PARKER & PARSLEY
AUSTRALASIA LIMITED

PEP 108

OTWAY BASIN - VICTORIA

MYLOR #1

WELL COMPLETION REPORT

VOLUME 1

NOVEMBER 1994

WCR vol. 1
Mylor-1
(W1102)

BD 23/3/95

MYLOR #1

PEP 108, Otway Basin, Victoria

Well Completion Report

Bridge Oil Limited (Operator) : 50%
GFE Resources Ltd. : 50%

Compiled by
BRIDGE OIL LIMITED
David Cliff
502/3890/92/DCC
November 1994

C:WINWORD\WINPEP\MYLOR\WCR\MYLR1GEO.DOC
C:WINWORD\WINPEP\MYLOR\WCR\MYLR1ENG.DOC

CONTENTS

PART A - GEOLOGY

PART B - ENGINEERING

PART C - GEOPHYSICS

APPENDIX

LIST OF FIGURES

LIST OF TABLES

LIST OF TABLES (continued)

LIST OF ENCLOSURES

WELL DATA SHEETS

Well: MYLOR #1, PEP 108, Otway Basin, Victoria

Latitude: 38^{o} 31' 50.75" South
Longitude: 142^{o} 55' 27.80" East
Easting: 667739.0
Northing: 5733523.1

KBE: 103.2 metres
GL: 97.4 metres

Seismic Line: 7005
Station No.: 1795
Survey: Waarre 3D

Programmed Total Depth: 1920.0m KBE
Driller's Total Depth: 1922m KB
Logger's Total Depth: 1922.4m KB

Targets: **Primary Objectives:** Late Cretaceous Waarre Formation
Early Cretaceous Eumeralla Formation

Proximity to other wells: 3.5km NW of North Paaratte #1, 2.9km WNW of Port Campbell #4

Spud Date: 2100 hrs 12 June 1994
Rig Released: 2400 hrs 28 June 1994

Rig Contractor: Century Drilling
Rig Type: Cooper LTO 750 Rig 11
Mudlogging Contractor: Baker Hughes Inteq
Wireline Logging Contractor: Schlumberger
Testing: Australian DST

Status: Completed as a Gas/Condensate Producer

Casing Details

Outer Diameters		**Depths to Shoe**
9-5/8" Casing	:	292.6mKB (DLR), 291.0mKB (LGR)
7" Casing		1917.4m KB (Driller)

Completion Details

TCP Perforations:
To be perforated.

Programme for Washed and Air Dried and Unwashed Dried Cuttings Samples:

10mKB to 1200mKB	:	10 Metre intervals
1200mKB to TD	:	3 Metre intervals

Table - 1 Formation Tops

FORMATION	PROGNOSED			ACTUAL			HIGH/LOW
	KB DEPTH (m)	SS DEPTH (m)	THICKNESS	KB DEPTH (m)	SS DEPTH (m)	THICKNESS	TO PROGNOSIS
PORT CAMPBELL LST				10.0	+93.2	94.0	NA
GELLIBRAND MARL				104.0	-0.8	257.5	NA
CLIFTON	373	-270.0	104.0	361.5	-258.3	98.5	-11.5
MEPUNGA SST				460.0	-356.8	53.5	NA
LOWER MEPUNGA	477	-374.0	71.0	513.5	-410.3	72.5	36.3
DILWYN	548	-445.0	165.0	586.0	-482.8	133.0	37.8
PEMBER MDST	713	-610.0	83.0	719.0	-615.8	68.5	5.8
PEBBLE POINT	796	-693.0	39.0	787.5	-684.3	51.5	-8.7
PAARATTE	835	-732.0	353.0	839.0	-735.8	402.5	3.8
SKULL CREEK	1188	-1085.0	137.0	1241.5	-1138.3	147.5	53.3
NULLAWARRE	1340	-1237.0	164.0	1389.0	-1285.8	124.5	48.8
BELFAST MDST	1504	-1401.0	155.0	1513.5	-1410.3	138.5	9.3
FLAXMANS	1659	-1556.0	14.0	1652.0	-1548.8	20.5	-7.2
WAARRE SST	1673	-1570.0	92.0	1672.5	-1569.3	89.5	-0.7
EUMERALLA	1765	-1662.0	155.0	1762.0	-1658.8	160.4	-3.2
TD	1920	-1817.0		1922.4	-1819.2		2.2

Well: MYLOR #1, PEP 108, Otway Basin, Victoria

Wireline Logging Suite

Logs Recorded	Suite	Run	Top (m)	Base (m)	Remarks
AS-DLL-MSFL-GR-SP-CAL	1	1	0	1918.7	GR to surface
LDL-CNL-GR-CAL	1	1	1359.9	1918.7	
HP-RFT-GR	1	2	1669.7	1761.5	
Check Shot Survey WST-A	1	3	400	1900	
CST	1	4	1388	1913.5	

Full Hole Cores

Core No.	Interval	Recovery	Formation	Shows
1	1685.0-1703.0m (driller) 1685.3-1704.1m (logger)	17.9m (99.3%)	WAARRE	1702.0-1702.94m 100% fluorescence. Bright blue -white. Solid - patchy. Instant blooming to very fast streaming cut, trace dull yellow residual ring. Moderate Hydrocarbon odour.
2	1703.0-1715.0m (driller) 1704.1-1716.1m (logger)	9.75m (81.3%)	WAARRE	1703.0-1703.4m 100% fluorescence as above.

Formation Tests:

DST #1 OPEN-HOLE OFF BOTTOM
1665.70-1684.00m (driller)
1665.7-1684.0m (logger)
(WAARRE)
GTS @ 4.2MMCFD
REC: 5M (0.5BBL) CONDENSATE (58.03°API @ 15.6°C), 226M (23BBL) COND/OIL/GAS CUT MUD

BOMB	:	1673.9m
I.F.P.	:	5mins / 2289.7psig
I.S.I.P.	:	30mins / NApsig
F.F.P.	:	75mins / 2289.6psig
F.S.I.P.	:	181mins / 2295.8psig
I.H.P.	:	2676.2psig
F.H.P.	:	2623.3psig
W.H.F.P	:	1260psig
S.C.	:	3/8"
B.C.	:	3/4"

RFT SAMPLE
RUN #2

DEPTH	:	1702.3m	
FORMATION	:	WAARRE (Oil zone)	
F.P.	:	2316psia	
TEMP.	:	65.6deg C	
Chamber	:	6 Gallon	2 3/4 Gallon
GAS	:	45cuft	NA
OIL	:	150ml	480ml
WATER	:	NA	10482ml
MUD/FILT	:	1850ml	8ml
OGR	:	21bbl/MMSCF	NA
API	:	NA	61.9° @ 15.6deg C

Well: MYLOR #1, PEP 108, Otway Basin, Victoria

Log Analysis : Summary Of Net Sandstone Zones
(Vshale <= 30%, Phie =>6%, Net pay - SwInd <= 50%)

Top (m kb)	Base (m kb)	Gross Thickness (m)	Net Sst/NetPay (m)	Av ND Phi (%)	Av Sw (%)	N/G (%)
Flaxmans Formation						
1652.0	1672.5	20.5	1.7 / 0	9.3	61.0	0
Waarre Formation (Hydrocarbon Zone)						
1672.5	1704.0	31.5	28.0 / 24.1	18.9	27.2	76.0
Waarre Formation (Water Zone)						
1704.0	1762.0	58.0	32.6 / 0	21.9	80.1	56.0
Eumeralla Formation (Net Sand <= 40% Vshale)						
1762.0	1890.0	128	21.3 / 0	13.2	75	16.7

DST and RFT results provide evidence to support the wireline log interpretation of a liquids-rich gas cap and a liquids rim accumulated in the Waarre Formation in the Mylor #1 structure.

SERVICE COMPANY - ANALYSES PERF[illegible]:

ACS Laboratories	: Routine core analysis.
ACS Laboratories	: Special core analysis.
Australian Dst Co.	: Open-Hole Off Bottom DST 1,
Thomas Geological	: Petrology of selected core chip samples
Petrolab	: PVT analysis.
Roger Morgan	: Palynology
Amdel Pet. Services	: Rock-Eval Pyrolysis & Vitrinite Reflectance
	: Geochemical Analysis of Fluid Samples

WELL HISTORY

Mylor #1 was spudded on 12 June 1994 and drilled to a total depth of 1922m.

Mylor #1 was drilled as an exploration well in PEP 108 to evaluate the Waarre Formation sandstones to the northwest of the North Paaratte gas field in PPL-1 The well intersected the primary target on the flank of a rotated fault block delineated by both 2D and 3D seismic data. The well intersected a wet-gas column near the top of the Waarre Sandstone from 1675.9m. A gas-"oil" contact was established at 1701.7m and a thin liquids leg was recognised down to 1704.0m. The liquids have the same composition as the condensate produced from the gas zone and are interpreted to be a retrograde condensate with an API gravity of 61.9^{o}. @ 15.6^{o}C.

Mylor #1 rig released on 28 June 1994 after setting a 7" liner for future completion as a gas producer.

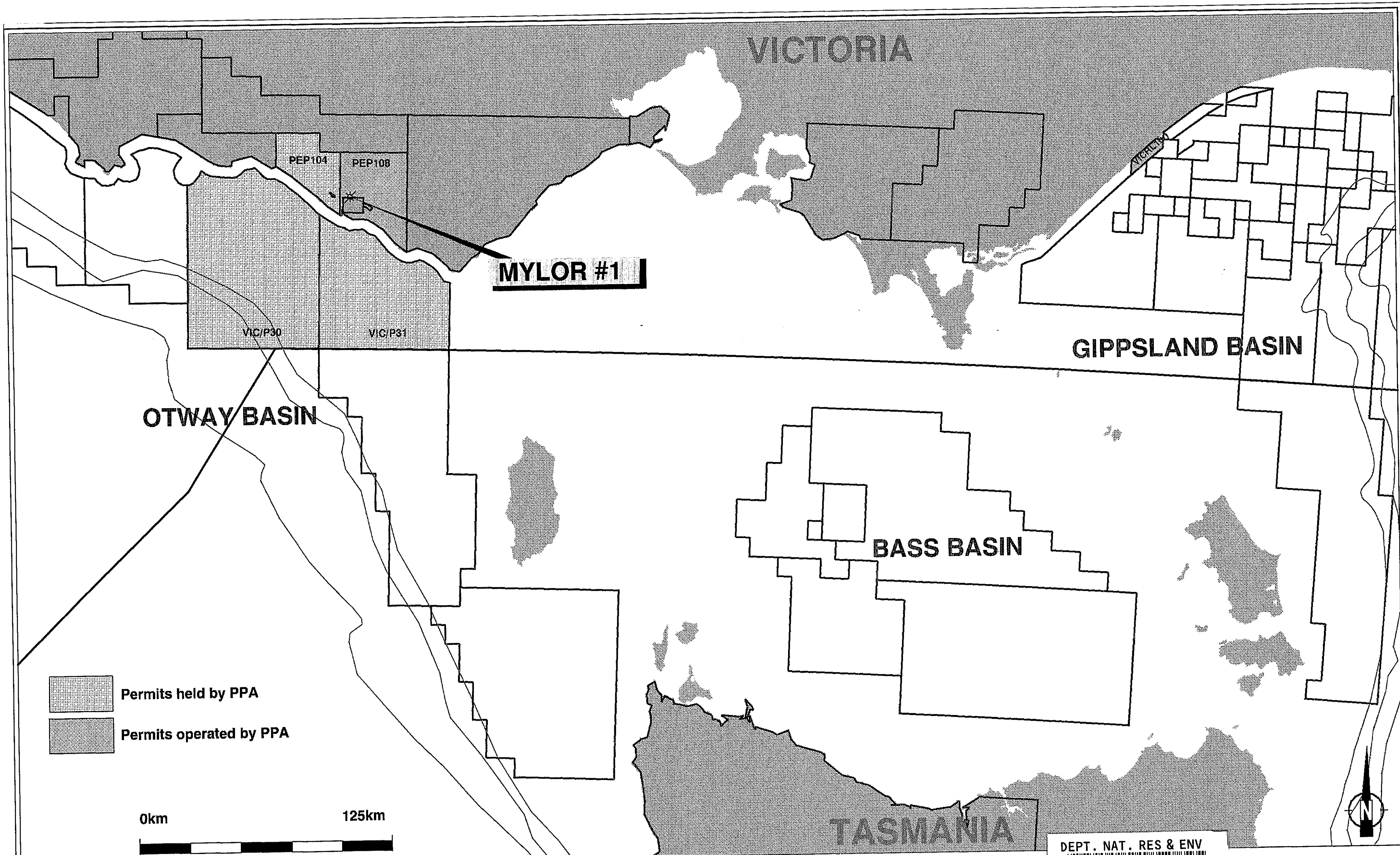
PE906737

This is an enclosure indicator page.
The enclosure PE906737 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906737 has the following characteristics:

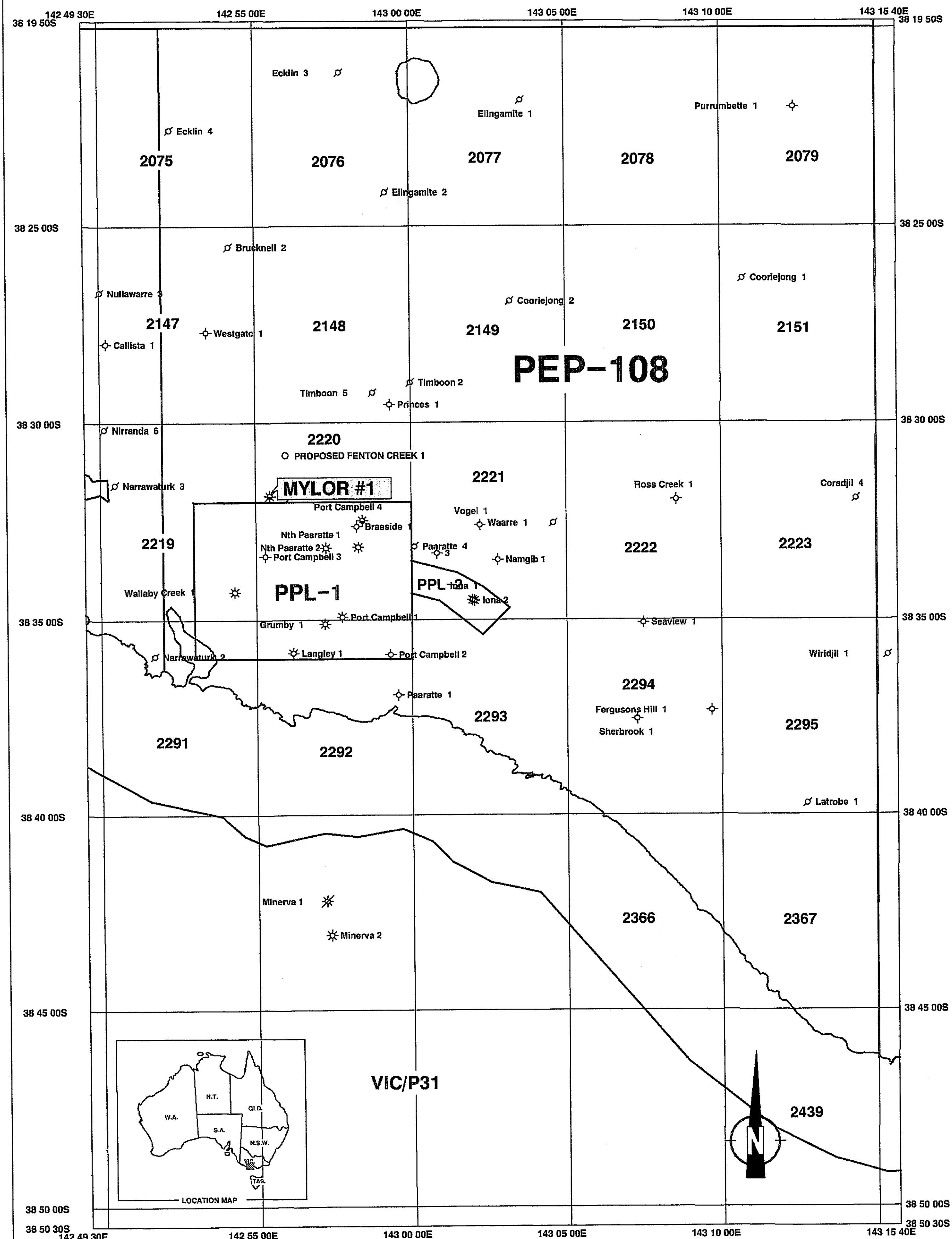
ITEM_BARCODE =	PE906737
CONTAINER_BARCODE =	PE900934
NAME =	Permit Location Map
BASIN =	OTWAY
PERMIT =	PEP108
TYPE =	GENERAL
SUBTYPE =	MAP
DESCRIPTION =	Permit Location Map for PEP108 and Mylor-1
REMARKS =	
DATE_CREATED =	30/11/94
DATE_RECEIVED =	23/03/95
W_NO =	W1102
WELL_NAME =	MYLOR-1
CONTRACTOR =	
CLIENT_OP_CO =	BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)



PEP 108, PERMIT LOCATION MAP

Figure 1.



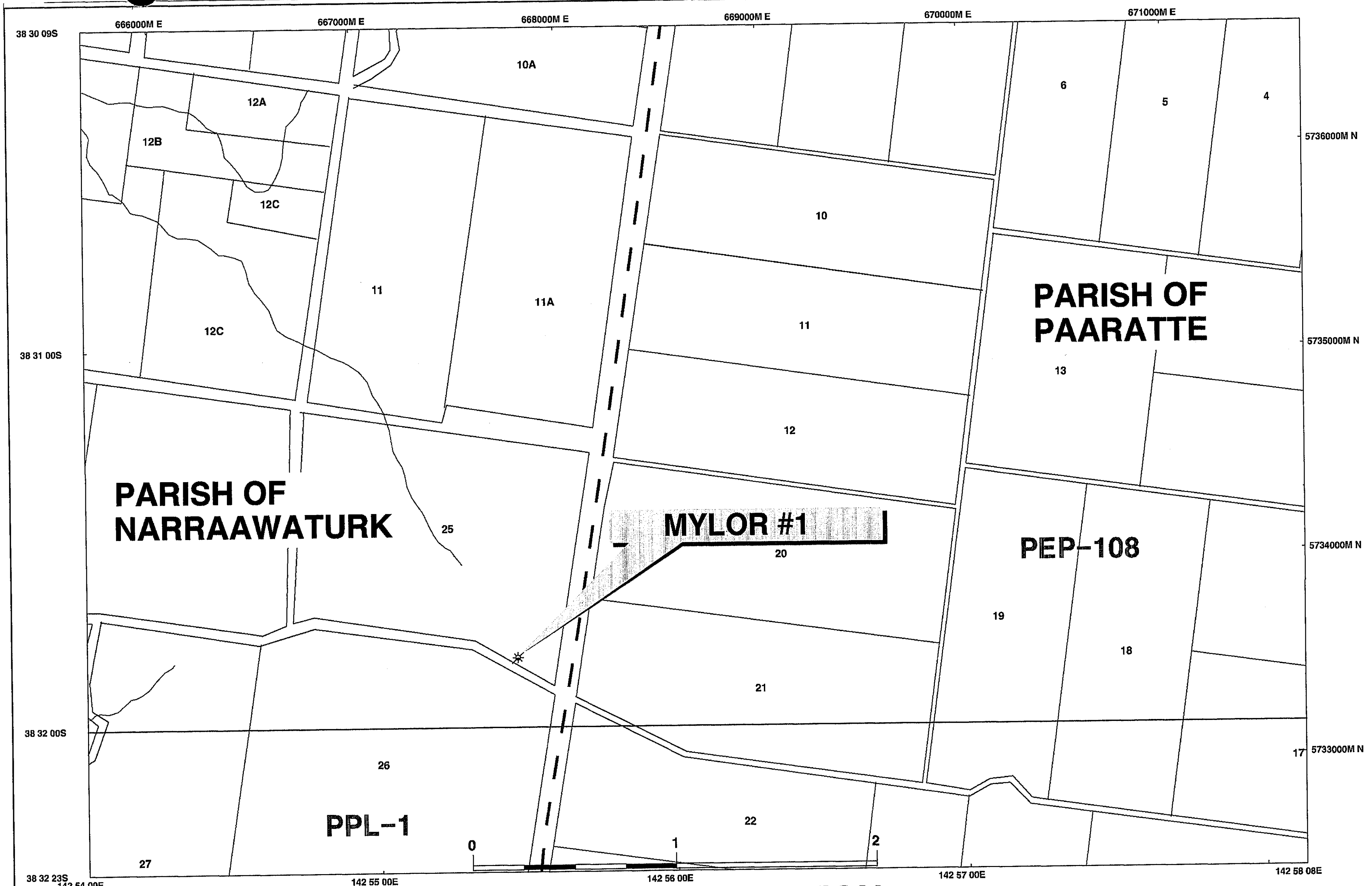
OTWAY BASIN - VICTORIA

PEP108

WELL LOCATION MAP

AREA:1144km sq 23 BLOCKS
(excluding areas PPL1 & PPL2)

Figure 2.



