3	2583.5	2529.4	2569.1	0.0113	0.1877
1.2080	1527.9	2577.1	2529.5	2569.1	-0.0013	0.1877
1.2100	1530.4	2545.6	2529.5	2569.1	-0.0061	0.1877
1.2120	1532.9	2550.4	2529.6	2569.0	0.0010	0.1877
1.2140	1535.5	2558.4	2529.6	2569.0	0.0016	0.1877
1.2160	1538.0	2529.2	2529.6	2568.9	-0.0057	0.1878
1.2180	1540.5	2510.5	2529.6	2568.9	-0.0037	0.1878
1.2200	1543.1	2599.0	2529.7	2568.9	0.0173	0.1880
1.2220	1545.7	2566.4	2529.7	2568.9	-0.0063	0.1880
1.2240	1548.3	2579.6	2529.8	2568.9	0.0026	0.1880
1.2260	1550.9	2558.9	2529.9	2568.9	-0.0040	0.1881
1.2280	1553.3	2498.4	2529.8	2568.8	-0.0119	0.1882
1.2300	1555.8	2478.7	2529.7	2568.6	-0.0040	0.1882
1.2320	1558.3	2473.9	2529.7	2568.5	-0.0010	0.1882
1.2340	1560.8	2521.4	2529.6	2568.4	0.0095	0.1883
1.2360	1563.3	2519.8	2529.6	2568.3	-0.0003	0.1883
1.2380	1565.9	2539.6	2529.6	2568.3	0.0039	0.1883
1.2400	1568.3	2444.2	2529.5	2568.1	-0.0191	0.1886
1.2420	1570.8	2471.1	2529.4	2567.9	0.0055	0.1886
1.2440	1573.3	2464.1	2529.3	2567.8	-0.0014	0.1886
1.2460	1575.7	2478.8	2529.2	2567.6	0.0030	0.1886
1.2480	1578.2	2467.3	2529.1	2567.5	-0.0023	0.1886
1.2500	1580.6	2428.1	2529.0	2567.3	-0.0080	0.1887
1.2520	1583.1	2501.6	2528.9	2567.2	0.0149	0.1888
1.2540	1585.6	2512.4	2528.9	2567.1	0.0021	0.1888
1.2560	1588.1	2481.8	2528.8	2566.9	-0.0061	0.1889
1.2580	1590.6	2502.4	2528.8	2566.8	0.0041	0.1889
1.2600	1593.1	2511.6	2528.7	2566.8	0.0019	0.1889

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.2620	1595.7	2563.0	2528.8	2566.7	0.0101	0.1890
1.2640	1598.2	2519.3	2528.8	2566.7	-0.0086	0.1890
1.2660	1600.7	2457.3	2528.7	2566.5	-0.0125	0.1892
1.2680	1603.1	2441.9	2528.5	2566.3	-0.0031	0.1892
1.2700	1605.6	2496.7	2528.5	2566.2	0.0111	0.1893
1.2720	1608.1	2456.2	2528.4	2566.0	-0.0082	0.1893
1.2740	1610.5	2443.9	2528.2	2565.8	-0.0025	0.1893
1.2760	1613.1	2530.1	2528.2	2565.8	0.0173	0.1896
1.2780	1615.6	2525.3	2528.2	2565.7	-0.0009	0.1896
1.2800	1618.3	2707.8	2528.5	2566.0	0.0349	0.1906
1.2820	1620.9	2616.9	2528.7	2566.0	-0.0171	0.1908
1.2840	1623.4	2504.9	2528.6	2565.9	-0.0219	0.1912
1.2860	1625.9	2445.6	2528.5	2565.8	-0.0120	0.1913
1.2880	1628.5	2626.0	2528.6	2565.9	0.0356	0.1923
1.2900	1631.0	2542.1	2528.7	2565.8	-0.0162	0.1925
1.2920	1633.6	2556.6	2528.7	2565.8	0.0028	0.1925
1.2940	1636.0	2430.1	2528.6	2565.6	-0.0254	0.1931
1.2960	1638.4	2438.0	2528.4	2565.4	0.0016	0.1931
1.2980	1640.9	2489.8	2528.4	2565.3	0.0105	0.1932
1.3000	1643.5	2523.6	2528.3	2565.2	0.0067	0.1932
1.3020	1646.0	2503.3	2528.3	2565.1	-0.0040	0.1932
1.3040	1648.5	2542.9	2528.3	2565.1	0.0078	0.1933
1.3060	1651.0	2499.4	2528.3	2565.0	-0.0086	0.1933
1.3080	1653.5	2487.0	2528.2	2564.9	-0.0025	0.1933
1.3100	1656.0	2537.0	2528.2	2564.8	0.0100	0.1934
1.3120	1658.6	2562.7	2528.3	2564.8	0.0050	0.1934
1.3140	1661.2	2633.3	2528.4	2564.9	0.0136	0.1936
1.3160	1663.7	2504.5	2528.4	2564.9	-0.0251	0.1941
1.3180	1666.2	2475.5	2528.3	2564.7	-0.0058	0.1941
1.3200	1668.8	2619.2	2528.5	2564.8	0.0282	0.1947
1.3220	1671.4	2621.9	2528.6	2564.9	0.0005	0.1947
1.3240	1674.0	2528.1	2528.6	2564.8	-0.0182	0.1950
1.3260	1676.4	2458.4	2528.5	2564.7	-0.0140	0.1952
1.3280	1678.9	2469.3	2528.4	2564.5	0.0022	0.1952
1.3300	1681.5	2593.3	2528.5	2564.6	0.0245	0.1957
1.3320	1684.0	2524.4	2528.5	2564.5	-0.0135	0.1958
1.3340	1686.6	2551.8	2528.5	2564.5	0.0054	0.1958
1.3360	1689.1	2523.3	2528.5	2564.4	-0.0056	0.1958
1.3380	1691.7	2556.3	2528.6	2564.4	0.0065	0.1959
1.3400	1694.1	2446.4	2528.5	2564.3	-0.0220	0.1963
1.3420	1696.6	2473.2	2528.4	2564.1	0.0054	0.1963
1.3440	1699.0	2472.3	2528.3	2564.0	-0.0002	0.1963
1.3460	1701.5	2470.6	2528.2	2563.9	-0.0003	0.1963
1.3480	1704.1	2559.4	2528.2	2563.8	0.0176	0.1965
1.3500	1706.6	2538.6	2528.3	2563.8	-0.0041	0.1966
1.3520	1709.1	2515.8	2528.2	2563.7	-0.0045	0.1966
1.3540	1711.7	2547.0	2528.3	2563.7	0.0062	0.1966
1.3560	1714.4	2690.1	2528.5	2563.9	0.0273	0.1972
1.3580	1716.9	2559.8	2528.6	2563.9	-0.0248	0.1977
1.3600	1719.4	2516.3	2528.5	2563.8	-0.0086	0.1978
1.3620	1722.1	2659.2	2528.7	2564.0	0.0276	0.1984
1.3640	1724.7	2609.0	2528.8	2564.0	-0.0095	0.1984
1.3660	1727.3	2593.4	2528.9	2564.1	-0.0030	0.1984
1.3680	1729.8	2478.7	2528.9	2564.0	-0.0226	0.1989
1.3700	1732.4	2608.4	2529.0	2564.0	0.0255	0.1994
1.3720	1735.0	2581.0	2529.1	2564.1	-0.0053	0.1994
1.3740	1737.6	2618.6	2529.2	2564.1	0.0072	0.1994
1.3760	1740.3	2732.2	2529.5	2564.4	0.0212	0.1998