MYLOR #1 WELL LOCATION CADASTRAL MAP

Figure 3.

1.2 Well Location Survey

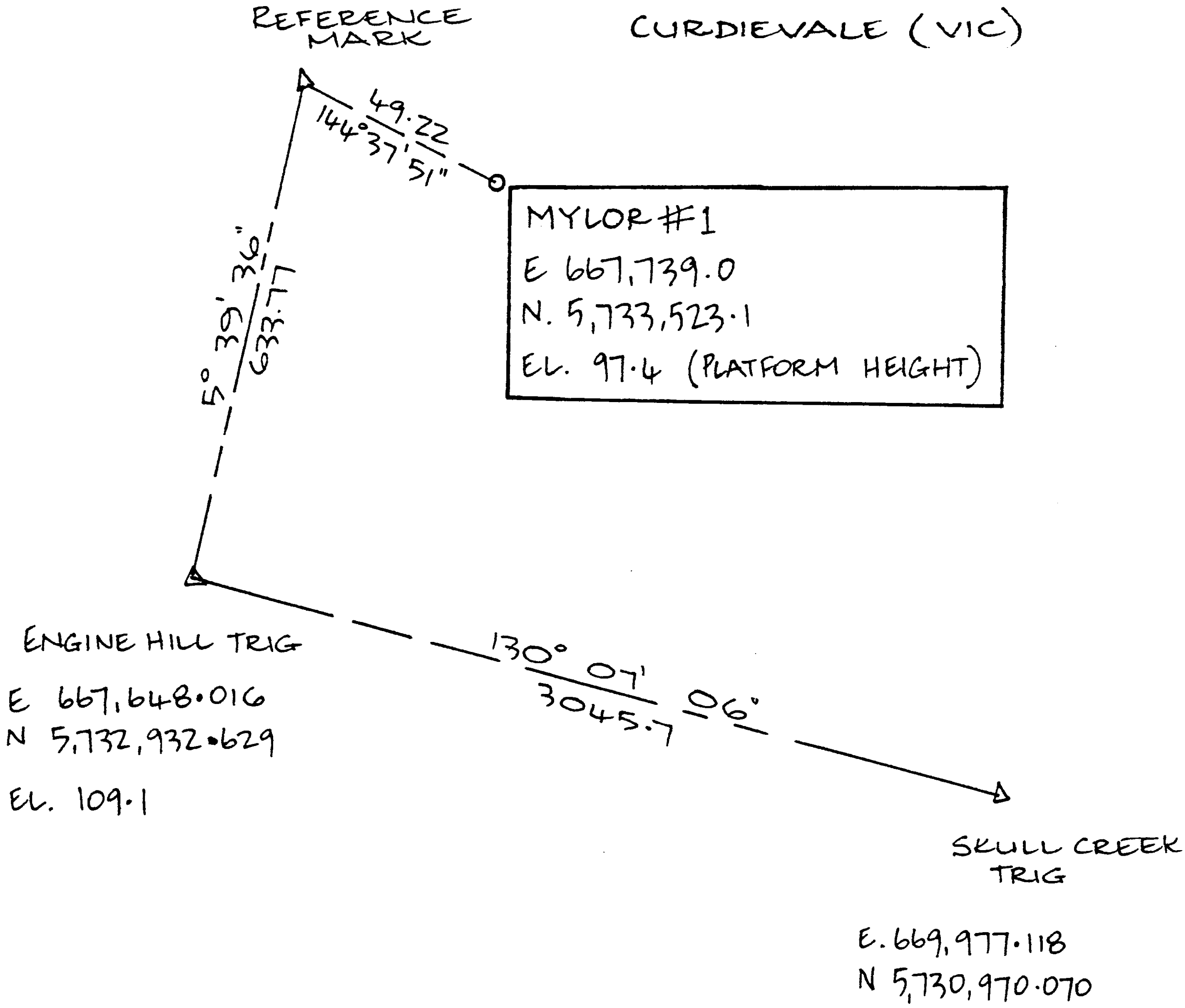
Note: The surveyed co-ordinate and ground level (G.L.) reported by Paul Crowe, Surveyor are the ones that have been used throughout the text. The following page is Paul Crowe's survey data sheet.

Paul Crowe Surveyor
64 Thompson Street,
Hamilton 3300.
Telephone (055) 72 4795

Paul D. Crowe, B.App. Sci. (Surv.), L.S., M.I.S.

Reply to . . . . office

PLAN SHOWING
CO-ORDINATES AND
ELEVATION OF
MYLOR No.1
CURDIEVALE (VIC)



Plan is not to scale.
Co-ords on AMG Zone 54
Elevation to AHD

Paul Crowe 17/6/94.

Member, Association of Consulting Surveyors, Victoria

GEOLOGY

2) GEOLOGICAL REVIEW

2.1 Well Objective

Mylor #1 was drilled to evaluate the Waarre Formation sandstones to the northwest of the North Paaratte gas field, in PEP 108. The Mylor prospect was initially delineated on the existing 2D seismic data set. The structure consists of a small horst in the southwest of the feature which opens out into a faulted anticline down dip to the north and east (figure 5). The structure was confirmed by the interpretation of the Waarre 3D seismic survey. The trap is fault dependent to the north and south and shows gentle rollover in an east-west direction.

The Mylor prospect lies on the northern flank of the greater Port Campbell High in an area where there is potential for Belfast Mudstone seal to reach thicknesses in excess of 150m. The nearest well to the prospect is North Paaratte #1 which flowed gas on production test at 9.8mmcfd with condensate at 2.5 bbl/mmcfd from the Waarre Formation.

Mylor #1 was programmed to drill approximately 150m into the Early Cretaceous Eumeralla Formation. The sandstones of the Eumeralla would still be laterally sealed by the Belfast Mudstone to this depth across the south bounding fault. Although reservoir potential is low, the Eumeralla is seen as a secondary target, as any sealing lithology near the top of the Eumeralla could trap hydrocarbons. Port Campbell #4, 2.9km to the southeast had an oil recovery on DST in a similar stratigraphic horizon.

The Nullawarre Formation was not considered a secondary objective at Mylor #1, as no structual closure is interpreted at this level.

The drilling of Mylor #1 presented the PEP-108 Joint Venture with an opportunity to establish the presence of gas reserves in close proximity to the existing infrastructure at the North Paaratte gas field.

2.2 Stratigraphy

Figure 4 provides a summary of the stratigraphic sequence and hydrocarbon potential of the Otway Basin in PEP 108 and table 1 gives a listing of the formation tops, prognosed versus actual.

The Belfast Mudstone was 9.3m low to prognosis (-1410.3mSS); whereas the Flaxmans was 7.2m high to prognosis. The Waarre (-1569.3m) came in within half a metre to the prognosed depth and the Eumeralla Formation was 3.2m high (-1658.8m). Shallower formations were from 14.7m high to 53.3m low to prognosis. The Waarre Formation (89.5m) was 2.5m thinner than prognosed. The Belfast Mudstone and Flaxmans (159m) combined were 10m thinner than prognosed.

The top of the Belfast Mudstone is usually a gradational contact between the Nullawarre Greensand and the shale below as seen in Mylor #1. In general, the pick is made at the inflection point or at the half way point of the increasing gamma ray reading as the log passes downward into the shale.

The thickness of the Belfast Mudstone was a critical factor in the success of Mylor #1. Its sealing capacity as a top seal and a lateral seal across the bounding faults with throws of up to 195m is understood to be the prime reason for the success of the trapping mechanism, where wells such as Namgib #1 and Vogel #1 have failed because the unit is too thin.

The base of the Belfast Mudstone (1652.0m), top Flaxmans formation is picked on the top of a small gamma ray spike (decrease) and drill break which commonly corresponds to a change in lithology to slightly siltier section. The Flaxmans also displays a marked increase in activity on the sonic and resistivity logs. A fining upwards of the whole unit is apparent at Mylor #1. The top Flaxmans pick is equivalent to Beach's top unit D of the Waarre Formation (Ref A. Buffin APEA Jour. 1989) and to the top Lower Shipwreck group as used by BHPP.

The top of the Waarre (Sandstone) Formation is interpreted as the first major clean porous sandstone. In Mylor #1 this is currently interpreted at 1672.5m, below a thin shale. Above this thin shale at 1667.9m is a 2m sandstone which could be an alternative pick for the top Waarre Formation.

The Waarre Formation has been subdivided into four units by Buffin and others, the lowermost unit "A" is well developed in Mylor #1 (1722 - 1762m) where 26.5m of net sandstone has an average porosity of 22.2%. Sandstones in this unit will be contributing to net pay higher on the Mylor structure. Unit "B" (1699 - 1722m) is a siltier unit associated with back barrier bar lagoonal settings, nevertheless it still contains 11.3m of net sand with an average 24% porosity. The upper 1.7m of net also contains the retrograde condensate column at the well location. Unit "C" (1672.5 - 1699m) is the main gas reservoir section consisting of channel sands with porosities averaging 19% in the 21m of net pay. Unit "D" (1652 - 1672.5m) is equivalent to the Flaxmans formation and is predominantly a silty, fining upward sequence. At the base there is 1.7m of net sand present with an average 11% porosity and gas saturations averaging 31%.

A stratigraphic cross-section (figure 6) shows the correlation of the Waarre subdivisions from Boggy Creek #1 through Mylor #1 to Braeside #1.

The base of the Waarre Formation is picked on a decrease downwards in sonic travel time (1762.0m) consistent with the penetration of older rocks underlying an unconformity surface. The Eumeralla Formation is consistently more lithic and is commonly green in colour due to a highly chloritic clay matrix. The basal Waarre is sometimes locally derived from the unconformity surface and is expected to contain rip-up clasts of Eumeralla in the higher energy facies. Thus lithologically, in cuttings samples, a gradational change from Waarre to Eumeralla makes it difficult to pick. An alternative pick could be made at 1743m at the base of the last clean quartzose sand, however, this would not correspond well to the seismic event pick as there is little change in sonic impedance at this point.

The Eumeralla Formation at Mylor #1 consisted of sandstones with very poor reservoir characteristics. The original pore spaces have been choked with calcite and silica cements and abundant argillaceous and silty matrix. Minor fluoresence shows were recorded between 1828 and 1863m which is consistent with other intersections of the Eumeralla in the Port Campbell Embayment. The interbedded claystones are very silty and grade to siltstone, they are also thin and represent poor potential as lateral seals or cap rocks.

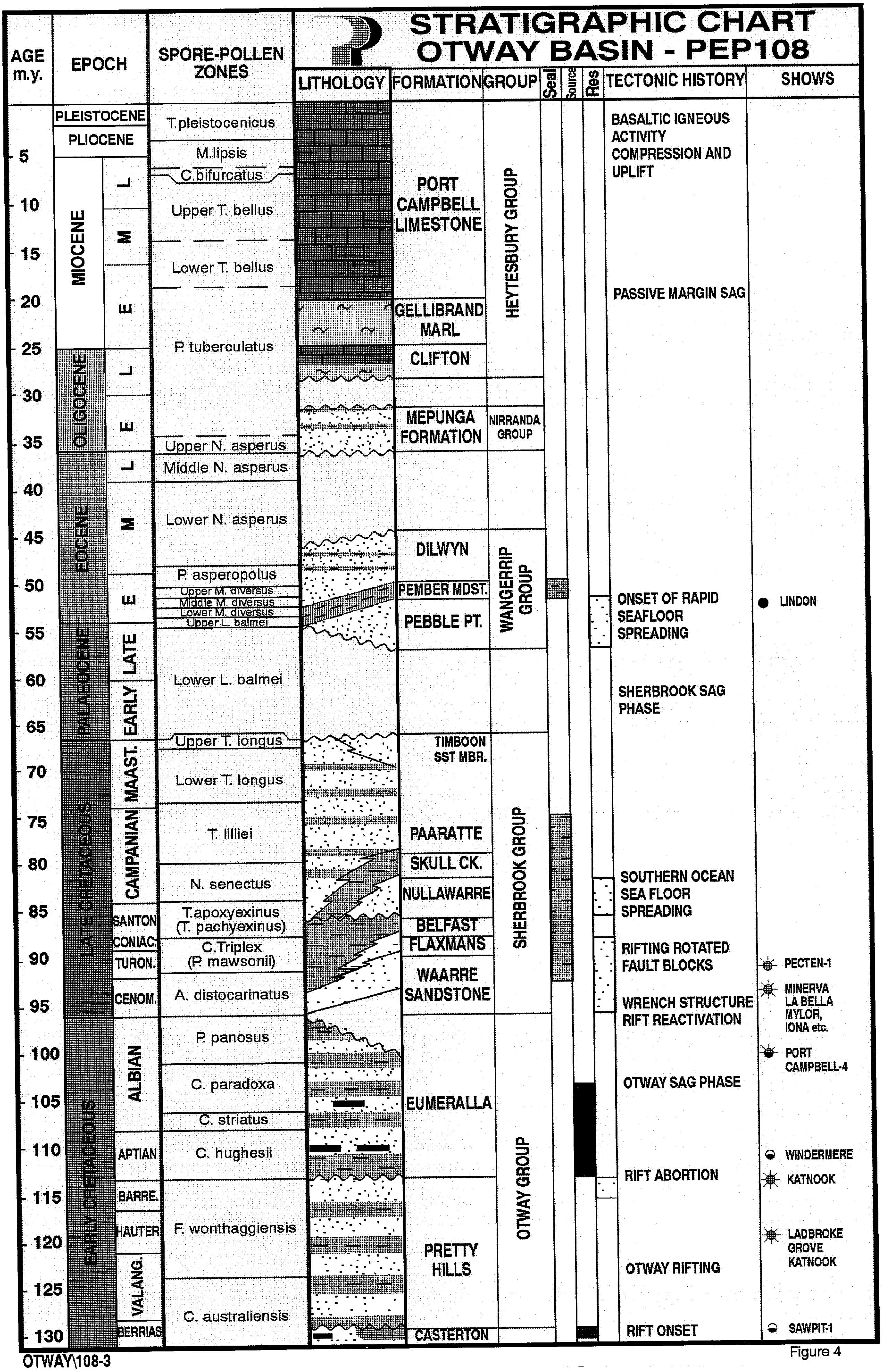
PE906738

This is an enclosure indicator page.
The enclosure PE906738 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906738 has the following characteristics:

ITEM_BARCODE =	PE906738
CONTAINER_BARCODE =	PE900934
NAME =	Stratigraphic Chart
BASIN =	OTWAY
PERMIT =	PEP108
TYPE =	WELL
SUBTYPE =	STRAT_COLUMN
DESCRIPTION =	Stratigraphic Chart, PEP108 and Otway Basin
REMARKS =	
DATE_CREATED =	30/11/94
DATE_RECEIVED =	23/03/95
W_NO =	W1102
WELL_NAME =	MYLOR-1
CONTRACTOR =	
CLIENT_OP_CO =	BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)


STRATIGRAPHIC CHART
OTWAY BASIN - PEP108
AGE m.y.
EPOCH
SPORE-POLLEN ZONES
LITHOLOGY
FORMATION
GROUP
Seal
Source
Res
TECTONIC HISTORY
SHOWS
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
105
110
115
120
125
130
PLEISTOCENE
PLIOCENE
MIOCENE
L
M
E
OLIGOCENE
L
E
EOCENE
L
M
E
PALAEOCENE
LATE
EARLY
LATE CRETACEOUS
MAAST.
CAMPANIAN
SANTON
CONIAC.
TURON.
CENOM.
EARLY CRETACEOUS
ALBIAN
APTIAN
BARRE.
HAUTER.
VALANG.
BERRIAS
T.pleistocenicus
M.lipsis
C.bifurcatus
Upper T. bellus
Lower T. bellus
P. tuberculatus
Upper N. asperus
Middle N. asperus
Lower N. asperus
P. asperopolus
Upper M. diversus
Middle M. diversus
Lower M. diversus
Upper L. balmei
Lower L. balmei
Upper T. longus
Lower T. longus
T. lilliei
N. senectus
T.apoxyexinus (T. pachyexinus)
C.Triplex (P. mawsonii)
A. distocarinatus
P. panosus
C. paradoxa
C. striatus
C. hughesii
F. wonthaggiensis
C. australiensis
PORT CAMPBELL LIMESTONE
GELLIBRAND MARL
CLIFTON
MEPUNGA FORMATION
DILWYN
PEMBER MDST.
PEBBLE PT.
TIMBOON SST MBR.
PAARATTE
SKULL CK.
NULLAWARRE
BELFAST
FLAXMANS
WAARRE SANDSTONE
EUMERALLA
PRETTY HILLS
CASTERTON
HEYTESBURY GROUP
NIRRANDA GROUP
WANGERRIP GROUP
SHERBROOK GROUP
OTWAY GROUP
BASALTIC IGNEOUS ACTIVITY COMPRESSION AND UPLIFT
PASSIVE MARGIN SAG
ONSET OF RAPID SEAFLOOR SPREADING
SHERBROOK SAG PHASE
SOUTHERN OCEAN SEA FLOOR SPREADING
RIFTING ROTATED FAULT BLOCKS
WRENCH STRUCTURE RIFT REACTIVATION
OTWAY SAG PHASE
RIFT ABORTION
OTWAY RIFTING
RIFT ONSET
LINDON
PECTEN-1
MINERVA LA BELLA MYLOR, IONA etc.
PORT CAMPBELL-4
WINDERMERE
KATNOOK
LADBROKE GROVE KATNOOK
SAWPIT-1
OTWAY\108-3
Figure 4

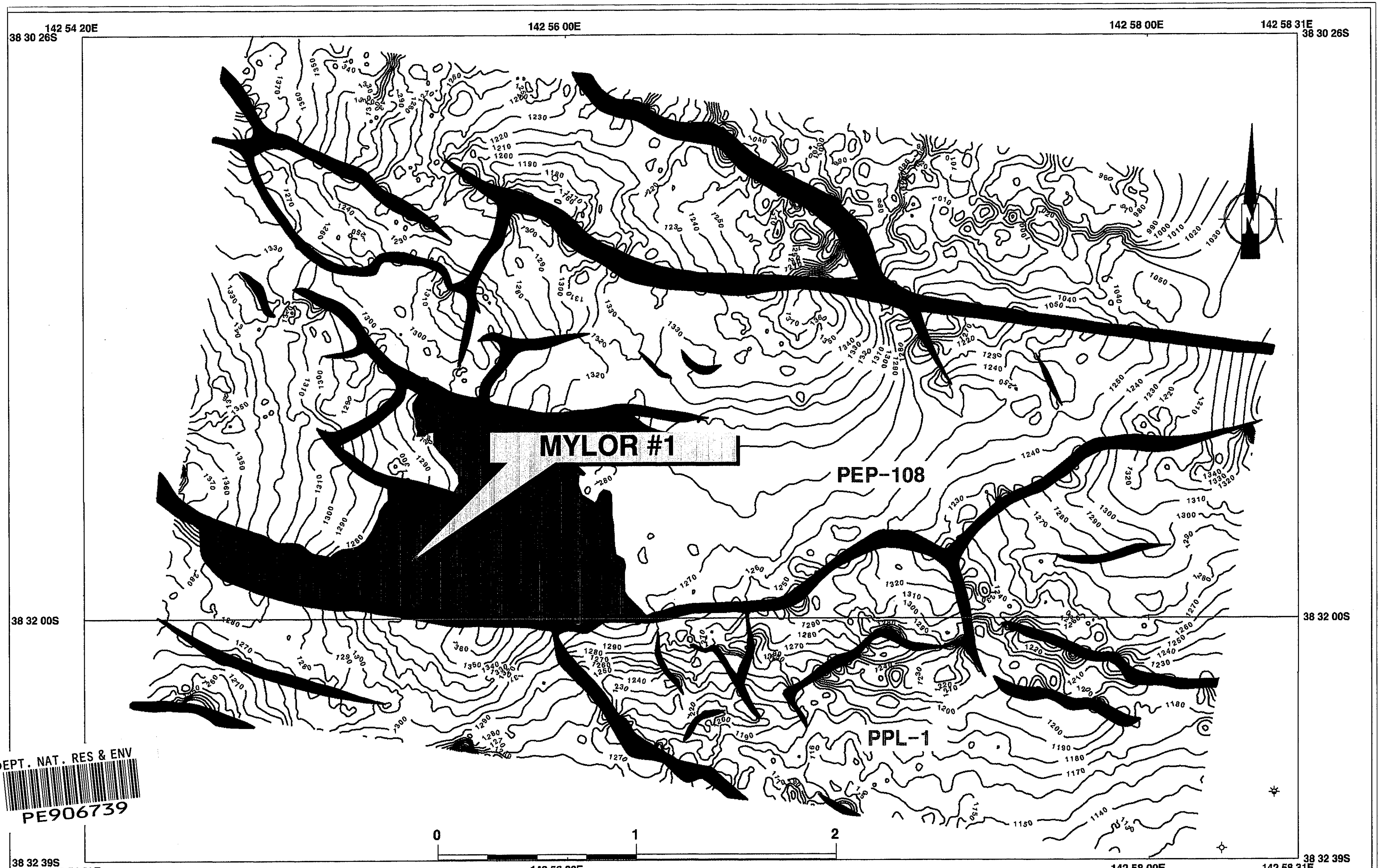
PE906739

This is an enclosure indicator page.
The enclosure PE906739 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906739 has the following characteristics:

ITEM_BARCODE =	PE906739
CONTAINER_BARCODE =	PE900934
NAME =	Structure - Top Waarre Formation
BASIN =	OTWAY
PERMIT =	PEP108
TYPE =	SEISMIC
SUBTYPE =	HRZN_CNTR_MAP
DESCRIPTION =	Structure - Top Waarre Formation, Mylor-1
REMARKS =	
DATE_CREATED =	30/11/94
DATE_RECEIVED =	23/03/95
W_NO =	W1102
WELL_NAME =	MYLOR-1
CONTRACTOR =	
CLIENT_OP_CO =	BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)



TWT STRUCTURE CONTOUR MAP ON THE TOP WAARRE FORMATION

Figure 5.

STRATIGRAPHIC CROSS SECTION - figure 6

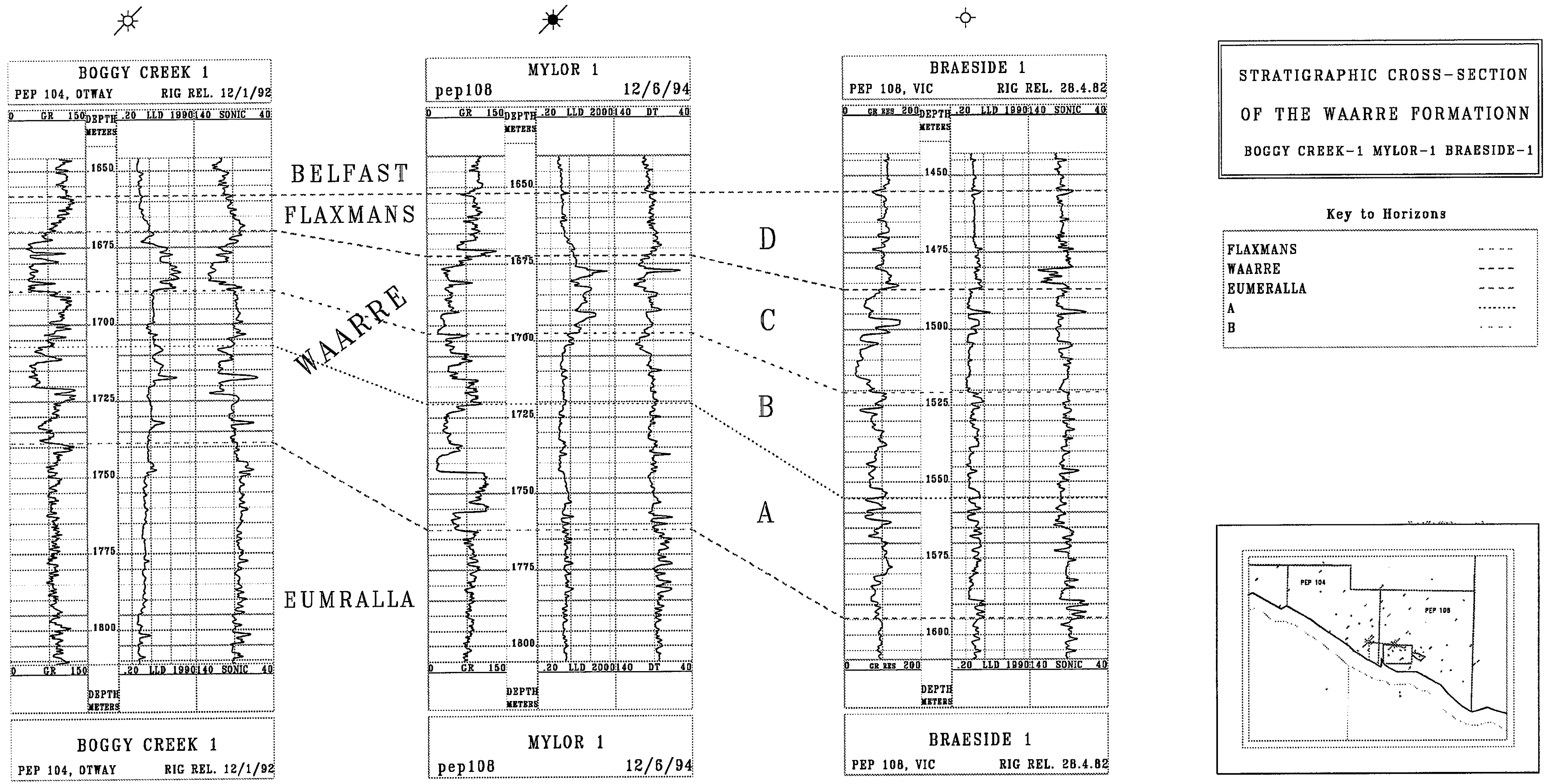


Figure 6.

2.3 Geophysical

2.3.1 Pre Versus Post Drill Structural Appraisal

The pre-drill time-structure map of the Top Waarre (figure 5) was produced from the 3D data set over the prospect area. This is the map included on the discovery montage (enclosure 4). The close agreement between the pre and post-drill horizon tops (table 1) has resulted in the deferral of a post-drill re-interpretation.

The amplitude anomaly over the structure at the Top Waarre was analysed using Hampson-Russel's Amplitude vs Offset (AVO) and impedance modelling (STRAT 3D) software packages before the well was drilled. An AVO response consistent with a gas-filled reservoir was observed on Line B91-10 over the Mylor structure, and the impedance work highlighted a structurally-consistent low impedance Waarre reservoir with a 'flat-spot' at the level of the lowest-closing contour. These observations further supported the prognosis of gas at Mylor, which was established by the drilling of the well.

Formation tops were prognosed using the following procedure:

1. Horizon times were measured from the interpreted Waarre 3D data volume. All horizons were tied into nearby wells using synthetics and the interpretation was reconciled to the 2D interpretation. The times picked from the 3D data set were corrected to a datum of 150m from mean sea level using a replacement velocity of 1750m/sec.

2. Interval velocities were computed from stacking velocity data on Line B91-10 at VPs 330, 390 and 460, on Line TM-6 at VPs 240, 360 and 480 and on Line TM-8 at VP 260.

3. Depths to each horizon were then computed and averaged. The prognosed depths are given in table 1.

The key horizons that were correlated and picked were as follows.

Eumeralla

The Top Eumeralla is picked as a trough that represents the acoustic impedance increase generally observed. The nearest wells (North Paaratte #1, Port Campbell #4) are separated by several faults from the Mylor location making correlations difficult, and the pick was considered to be low-confidence. The correlation is however, substantiated by the well since the top was encountered 3m high to prognosis (table 1).

Flaxmans/Waarre

The Flaxmans is a transgressive unit that exhibits an upward-fining character, into the base of the Belfast Mudstone. There is a corresponding transition from higher to lower velocities up-section which produces an acoustic impedance increase represented as a trough. The Flaxmans is generally thin (about 20m) and overlies the Waarre Sandstone which is the main, porous reservoir at North Paaratte and Wallaby Creek.

There is a velocity decrease at the top of the Waarre which produces the peak observed on seismic, immediately beneath the Flaxmans. This is a good event and easy to correlate.

At the Mylor location, this peak exhibits higher amplitudes over the structure compared to those observed off-structure (enclosure 4). This was considered to indicate the presence of gas, supported by the flat-spot observed on Trace 1700 (enclosure 4) at a time of 1270 ms.

The Top Waarre was picked at the well location at a time of 1249 ms, compared to the actual 1248 ms. Depth prognosis was within 1 m.

The Flaxmans was simply isopached upwards from the Waarre using regional isopachs. This top was encountered 7m high, and 6 ms high to prognosis.

Belfast

The Belfast Mudstone overlies the Waarre/Flaxmans. The top is picked as a peak consistent with the impedance decrease evident at the boundary with the overlying Nullawarre Greensand. Confidence at this level is reasonable.

This horizon was encountered 9m low to prognosis and 9 ms high, indicating a small discrepancy in time and velocity.

Nullawarre Greensand

This unit is a progradational shoreface/lower shoreface unit overlain by the Skull Creek Formation. The top is characterised by thin cemented units which have high impedances. The Nullawarre is therefore correlated as a trough, but is a poor event on the 3D data set.

The top was encountered 49m low and 15 ms low to prognosis. The error is largely in the time pick (table 1).

Pebble Point

The Pebble Point is picked as a trough that corresponds to the high impedance, lateritic units of the basal sandstone in the Pebble Point Formation. As such, it nearly coincides with the Base Tertiary unconformity, but up to 1 cycle separations occur between each of the corresponding seismic events. Confidence of this level is fair. It is generally picked as a trough, and was encountered 8m or 13 ms high to prognosis.

Mepunga

The Mepunga is usually picked at the base of the Brucknell Formation mudstones. The mudstone has typically a high impedance in the wells with log coverage and ties to a peak on the seismic (enclosure 4). The confidence of this level is poor and so the event actually correlated on seismic is a stronger trough above.

The Mepunga was encountered 36m or 34 msec below the prognosed level (table 1).

Other Horizons

The other horizons prognosed were picked only locally from the nearby wells for the purpose of prognostication. Confidence in picks was generally much poorer than for the horizons already described, and one horizon (Skull Creek) was in error by as much as 54m (low) because of an incorrect time-pick, although the predicted velocities were generally good as determined by the checkshots.

2.3.2 Seismic Inversion

Inversion of the Waarre 3D data set over the Mylor prospect was performed pre-drill to analyse the amplitude anomaly and flat-spot evident on the structure.

The wiggle trace display of TRACE 1700 on the discovery montage (enclosure 4) shows these features, which are brought into graphic relief on the inversion or impedance display of the same line.

The inversion was performed using a statistically derived zero-phase wavelet at North Paaratte #1. Since the density log was effected by bad-hole conditions, a Gardner's density-velocity relationship was used in the inversion.

The impedance display of TRACE 1700 (enclosure 4) shows a lowered impedance (green colour) in the reservoir immediately beneath Horizon 1 and centred at around SP 7100. The 'flattish' boundary between this low-impedance unit and the underlying high-impedance (purple) unit is observed at a time of 1275 ms, which is close to the closing contour of 1270 ms on the time structure map.

2.4 Contributions to Geological Knowledge

Mylor #1 penetrated a gross Waarre pay interval of 31.5m (22.7m net). A test of the upper Waarre (DST #1, 1665.7 - 1684.0m), flowed gas to surface at 4.2 MMCFD and recovered 5m of condensate, at a wellhead flowing pressure of 1260psig, through a 3/8" choke, from 8.4m of net pay.

Mylor #1 has demonstrated that good quality reservoir sands of the Waarre Formations intersected at Port Campbell #4 laterally extend to Mylor #1. Reservoir quality has shown a marked improvement from North Paaratte #1 particularly in the lower unit "A". The graben area on the north flank of the Port Campbell high appears to have been a palaeogeographic feature which positively influenced the deposition and preservation of the marginal marine coarse grained sediments of the Waarre Formation. On the "escarpment" high to the north the Princess #1 and Westgate #1 wells intersected only a thin veneer of poor quality reservoir in the Waarre Formation.

Upper Eumeralla sands at Mylor #1 have very poor reservoir quality because of the abundant argillaceous and silty matrix and the siliceous and carbonate cements.

Mylor #1 demonstrated that seal is the critical component for hydrocarbon entrapment given a robust, well defined structure. The marine shales of the Belfast Mudstone were 138.5m thick at the well intersection and combined with the Flaxmans formation which was 20.5m thick, were able to laterally seal the fault throw of 195m due to thickening on the down thrown side of the bounding fault. Fortuitously, this is clearly imaged on the seismic data (see Mylor discovery montage enclosure 4).

Source rocks in the Early Cretaceous section have demonstrated their ability to generate the gas/condensate reservoired in Mylor #1. Maturity indicators in the condensate (MPI and MPDF) indicate an equivalent vitrinite reflectance range of 0.56 to 0.85% for the source rocks. The maximum vitrinite reflectance in the well was 0.53% at 1901m which indicates that the source rocks are deeper, probably in the Middle and Lower Eumeralla coal measures.

The absence of high concentrations of CO_2 was fortuitous and the distribution is still poorly understood. Either, the bounding faults in this area have not acted as CO_2 conduits or this area was bypassed by aquifer waters carrying dissolved CO_2.

The "oil" leg at Mylor #1 between 1701.7 and 1704.0m contained 1.4m of net pay. The RFT sample from 1702.3m of the 61.9^{o} API "oil" matches very closely the condensate recovered from DST #1 at the top of the gas zone. It is concluded that the "oil" is a retrograde condensate which has formed during the recent uplift of the area.

Mylor #1 demonstrated that the high amplitudes and the associated "flat spot" seen on the 3D seismic data in the Waarre Formation were indeed valid "direct hydrocarbon indicators". It also showed that the "amplitude versus offset" technique could be used successfully in this area. Future "amplitude versus offset" studies in this area will be enhanced by the gathering of mechanical properties data in Mylor #1 with the array sonic tool.

2.5 Mylor #1 Lithological Descriptions (See also Mudlog - enclosure 1)

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY
		PORT CAMPBELL LIMESTONE **10.0 - 104.0m Thickness 94.0m**
10-38 m	60-10 av 30 m/hr	**LIMESTONE** LIMESTONE (100%): pale to medium grey, occasionally medium yellow grey, very fine to fine grained, micritic, moderately well sorted, moderately argillaceous matrix, common fossil fragments (bryozoa, sponge spicules, foraminifera, globeriginids, nummilitids, ammonitids, bivalves, gastropods, occasional echinoid spines), very friable to unconsolidated, poor to very inferred and visual intersticial porosity, no shows.
38-104 m	75-10 av 40 m/hr	**LIMESTONE GRADING TO AND INTERBEDDED WITH MARL** MARL (70%): medium grey, very to moderately argillaceous, predominantly fine to occasionally very fine calcareous grains, common fossil fragments as above, occasionally black carbonaceous bituminous matter inclusions within hard angular siliceous overgrowths, occasionally citrine, friable to firm, occasional fair to good intersticial porosity, no shows. LIMESTONE (30%): as above.
		GELLIBRAND MARL **104.0 - 361.5m Thickness 257.5m**
104-184 m	300-40 av 100 m/hr	**MASSIVE MARL** MARL (100%): olive black, argillaceous, silty, very calcareous, common to abundant fossil fragments, common to abundant foraminifera, abundant globeriginids, minor nummilitids, minor ammonitids, abundant bryozoa, common sponge spicules, occasionally echinoid spines, trace bivalves, trace gastropods, soft, dispersive, sticky, sub-blocky.
184-296 m	300-40 av 100m/hr	**MASSIVE MARL** MARL (100%): olive black, argillaceous, silty, very calcareous, common to abundant fossil fragments, common to abundant foraminifera, abundant globeriginids, minor nummilitids, minor ammonitids, abundant bryozoa, common sponge spicules, occasionally echinoid spines, trace bivalves, trace to common turretellids and minor other gastropods, soft, dispersive, sticky, sub-blocky becoming less sticky, firmer, more indurated and competent, becoming predominantly blocky.
296-361.5 m	150-32 av 80 m/hr	**MASSIVE MARL** MARL (100%): predominantly type 1: dark greenish grey, occasionally olive black, very argillaceous, slightly calcareous, abundant fossil fragments, common to abundant foraminifera, abundant bryozoa, common echinoid spines, common gastropods, occasional sponge spicules, common bivalve fragments, trace carbonaceous specks, rare medium to coarse rounded quartz grains, occasionally Fe-stained and with occasional bituminous coating, predominantly soft to occasionally moderately firm, predominantly amorphous to occasionally sub-blocky. Minor type 2: olive black, very argillaceous grading to claystone, common carbonaceous specks, slightly calcareous, firm, sub-blocky to blocky.

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY

CLIFTON FORMATION

361.5 - 460.0m Thickness 98.5m

361.5-374 m — 120-30 av 70 m/hr — **CALCARENITE**

CALCARENITE (80%): 40% limestone, 40% quartz, 20% Fe-nodules: light to moderate yellow grey, orange grey, non to cryptocrystalline, common to abundant fossil fragments, common bryozoa, echinoid spines, foraminifera and occasional gastropods, abundant dark yellow to moderate yellow brown quartz grains, fine to medium to predominantly very coarse to granular (up to 2 mm), occasional subhedral rounded prismatic quartz crystals, occasional calcareous cement, predominantly unconsolidated, common Fe-stained, occasionally bituminous coating, abundant dusky brown to very dusky red rounded fine to predominantly medium to occasionally coarse Fe-nodules, occasional Fe-replaced fossil fragments (bryozoa and sponge spicules), no visual porosity in aggregates, poor inferred porosity when unconsolidated, no shows.

MARL (20%): dark greenish grey, slightly calcareous, occasional glauconite, occasional carbonaceous inclusions, common fossil fragments as above, soft to occasionally moderately firm, sub-blocky to amorphous.

374-391 m — 120-12 av 40 m/hr — **MASSIVE MARL**

MARL (100%): dark greenish grey, occasionally dark brown, slightly calcareous, abundant fossil fragments, abundant foraminifera (nummilitids, common ammonitids, occasional globeriginids), abundant bryozoa, common echinoid spines, common sponge spicules, rare to common pyrite with depth, rare glauconite grains increasing with depth, rare carbonaceous specks, soft to moderately firm, amorphous to sub-blocky.

427-460 m — 100-46 av 60 m/hr — **MASSIVE MARL**

MARL (100%): olive grey to dusky yellow brown, silty, grading to claystone in part, slightly calcareous, abundant fossil fragments, abundant foraminifera, common gastropods, common bryozoa, common echinoid spines, trace pyrite nodules, common to abundant fine to medium rounded glauconite grains with depth, soft to very soft, dispersive, amorphous.

MEPUNGA SANDSTONE

460.0 - 513.5m Thickness 53.5m

460-499 m — 300-8 av 150 m/hr — **UNCONSOLIDATED SANDSTONE**

SANDSTONE (100%): moderately to dark yellowish brown, occasionally pale yellow grey, occasionally clear to opaque, fine to predominantly medium to occasionally granular, subrounded to rounded to occasionally subangular and angular, poorly sorted, Fe-stained, occasional bituminous coating, unconsolidated, fair to good inferred porosity, no shows.

499-513.5 m — 120-10 av 80 m/hr — **SANDSTONE WITH MINOR SILTSTONE**

SANDSTONE (80%): as above but with dark brown to olive black silty matrix ?washing out of sample, sandstone becoming matrix supported, unconsolidated, trace to very poor inferred porosity, no shows.

SILTSTONE (20%): dark brown, olive black, dusky brown, grading to claystone, slightly calcareous in part, trace pyrite nodules, trace glauconite grains increasing with depth, firm, blocky.