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.3780	1743.0	2710.4	2529.7	2564.6	-0.0040	0.1998
1.3800	1745.7	2691.6	2530.0	2564.8	-0.0035	0.1998
1.3820	1748.2	2520.1	2530.0	2564.7	-0.0329	0.2007
1.3840	1750.8	2573.4	2530.0	2564.7	0.0105	0.2008
1.3860	1753.4	2601.2	2530.1	2564.8	0.0054	0.2008
1.3880	1756.2	2775.5	2530.5	2565.1	0.0324	0.2016
1.3900	1759.0	2766.8	2530.8	2565.4	-0.0016	0.2016
1.3920	1761.8	2863.9	2531.3	2565.9	0.0173	0.2019
1.3940	1764.7	2887.7	2531.8	2566.4	0.0041	0.2019
1.3960	1767.5	2759.3	2532.1	2566.6	-0.0227	0.2023
1.3980	1770.4	2902.7	2532.7	2567.2	0.0253	0.2028
1.4000	1773.3	2945.2	2533.3	2567.7	0.0073	0.2029
1.4020	1776.1	2828.9	2533.7	2568.1	-0.0201	0.2032
1.4040	1779.0	2829.3	2534.1	2568.5	0.0001	0.2032
1.4060	1781.9	2909.8	2534.6	2569.0	0.0140	0.2033
1.4080	1784.8	2961.7	2535.2	2569.6	0.0088	0.2034
1.4100	1787.6	2797.9	2535.6	2570.0	-0.0284	0.2041
1.4120	1790.5	2849.8	2536.1	2570.4	0.0092	0.2041
1.4140	1793.4	2919.7	2536.6	2570.9	0.0121	0.2042
1.4160	1796.1	2735.8	2536.9	2571.2	-0.0325	0.2051
1.4180	1799.0	2810.0	2537.3	2571.5	0.0134	0.2052
1.4200	1801.9	2930.3	2537.8	2572.1	0.0210	0.2056
1.4220	1804.6	2672.2	2538.0	2572.2	-0.0461	0.2073
1.4240	1807.3	2777.4	2538.4	2572.5	0.0193	0.2076
1.4260	1810.0	2706.0	2538.6	2572.7	-0.0130	0.2077
1.4280	1812.9	2838.4	2539.0	2573.1	0.0239	0.2081
1.4300	1815.7	2822.7	2539.4	2573.4	-0.0028	0.2081
1.4320	1818.5	2786.4	2539.7	2573.8	-0.0065	0.2082
1.4340	1821.4	2944.4	2540.3	2574.3	0.0276	0.2088
1.4360	1824.3	2872.5	2540.8	2574.7	-0.0124	0.2089
1.4380	1827.1	2818.3	2541.2	2575.1	-0.0095	0.2090
1.4400	1829.9	2810.9	2541.5	2575.4	-0.0013	0.2090
1.4420	1832.8	2835.0	2541.9	2575.8	0.0043	0.2090
1.4440	1835.6	2827.8	2542.3	2576.2	-0.0013	0.2090
1.4460	1838.4	2813.0	2542.7	2576.5	-0.0026	0.2090
1.4480	1841.2	2805.5	2543.1	2576.9	-0.0013	0.2090
1.4500	1843.8	2613.2	2543.2	2576.9	-0.0355	0.2100
1.4520	1846.5	2624.9	2543.3	2577.0	0.0022	0.2100
1.4540	1849.2	2738.1	2543.6	2577.2	0.0211	0.2103
1.4560	1852.0	2795.6	2543.9	2577.5	0.0104	0.2104
1.4580	1854.6	2621.9	2544.0	2577.6	-0.0321	0.2112
1.4600	1857.3	2695.6	2544.2	2577.7	0.0139	0.2114
1.4620	1860.0	2679.5	2544.4	2577.9	-0.0030	0.2114
1.4640	1862.6	2652.5	2544.5	2578.0	-0.0051	0.2114
1.4660	1865.2	2594.8	2544.6	2578.0	-0.0110	0.2115
1.4680	1867.8	2582.9	2544.7	2578.0	-0.0023	0.2115
1.4700	1870.5	2710.1	2544.9	2578.2	0.0240	0.2120
1.4720	1873.2	2634.8	2545.0	2578.3	-0.0141	0.2121
1.4740	1875.7	2543.2	2545.0	2578.2	-0.0177	0.2124
1.4760	1878.5	2770.8	2545.3	2578.5	0.0428	0.2138
1.4780	1881.4	2913.0	2545.8	2579.0	0.0250	0.2143
1.4800	1884.5	3096.0	2546.6	2579.8	0.0305	0.2150
1.4820	1887.6	3108.8	2547.3	2580.5	0.0021	0.2151
1.4840	1890.6	3027.1	2548.0	2581.2	-0.0133	0.2152
1.4860	1893.5	2835.4	2548.4	2581.6	-0.0327	0.2160
1.4880	1896.1	2649.4	2548.5	2581.6	-0.0339	0.2169
1.4900	1899.0	2905.2	2549.0	2582.1	0.0460	0.2186
1.4920	1902.0	2958.4	2549.5	2582.7	0.0091	0.2187