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY
		LOWER MEPUNGA SANDSTONE
		513.5 - 586.0m Thickness 72.5m
513.5-563 m	200-15 av 90 m/hr	**UNCONSOLIDATED SANDSTONE WITH MINOR SILTSTONE INCREASING WITH DEPTH**
		SANDSTONE (70%): clear to opaque to translucent quartz, light grey, fine to granular, predominantly medium grained, subrounded to occasionally subangular to angular, rare pyrite cement, rare muscovite mica, trace carbonaceous inclusions, rare fossil fragments (foraminifera, bryozoa, sharks' teeth), trace pyrite nodules, unconsolidated, fair to good inferred porosity, no shows.
		SILTSTONE (30%): dusky brown, olive black, very argillaceous, grading to claystone, common quartz grains in suspension grading to matrix supported sandstone, trace carbonaceous specks, soft, very dispersive, ?washing out of sample.
563-586m	120-15 av 30 m/hr	**SILTSTONE GRADING TO SILT SUPPORTED SANDSTONE**
		SANDSTONE (30%): as above.
		SILTSTONE (70%): dark brown, olive black, very soft, very dispersive, ?washing out of sample, common very fine to predominantly medium to coarse rounded clear to opaque quartz grains, trace pyrite nodules, occasional fossil fragments, trace carbonaceous inclusions, very soft, amorphous.
		DILWYN FORMATION
		586.0 - 719.0m Thickness 133m
586-602 m	100-15 av 30 m/hr	**SILTSTONE GRADING TO SILT SUPPORTED SANDSTONE**
		SANDSTONE (30%): as above.
		SILTSTONE (70%): dark brown, olive black, very soft, very dispersive, ?washing out of sample, common very fine to predominantly medium to coarse rounded clear to opaque quartz grains, trace pyrite nodules, occasional fossil fragments, trace carbonaceous inclusions, very soft, amorphous.
602-637 m	175-10 av 60 m/hr	**SANDSTONE WITH INTERBEDDED SILTSTONE**
		SANDSTONE (70%): medium yellow brown, light grey, clear to opaque quartz, occasionally fine to predominantly medium and coarse to very coarse grained and occasionally granular, rounded to subrounded, poorly sorted, minor to moderate argillaceous / silty matrix ?washing out of sample, rare fossil fragments, trace to common pyrite nodules and minor pyrite cement, occasional carbonaceous and woody inclusions, minor hard dark brown siliceous cemented silty and medium grained quartz bands, predominantly unconsolidated, predominantly matrix supported, very poor inferred porosity, no shows.
		SILTSTONE (30%): dark brown black, olive black, dusky brown, arenaceous becoming predominantly argillaceous to very argillaceous with depth, grading to matrix supported sandstone in part, predominantly soft to moderately firm in part, blocky.

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY
637-676 m	200-8 av 75 m/hr	**SANDSTONE WITH INTERBEDDED SILTSTONE** SANDSTONE (60%): light brown, clear to opaque translucent quartz, fine to granular, predominantly very coarse grained, subrounded to subangular, poorly sorted, common dark brown silty matrix ?washing out of sample, common pyrite nodules, rare bryozoa fossil fragments, trace carbonaceous inclusions, unconsolidated, trace to very poor inferred porosity, no shows. SILTSTONE (40%): dark brown, olive black, very argillaceous, grading to claystone, common quartz inclusions, grading to matrix supported sandstone, soft to occasionally moderately firm, very dispersive, predominantly amorphous.
676-719 m	280-10 av 120m/hr	**SANDSTONE GRADING TO IN PART TO SILTSTONE** SANDSTONE (80%): light brown, clear to opaque translucent quartz, occasionally pale yellow grey, medium to coarse to very coarse grained to occasionally granular and pebbly with depth, subrounded to subangular, poorly sorted, common dark brown silty matrix ?washing out of sample, common pyrite nodules, common medium grained rounded Fe nodules, trace red chert lithics, rare bryozoa fossil fragments, trace carbonaceous inclusions, unconsolidated, trace to very poor inferred porosity, no shows. SILTSTONE (20%): dark brown, olive black, very argillaceous, grading to claystone, common quartz inclusions, grading to matrix supported sandstone, soft to occasionally moderately firm, very dispersive, predominantly amorphous. **PEMBER MUDSTONE** **719.0 - 787.5m Thickness 68.5m**
719-761 m	40-10 av 20 m/hr	**INTERBEDDED CLAYSTONE, SANDSTONE AND SILTSTONE** CLAYSTONE (70%): dark brown, olive black, silty, common to abundant medium to very coarse grained to granular quartz inclusions, common Fe nodules, common pyrite nodules, grading to argillaceous siltstone and matrix supported sandstone in part, clay ?washing out of sample, very soft, very dispersive, amorphous. SANDSTONE (20%): medium brown, opaque to translucent quartz, medium to predominantly very coarse grained to granular, subrounded to rounded to subangular, poorly sorted, occasional pyrite cement, common pyrite nodules, occasional pyritic wood fragments, trace bituminous coatings on grains, occasional Fe nodules, trace bryozoa, trace bivalves, trace turretellids, trace echinoid spines, common to abundant dark brown argillaceous / silty matrix ?washing out of sample, predominantly matrix supported, trace to very poor inferred porosity, no shows. SILTSTONE (10%): olive grey, olive black, dark brown, very argillaceous grading to claystone, trace carbonaceous specks, trace pyrite nodules, common sand grains supported in silty matrix, abundant medium to very coarse to granular quartz grains, trace glauconite, trace carbonaceous matter, very soft, very dispersive, matrix ?washing out of sample, predominantly amorphous to occasionally moderately firm and blocky.

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY
761-787.5m	45-12 av 30 m/hr	**INTERBEDDED CLAYSTONE, SANDSTONE AND SILTSTONE** CLAYSTONE (70%): dark brown, olive black, silty, common to abundant medium to very coarse grained to granular quartz inclusions, common Fe nodules, common pyrite nodules, grading to argillaceous siltstone and matrix supported sandstone in part, clay ?washing out of sample, very soft, very dispersive, amorphous. SANDSTONE (20%): medium brown, opaque to translucent quartz, medium to predominantly very coarse grained to granular, subrounded to rounded to subangular, poorly sorted, occasional pyrite cement, common pyrite nodules, occasional pyritic wood fragments, trace bituminous coatings on grains, occasional Fe nodules, trace bryozoa, trace bivalves, trace turrella, trace echinoid spines, common to abundant dark brown argillaceous / silty matrix ?washing out of sample, predominantly matrix supported, trace to very poor inferred porosity, no shows. SILTSTONE (10%): olive grey, olive black, dark brown, very argillaceous grading to claystone, trace carbonaceous specks, trace pyrite nodules, common sand grains supported in silty matrix, abundant medium to very coarse to granular quartz grains, trace glauconite, trace carbonaceous matter, very soft, very dispersive, matrix ?washing out of sample, predominantly amorphous to occasionally moderately firm and blocky.
		PEBBLE POINT FORMATION **787.5m - 839.0m Thickness 51.5m**
787.5-839 m	150-15 av 90 m/hr	**SANDSTONE WITH MINOR INTERBEDDED SILTSTONE** SANDSTONE (80%): moderately yellow brown to pale yellow brown, Fe-stained, common bituminous coatings, fine to predominantly medium to coarse grained, occasionally granular, subrounded to subangular, poorly sorted, trace pyrite cement in part, common olive black argillaceous matrix increasing with depth, ?washing out of sample, unconsolidated becoming matrix supported with depth, common siliceous overgrowths, trace pyrite nodules, trace ?chamosite lithics, fair to good inferred porosity when unconsolidated and no matrix present, trace to nil inferred porosity when matrix supported, no shows. SILTSTONE (20%): olive black, dark brown black, argillaceous grading to claystone, carbonaceous, pyritic in part, firm, sub-blocky to blocky.
		PAARATTE FORMATION **839.0 - 1241.5m Thickness 402.5m**
839-868 m	50-18 av 30 m/hr	**INTERBEDDED SANDSTONE, CLAYSTONE AND SILTSTONE** SANDSTONE (50%): as above. CLAYSTONE (30%): olive black, dark brown black, silty, common medium yellow brown quartz inclusions, trace pyrite nodules, trace fossil fragments, soft, sticky, dispersive, amorphous. SILTSTONE (20%): as above.

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY
868-969 m	200-20 av 100m/hr	**SANDSTONE WITH MINOR INTERBEDDED CLAYSTONE** SANDSTONE (90%): light grey and clear to opaque quartz with dark grey brown to olive black clay matrix, medium to predominantly very coarse grained, subrounded to subangular, poorly sorted, no visible cement to weak siliceous cement in part, moderate dark brown and dark grey brown argillaceous matrix ?washing out of sample, matrix supported in part, trace metasiltstone lithics, trace red chert lithics, predominantly unconsolidated, trace to very poor to occasionally fair inferred porosity, no shows. CLAYSTONE (10%): dark brown, olive black, argillaceous, microcarbonaceous, abundant quartz inclusions, very soft, very dispersive, amorphous.
969-1057 m	150-2 av 40 m/hr	**SANDSTONE WITH MINOR INTERBEDDED CLAYSTONE AND SILTSTONE** SANDSTONE (80%): light grey, clear to opaque to translucent quartz, occasionally medium yellow brown, medium to very coarse to granular, subangular to angular to subrounded, poorly sorted, occasionally siliceous cement and occasional overgrowths, occasional pyrite cement, predominantly unconsolidated quartz grains, moderate dark brown to olive black argillaceous matrix ?washing out of sample, occasional bituminous staining on grains, trace chert grains, trace silver grey metasiltstone clasts, rare muscovite mica, trace ?chamosite, trace coaly inclusions with trace amber, rare pyritised coal in part, poor to fair inferred porosity, no shows. CLAYSTONE (10%): olive black, dark brown, slightly silty, slightly calcareous, common quartz inclusions, grading to very argillaceous supported sandstone in part, trace pyrite, very soft, very dispersive, amorphous. SILTSTONE (10%): dark brown grey, olive black, argillaceous grading to claystone , slightly to very carbonaceous in part, slightly calcareous, moderately firm, sub-blocky.
1057-1115 m	100-4 av 60 m/hr	**SANDSTONE WITH MINOR INTERBEDDED SILTSTONE** SANDSTONE (90%): light grey, clear to opaque quartz, predominantly medium and coarse grained to very coarse and granular, subangular to angular, poorly sorted, trace siliceous cement and overgrowths, occasional pyrite cement and pyrite nodules, occasional faceted quartz grains, occasional dark brown argillaceous matrix ?washing out of sample, common coal fragments, trace amber, occasional metasiltstone clasts (silver grey mica booklets, cloudy and smoky strained quartz grains), rare chlorite, trace muscovite mica, trace chert, predominantly unconsolidated, fair to good inferred porosity, occasionally very poor inferred porosity when argillaceous matrix present. SILTSTONE (10%): dark brown, olive black, very argillaceous grading to claystone, carbonaceous to very carbonaceous, occasional to common very fine to coarse quartz inclusions, trace pyrite, trace coal inclusions, predominantly dispersive, moderately firm to soft, blocky to amorphous.

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY
1115-1135 m	70-12 av 15 m/hr	**INTERBEDDED SILTSTONE, SANDSTONE AND MINOR COAL** SILTSTONE (50%): as above. SANDSTONE (40%): as above. COAL (10%): brown black, black, silty, dull to occasionally subvitreous, subconchoidal to rectangular fracture, blocky.
1135-1149 m	75-8 av 45 m/hr	**INTERBEDDED SANDSTONE, SILTSTONE AND MINOR COAL** SANDSTONE (40%): light grey, clear to opaque quartz, predominantly medium and coarse grained to very coarse and granular, subangular to angular, poorly sorted, trace siliceous cement and overgrowths, occasional pyrite cement and pyrite nodules, occasional faceted quartz grains, occasional dark brown argillaceous matrix ?washing out of sample, common coal fragments, trace amber, occasional metasiltstone clasts (silver grey mica booklets, cloudy and smoky strained quartz grains), rare chlorite, trace muscovite mica, trace chert, predominantly unconsolidated, fair to good inferred porosity, occasionally very poor inferred porosity when argillaceous matrix present. SILTSTONE (50%): dark brown, olive black, very argillaceous grading to claystone, carbonaceous to very carbonaceous, occasional to common very fine to coarse quartz inclusions, trace pyrite, trace coal inclusions, predominantly dispersive, moderately firm to soft, blocky to amorphous. COAL (10%): brown black, black, silty, dull to occasionally subvitreous, subconchoidal to rectangular fracture, blocky.
1149-1172 m	85-3 av 30 m/hr	**INTERBEDDED SANDSTONE, SILTSTONE AND MINOR COAL** SANDSTONE (60%): light grey, clear to opaque to translucent quartz, very fine to fine grained, occasionally medium grained, subangular, moderately sorted, moderate strong siliceous cement, trace argillaceous / siliceous matrix, trace pyrite cement, common metasiltstone clasts and smoky quartz grains, rare carbonaceous specks, friable to firm to moderately hard in part, poor to fair visual porosity, no shows. SILTSTONE (40%): dark brown, olive black, argillaceous, grading to claystone, very carbonaceous in part, grading to silty coal in part, firm, blocky.
1172-1207 m	150-8 av 90 m/hr	**SANDSTONE WITH MINOR INTERBEDDED SILTSTONE** SANDSTONE (80%): predominantly type 1: light grey, medium to very coarse grained to granular, angular to subangular, poorly sorted, occasionally siliceous cement, predominantly loose, moderately dark brown grey argillaceous matrix, ? matrix supported in part, trace pyrite, trace strained medium to dark grey quartz grains, trace coal fragments - pyritised in part, poor fair inferred porosity, no shows. Type 2: light grey very fine to fine grained, as above but with trace glauconite. SILTSTONE (20%): medium brown grey, dark grey, olive black, very argillaceous grading to claystone, trace carbonaceous specks, trace glauconite, occasionally green glauconite tinge in part, slightly calcareous, moderately firm to firm, blocky.

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY
1207-1241.5 m	1100-5 av 30 m/hr	**INTERBEDDED SANDSTONE AND SILTSTONE ? CLAYSTONE WASHING OUT OF SAMPLE** SANDSTONE (90%): off white, light grey, very fine to fine grained, angular to subangular, moderately to poorly sorted, moderate strong siliceous cement, moderate siliceous / argillaceous matrix, trace carbonaceous specks, trace glauconite, rare lithics, trace pyrite, poor to fair visual porosity, no shows. SILTSTONE (10%): medium grey brown, pale grey brown, argillaceous grading to claystone, common carbonaceous specks and occasional laminations, firm to soft, blocky to sub-blocky, clay dispersing to mud system.
		SKULL CREEK FORMATION **1241.5 - 1389.0m Thickness 147.5m**
1241.5-1262 m	60-5 av 25 m/hr	**INTERBEDDED SANDSTONE AND SILTSTONE** SANDSTONE (70%): light grey, very pale greenish grey, very fine to predominantly fine grained, subangular, moderately sorted, moderate strong siliceous cement, minor argillaceous / siliceous matrix, trace feldspar, common glauconite, trace to common carbonaceous inclusions, occasional coal fragments, trace amber, occasionally pyrite nodules, trace muscovite mica, firm to friable, poor to fair visual porosity, no shows. SILTSTONE (30%): medium yellow brown, medium brown grey, medium grey, argillaceous, common carbonaceous inclusions and laminations in part, commonly dispersive washing out of sample, moderately firm to firm, blocky.
1262-1281 m	35-12 av 20 m/hr	**SANDSTONE WITH INTERBEDDED CLAYSTONE** SANDSTONE (60%): light grey, light green grey, very fine grained, subrounded to occasionally subangular, well sorted, moderately strong to weak siliceous cement, minor argillaceous / siliceous matrix, common glauconite, trace carbonaceous inclusions, rare feldspar lithics, firm to friable, poor to fair visual porosity, no shows. CLAYSTONE (40%): dark brown, olive black, silty, carbonaceous, soft, very dispersive, amorphous. **INTERBEDDED CLAYSTONE, SILTSTONE MINOR SANDSTONE AND THIN COALS** CLAYSTONE (50%): ?washing out of sample, dark grey, dark brown grey, very soft, sticky, very dispersive, amorphous. SILTSTONE (30%): medium to dark brown grey, argillaceous to very argillaceous, grading to claystone in part, trace to common carbonaceous inclusions and laminations, siliceous in part, trace micromicaceous, firm to moderately hard, blocky. SANDSTONE (10%): as above. COAL (10%): black, brown black, subvitreous to occasionally vitreous, subconchoidal to occasionally hackly fracture, firm to hard, brittle, blocky.

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY
1299-1311 m	67-15 av 30 m/hr	**SANDSTONE WITH INTERBEDDED CLAYSTONE AND SILTSTONE** SANDSTONE (60%): light grey, occasionally medium grey, very fine to occasionally fine, subangular to angular, moderately well sorted, moderate siliceous cement, occasional argillaceous / siliceous matrix, common glauconite, trace carbonaceous inclusions, trace lithics, occasional dark brown dolomite cement, firm to friable, poor to occasionally fair visual porosity, no shows. CLAYSTONE (30%): dark brown, olive black, carbonaceous, trace pyrite, soft, very dispersive, amorphous. SILTSTONE (10%): medium to dark grey brown, olive black, argillaceous, carbonaceous, firm, blocky.
1311-1389 m	30-7 av 12 m/hr	**INTERBEDDED CLAYSTONE AND SILTSTONE WITH MINOR SANDSTONE AND TRACE DOLOMITE** CLAYSTONE (70%): dark brown, olive black, silty in part, very carbonaceous in part, occasionally argillaceous dolomite, very soft, slightly sticky, very dispersive ?washing out of sample, amorphous. SILTSTONE (20%): dark brown, olive black, dark grey, argillaceous, carbonaceous to very carbonaceous, common carbonaceous laminations, slightly arenaceous in part, predominantly grading to claystone, trace micromicaceous, firm to moderately hard in part, blocky. SANDSTONE (10%): light grey, very fine to fine grained, subangular to angular, moderately well sorted, moderate siliceous cement, minor argillaceous / siliceous matrix, trace pyrite, trace carbonaceous inclusions, trace lithics, firm to friable, poor to fair visual porosity, no shows.
		NULLAWARRE FORMATION **1389.0 - 1513.5m Thickness 124.5m**
1389-1434 m	160-35 av 60 m/hr	**SANDSTONE (GREENSAND) WITH MINOR CLAYSTONE** SANDSTONE (GREENSAND) (90%): light to medium green grey, opaque to translucent quartz, becoming yellow green to moderate yellow brown to yellow grey with depth, fine to predominantly medium to coarse and occasionally very coarse grained, subrounded, moderately sorted, trace very weak siliceous cement, minor dark brown argillaceous matrix, common moderate to dark green glauconite grain coating, common medium to dark green glauconite grains, trace red chert lithics, unconsolidated, fair to good inferred porosity, no shows. CLAYSTONE (10%): dark brown, dark brown grey, very soft, very dispersive, slightly sticky, ?washing out of sample, amorphous.
1434-1452 m	85-25 av 50 m/hr	**MASSIVE SANDSTONE** SANDSTONE (100%): moderately brown, moderate yellow brown, opaque to translucent quartz, predominantly medium to coarse grained, subrounded, moderately well sorted, trace weak siliceous cement, occasionally siliceous overgrowths, minor dark brown clay matrix, common bituminous grain coating, trace glauconite, unconsolidated, fair to good inferred porosity, no shows.

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY
1452-1480 m	85-25 av 50 m/hr	**MASSIVE SANDSTONE** SANDSTONE (100%): moderately brown, moderate yellow brown, opaque to translucent quartz, predominantly medium to coarse grained, subrounded, moderately well sorted, trace weak siliceous cement, occasionally siliceous overgrowths, minor dark brown clay matrix, common bituminous grain coating, trace glauconite, unconsolidated, fair to good inferred porosity, no shows.
1480-1513.5 m	120-10 av 60 m/hr	**MASSIVE SANDSTONE** SANDSTONE (100%): light grey to pale yellow grey to pale yellow brown, pale yellow green, medium to coarse grained, subrounded, moderately well sorted, trace very weak siliceous cement, minor argillaceous matrix ?washing out of sample, trace glauconite, trace chert, occasional bituminous staining, occasionally dark red brown Fe nodules, trace dolomite, fair to good inferred porosity, no shows.
		BELFAST MUDSTONE **1513.5 - 1652.0m Thickness 138.5m**
1513.5- 1539 m	11-6 av 9 m/hr	**MASSIVE CLAYSTONE** CLAYSTONE (100%): predominantly type 1: medium grey, dark brown grey, olive black, slightly silty in part, common quartz inclusions, trace pyrite nodules, very soft, very dispersive, ?washing out of sample, amorphous. Minor type 2: dark yellow brown, silty, calcareous, common very fine of rounded glauconite grains, trace quartz inclusions, soft, dispersive, amorphous. Minor type 3: pale to medium green grey, silty, abundant fine to medium grained glauconite, grading to siltstone and very fine sandstone in part, trace to common carbonaceous specks, soft, dispersive, ?washing out of sample, predominantly amorphous, occasionally firm and blocky when grading to siltstone.
1539-1593 m	19-8.6 av 12 m/hr	**MASSIVE CLAYSTONE WITH MINOR INTERBEDDED SILTSTONE AND TRACE DOLOMITE** CLAYSTONE (90%): predominantly dark grey to olive black to olive green, silty in part, slightly calcareous in part, abundant fine to medium rounded glauconite grains, trace to common carbonaceous specks, soft, sticky, dispersive, amorphous. SILTSTONE (10%): olive black, dark grey, occasionally dark brown, very argillaceous, grading to claystone, abundant very fine to fine to occasionally medium glauconite grains, occasionally pyrite nodules, firm to occasionally moderately hard, blocky. DOLOMITE from 1575 m (trace): dark yellow brown, argillaceous, cryptocrystalline, brittle, very hard, angular fracture, blocky.
1593-1652 m	13-7.5 av 10 m/hr	**MASSIVE CLAYSTONE WITH MINOR INTERBEDDED SILTSTONE AND MINOR THIN DOLOMITE BANDS** CLAYSTONE (80%): as above with increasing medium glauconite grains, trace pyrite nodules, occasional bivalve shell fragments (?Inoceramus) and echinoid spines increasing with depth, trace pyritised worm burrows. SILTSTONE (20%): as above with increasing medium glauconite grains. DOLOMITE (up to 10%): as above.