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.4940	1904.9	2922.9	2550.0	2583.1	-0.0060	0.2187
1.4960	1907.7	2757.4	2550.3	2583.4	-0.0291	0.2193
1.4980	1910.4	2705.2	2550.5	2583.5	-0.0095	0.2194
1.5000	1913.1	2793.0	2550.8	2583.8	0.0160	0.2196
1.5020	1916.0	2870.6	2551.2	2584.2	0.0137	0.2198
1.5040	1918.8	2816.7	2551.6	2584.6	-0.0095	0.2198
1.5060	1921.7	2820.3	2552.0	2584.9	0.0006	0.2198
1.5080	1924.5	2797.9	2552.3	2585.2	-0.0040	0.2198
1.5100	1927.3	2815.7	2552.6	2585.5	0.0032	0.2199
1.5120	1930.0	2748.3	2552.9	2585.7	-0.0121	0.2200
1.5140	1932.8	2735.1	2553.1	2585.9	-0.0024	0.2200
1.5160	1935.6	2798.7	2553.5	2586.2	0.0115	0.2201
1.5180	1938.4	2849.4	2553.8	2586.6	0.0090	0.2201
1.5200	1941.3	2872.5	2554.3	2587.0	0.0040	0.2202
1.5220	1944.1	2798.3	2554.6	2587.3	-0.0131	0.2203
1.5240	1946.9	2782.6	2554.9	2587.5	-0.0028	0.2203
1.5260	1949.7	2858.2	2555.3	2587.9	0.0134	0.2204
1.5280	1952.5	2773.0	2555.6	2588.2	-0.0151	0.2206
1.5300	1955.3	2861.2	2556.0	2588.5	0.0157	0.2208
1.5320	1958.2	2902.0	2556.4	2589.0	0.0071	0.2208
1.5340	1961.1	2827.9	2556.8	2589.3	-0.0129	0.2210
1.5360	1963.9	2821.8	2557.1	2589.6	-0.0011	0.2210
1.5380	1966.8	2876.6	2557.5	2590.0	0.0096	0.2210
1.5400	1969.6	2779.2	2557.8	2590.3	-0.0172	0.2213
1.5420	1972.5	2994.9	2558.4	2590.8	0.0374	0.2224
1.5440	1975.5	2984.2	2558.9	2591.4	-0.0018	0.2224
1.5460	1978.4	2846.8	2559.3	2591.7	-0.0236	0.2228
1.5480	1981.2	2868.8	2559.7	2592.1	0.0038	0.2228
1.5500	1984.1	2861.9	2560.1	2592.5	-0.0012	0.2228
1.5520	1987.0	2867.3	2560.5	2592.8	0.0010	0.2228
1.5540	1989.9	2931.2	2561.0	2593.3	0.0110	0.2229
1.5560	1992.8	2921.3	2561.4	2593.7	-0.0017	0.2229
1.5580	1995.7	2898.0	2561.9	2594.2	-0.0040	0.2229
1.5600	1998.6	2864.2	2562.3	2594.5	-0.0059	0.2229
1.5620	2001.7	3063.9	2562.9	2595.2	0.0337	0.2238
1.5640	2004.8	3153.5	2563.7	2596.0	0.0144	0.2240
1.5660	2007.8	3019.8	2564.2	2596.6	-0.0217	0.2244
1.5680	2010.8	3007.2	2564.8	2597.1	-0.0021	0.2244
1.5700	2013.8	2957.1	2565.3	2597.6	-0.0084	0.2244
1.5720	2016.8	3041.2	2565.9	2598.2	0.0140	0.2246
1.5740	2019.9	3041.9	2566.5	2598.8	0.0001	0.2246
1.5760	2022.9	3030.1	2567.1	2599.4	-0.0020	0.2246
1.5780	2025.9	3001.3	2567.7	2600.0	-0.0048	0.2246
1.5800	2028.9	2996.9	2568.2	2600.5	-0.0007	0.2246
1.5820	2032.0	3049.8	2568.8	2601.1	0.0088	0.2246
1.5840	2035.0	3002.5	2569.4	2601.7	-0.0078	0.2247
1.5860	2037.9	2953.7	2569.8	2602.2	-0.0082	0.2247
1.5880	2040.9	3013.0	2570.4	2602.7	0.0099	0.2248
1.5900	2044.0	3039.8	2571.0	2603.3	0.0044	0.2248
1.5920	2047.0	3038.6	2571.6	2603.9	-0.0002	0.2248
1.5940	2050.0	3040.3	2572.2	2604.5	0.0003	0.2248
1.5960	2053.0	3002.5	2572.7	2605.0	-0.0063	0.2249
1.5980	2056.1	3019.8	2573.3	2605.6	0.0029	0.2249
1.6000	2059.0	2938.3	2573.7	2606.0	-0.0137	0.2250
1.6020	2062.1	3128.0	2574.4	2606.8	0.0313	0.2258
1.6040	2065.2	3077.7	2575.0	2607.4	-0.0081	0.2258
1.6060	2068.2	2999.3	2575.6	2607.9	-0.0129	0.2260
1.6080	2071.4	3173.4	2576.3	26[illegible]7	0.0282	0.2266