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY
		FLAXMANS FORMATION
		1652.0 - 1672.5m Thickness 20.5m
1652-1672.5 m	35-5 av 18 m/hr	**UPWARD FINING CYCLE OF INTERBEDDED CLAYSTONE, SILTSTONE AND MINOR SANDSTONE WITH DEPTH**
		CLAYSTONE (60%): dark grey brown, dark grey, silty in part, common glauconite, soft, dispersive, amorphous.
		SILTSTONE (30%): medium to dark grey brown, pale grey brown, argillaceous grading to to claystone, arenaceous in part, common carbonaceous specks, calcareous in part, grading to to calcisiltite in part, firm, brittle, blocky.
		SANDSTONE (10%): predominantly type 1: light to medium grey, becoming off white with depth, very fine to fine grained, subrounded to subangular, moderately sorted, common strong calcareous cement, occasionally dolomitic cement, trace carbonaceous inclusions, firm to hard, trace to very poor visual porosity, no shows. Type 2 with depth: clear to opaque to translucent quartz, fine to predominantly medium grained, subangular to subrounded, poorly sorted, predominantly unconsolidated, weak calcareous cement in part, trace glauconite, ?matrix supported, nil visual porosity, fair inferred porosity, no shows.
		WAARRE SANDSTONE
		1672.5 - 1762.0m Thickness 89.5m
1672.5-1684 m	45-15 av 25 m/hr	**SANDSTONE WITH MINOR SILTSTONE**
		SANDSTONE (80%): light grey, clear to opaque to translucent quartz, fine to predominantly coarse and very coarse grained, angular to subangular, poorly to moderately sorted, weak siliceous cement, occasionally weak calcareous cement in part, minor off white argillaceous / siliceous matrix, rare carbonaceous specks, predominantly unconsolidated, generally clean, minor aggregates with fair visual porosity, predominantly unconsolidated with fair to good inferred porosity, no shows.
		SILTSTONE (20%): medium to dark grey, medium brown grey, argillaceous, arenaceous in part, trace feldspar, trace carbonaceous flecks and laminations, trace pyrite, moderately firm, blocky, commonly very argillaceous grading to dispersive claystone.
1684-1685 m	1684-1685 m	REVERSE CIRCULATING JUNK BASKET RUN
1685-1703 m	1685-1703 m	**CORE 1 WAARRE SANDSTONE**
		SEE CORE #1 DESCRIPTION
1703-1715 m	1703-1715 m	**CORE 2 WAARRE SANDSTONE**
		SEE CORE #2 DESCRIPTION

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY
1715-1743 m	40-5 av 28 m/hr	**SANDSTONE WITH MINOR INTERBEDDED SILTSTONE AND TRACE DOLOMITE** SANDSTONE (80%): predominantly type 1: pale grey, opaque to translucent quartz, predominantly medium and coarse to occasionally very coarse grained and occasionally pebbly, subangular to angular, moderately sorted, trace siliceous cement, trace off white argillaceous matrix, trace feldspar lithics, trace glauconite, trace coal laminations, trace disseminated pyrite nodules, unconsolidated to friable, fair to good inferred porosity, no shows. Minor type 2: pale green grey, very fine to fine grained, subangular, moderately sorted, moderate siliceous cement, moderate argillaceous matrix, trace glauconite, trace feldspar lithics, rare carbonaceous specks, very poor visual porosity, no shows. SILTSTONE (20%): dark brown, olive black, very argillaceous grading to claystone, common glauconite, trace to common micro-carbonaceous inclusions, trace pyrite nodules, firm, blocky. DOLOMITE (trace): dark yellow brown, very argillaceous, cryptocrystalline, occasionally glauconite grains, rare quartz grains, very hard, brittle, angular fracture.
1743-1756.5 m	12-7 av 9 m/hr	**SILTSTONE WITH MINOR INTERBEDDED SANDSTONE** SILTSTONE (90%): as above. SANDSTONE (10%): as above, predominantly type 2.
1756.5-1762 m	33-5 av 20 m/hr	**SANDSTONE WITH MINOR INTERBEDDED SILTSTONE** SANDSTONE (80%): predominantly type 1: pale green grey, mottled with dark to medium grey, speckled, very fine to fine becoming predominantly medium to coarse grained with depth, subangular to subrounded, moderately well sorted, moderately strong siliceous cement predominantly becoming strong calcareous cement with depth, trace dolomite cement with depth, moderate to common argillaceous matrix, common smoky quartz grains, common to abundant glauconite, common coal /carbonaceous fragments and specks, trace feldspar lithics, trace red chert lithics, common coal laminations, trace biotite, firm to moderately hard in part, trace to very poor visual porosity, no shows. Minor type 2: clear to opaque to translucent quartz, occasionally fine to medium and coarse grained, subrounded to subangular, moderately well sorted, occasionally weak siliceous cement, trace off white argillaceous matrix, rare glauconite grains, trace pyrite nodules, rare carbonaceous specks, rare feldspar, predominantly unconsolidated to occasionally friable, good inferred porosity, no shows. SILTSTONE (20%): dark brown, argillaceous, as above.

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY
		EUMERALLA FORMATION **1762.0 - 1922.4m Thickness 160.4m**
1762-1813 m	20-4 av 12 m/hr	**INTERBEDDED VOLCANO-LITHIC SANDSTONE AND SILTSTONE** LITHIC SANDSTONE (50%): mottled off white speckled with dark grey, becoming predominantly pale green grey with depth, very fine to fine to predominantly medium to occasionally coarse and very coarse grained, subangular to angular, moderately to occasionally poorly sorted, strong calcareous cement in part becoming predominantly weak calcareous cement with depth, moderately argillaceous matrix, common dark grey brown and pale to medium green lithic clasts (?volcano-lithics), trace green volcano-lithics becoming abundant with depth, trace red orange chert, firm to moderately hard becoming predominantly unconsolidated with depth, trace to very poor visual porosity when cemented becoming predominantly unconsolidated with fair to good inferred porosity with depth, no shows. SILTSTONE (50%): dark grey brown, argillaceous, becoming very argillaceous with depth and grading to claystone with depth, occasionally to common black rounded carbonaceous grains with depth, trace Inoceramus shell fragments, rare micromicaceous, firm to moderately hard in part, blocky.
1813-1843 m	23-4 av 10 m/hr	**INTERBEDDED VOLCANO-LITHIC SANDSTONE AND CLAYSTONE** SANDSTONE (50%): pale green grey, dark grey brown, speckled, fine to predominantly medium to occasionally coarse grained, subrounded to rounded, well sorted, minor to moderate calcareous cement in part, abundant light grey calcareous argillaceous matrix ?washing out of sample, abundant subvitreous rounded multicoloured volcano-lithics, common red and red orange chert lithics, trace pyrite nodules, rare biotite booklets, firm to moderately hard in part when cemented, unconsolidated when matrix supported, trace to very poor visual porosity. FLUORESCENCE: 1838-1843 m: trace to 2% moderately bright blue white, pinpoint, no natural cut, moderately bright milky white crush cut, thin ring residue. CLAYSTONE (50%): light grey, soft, sticky, dispersive, silty in part, moderately calcareous, common quartz inclusions, rare carbonaceous specks and micro-laminations, amorphous.
1843-1862.5 m	20-4 av 12 m/hr	**INTERBEDDED VOLCANO-LITHIC SANDSTONE AND CLAYSTONE** SANDSTONE (50%): predominantly type 1: as above but predominantly non-calcareous, firm to friable to unconsolidated, trace to very poor inferred porosity. Minor type 2: light to medium grey, very fine grained, subangular, well sorted, moderate siliceous cement, moderate to common pale grey argillaceous matrix, common micro-volcano-lithics, trace carbonaceous inclusions, firm, trace visual porosity. FLUORESCENCE: 1843-1850 m: trace as above. CLAYSTONE (50%): as above, light-medium grey, soft -firm, silty in parts, trace micromicaceous, dispersive in parts, amorphous to blocky.
1862.5-1901 m	26-5 av 20 m/hr	**INTERBEDDED VOLCANO-LITHIC SANDSTONE AND CLAYSTONE** SANDSTONE (50%): type 1: as above. CLAYSTONE (50%): light to medium grey, occasionally pale grey brown, silty in part, calcareous in part, trace micromicaceous, rare carbonaceous laminations, predominantly soft, sticky, dispersive and amorphous, occasionally firm and blocky.

INTERVAL (m)	R.O.P. (m/hr)	LITHOLOGY
1901-1904 m	16-6 av 14 m/hr	**INTERBEDDED VOLCANO-LITHIC SANDSTONE AND CLAYSTONE** SANDSTONE (50%): predominantly type 1: as above but predominantly non-calcareous, firm to friable to unconsolidated, trace to very poor inferred porosity. CLAYSTONE (50%): light to medium grey, occasionally pale grey brown, silty in part, calcareous in part, trace micromicaceous, rare carbonaceous laminations, predominantly soft, sticky, dispersive and amorphous, occasionally firm and blocky.
1904-1922 m T.D.	55-6 av 30 m/hr	**INTERBEDDED VOLCANO-LITHIC SANDSTONE AND CLAYSTONE** SANDSTONE (70%): mottled pale to medium green grey, multicoloured lithics, fine to medium to occasionally coarse grained, subangular to subrounded, moderately well sorted, minor calcareous cement, common to occasionally abundant light grey argillaceous matrix, matrix supported in part, abundant volcanic lithics, trace chert, trace feldspar lithics, trace coal fragments, trace pyrite nodules, friable to predominantly unconsolidated, trace visual porosity in aggregates when matrix supported, fair inferred porosity when unconsolidated, no shows. CLAYSTONE (30%): light to medium grey, pale green grey, silty in part, calcareous in part, trace micromicaceous, rare carbonaceous laminations, predominantly soft, sticky, dispersive and amorphous, occasionally firm and blocky.

NB. All tops are quoted in logger's depth measured from KB. However the samples are as described based on driller's depths.

2.6 Sidewall Core Descriptions

SWC No.	DEPTH (m)	RECOVERY (mm)	DESCRIPTION
1	1913.5	34	VOLCANIC LITHIC SANDSTONE: pale grey, pale green grey, mottled with dark grey brown, very fine to predominantly medium grained, angular to occasionally subangular, moderately well sorted, moderate calcareous cement, common off-white to pale green grey argillaceous and calcareous matrix, abundant dark grey brown, brown black, medium yellow brown and pale green grey volcanic lithics, trace feldspar lithics, firm to friable, very poor to poor visual porosity, no shows.
2	1907.5	36	VOLCANIC LITHIC SANDSTONE: pale grey, pale green grey, mottled with dark grey brown, very fine to predominantly fine to occasionally medium grained, angular to subangular, well sorted, trace siliceous cement, common to abundant off-white argillaceous matrix, non-calcareous, abundant volcanic lithic grains, trace feldspar lithics, trace carbonaceous laminations, firm to friable, trace to very poor visual porosity, no shows.
3	1901.0	37	CLAYSTONE: medium to dark grey, silty in part grading to very argillaceous siltstone, common silt to very fine quartz grains, trace microlithics, slightly sticky, firm to moderately firm, subfissile to sub-blocky.
4	1835.0	40	CLAYSTONE (95%): medium to dark grey as above. SILTSTONE (5%): dark brown, moderate to dark yellow brown, argillaceous, common very fine quartz grains, trace lithics, moderately calcareous, trace microcarbonaceous, trace foraminifera, soft to moderately firm, amorphous.
5	1833.0	29	CLAYSTONE (95%): medium to dark grey, slightly silty, trace microlithics, rare micromicaceous, rare volcanic lithics, trace very fine to fine quartz grains, aft to moderately firm, sub-blocky. SANDSTONE (5%): light grey, very fine grained, subangular, well sorted, trace siliceous cement, minor pyrite cement, common to abundant pale grey argillaceous matrix, matrix supported in part, slightly calcareous in part, common to abundant micro-volcanic lithics, rare biotite, soft to friable, trace visual porosity, no shows.
6	1828.5	27	SANDSTONE (100%): mottled light grey to light green grey, very fine to medium to rare coarse grained, subangular to subrounded, moderately sorted, trace siliceous cement, trace pyrite cement, moderate light grey to light grey brown argillaceous / siliceous matrix, abundant dark grey brown, brown black, green grey, pale green volcanic lithics, occasional feldspar lithics, occasional biotite booklets, trace carbonaceous specks, moderately firm to friable, trace to very poor visual porosity, no shows. COAL LAMINATIONS (trace): brown black, dull to subvitreous, woody texture, moderately firm, brittle, hackly fracture.
7	1825.5	NIL	LOST.
08	1763.O	35	VOLCANIC LITHIC SANDSTONE: mottled off-white, dark brown grey, dark green, very fine to predominantly fine grained, subangular, well sorted, weak siliceous cement, common to abundant off-white argillaceous matrix, abundant dark grey brown, olive black, green grey volcanic lithics, trace to common feldspar lithics, rare chert, trace carbonaceous specks, firm, trace visual porosity, no shows.
9	1758.5	30	VOLCANIC LITHIC SANDSTONE: off-white, opaque to translucent quartz, mottled with dark grey brown, fine to predominantly medium to coarse grained, angular to subangular, moderately to poorly sorted, trace siliceous cement, minor off-white argillaceous matrix, common to abundant dark grey brown, olive black, moderate to pale green volcanic lithics, trace chert, trace feldspar lithics, very friable, good visual porosity, no shows.
10	1755.0	26	SILTSTONE: dark brown, olive black, very argillaceous, occasionally off-white very fine grained silty interlaminations, microcarbonaceous, rare lithics, firm, blocky.
11	1749.0	23	SILTSTONE: dark brown, olive black, very argillaceous grading to claystone, microcarbonaceous, rare micromicaceous, firm, blocky.
12	1744.0	26	SILTSTONE: dark brown, olive black, very argillaceous grading to claystone, microcarbonaceous, occasional off-white very fine arenaceous interlaminations, minor pyrite nodules along interlamination planes, trace micromicaceous, firm, blocky.
13	1725.0	23	SANDSTONE: off-white, pale grey, opaque to translucent quartz, very fine to fine to predominantly medium to coarse and very coarse grained, subangular, poorly sorted, moderately siliceous / calcareous cement, moderately argillaceous / calcareous matrix, trace carbonaceous inclusions, rare glauconite, very hard to friable, very poor visual porosity in well cemented aggregates, no shows.

Sidewall Core Descriptions continued

SWC No.	DEPTH (m)	RECOVERY (mm)	DESCRIPTION
14	1720.5	26	INTERLAMINATED SANDSTONE AND SILTSTONE WITH PYRITE BANDS. SANDSTONE (50%): light grey, very fine, subangular, well sorted, weak siliceous/calcareous cement, moderately off white to pale grey argillaceous / calcareous matrix, common finely disseminated pyrite cement, trace to common volcanic lithics, trace coal fragments, common interlaminations of silt, friable, poor visual porosity, no shows. SILTSTONE (40%): dark brown, olive black, carbonaceous, very argillaceous grading to claystone, very fine sandstone lenses, firm, blocky. PYRITE (10%): occurring in lenses and bands.
15	1714.0	25	SANDSTONE (GREENSAND): pale green grey, very fine grained, subangular to subrounded, well sorted, minor calcareous cement, common off white calcareous/argillaceous matrix, common very fine glauconite grains, trace carbonaceous specks, rare feldspar lithics, moderately firm to friable, trace to very poor visual porosity, no shows.
16	1672.0	27	SILTSTONE: dark brown, brown black, olive black, very argillaceous grading to claystone, very microcarbonaceous, rare micromicaceous, occasional off white very fine grained sandstone interlaminations, firm, blocky.
17	1667.0	25	dark grey brown, very arenaceous grading to very silty very fine grained sandstone in part, common to abundant very fine grained subangular to subrounded quartz grains, trace pyrite cement / nodules, common very fine glauconite grains, trace carbonaceous inclusions and coal fragments and laminations, firm, blocky.
18	1664.0	30	SILTSTONE: dark brown, dark grey brown, very argillaceous grading to claystone, trace microcarbonaceous, rare pyrite, rare micromicaceous, firm, blocky.
19	1662.0	35	SILTSTONE: dark brown, olive black, very argillaceous grading to claystone, trace glauconite, rare micromicaceous, rare pyrite, firm to soft, slightly sticky, predominantly blocky.
20	1658.0	35	SILTSTONE: dark brown, dark grey brown, very argillaceous grading to claystone, trace to common medium glauconite grains, very soft in part, sticky, amorphous to s blocky to blocky. GREENSAND LENSES: pale grey green, very fine to predominantly fine to occasionally medium grained, subrounded to subangular, moderately sorted, trace siliceous cement, common to abundant pale grey green argillaceous matrix, common dark grey brown volcanic lithics, trace to common glauconite, trace feldspar lithics, soft to very friable, very poor to trace visual porosity, no shows.
21	1650.0	50	CLAYSTONE: dark brown, very soft, sticky, dispersive, large pyrite nodules with glauconite cemented by pyrite, amorphous.
22	1645.0	35	SILTSTONE: dark brown, olive black, very argillaceous grading to claystone, common glauconite, trace pyrite nodules, trace quartz grains, very soft, dispersive, sticky, amorphous to sub-blocky.
23	1640.0	NIL	EMPTY.
24	1600.0	44	SILTSTONE: dark brown, olive black, very argillaceous grading to claystone, microcarbonaceous, trace pyrite, rare micromicaceous, firm, blocky.
25	1550.0	50	CLAYSTONE: dark brown, olive black, grading to very argillaceous siltstone, common green black glauconite, rare micromicaceous, microcarbonaceous, firm, blocky.
26	1515.0	40	CLAYSTONE: dark brown, olive black, grading to very argillaceous siltstone, common medium rounded glauconite grains, common pyrite nodules and cement around glauconite with occasional medium to coarse quartz grains, soft to moderately firm, sticky, dispersive, blocky to sub-blocky.
27	1500.0	48	GREENSAND: mottled, medium to dark green, medium to dark yellow green, fine to medium grained, subrounded to subangular, well sorted, trace siliceous cement, minor green grey argillaceous matrix, abundant glauconite, trace dark brown claystone laminations, friable to firm, fair to good visual porosity, no shows.
28	1450.0	35	GREENSAND: moderate to dark yellow brown, Fe-stained, very fine to predominantly fine to occasionally medium grained, subangular to subrounded, moderately sorted, rare siliceous cement, moderately Fe-stained silty matrix, occasional grey argillaceous matrix, occasional Fe nodules, trace glauconite, core invaded by mud in part, poor to fair visual porosity, no shows.
29	1391.0	45	GREENSAND: dark green, olive green, mottled with off white in part, fine to predominantly coarse to very coarse grained, subrounded to subangular to angular, moderately sorted, rare siliceous cement, moderate medium to dark green glauconitic argillaceous matrix, abundant glauconite, trace feldspar, friable, grain supported in part, fair to occasionally good visual porosity, no shows.
30	1388.0	36	SILTSTONE: dark brown, olive black, very argillaceous grading to claystone, trace micromicaceous, rare carbonaceous laminations, rare arenaceous grains, firm to moderately hard, blocky.

2.7 Core Description

Two cores were cut in Mylor #1 in the Waarre Formation over the intervals 1685.0 - 1703.0m and 1703.0 - 1715.0m (driller's depth). This corresponds to logger's depth intervals of 1685.3 - 1704.0m and 1704.0 - 1716.0m. Core recovery was 17.9m (99.3%) and 9.75m (81.3%) respectively.

Original core (driller's) depths correspond to logger's depths if Core #1 starts 0.3m lower and is expanded by 0.7m at the loose unconsolidated section (1691.0 - 1693.8m) so that the base is 1.0m deeper. Core #2 is also 1.0m deeper on logger's depths. This was arrived at by depth matching the core gamma-ray log prepared by Amdel Core Services, and the porosity/permeability measurements (appendix 1) with the downhole logs.

Detailed lithology descriptions of both cores follow section 2.4.1 (Core Chip descriptions), in figure 7 (sheets 1 - 4), and figure 8 (sheets 1 - 3).

2.7.1 Core Chip Descriptions

CORE-1: 1685.0 - 1703.0 mKB (Driller's Depth), 1685.3 - 1704.0mKB (Logger's Depth) Waarre Formation. Recovered 17.9m (99.3%)

Driller's Depth (mKB)	Waarre Formation
1685 m	**Top of Core: ? Fill: ?Belfast Mudstone.**
	SILTSTONE: dark brown, olive black, argillaceous, grading to claystone, trace micromicaceous, trace carbonaceous inclusions (pyritic in part), firm, blocky.
1686 m	SANDSTONE: light grey, opaque to translucent quartz, medium to predominantly coarse to very coarse grained, occasional pebbles, subrounded to rounded, moderately sorted, trace very weak siliceous cement, minor to trace off white argillaceous / ?kaolinitic matrix, predominantly grain supported, rare carbonaceous specks, very friable to unconsolidated, very good visual porosity, no shows.
1687 m	SANDSTONE: light grey opaque to translucent quartz, very fine to fine grained, subangular to subrounded, very poorly sorted, moderately strong siliceous cement, moderately to minor argillaceous matrix, trace carbonaceous specks, friable to firm to moderately hard, poor to fair visual porosity, no shows.
1688 m	SANDSTONE: light grey, opaque to translucent quartz, rare fine to predominantly coarse and very coarse grained to granular and occasionally pebbly, very poorly sorted, rare siliceous cement, minor argillaceous matrix, rare carbonaceous specks, predominantly unconsolidated to minor friable, very good visual porosity, no shows.
1689 m	SANDSTONE: light grey, opaque to translucent, very fine to predominantly pebbly, subrounded to rounded, rare siliceous cement, moderate to common off white to pale brown argillaceous matrix, occasional coal fragments, friable to firm, poor visual porosity, no shows.
1690 m	SANDSTONE: light grey, opaque to translucent quartz, abundant rounded pebbles up to 12 mm set in very fine to fine grained subangular to angular matrix with moderate siliceous cement and moderate to common argillaceous matrix, occasional coal fragments and pyritised interlaminations, firm, very poor to poor visual porosity, no shows.

CORE-1 Core Chip Descriptions (continued)

Driller's Depth (mKB)	Waarre Formation
1692 m	SANDSTONE: as above, but no shows.
1693 m	SANDSTONE: as above with occasional siliceous cement, occasional very fine to fine grained aggregates, occasional minor argillaceous matrix, trace coal fragments, predominantly unconsolidated to minor firm to friable aggregates, predominantly very good inferred porosity to occasionally poor to fair visual porosity, no shows.
1694.5 m	SANDSTONE: light grey, opaque to translucent quartz, very fine to pebbly, angular to subangular to subrounded, very poorly sorted, moderate siliceous cement, occasionally pyritic cement, moderate siliceous and off white argillaceous matrix, predominantly grain supported, trace coal fragments, firm to moderately hard, occasionally friable, fair to good visual porosity, no shows.
1696 m	SANDSTONE: light grey, opaque to translucent quartz, trace fine to predominantly very coarse grained and pebbly, subrounded to rounded, minor to moderately siliceous cement in part, predominantly unconsolidated, minor argillaceous /siliceous cement in part, predominantly grain supported, predominantly unconsolidated, fair to good visual and inferred porosity, no shows.
1697 m	SANDSTONE: light grey, opaque to translucent quartz, medium to coarse, occasionally very coarse grained, subrounded to rounded to subangular, moderately sorted, weak siliceous cement, minor to trace argillaceous matrix, grain supported, firm to unconsolidated, very good visual porosity, no shows.
1698 m	SILTSTONE: dark brown, olive black, very argillaceous, grading to claystone, very carbonaceous, trace micromicaceous, firm to moderately hard, blocky.
1699 m	SANDSTONE: off white, pale grey, fine to occasionally medium grained, subangular to subrounded, moderately well sorted, moderately siliceous cement, minor argillaceous matrix, grain supported, trace feldspar lithics, trace glauconite, trace coal fragments, firm to moderately hard, fair visual porosity, no shows.
1700 m	SANDSTONE WITH INTERLAMINATED COAL AND VERY CARBONACEOUS SILTSTONE SANDSTONE: off white, pale grey, opaque to translucent quartz, very fine to fine grained, subangular, well sorted, weak to moderate siliceous cement, moderate to trace argillaceous matrix, occasional pebbles, trace feldspar lithics, trace glauconite lithics, firm to friable, poor to fair visual porosity, no shows, interlaminated with siltstone. SILTSTONE: dark brown, brown black, very argillaceous, very carbonaceous grading to silty coal, trace micromicaceous, firm, blocky.
1701 m	SANDSTONE: light grey, opaque to translucent quartz, medium to coarse to predominantly very coarse grained, angular to subangular, moderately sorted, weak siliceous cement, rare argillaceous matrix, grain supported, trace carbonaceous specks and coal inclusions, friable to unconsolidated, good to occasionally very good visual porosity, no shows.
1702 m	SANDSTONE: pale grey, off white, opaque to translucent quartz, fine to medium grained, subangular, moderately well sorted, moderate siliceous cement, moderate off white argillaceous matrix, trace carbonaceous specks, firm to friable, fair visual porosity. FLUORESCENCE: 100% bright blue white, solid to patchy, instant blooming to very fast streaming cut, trace dull yellow ring residue, moderate hydrocarbon odour.

Driller's Depth (mKB)	<u>Waarre Formation</u>
1702.9 m	SANDSTONE: light grey, opaque to translucent quartz, fine to predominantly medium to coarse grained, subrounded to rounded, moderately sorted, trace very weak siliceous cement, trace off-white siliceous / argillaceous matrix, grain supported, rare carbonaceous specks, very friable to unconsolidated, very good visual porosity. FLUORESCENCE: bright blue white, solid to patchy, instant blooming to very fast streaming cut, trace dull yellow spotted ring residue, moderate hydrocarbon odour.
1702.9-1703.0 m	No Recovery

CORE-2: 1703.0 - 1715.0 mKB (Driller's Depth), 1704.0 - 1716.0mKB (Logger's Depth) Waarre Formation. Recovered 9.75m (81.3%)

Driller's Depth (mKB)	<u>Waarre Formation</u>
1703.0 m	SANDSTONE: pale grey, opaque to translucent quartz, fine grained to pebbly, predominantly medium to coarse grained, poorly sorted, subangular to subrounded, weak to moderately siliceous cement, trace to minor off white argillaceous matrix, minor localised pyritic cement, rare coal fragments, very friable, good visual porosity. FLUORESCENCE: 100% bright blue white, solid to patchy, instant blooming to very fast streaming cut, thin dull yellow ring residue, moderate hydrocarbon odour.
1703.5 m	SANDSTONE: pale grey, opaque to translucent quartz, predominantly medium to coarse grained, subrounded to subangular, moderately sorted, trace very weak siliceous cement, trace argillaceous matrix, predominantly grain supported, trace smoky quartz, rare coal fragments, rare pyrite nodules, very friable to unconsolidated, very good visual porosity. FLUORESCENCE: 100% bright blue white, patchy to solid, inst blooming to very fast streaming cut, dull yellow thin ring to thin film residue, moderate hydrocarbon odour.
1704.5 m	LENTICULAR SANDSTONE WITH MINOR LAMINATED SILTSTONE AND COAL SANDSTONE: light grey, off white, very fine to fine grained, subrounded to subangular, moderately well sorted, minor siliceous cement, moderate to common off white argillaceous matrix, common carbonaceous / coal laminations, trace feldspar lithics, rare glauconite, firm to moderately hard, trace to very poor visual porosity, no shows. SILTSTONE: occurring around outside of lenses, dark brown, olive black, very argillaceous grading to claystone, very carbonaceous in part, grading to silty coal laminations, trace micromicaceous, firm, fissile. COAL: black, brown black, very silty in part, pyritic in part, dull, hackly fracture, occurring as laminations.
1705.5 m	SILTSTONE: dark grey brown, dark brown, black, very argillaceous grading to claystone, occasional light brown very fine arenaceous interlaminations, very carbonaceous, trace micromicaceous, firm, moderately fissile to fissile.
1706.5 m	SANDSTONE: off white, pale grey, opaque to translucent quartz, very fine to fine grained, subangular, well sorted, moderate siliceous cement, moderately to common off white argillaceous matrix, trace feldspar, rare glauconite, rare coal fragments, firm, very poor to poor visual porosity, no shows.
1707.5 m	SANDSTONE: pale grey, opaque to translucent quartz, fine to predominantly medium grained, subrounded to subangular, moderately sorted, trace weak siliceous cement, trace off white argillaceous matrix, rare feldspar lithics, rare glauconite, rare coal fragments, rare chert, trace disseminated pyrite, very friable, very good visual porosity, no shows.
1708.5 m	SANDSTONE WITH FINELY INTERLAMINATED SILTSTONE AND COAL SANDSTONE: pale grey to pale brown grey, opaque to translucent quartz, very fine to medium grained, subangular, moderately to poorly sorted, trace to moderate siliceous cement, trace to moderate argillaceous matrix, trace feldspar lithics, rare glauconite, trace coal fragments, trace to common silty coal laminations, firm to friable, poor to fair to occasionally good visual porosity, no shows.

CORE-2 Core Chip Descriptions (continued)

Driller's Depth (mKB)	Waarre Formation
1709.5 m	SANDSTONE WITH FINELY INTERBEDDED SILTSTONE AND COAL SANDSTONE: pale grey, off-white, opaque to translucent quartz, very fine to fine to occasionally medium grained, subangular, moderately sorted, trace siliceous cement, moderate off-white argillaceous matrix, common coal fragments, trace feldspar, trace pyrite cement and nodules, trace pyritised coal fragments and laminations, trace medium to dark grey brown argillaceous and slightly micromicaceous siltstone laminations, trace amber with moderately bright yellow white fluorescence with slow streaming cut and trace ring residue, firm to friable, fair to good visual porosity, no shows.
1710.5 m	SANDSTONE: pale grey, opaque to translucent quartz, very fine to predominantly fine grained, subangular, well sorted, weak siliceous cement, trace argillaceous matrix, trace glauconite, rare feldspar lithics, rare dark brown lithics, trace carbonaceous specks, friable, fair to good visual porosity, no shows.
1711.5 m	SANDSTONE: pale grey, opaque to translucent quartz, bimodal grain distribution, very fine to fine grained, subangular, moderately well sorted and rounded to subrounded granular to pebbly, trace siliceous cement, moderate to common off-white argillaceous matrix, common feldspar lithics, trace glauconite, common coal laminations, occasionally disseminated pyrite nodules, trace pyritised coal, firm, trace to very poor visual porosity, no shows.
1711.9 m	GLAUCONITIC SANDSTONE (GREENSAND) SANDSTONE: pale to medium grey green, very fine to fine grained, subangular, well sorted, moderate siliceous cement, moderate pale brown to off-white argillaceous matrix, abundant very fine to fine glauconite grains occurring in distinct laminated layers, occasionally coal interlaminations, trace micromicaceous, moderately hard, trace visual porosity, no shows.
1711.9-1715.0 m	No Recovery

2.7.2 Cores 1 & 2 Descriptions

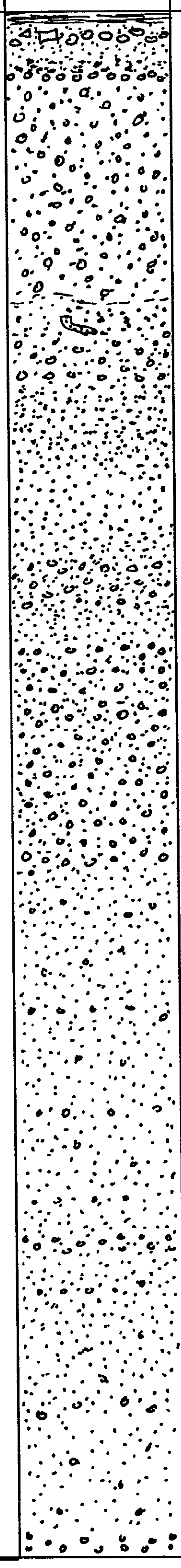
The following pages contain a log of the whole core with a summary of the routine core analysis. Depths on the log are all drillers depths in metres KB.

BRIDGE OIL LIMITED
CORE DESCRIPTION

WELL: MYLOR-1
G L: 97.0 m **K B:** 102.8 m
INTERVAL: 1685.0 - 1703.0 m (18.0 m)
DATE: 6-7 SEPT 1994
FORMATION: WAARRE SANDSTONE
AGE: LATE CRETACEOUS CENOMANIAN
RECOVERY: 17.9 m (99.4%)
GEOLOGIST: S. ROBINSON

CORE ANALYSIS				DEPTH (metres)	SAMPLES FOR ANALYSIS	ROP (m/hr)	FLUOR
POR	K	SO	SW	1685.0	-	-	
12.8	65.2	0.0	66.4		CP-		
				1685.5	-	-	
13.8	391	0.0	72.2		CP-		
14.9	746	0.0	45.8		CP-		
				1686.0	-	-	
24.0	3499	0.0	48.7		CP-		
22.4	7894	0.0	46.7	1686.5	CP-	-	
[illegible]0	278	0.0	47.8		CP-		
				1687.0	-	-	
17.7	5196	0.0	55.4		CP-		
15.6	4367	0.0	75.3		CP-		
				1687.5	-	-	
16.5	6648	0.0	51.2		CP-		
15.6	1267	0.0	55.4	1688.0	CP-	-	
12.0	10.9	0.0	72.0		CP-		
				1688.5	-	-	
17.9	1388	0.0	67.0		CP-		
14.9	949	0.0	63.4		CP-		
				1689.0	-	-	
11.3	153	0.0	78.0		CP-		
[illegible].5	8.4	0.0	76.8	1689.5	CP-	-	
14.8	285	0.0	63.9		CP-		
				1690.0	-	-	

LITH-OLOGY



DESCRIPTION

MP - Mounted Plug CP - Core Plug PS - Preserved Sample

1685.0-1685.1 m: SILTSTONE: olive black, arenaceous, argillaceous matrix, common very fine grained quartz, common very fine grained lithics, common disseminated micro-pyrite, trace carbonaceous flecks, trace shell fragments, trace pyritised endichia trace fossils, moderately hard.

1685.1-1685.8 m: MASSIVE PEBBLY SANDSTONE: series of upward fining cycles 70 mm thick grading to conglomerate in part, medium light grey to medium grey, fine to predominantly medium and coarse grained to pebbly, pebbles generally 5 x 10 mm and up to 10 x 20 mm, poorly sorted, subangular to angular, weak to occasionally strong siliceous cement, trace pyritic cement, moderate dark grey argillaceous / silty matrix, core heavily invaded with drilling fluid, core badly broken and unconsolidated, loose quartz grains, trace carbonaceous and microcarbonaceous inclusions, poor to fair to occasionally good visual porosity, no shows.

1685.8-1687.8 m: MASSIVE PEBBLY SANDSTONE: as above but separated into poorly defined coarse grained and coarse and pebbly bands, grading to conglomerate in part, fine to very coarse to pebbly, minor to occasionally common kaolinitic matrix, predominantly medium to coarse grained and grain supported, predominantly moderately sorted, trace very weak slump bedding, core invaded by drilling fluid, very good visual porosity, no shows.

--- predominantly grain supported, conglomeratic in part, minor kaolinitic matrix, very good visual porosity, no shows.

--- predominantly pebbly, conglomeratic, common fractured quartz grains, grain supported, heavily invaded, very friable, minor to moderate kaolinitic matrix, good to very good visual porosity, no shows.

1687.8-1690.0 m: MASSIVE PEBBLY SANDSTONE: medium light grey to medium grey, fine to predominantly coarse and very coarse and pebbly, pebbles 3 X 6 mm, grading to conglomerate in part, poorly sorted, subangular to angular to occasionally subrounded, minor weak siliceous cement, rare pyrite cement, moderately off white kaolinitic matrix, core heavily invaded with drilling fluid, very weak traces of bedding, predominantly homogeneous, occasional coarser grained pebble bands, matrix increasing slightly with depth, friable to firm, becoming firmer with depth, fair to good visual porosity, no shows.

--- bimodal sandstone, pebbles and fine to medium grained, common to abundant off white kaolinitic matrix, firm to friable, poor to fair visual porosity, no shows.

--- as above, predominantly very coarse to pebbly, common kaolinitic matrix, firm, fair visual porosity, no shows.

BRIDGE OIL LIMITED
CORE DESCRIPTION

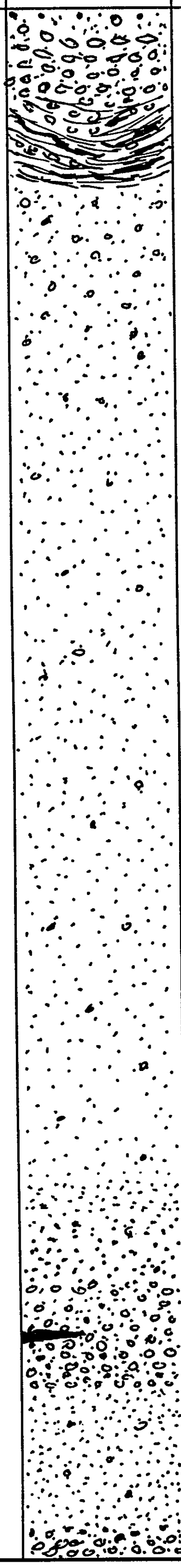
WELL:	**MYLOR-1**	**FORMATION:**	**WAARRE SANDSTONE**
G L: 97.0 m	**K B:** 102.8 m	**AGE:**	**LATE CRETACEOUS CENOMANIAN**
INTERVAL:	**1685.0 - 1703.0 m (18.0 m)**	**RECOVERY:**	**17.9 m (99.4%)**
DATE:	**6-7 SEPT 1994**	**GEOLOGIST:**	**S. ROBINSON**

CORE ANALYSIS | **DEPTH (metres)** | **SAMPLES FOR ANALYSIS** | **ROP (m/hr)** | **FLUOR** | **LITH-OLOGY** | **DESCRIPTION**

MP - Mounted Plug CP - Core Plug PS - Preserved Sample

POR	K	SO	SW	SAMPLES FOR ANALYSIS
8.2	2.92	0.0	84.1	CP-
20.4	3982	0.0	86.6	CP-
23.6	7924	0.0	68.6	CP-
21.4	7399	0.0	77.3	CP-
29.9	13K	0.0	MP	CP-
33.2	17K	0.0	MP	CP-
31.1	19K	0.0	MP	CP-
30.1	18K	0.0	MP	CP-
29.3	13K	0.0	MP	CP-
30.6	20K	0.0	MP	CP-
28.7	19K	0.0	MP	CP-
17.7	3889	0.0	52.5	CP-
21.7	7762	0.0	57.6	CP-
14.5	328	0.0	52.7	CP-
15.2	652	0.0	59.9	CP-
19.8	3311	0.0	58.0	CP-

DEPTH (metres)	ROP (m/hr)
1690.0	-
1690.5	-
1691.0	-
1691.5	-
1692.0	-
1692.5	-
1693.0	-
1693.5	-
1694.0	-
1694.5	-
1695.0	-



1690.0-1690.25 m: CONGLOMERATE BAND: medium to light grey to medium grey to very pale brown, bimodal grain distribution, pebbles 5 x 5 mm up to 10 x 15 mm, and fine to coarse grained matrix, angular to subangular to occasionally subrounded, minor weak siliceous cement, local pyrite cement, common to abundant very pale brown kaolinitic matrix, trace carbonaceous inclusions, poor visual porosity, no shows.