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.6100	2074.5	3147.7	2577.0	2609.4	-0.0041	0.2266
1.6120	2077.8	3287.4	2577.9	2610.4	0.0217	0.2269
1.6140	2080.8	2971.7	2578.4	2610.9	-0.0504	0.2289
1.6160	2084.1	3302.5	2579.3	2611.8	0.0527	0.2311
1.6180	2087.4	3284.7	2580.2	2612.8	-0.0027	0.2311
1.6200	2090.6	3232.0	2581.0	2613.6	-0.0081	0.2311
1.6220	2093.7	3120.9	2581.6	2614.3	-0.0175	0.2313
1.6240	2097.0	3263.0	2582.5	2615.2	0.0223	0.2317
1.6260	2100.2	3186.3	2583.2	2616.0	-0.0119	0.2318
1.6280	2103.5	3302.3	2584.1	2616.9	0.0179	0.2321
1.6300	2106.6	3167.3	2584.8	2617.7	-0.0209	0.2324
1.6320	2109.8	3173.9	2585.5	2618.4	0.0010	0.2324
1.6340	2113.0	3162.6	2586.2	2619.2	-0.0018	0.2324
1.6360	2116.1	3091.8	2586.9	2619.8	-0.0113	0.2325
1.6380	2119.1	3014.4	2587.4	2620.3	-0.0127	0.2326
1.6400	2122.4	3271.3	2588.2	2621.2	0.0409	0.2339
1.6420	2125.5	3189.5	2588.9	2622.0	-0.0127	0.2340
1.6440	2128.8	3260.5	2589.8	2622.9	0.0110	0.2341
1.6460	2132.0	3147.7	2590.4	2623.6	-0.0176	0.2344
1.6480	2135.2	3229.8	2591.2	2624.4	0.0129	0.2345
1.6500	2138.4	3198.3	2591.9	2625.1	-0.0049	0.2345
1.6520	2141.7	3286.9	2592.8	2626.1	0.0137	0.2347
1.6540	2145.1	3433.1	2593.8	2627.2	0.0218	0.2350
1.6560	2148.5	3435.3	2594.8	2628.3	0.0003	0.2350
1.6580	2152.1	3512.0	2595.9	2629.5	0.0110	0.2351
1.6600	2155.6	3549.1	2597.1	2630.8	0.0053	0.2351
1.6620	2159.0	3383.3	2598.0	2631.9	-0.0239	0.2356
1.6640	2162.3	3360.4	2598.9	2632.9	-0.0034	0.2356
1.6660	2166.0	3678.5	2600.2	2634.4	0.0452	0.2371
1.6680	2169.5	3466.1	2601.3	2635.5	-0.0297	0.2378
1.6700	2172.7	3233.7	2602.0	2636.3	-0.0347	0.2387
1.6720	2176.0	3302.5	2602.9	2637.2	0.0105	0.2388
1.6740	2179.5	3434.9	2603.9	2638.3	0.0196	0.2391
1.6760	2183.0	3508.1	2604.9	2639.5	0.0105	0.2392
1.6780	2186.8	3792.8	2606.4	2641.2	0.0390	0.2404
1.6800	2190.4	3592.3	2607.5	2642.5	-0.0271	0.2409
1.6820	2193.6	3266.6	2608.3	2643.4	-0.0475	0.2426
1.6840	2197.2	3540.8	2609.4	2644.6	0.0403	0.2439
1.6860	2200.6	3414.4	2610.4	2645.7	-0.0182	0.2441
1.6880	2204.2	3673.9	2611.6	2647.1	0.0366	0.2451
1.6900	2207.9	3684.4	2612.9	2648.6	0.0014	0.2451
1.6920	2211.7	3798.1	2614.3	2650.2	0.0152	0.2453
1.6940	2216.1	4402.9	2616.4	2653.0	0.0737	0.2494
1.6960	2220.7	4589.9	2618.7	2656.1	0.0208	0.2497
1.6980	2224.9	4140.9	2620.5	2658.4	-0.0514	0.2517
1.7000	2228.7	3858.7	2622.0	2660.1	-0.0353	0.2526
1.7020	2232.0	3293.3	2622.8	2660.9	-0.0791	0.2573
1.7040	2235.1	3120.4	2623.4	2661.5	-0.0270	0.2579
1.7060	2238.1	3001.7	2623.8	2661.9	-0.0194	0.2581
1.7080	2241.2	3015.7	2624.3	2662.4	0.0023	0.2581
1.7100	2244.3	3148.7	2624.9	2663.0	0.0216	0.2585
1.7120	2247.6	3289.6	2625.7	2663.8	0.0219	0.2588
1.7140	2251.2	3629.0	2626.8	2665.1	0.0491	0.2606
1.7160	2254.9	3652.1	2628.0	2666.5	0.0032	0.2606
1.7180	2258.6	3737.6	2629.3	2668.0	0.0116	0.2607
1.7200	2262.3	3672.9	2630.5	2669.4	-0.0087	0.2608
1.7220	2266.1	3862.8	2632.0	2671.1	0.0252	0.2613
1.7240	2270.2	4035.7	2633.6	26[illegible].1	0.0219	0.2616