1690.25-1690.35 m: SLUMPED SILTSTONE, COAL LAMINATIONS AND MINOR SANDSTONE:
SILTSTONE: mottled, olive grey and olive black, very argillaceous grading to silty claystone, arenaceous in part, common very fine quartz grains, trace carbonaceous specks, trace endichia, firm, brittle, trace pyrite.
COAL: black, vitreous to subvitreous, pyritic, rectangular to subconchoidal fracture, common plant remains.
SANDSTONE: pale brown, fine to medium grained, angular to subangular, poorly sorted, minor siliceous cement, common kaolinitic matrix, trace carbonaceous specks, firm, poor visual porosity, no shows.

1690.35-1691.0 m: MASSIVE PEBBLY SANDSTONE: medium light grey to medium grey, medium to predominantly coarse and very coarse grained to pebbly, pebbles generally 4 x 5 mm, poorly sorted, subangular to angular, rare weak siliceous cement, trace off white kaolinitic matrix, very friable when aggregated, core heavily invaded with drilling fluid, core badly broken and unconsolidated in part, common loose quartz grains, rare carbonaceous inclusions, fair to very good visual porosity, no shows.

1691.0-1693.8 m: MASSIVE SANDSTONE: medium light grey to medium grey, coarse to very coarse to occasionally pebbly, subangular to angular to subrounded, poorly to moderately sorted, rare siliceous cement, unconsolidated, grain supported, abundant drilling fluid invasion, trace off white kaolinitic matrix, predominantly loose quartz grains, very good to excellent inferred porosity, no shows. Core badly broken. No obvious bedding planes.

1693.8-1695.8 m: MASSIVE PEBBLY SANDSTONE: series of upward fining cycles up to 0.5 m thick, medium light grey to medium grey, fine to predominantly very coarse to granular and pebbly, angular to subangular, poorly sorted, weak siliceous cement, occasional moderate siliceous cement, predominantly grain supported, moderate to common argillaceous and kaolinitic matrix, occasional pyritised claystone / siltstone clasts, very friable to firm, fair to good visual porosity, no shows. Weak bedding.

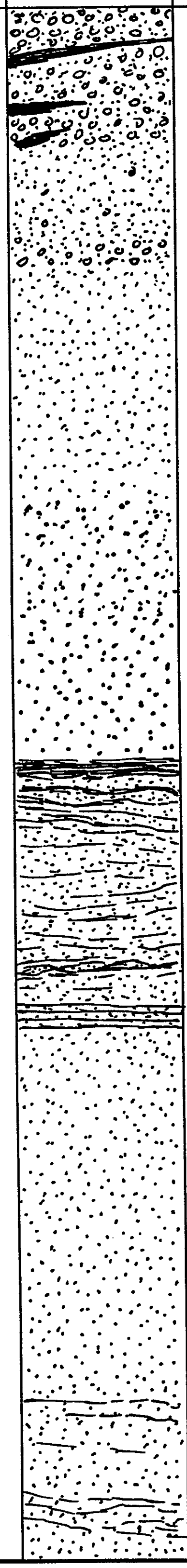
BRIDGE OIL LIMITED
CORE DESCRIPTION

WELL: MYLOR-1
G L: 97.0 m **K B:** 102.8 m
INTERVAL: 1685.0 - 1703.0 m (18.0 m)
DATE: 6-7 SEPT 1994

FORMATION: WAARRE SANDSTONE
AGE: LATE CRETACEOUS CENOMANIAN
RECOVERY: 17.9 m (99.4%)
GEOLOGIST: S. ROBINSON

CORE ANALYSIS				DEPTH (metres)	SAMPLES FOR ANALYSIS	ROP (m/hr)	FLUOR
POR	K	SO	SW	1695.0	-	-	
16.8	1618	0.0	61.1		CP-		
19.6	2629	0.0	65.2	1695.5	CP-	-	
24.9	2668	0.0	69.4		CP-		
24.3	1643	0.0	48.6	1696.0	CP-	-	
25.3	2238	0.0	58.9	1696.5	CP-	-	
24.2	4886	0.0	57.0		CP-		
22.4	926	0.0	45.2	1697.0	CP-	-	
19.8	754	0.0	54.5		CP-		
13.6	9.8	0.0	89.3	1697.5	CP-	-	
21.3	606	0.0	51.6	1698.0	CP-	-	
20.0	122	0.0	77.5		CP-		
27.1	4401	0.0	57.0	1698.5	CP-	-	
27.0	8950	0.0	59.3		CP-		
21.8	569	0.0	56.9	1699.0	CP-	-	
[illegible]	3188	0.0	52.4	1699.5	CP-	-	
26.0	775	0.0	55.6		CP-		
25.7	2249	0.0	56.1	1700.0	CP-	-	

LITHOLOGY



DESCRIPTION

MP - Mounted Plug CP - Core Plug PS - Preserved Sample

1695.8-1697.3 m: MASSIVE SANDSTONE: medium light grey to very pale brown, fine to predominantly medium to occasionally coarse becoming very coarse grained with depth, subangular, well sorted, weak to moderate siliceous cement, trace to moderately off white to pale brown kaolinitic and argillaceous matrix, predominantly grain supported, rare lithics, firm to friable, very good to excellent visual porosity, no shows.

1697.3-1698.3 m: FINELY INTERLAMINATED SANDSTONE AND CLAYSTONE.
SANDSTONE: light grey, very pale brown, very fine to fine grained, subangular to angular, well sorted, minor siliceous cement, common off white kaolinitic matrix, trace pyrite, trace carbonaceous specks, trace glauconite, trace lithics, trace carbonaceous and siltstone laminations, firm to friable, poor visual porosity, no shows.
CLAYSTONE: olive grey, dark grey, very argillaceous grading to silty claystone in part, trace micromicaceous, very carbonaceous in part grading to silty coal in part, firm, brittle, minor bioturbation, occasional endichnia, epichnia and occasionally exichnia trace fossils, common slump bedding and convoluted bedding, minor sandstone boudinage.

1698.3-1701.0 m: SANDSTONE WITH RARE COAL AND CLAYSTONE INTERLAMINATIONS.
SANDSTONE: light grey, clear to opaque quartz, fine to predominantly medium and coarse to very coarse and granular, angular to subangular, poorly sorted, minor siliceous cement, minor kaolinitic matrix, trace carbonaceous specks, trace altered feldspar, rare rose quartz, rare glauconite, occasionally dark grey to silver grey smoky quartz, occasional coal laminations, occasional dark grey claystone laminations, firm to friable, good to very good visual porosity, no shows.

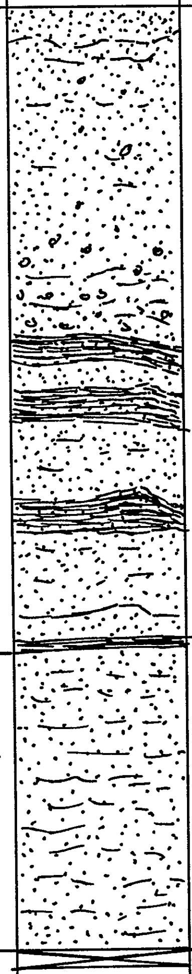
BRIDGE OIL LIMITED
CORE DESCRIPTION

WELL:	MYLOR-1	**FORMATION:**	WAARRE SANDSTONE
G L: 97.0 m	**K B:** 102.8 m	**AGE:**	LATE CRETACEOUS CENOMANIAN
INTERVAL:	1685.0 - 1703.0 m (18.0 m)	**RECOVERY:**	17.9 m (99.4%)
DATE:	6-7 SEPT 1994	**GEOLOGIST:**	S. ROBINSON

MP - Mounted Plug CP - Core Plug PS - Preserved Sample

CORE ANALYSIS POR	K	SO	SW	DEPTH (metres)	SAMPLES FOR ANALYSIS	ROP (m/hr)	FLUOR
				1700.0	-	-	
24.8	5168	0.0	76.6		CP-		
				1700.5	-	-	
27.8	10K	0.0	52.7		CP-		
22.9	3478	0.0	62.0		CP-		
				1701.0	-	-	
22.9	1401	0.0	73.1		CP-		
4.0	0.1	0.0	56.9	1701.5	CP-	-	
[illegible]	832	0.0	67.6		CP-		
				1702.0	PS-	-	
21.3	1448	0.0	71.8		CP-		
19.7	957	0.0	58.3		CP-		VERY GOOD
				1702.5	PS-	-	
					PS-		
18.3	920	2.1	53.0		CP-		
					PS-		
				1703.0	PS-	-	
				1703.5	-	-	
				1704.0	-	-	
				1704.5	-	-	
				1705.0	-	-	

LITHOLOGY



DESCRIPTION

1701.0-1702.0 m: SANDSTONE WITH MINOR INTERBEDDED CONVOLUTED SILTSTONE AND COAL LAMINATIONS AND RARE CALCAREOUS SANDSTONE.
SANDSTONE: off white, light grey, clear to opaque quartz, fine to medium grained, moderately well sorted, subangular to angular, moderate siliceous cement, moderate argillaceous / kaolinitic matrix, rare pyrite, trace smoky quartz, trace rose quartz, friable to firm, fair to good visual porosity, no shows, trace coal laminations, trace slumped micromicaceous, dark brown grey siltstone convoluted laminations,
CALCAREOUS SANDSTONE: as above with strong calcareous cement, firm to moderately hard, poor visual porosity, no shows.
SILTSTONE: dark brown grey, very arenaceous, very carbonaceous, common plant remains, trace micromicaceous, rare disseminated pyrite, brittle, firm to moderately hard.
COAL: black, subvitreous, subconchoidal fracture, brittle.

1702.0-1702.94 m: SANDSTONE WITH MINOR SILTSTONE LAMINAE.
SANDSTONE: light grey, clear to opaque quartz, fine to predominantly medium to occasionally course grained, angular to subangular, poorly sorted, minor siliceous cement, minor kaolinitic matrix, trace carbonaceous specks, trace altered feldspar, rare rose quartz, rare glauconite, occasionally dark grey to silver grey smoky quartz, occasional coal laminations, occasional dark grey claystone laminations, firm to friable, good visual porosity, no shows. FLUORESCENCE: 100% bright blue white, solid to patchy, instant blooming to very fast streaming cut, trace dull yellow ring residue, moderate hydrocarbon odour.

1702.94-1703.0 m : No Recovery - End of Core 1

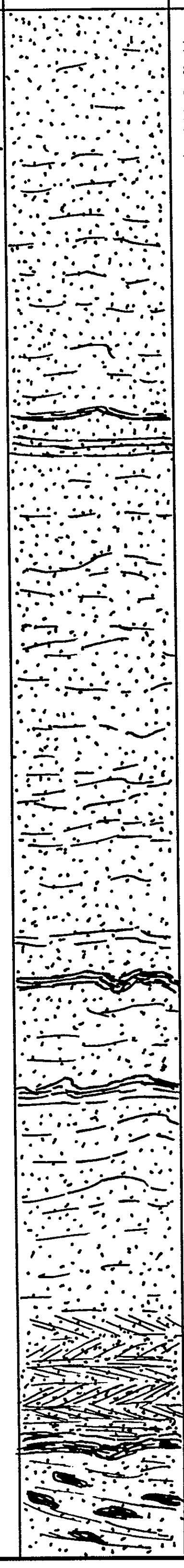
BRIDGE OIL LIMITED
CORE DESCRIPTION

WELL: MYLOR-1
G L: 97.0 m **K B:** 102.8 m
INTERVAL: 1703.0 - 1715.0 m (12.0 m)
DATE: 6-7 SEPT 1994
FORMATION: WAARRE SANDSTONE
AGE: LATE CRETACEOUS CENOMANIAN
RECOVERY: 9.75 m (81.3%)
GEOLOGIST: S. ROBINSON

MP - Mounted Plug CP - Core Plug PS - Preserved Sample

POR	K	SO	SW	DEPTH (metres)	SAMPLES FOR ANALYSIS	ROP (m/hr)	FLUOR
				1703.0	CP-	-	VERY GOOD
20.6	1112	3.1	45.6		PS-		
					PS-		
18.1	118	3.8	54.0		CP-		
					PS-		
				1703.5	-	-	
23.9	160	0.0	82.4		CP-		
					-		
					-		
18.6	13	0.0	80.3		CP-		
				1704.0	-	-	
					-		
19.9	39.9	0.0	74.5		CP-		
					-		
					-		
21.4	55.8	0.0	91.7	1704.5	CP-	-	
					-		
					-		
[illegible]	184	0.0	83.1		CP-		
					-		
				1705.0	-	-	
23.1	174	0.0	79.2		CP-		
					-		
					-		
21.6	78.2	0.0	80.7		CP-		
				1705.5	-	-	
					-		
18.3	65.6	0.0	79.8		CP-		
					-		
					-		
25.5	632	0.0	80.4	1706.0	CP-	-	
					-		
					-		
21.4	123	0.0	82.6		CP-		
					-		
				1706.5	-	-	
23.7	1739	0.0	81.8		CP-		
					-		
					-		
21.4	386	0.0	74.2		CP-		
				1707.0	-	-	
					-		
24.5	474	0.0	79.7		CP-		
					-		
					-		
[illegible]	801	0.0	82.5	1707.5	CP-	-	
					-		
					-		
21.5	647	0.0	66.8		CP-		
					-		
				1708.0	-	-	

LITHOLOGY



DESCRIPTION

1703.0-1703.4 m: SANDSTONE : pale grey, opaque to translucent quartz, fine to predominantly medium to course grained to pebbly, poorly sorted, subangular to subrounded, wk to moderate siliceous cement, trace to minor off white kaolinitic matrix, minor localised pyritic cement, rare coal fragments, very friable, good visual porosity. FLUORESCENCE: 100% bright blue white, solid to patchy, instant blooming to very fast streaming cut, thin dull yellow ring residue, moderate hydrocarbon odour.

1703.4-1708.7 m: SANDSTONE WITH TRACE CLAYSTONE AND COAL INTERLAMINATIONS.
SANDSTONE: light grey, off white, clear to translucent quartz, very fine to fine grained, subangular, well sorted, wk siliceous cement, moderate to common off white kaolinitic matrix, trace carbonaceous specks, rare glauconite, rare black mafic minerals (? rutile), rare altered feldspar, firm to friable, fair to good visual porosity, no shows.
CLAYSTONE: occurring as convoluted laminations and occasional clasts, dark brown grey, silty, micromicaceous, carbonaceous, common plant remains, common slumped bedding and minor de-watering structures.
COAL: black, subvitreous, hackly to subconchoidal fracture, firm, brittle, occurring as convoluted laminations with the claystone.

— Sandstone as above but very fine to fine grained.
Claystone as above

— Sandstone as above but predominantly fine grained, occasional laminations only.

—Sandstone as above, occasionally medium and course grained, decreased matrix, friable to very friable, very good visual porosity, no shows.

--- weak cross-bedding

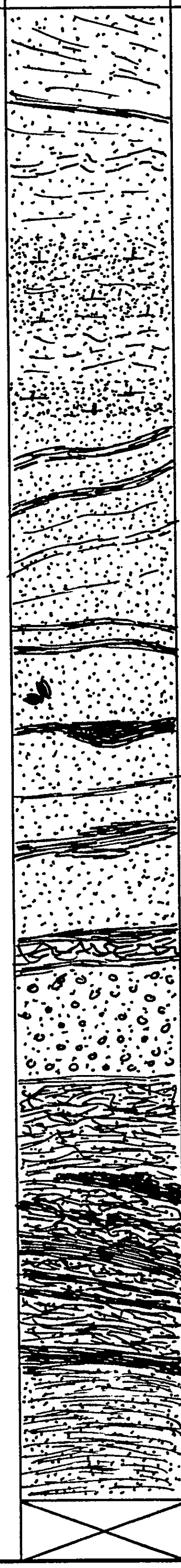
---Sandstone as above but fine to occasionally medium grained with occasional medium brown rounded siltstone clasts.

BRIDGE OIL LIMITED
CORE DESCRIPTION

WELL:	**MYLOR-1**	**FORMATION:**	**WAARRE SANDSTONE**
G L: 97.0 m	**K B:** 102.8 m	**AGE:**	**LATE CRETACEOUS CENOMANIAN**
INTERVAL:	**1703.0 - 1715.0 m (12.0 m)**	**RECOVERY:**	**9.75 m (81.3%)**
DATE:	**6-7 SEPT 1994**	**GEOLOGIST:**	**S. ROBINSON**

CORE ANALYSIS / DEPTH (metres) / SAMPLES FOR ANALYSIS / ROP (m/hr) / FLUOR / LITHOLOGY

POR	K	SO	SW	DEPTH (metres)	SAMPLES FOR ANALYSIS	ROP (m/hr)
				1708.0	-	-
21.1	760	0.0	68.8		CP-	
19.5	469	0.0	74.8		CP-	
				1708.5	-	-
3.3	0.05	0.0	78.5		CP-	
20.3	37.6	0.0	75.4	1709.0	CP-	-
11.6	18.7	0.0	74.3		CP-	
				1709.5	-	-
16.1	24.3	0.0	81.8		CP-	
[illegible].6	714	0.0	76.2		CP-	
				1710.0	-	-
24.3	564	0.0	73.9		CP-	
25.4	449	0.0	76.6	1710.5	CP-	-
23.0	145	0.0	77.9		CP-	
				1711.0	-	-
10.8	14.8	0.0	74.6		CP-	
11.5	0.99	0.0	92.0		CP-	
				1711.5	-	-
11.3	0.20	0.0	97.9		CP-	
10.5	0.34	0.0	98.0	1712.0	CP-	-
13.8	0.11	0.0	99.2		CP-	
				1712.5	-	-
12.6	19.4	0.0	97.2		CP-	
				1713.0	-	-



DESCRIPTION

MP - Mounted Plug CP - Core Plug PS - Preserved Sample

1708.7-1709.3 m: INTERBEDDED SANDSTONE AND CALCAREOUS SANDSTONE WITH MINOR SILTSTONE LAMINATIONS .
SANDSTONE: as above.
CALCAREOUS SANDSTONE: light grey, very fine to fine grained, angular to subangular, strong calcareous cement, minor argillaceous kaolinitic matrix, trace carbonaceous, rare glauconite, rare feldspar, rare dark brown rounded siltstone clasts, rare convoluted siltstone and carbonaceous laminations, hard, trace visual porosity, no shows.

1709.3-1711.05: SANDSTONE WITH MINOR SILTSTONE INTERLAMINATIONS.
SANDSTONE: light grey, clear to opaque quartz, very fine to fine to occasionally medium grained, moderately to poorly sorted, angular to subangular, minor siliceous cement, moderate off white kaolinitic matrix, trace carbonaceous, rare pyrite, rare glauconite, firm to friable, fair to good visual porosity, no shows.
SILTSTONE: dark grey, dark brown grey, firm, slightly micromicaceous, carbonaceous, brittle, convoluted and slumped.

1711.05-1711.45 m: PEBBLE SANDSTONE: light grey, very pale brown, very fine to pebbly (5 x 10 mm), bimodal, very poorly sorted, minor siliceous cement, common argillaceous matrix, trace ?siderite cement, common disseminated pyrite cement, friable to firm, fair visual porosity, no shows.

1711.45-1712.4 m: BIOTURBATED SILTSTONE AND GREENSAND.
SILTSTONE: dark grey, grey black, brown black, firm, arenaceous, micromicaceous, carbonaceous, common plant remains, convoluted, common very fine quartz and very fine lithics, grading to very fine sandstone in part, bioturbated, common exichnia and endichnia trace fossils.
GREENSAND: mottled medium green grey and very pale brown, very fine grained, subangular, well sorted, minor siliceous cement, common silty matrix, common to abundant very fine glauconite, common kaolinitic matrix, trace carbonaceous specks, trace micromicaceous, trace altered feldspar, interlaminated with siltstone, predominantly firm to friable, poor visual porosity, no shows.

1712.4-1712.75 m: CALCAREOUS GREENSAND: mottled pale to medium yellow brown, green grey, very fine to occasionally fine grained, well sorted, subangular, strong calcareous cement, moderately argillaceous / calcareous matrix, abundant very fine glauconite, trace carbonaceous specks, firm, very poor visual porosity, no shows.