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.7260	2274.0	3808.4	2635.0	2674.7	-0.0290	0.2622
1.7280	2277.8	3772.0	2636.3	2676.2	-0.0048	0.2622
1.7300	2281.6	3852.8	2637.7	2677.8	0.0106	0.2623
1.7320	2285.3	3637.3	2638.8	2679.2	-0.0288	0.2629
1.7340	2288.7	3492.0	2639.8	2680.2	-0.0204	0.2632
1.7360	2292.2	3410.0	2640.7	2681.2	-0.0119	0.2633
1.7380	2295.5	3335.5	2641.5	2682.0	-0.0110	0.2634
1.7400	2298.9	3361.1	2642.3	2682.9	0.0038	0.2634
1.7420	2302.2	3340.1	2643.1	2683.8	-0.0031	0.2635
1.7440	2305.9	3678.8	2644.3	2685.1	0.0482	0.2652
1.7460	2309.5	3609.2	2645.4	2686.4	-0.0095	0.2652
1.7480	2313.1	3655.3	2646.6	2687.7	0.0064	0.2653
1.7500	2316.8	3634.8	2647.7	2688.9	-0.0028	0.2653
1.7520	2320.4	3644.6	2648.8	2690.2	0.0013	0.2653
1.7540	2324.0	3576.5	2649.9	2691.4	-0.0094	0.2653
1.7560	2327.5	3513.7	2650.9	2692.5	-0.0088	0.2654
1.7580	2331.1	3559.1	2651.9	2693.6	0.0064	0.2654
1.7600	2334.6	3555.7	2652.9	2694.8	-0.0005	0.2654
1.7620	2338.3	3652.1	2654.1	2696.0	0.0134	0.2656
1.7640	2341.8	3487.3	2655.0	2697.1	-0.0231	0.2659
1.7660	2345.0	3253.2	2655.7	2697.8	-0.0347	0.2668
1.7680	2348.7	3727.6	2656.9	2699.1	0.0680	0.2702
1.7700	2352.4	3702.9	2658.1	2700.5	-0.0033	0.2702
1.7720	2356.1	3678.0	2659.2	2701.8	-0.0034	0.2702
1.7740	2359.7	3571.8	2660.3	2702.9	-0.0146	0.2704
1.7760	2362.6	2874.8	2660.5	2703.1	-0.1081	0.2789
1.7780	2366.0	3406.5	2661.4	2704.0	0.0847	0.2841
1.7800	2369.4	3414.8	2662.2	2704.9	0.0012	0.2841
1.7820	2372.7	3318.2	2662.9	2705.7	-0.0144	0.2842
1.7840	2376.2	3492.5	2663.9	2706.7	0.0256	0.2847
1.7860	2379.4	3217.1	2664.5	2707.3	-0.0410	0.2859
1.7880	2383.0	3606.5	2665.5	2708.5	0.0571	0.2882
1.7900	2386.5	3476.6	2666.4	2709.5	-0.0183	0.2885
1.7920	2389.3	2800.3	2666.6	2709.6	-0.1077	0.2967
1.7940	2392.7	3376.0	2667.4	2710.4	0.0932	0.3028
1.7960	2396.1	3418.5	2668.2	2711.3	0.0063	0.3029
1.7980	2399.9	3756.9	2669.4	2712.7	0.0472	0.3044
1.8000	2403.4	3541.1	2670.4	2713.8	-0.0296	0.3050
1.8020	2407.0	3570.6	2671.4	2714.9	0.0042	0.3050
1.8040	2410.5	3532.3	2672.4	2715.9	-0.0054	0.3051
1.8060	2414.0	3462.0	2673.2	2716.8	-0.0101	0.3051
1.8080	2416.9	2905.1	2673.5	2717.1	-0.0875	0.3105
1.8100	2419.8	2931.7	2673.8	2717.3	0.0046	0.3105
1.8120	2422.4	2648.7	2673.7	2717.2	-0.0507	0.3122
1.8140	2425.2	2769.8	2673.9	2717.3	0.0223	0.3126
1.8160	2428.8	3598.9	2674.9	2718.4	0.1302	0.3242
1.8180	2432.4	3581.8	2675.9	2719.5	-0.0024	0.3242
1.8200	2435.8	3365.3	2676.6	2720.3	-0.0312	0.3249
1.8220	2438.6	2845.7	2676.8	2720.4	-0.0836	0.3296
1.8240	2441.7	3067.7	2677.2	2720.9	0.0375	0.3306
1.8260	2445.4	3696.6	2678.4	2722.1	0.0930	0.3363
1.8280	2449.0	3644.6	2679.4	2723.3	-0.0071	0.3364
1.8300	2452.7	3670.5	2680.5	2724.5	0.0035	0.3364
1.8320	2456.1	3411.9	2681.3	2725.4	-0.0365	0.3373
1.8340	2459.1	2956.3	2681.6	2725.6	-0.0715	0.3407
1.8360	2462.4	3337.9	2682.3	2726.4	0.0606	0.3431
1.8380	2465.9	3515.4	2683.2	2727.3	0.0259	0.3435
1.8400	2469.6	3689.7	2684.3	2728.6	0.0242	0.3439

TIME	DEPTH	INT.VEL.	AVG.VEL.	RMS.VEL.	REF.CFT.	TRN.LOSS
1.8420	2473.2	3614.8	2685.3	2729.7	-0.0103	0.3440
1.8440	2476.9	3740.8	2686.5	2731.0	0.0171	0.3442
1.8460	2480.8	3816.2	2687.7	2732.4	0.0100	0.3442
1.8480	2484.3	3583.3	2688.7	2733.5	-0.0315	0.3449
1.8500	2488.0	3604.8	2689.6	2734.6	0.0030	0.3449
1.8520	2491.4	3494.4	2690.5	2735.5	-0.0155	0.3451
1.8540	2495.1	3647.3	2691.6	2736.6	0.0214	0.3454
1.8560	2498.7	3571.1	2692.5	2737.7	-0.0106	0.3454
1.8580	2502.2	3507.9	2693.4	2738.6	-0.0089	0.3455
1.8600	2505.8	3639.5	2694.4	2739.7	0.0184	0.3457
1.8620	2509.3	3453.7	2695.2	2740.6	-0.0262	0.3461
1.8640	2513.1	3799.6	2696.4	2742.0	0.0477	0.3476
1.8660	2516.6	3550.6	2697.3	2743.0	-0.0339	0.3484
1.8680	2520.2	3541.1	2698.2	2743.9	-0.0013	0.3484
1.8700	2523.6	3435.6	2699.0	2744.8	-0.0151	0.3485
1.8720	2527.2	3642.6	2700.0	2745.9	0.0292	0.3491
1.8740	2531.0	3773.0	2701.2	2747.2	0.0176	0.3493
1.8760	2534.5	3482.7	2702.0	2748.1	-0.0400	0.3503
1.8780	2538.1	3587.4	2702.9	2749.1	0.0148	0.3505
1.8800	2541.5	3453.9	2703.7	2750.0	-0.0190	0.3507
1.8820	2545.1	3571.3	2704.7	2751.0	0.0167	0.3509
1.8840	2548.7	3563.8	2705.6	2751.9	-0.0011	0.3509
1.8860	2552.2	3581.3	2706.5	2753.0	0.0025	0.3509
1.8880	2555.6	3352.1	2707.2	2753.7	-0.0331	0.3516
1.8900	2559.0	3411.4	2707.9	2754.4	0.0088	0.3517
1.8920	2562.4	3426.6	2708.7	2755.2	0.0022	0.3517

Sheet 1 of 2

82/971

SEISMOGRAPH SERVICE LIMITED
WELL GEOPHONE SURVEY FIELD REPORT
AIR GUN

WELL NAME: Edina No. 1
COUNTRY: AUSTRALIA
JOB NO.: Q 61

CLIENT: Australian Aquitaine Petroleum Pty. Ltd.
WELL LOCATION: 38° 36' 22.32" S, 147° 52' 41.18" E
DATE OF SURVEY: 28 - 10 - 82
RIG NAME & HEADING: Ocean Digger

WELL GEOPHONE REF. LEVEL: RT
ELEVATION OF REF. LEVEL: 30.2m
GUN OFFSET DISTANCE: 46.6m

TYPE GEOPHONE: GCH 100
ELEVATION OF SEA BED: -68.5m
GUN DEPTH: 4.0m

TYPE INSTRUMENT: DCA/DCR
ELEVATION OF GROUND: //
GUN HYDROPHONE DEPTH: 6.7m

GUN CHAMBER SIZE: 80 cu in
DEPTH CASING & SIZE: 1211m @ 13 3/8"
GUN DIRECTION: 290°

EQUIPMENT NO.: Q 4
SAMPLE INTERVAL: 2ms
MULTIPLEX TIME: 3s of data

CASSETTES ~~REWOUND~~/NOT REWOUND
NO. OF CASSETTES: 2

Tape Counter	Record No.	Depth Well Geophone M or ~~FT~~	No. of Shots	Time Recorded Hours	T ms	GAIN dB Record	GAIN dB DHA	Filter Setting High Cut Hz.	Gun Pressure p.s.i.	Hydro Gain 21 dB / " Atten - 24 dB / REMARKS
101 - 3	1	225	3	2.33		3/0	ON	55	1500	
4 - 8	2	400	4			6	"	"	"	
9 - 10	3	600	2			12	"	"	"	
11 - 12	4	800	2			18	"	"	"	
13 - 14	5	1000	2			24/21	"	"	"	
15 - 16	6	1195	2			24	"	"	"	
17 - 18	7	1216	2			24	"	"	"	
19 - 20	8	1450	2	3.27		27/24	"	"	"	
21 - 24	9	1675	3	3.50		30	"	"	"	
26 - 27	10	1650	2			30	"	"	"	
20[illegible] 2	11	1850	2			36/33	"	"	"	
3 - 4	12	2250	2			39	"	"	1200	
5 - 6	13	2450	2			39	"	"	"	
7 - 10	14	2580	4	4.51		39	"	"	"	
11 - 12	15	2350	2			39	"	"	"	
13 - 14	16	2050	2			33	"	"	"	
15 - 16	17	1698	2			30	"	"	"	
17 - 18	18	1600	2			30	"	"	"	

WELL SEISMIC DATUM: MSL
DEPTH WEATHERING: //
ELEVATION VELOCITY: //
WEATHERING VELOCITY: //

ELEVATION REF. DATUM: //
DIRECTION GUN HYDROPHONE BREAKS: DOWN

DIRECTION WELL PHONE BREAKS: DOWN
OPERATORS: G. STOKES / P. HEPPLE

ADDRESS DATA SHOULD BE SENT:

REMARKS:

M 4146 Revised 23 6 77

SEISMOGRAPH SERVICE LIMITED

Sheet [2] of [2]

WELL GEOPHONE SURVEY FIELD REPORT
AIR GUN

WELL NAME ______ COUNTRY ______ JOB NO. ______

CLIENT ______ WELL LOCATION ______ DATE OF SURVEY ______

______ ______ RIG NAME & HEADING ______

WELL GEOPHONE REF. LEVEL ______ ELEVATION OF REF. LEVEL ______ GUN OFFSET DISTANCE ______

TYPE GEOPHONE ______ ELEVATION OF SEA BED ______ GUN DEPTH ______

TYPE INSTRUMENT ______ ELEVATION OF GROUND ______ GUN HYDROPHONE DEPTH ______

GUN CHAMBER SIZE ______ DEPTH CASING & SIZE ______ GUN DIRECTION ______

EQUIPMENT NO. ______ SAMPLE INTERVAL ______ MULTIPLEX TIME ______

CASSETTES REWOUND/NOT REWOUND NO. OF CASSETTES ______

Tape Counter	Record No.	Depth Well Geophone M or ~~Ft~~.	No. of Shots	Time Recorded Hours	T ms	GAIN dB Record	GAIN dB DHA	Filter Setting High Cut Hz.	Gun Pressure p.s.i.	REMARKS
220 - 21	19	500	2			9	ON	55	1200	
22 - 23	20	400	2			6	"	"	"	
24 - 27	21	300	4	6.00		3	"	"	"	

WELL SEISMIC DATUM ______ DEPTH WEATHERING ______ ELEVATION VELOCITY ______ WEATHERING VELOCITY ______

ELEVATION REF DATUM ______ DIRECTION GUN HYDROPHONE BREAKS ______

DIRECTION WELL PHONE BREAKS ______ OPERATORS ______

ADDRESS DATA SHOULD BE SENT ______

REMARKS ______

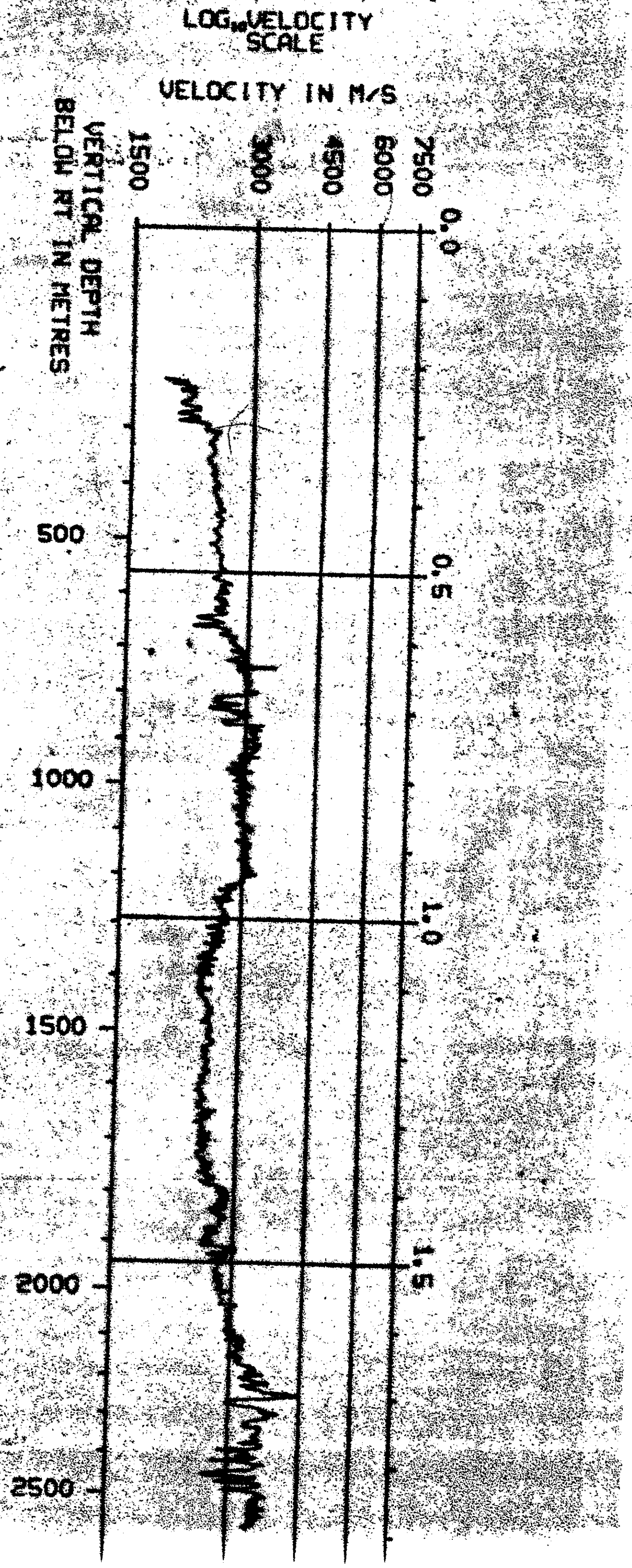
SEISMOGRAPH SERVICE (ENGLAND) LTD.
WELL SURVEY DIVISION

TWO-WAY TRAVEL TIME LOG

COMPANY: AUSTALIAN AQUITAINE PETROLEUM PTY LTD

WELL: EDINA NO. 1

1 S = 3.75 INS
TIME IN SECONDS BELOW DATUM



SEISMOGRAPH SERVICE (ENGLAND) LTD.
WELL SURVEY DIVISION

TWO-WAY TRAVEL TIME LOG

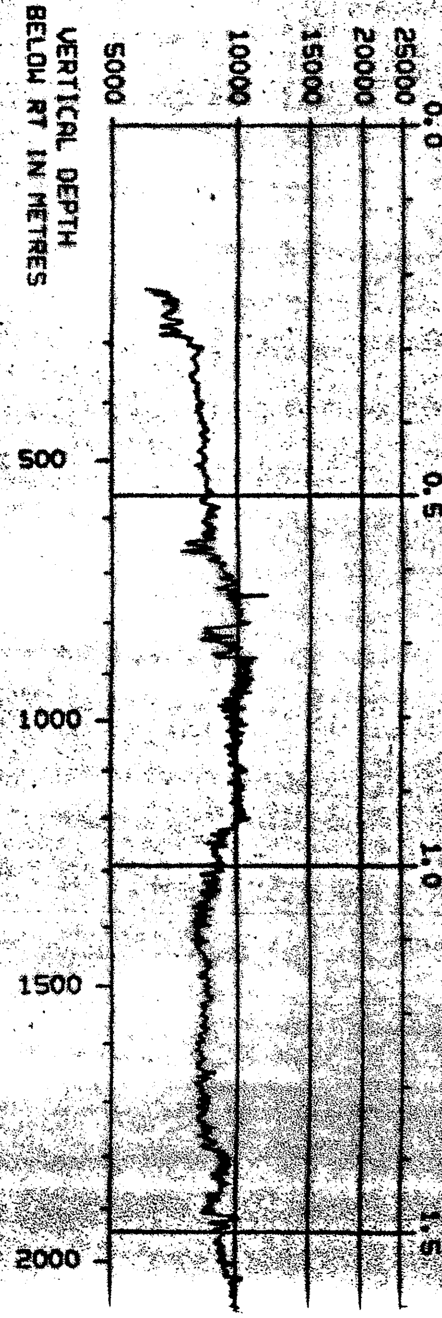
COMPANY: AUSTALIAN AQUITAINE
PETROLEUM PTY LTD

WELL: EDINA NO. 1

1 S = 10. CMS
TIME IN SECONDS BELOW DATUM

LOG_{10} VELOCITY
SCALE

VELOCITY IN FT/S



Enclosures

Enclosures

PE905963

This is an enclosure indicator page.
The enclosure PE905963 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905963 has the following characteristics:

```
     ITEM_BARCODE = PE905963
CONTAINER_BARCODE = PE905967
             NAME = Final Stack Air Gun, Line GA81-21
            BASIN = GIPPSLAND BASIN
           PERMIT = VIC/P17
             TYPE = SEISMIC
          SUBTYPE = SECTION
      DESCRIPTION = Final Stack Air Gun, Line GA81-21
                    (enclosure 1 of WCR) for Edina-1
          REMARKS =
     DATE_CREATED = 31/01/82
    DATE_RECEIVED =
             W_NO = W784
        WELL_NAME = EDINA-1
       CONTRACTOR =
     CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM
```

(Inserted by DNRE - Vic Govt Mines Dept)

PE905964

This is an enclosure indicator page.
The enclosure PE905964 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905964 has the following characteristics:

ITEM_BARCODE = PE905964
CONTAINER_BARCODE = PE905967
NAME = Final Stack Air Gun, Line GA81-18
BASIN = GIPPSLAND BASIN
PERMIT = VIC/P17
TYPE = SEISMIC
SUBTYPE = SECTION
DESCRIPTION = Final Stack Air Gun, Line GA81-18 (enclosure 2 of WCR) for Edina-1
REMARKS =
DATE_CREATED = 31/01/82
DATE_RECEIVED =
W_NO = W784
WELL_NAME = EDINA-1
CONTRACTOR =
CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE604492

This is an enclosure indicator page.
The enclosure PE604492 is enclosed within the container PE905967 at this location in this document.

The enclosure PE604492 has the following characteristics:

```
     ITEM_BARCODE = PE604492
CONTAINER_BARCODE = PE905967
             NAME = Composite Well Log
            BASIN = GIPPSLAND BASIN
           PERMIT = VIC/P17
             TYPE = WELL
          SUBTYPE = COMPOSITE_LOG
      DESCRIPTION = Well Composite Log (enclosure 3 of WCR)
                    for Edina-1
          REMARKS =
     DATE_CREATED = 1/11/82
    DATE_RECEIVED =
             W_NO = W784
        WELL_NAME = EDINA-1
       CONTRACTOR =
     CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM
```

(Inserted by DNRE - Vic Govt Mines Dept)

PE905965

This is an enclosure indicator page.
The enclosure PE905965 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905965 has the following characteristics:

```
      ITEM_BARCODE = PE905965
 CONTAINER_BARCODE = PE905967
              NAME = Master Log
             BASIN = GIPPSLAND BASIN
            PERMIT = VIC/P17
              TYPE = WELL
           SUBTYPE = MUD_LOG
       DESCRIPTION = Mud Log (enclosure 4 of WCR) for
                     Edina-1
           REMARKS =
      DATE_CREATED =
     DATE_RECEIVED =
              W_NO = W784
         WELL_NAME = EDINA-1
        CONTRACTOR = GEOSERVICES
      CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM
```

(Inserted by DNRE - Vic Govt Mines Dept)

PE905966

This is an enclosure indicator page.
The enclosure PE905966 is enclosed within the container PE905967 at this location in this document.

The enclosure PE905966 has the following characteristics:

ITEM_BARCODE = PE905966
CONTAINER_BARCODE = PE905967
NAME = Completion Log
BASIN = GIPPSLAND BASIN
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = COMPLETION_LOG
DESCRIPTION = Completion log (enclosure 5 of WCR) for Edina-1
REMARKS =
DATE_CREATED = 26/09/82
DATE_RECEIVED =
W_NO = W784
WELL_NAME = EDINA-1
CONTRACTOR =
CLIENT_OP_CO = AUSTRALIAN AQUITAIN PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)