1712.75-1715.0 m : No Recovery - End of Core 2

BRIDGE OIL LIMITED
CORE DESCRIPTION

WELL:	**MYLOR-1**	**FORMATION:**	**WAARRE SANDSTONE**
G L: 97.0 m	**K B:** 102.8 m	**AGE:**	**LATE CRETACEOUS CENOMANIAN**
INTERVAL:	**1703.0 - 1715.0 m (12.0 m)**	**RECOVERY:**	**9.75 m (81.3%)**
DATE:	**6-7 SEPT 1994**	**GEOLOGIST:**	**S. ROBINSON**

CORE ANALYSIS				DEPTH (metres)	SAMPLES FOR ANALYSIS	ROP (m/hr)	FLUOR	LITH-OLOGY	DESCRIPTION MP - Mounted Plug CP - Core Plug PS - Preserved Sample
POR	K	SO	SW						
				1713.0	-	-			
				1714.5	-	-			
				1715.0	-	-			1712.75-1715.0 m : No Recovery - End of Core 2
				1715.5	-	-			
				1716.0	-	-			
				1716.5	-	-			
				1717.0	-	-			
				1717.5	-	-			
				1718.0	-	-			
				1718.5	-	-			
				1719.0	-	-			

2.8 **Routine Core Analysis**

Cores-1 and 2 were submitted to Amdel Core Services, Adelaide, for routine core analysis on 22 June 1994. A continuous core gamma trace was produced and ninety-one 1.5" diameter horizontal core plugs were cut at 30cm intervals over the length of the core. Plugs were oven dried, and then air permeabilities, helium injection porosities, residual saturations and apparent grain densitys were determined.

The report from Amdel Core Services can be found in appendix 1.

3) LOG ANALYSIS

3.1 Introduction

The Mylor #1 logging suite was run by Schlumberger as follows:

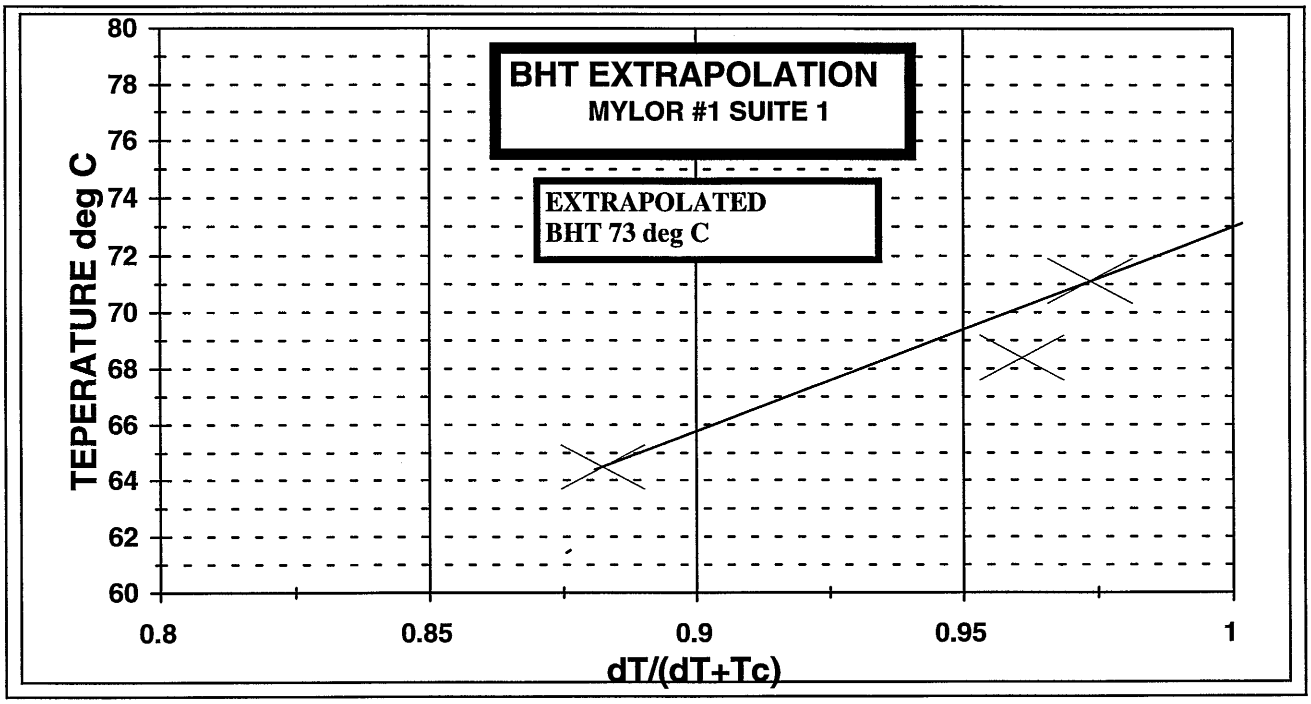
	Logged Top (m)	Interval Bottom (m)	Max. Temp (°C)	Time Since Circulation Stopped (hrs)
Run 1				
DLL-AS-MSFL-LDL-CNL-SP-GR-CAL	291 (GR to surface)	1918.7	64.5	7.5
Run 2				
RFT	1669.7	1761.5	68.4	24.5
WST (VSP)	400	1900.0	71.1	36.75
CST	1388.0	1913.5	N/A	

The mud properties at the time of logging were as follows:

Type	:	FRESH WATER POLYMER
Density	:	9.35 lb/gal
Viscosity	:	41 sec
pH	:	9.0
Fluid Loss	:	6.2 cc
Rm	:	0.178 ohm-m @ 27.0 °C
Rmf	:	0.153 ohm-m @ 21.0 °C
Rmc	:	2.220 ohm-m @ 19.0 °C
Rm @ BHT	:	1.005 ohm-m @ 64.5 °C

Extrapolated B.H.T. : 73.0 °C (see figure 9)

Figure 9 Mylor #1 Bottom-hole Temperature Extrapolation



RUN No	MAX DEPTH	MAX BHT	TOOL	HRS SINCE CIRC	CIRC TIME	dT/(Tc+dT)
1	1922.4	64.5	DLL/LDL	7.5	1	0.882
2	1761.5	68.4	RFT	24.5	1	0.961
3	1922.4	71.1	CHECK SHOT	36.75	1	0.974

3.2 Results and Conclusions

Detailed petrophysical analysis was undertaken over the Flaxmans, Waarre and Eumeralla Formations (1652 - 1910m analysed), using the log analysis package TERRALOG.

Results : A petrophysical summary plot of the Flaxmans, Waarre and Eumeralla Formations is provided in figure 10. Net sandstone zones are interpreted using cutoffs of Neutron/Density crossplot porosity (phie) $\geq$ 6% and Vshale $\leq$ 30% except in the Eumeralla Formation where a Vshale cut off of $\leq$ 40% was used. Average reservoir properties of individual net sandstone zones for the Flaxmans, Waarre and Eumeralla Formations are shown in table 2. A petrophysical listing constrained to net sandstone is provided in table 3.

Vshale is calculated using GR run with the resistivity tool using cutoffs of GRsst 15API, and GRsh 125API.

Sw has been calculated using the equation for clean sandstones and the Indonesia equation for comparison in the shalier sections. The Indonesia equation results have been used in the summary of the average.

Constants and Parameters: Listed below are relevant constants/parameters used in this analysis along with the source of information and comments, where appropriate.

a, m , n	:	1, 1.74, 2.08. From Iona #1 SCAL.
Rw	:	0.19 ohm-m @ 66 °C. From Rwa.
Rshale	:	5.0 ohm-m. From Flaxmans Formation shale.
DT shale	:	90 microsec/ft. From Flaxmans Formation interbeded shale.
BHT	:	73.0 °C. From temperature extrapolation (Figure 9).
Mean surface T	:	20 °C. Assumed.
GR sst	:	15 API. From Waarre Sandstone.
GR shale	:	125 API. From interbeded shale.

Conclusions : Log quality is considered good.

Log analysis indicates that the Waarre Formation contained 60.6m of net sandstone of which 24.1m is deemed to be net pay. The net pay has an average Neutron Density crossplot porosity of 18.9% and an average Indonesian Sw of 27.2%. The average net to gross in the pay zone (1672.5-1704.0m) is 76%.

The Eumeralla Formation contained potentially 21.3m of net sandstone. However, the Vshale cut-off had to be increased from 30% to 40% to include these silty sandstones. No net pay is interpreted and the average porosity was 13.2%.

Figure 10 - Log Analysis Plot

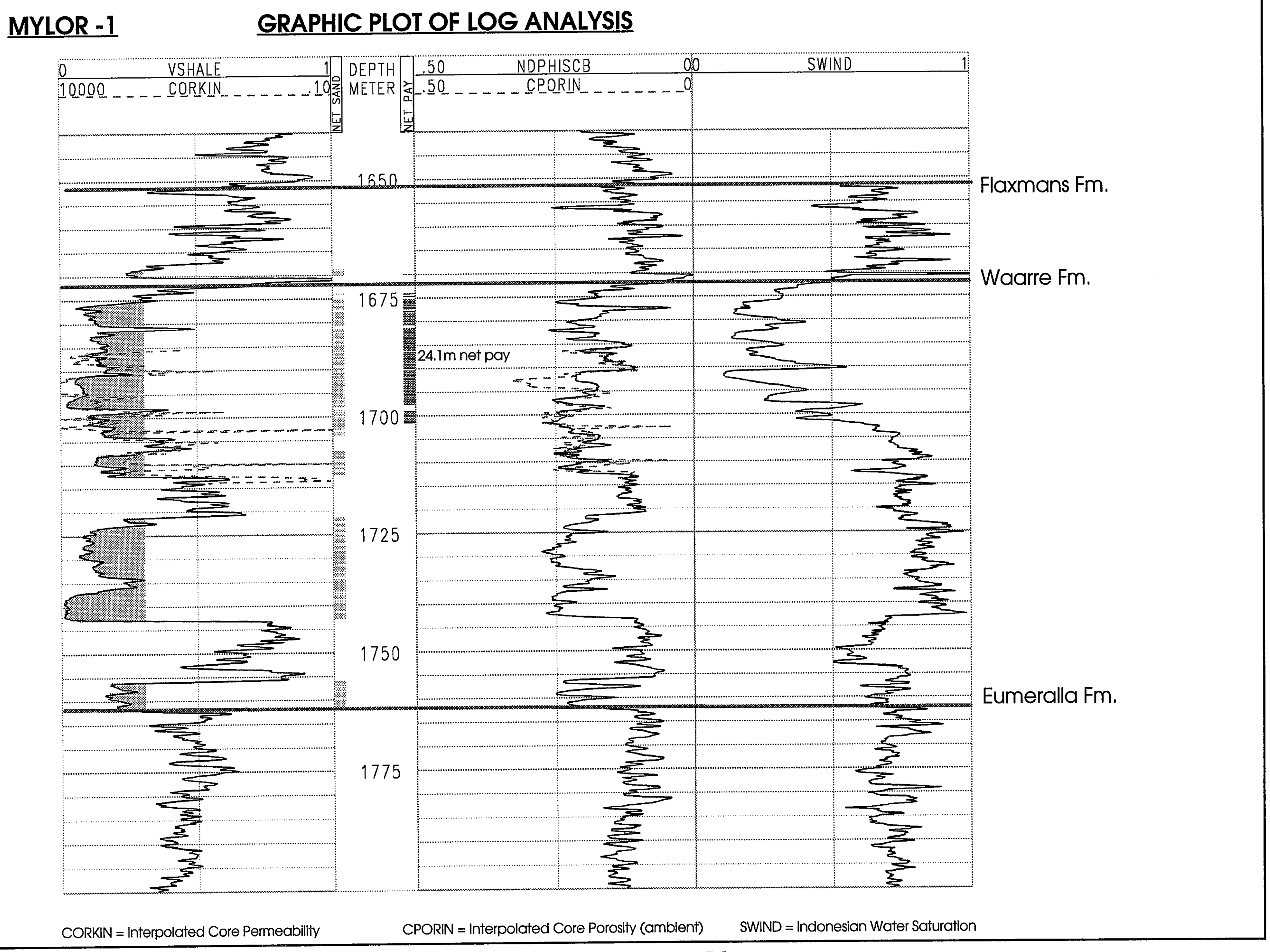


Table 2 Summary Of Net Sandstone Zones for the Waarre and Eumeralla Formations

(Vshale <= 30%, Phie =>6%, Net pay - SwInd <= 50%)

Top (m kb)	Base (m kb)	Gross Thickness (m)	Net Sst/NetPay (m)	Av ND Phi (%)	Av Sw (%)	N/G (%)
Flaxmans Formation						
1652.0	1672.5	20.5	1.7 / 0	9.3	61.0	0
Waarre Formation (Hydrocarbon Zone)						
1672.5	1704.0	31.5	28.0 / 24.1	18.9	27.2	76.0
Waarre Formation (Water Zone)						
1704.0	1762.0	58.0	32.6 / 0	21.9	80.1	56.0
Eumeralla Formation (Net Sand <= 40% Vshale)						
1762.0	1890.0	128	21.3 / 0	13.2	75	16.7

Table 3 Petrophysical Listings - Waarre/Eumeralla Formation

Constraints: VSHALE <= 30% NDPHISCB >= 6%

DEPTH	GRBHC	VSHALE	NDPHIS	CORPHI	CORKH	RT	SWIND
1668.628	66.022	.297729	.074362			12.815	.710405
1668.780	64.932	.289162	.086842			13.320	.650571
1668.932	60.946	.258831	.096804			13.710	.627156
1669.085	61.113	.260071	.089756			14.796	.630089
1669.237	59.428	.247673	.080741			14.653	.682597
1669.390	58.704	.242426	.079243			14.704	.693598
1669.542	58.646	.242003	.089353			15.543	.631452
1669.694	61.876	.265770	.101471			15.752	.566209
1669.847	64.102	.282724	.108674			16.963	.515213
1669.999	63.294	.276513	.112433			19.332	.477615
1670.152	59.986	.251750	.107086			18.764	.512680
1673.962	61.751	.264837	.189984			27.197	.294985
1674.114	64.055	.282356	.185472			26.139	.301286
1674.571	64.873	.288703	.179480			24.196	.317786
1674.724	64.836	.288415	.176818			23.569	.324998
1675.333	64.615	.286698	.182923			22.859	.323094
1675.486	57.383	.232972	.201362			22.365	.319362
1675.638	54.964	.216067	.217435			21.166	.314866
1675.790	49.070	.176980	.235090			20.467	.311284
1675.943	44.743	.150068	.244652			24.454	.282784
1676.095	38.636	.114508	.249871			33.975	.243575
1676.248	33.956	.089051	.243309			50.928	.208394
1676.400	29.454	.065937	.224111			82.753	.179092
1676.552	27.665	.057110	.207581			91.944	.182215
1676.705	30.956	.073503	.212067			84.340	.184310
1676.857	37.792	.109806	.210778			83.979	.180273
1677.010	42.911	.139115	.180774			98.134	.183100
1677.162	44.932	.151219	.119493			146.40	.200383
1677.314	41.483	.130749	.063463			355.62	.205117
1677.772	33.115	.084633	.108477			312.25	.162431
1677.924	34.193	.090301	.150265			213.12	.151761
1678.076	36.655	.103546	.164716			175.48	.153374
1678.229	40.754	.126536	.156848			169.92	.157918
1678.381	40.643	.125893	.152845			186.94	.153813
1678.534	38.684	.114779	.158301			195.25	.148438
1678.686	36.969	.105268	.168515			182.41	.147720
1678.838	36.821	.104456	.169731			152.42	.160292
1678.991	39.833	.121267	.168359			121.24	.177175
1679.143	41.320	.129803	.167298			97.549	.196015
1679.296	40.854	.127110	.174654			76.677	.213718
1679.448	40.730	.126398	.174398			54.898	.251394
1679.600	40.102	.122797	.180624			40.524	.284327
1679.753	41.205	.129136	.186948			33.449	.302196
1679.905	42.672	.137701	.202431			29.072	.302472
1680.058	42.297	.135497	.214936			26.266	.304215

DEPTH	GRBHC	VSHALE	NDPHIS	CORPHI	CORKH	RT	SWIND
1680.210	43.194	.140792	.224651			20.983	.326501
1680.362	44.594	.149170	.229197			15.975	.364406
1680.515	52.258	.197760	.220334			12.548	.406303
1680.667	64.158	.283152	.212698			11.517	.407649
1681.429	64.818	.288276	.179454			32.066	.277447
1681.582	48.359	.172454	.196372			32.956	.282933
1681.734	42.473	.136533	.219755			28.316	.288277
1681.886	45.077	.152094	.244520			20.331	.308469
1682.039	51.074	.189947	.261048			19.085	.295229
1682.191	52.326	.198211	.252318			24.125	.268928
1682.344	49.262	.178205	.225869			42.673	.224742
1682.496	43.865	.144786	.192728			86.090	.184971
1682.648	39.348	.118517	.173557			131.12	.167152
1682.801	38.207	.112111	.170974			149.98	.159408
1682.953	38.252	.112364	.178479			157.97	.150500
1683.106	37.291	.107040	.179839			158.85	.149963
1683.258	39.090	.117059	.176776			155.55	.152061
1683.410	40.107	.122825	.179483			155.29	.149672
1683.563	43.022	.139771	.187526			146.49	.146783
1683.715	41.998	.133745	.210265			137.33	.139748
1683.868	42.942	.139299	.229884			121.33	.138119
1684.020	43.958	.145343	.222921			104.64	.151073
1684.172	47.500	.167044	.185580			87.959	.184592
1684.325	48.412	.172791	.164204			79.742	.210019
1684.477	49.261	.178199	.151535			73.018	.230525
1684.630	46.108	.158400	.139116			72.188	.251057
1684.782	44.737	.150034	.124280			67.025	.284056
1684.934	43.692	.143756	.129062			61.458	.290544
1685.087	45.260	.153207	.129031			57.793	.296098
1685.239	47.324	.165946	.116117	.128000	65.200	56.405	.317193
1685.392	48.119	.170937	.111316			54.718	.329043
1685.544	48.022	.170326	.117983	.138000	391.00	54.820	.316465
1685.696	47.935	.169775	.126447			57.278	.295889
1685.849	45.721	.156023	.142760	.149000	746.00	61.710	.266493
1686.001	43.059	.139991	.163146			69.941	.231799
1686.154	38.477	.113617	.185450	.240000	3499.0	77.780	.205236
1686.306	35.448	.097001	.202896			79.521	.192298
1686.458	34.567	.092289	.206484	.224000	7894.0	77.558	.192739
1686.611	35.667	.098182	.198757			73.444	.202779
1686.763	39.239	.117901	.173065	.120000	278.00	72.254	.223083
1686.916	44.742	.150064	.148122			78.574	.232573
1687.068	47.702	.168311	.140365	.177000	5196.0	80.743	.233874
1687.220	45.954	.157453	.150783			91.299	.212056
1687.373	42.073	.134185	.157400	.156000	4367.0	96.488	.204947
1687.525	40.805	.126828	.158386			94.005	.208096
1687.678	42.464	.136478	.154665			77.248	.230460
1687.830	43.131	.140416	.158310	.165000	6648.0	61.591	.251683
1687.982	43.421	.142142	.162806			53.359	.263791
1688.135	44.489	.148539	.157168	.156000	1267.0	48.871	.280496

DEPTH	GRBHC	VSHALE	NDPHIS	CORPHI	CORKH	RT	SWIND
1688.287	44.047	.145879	.155357			44.824	.295611
1688.440	41.689	.131947	.161778	.120000	10.900	42.774	.297640
1688.592	41.205	.129136	.163810			40.943	.302014
1688.744	43.351	.141724	.153248	.179000	1388.0	39.813	.317341
1688.897	47.943	.169829	.133843			37.609	.348277
1689.049	50.382	.185427	.128033			33.683	.371990
1689.202	51.940	.195653	.134628	.149000	949.00	31.730	.366113
1689.354	50.796	.188125	.137900			30.550	.369810
1689.506	48.223	.171592	.131008	.113000	153.00	28.705	.401622
1689.659	46.994	.163882	.115222			27.295	.452896
1689.811	47.656	.168025	.105683	.095000	8.400	25.555	.492616
1689.964	47.190	.165108	.110679			22.799	.506550
1690.116	45.742	.156154	.111331	.148000	285.00	19.808	.545933
1690.268	48.781	.175137	.107164			19.127	.555979
1690.421	57.032	.230491	.110240	.148000	285.00	24.966	.449138
1690.573	61.683	.264325	.130932			34.877	.331689
1690.726	55.238	.217960	.168875	.082000	92.000	74.020	.204706
1690.878	42.857	.138793	.194690			136.62	.147617
1691.030	34.177	.090219	.206241	.204000	3982.0	192.90	.124618
1691.183	30.393	.070648	.205859			224.48	.117880
1691.335	29.613	.066730	.204763	.236000	7924.0	237.55	.115565
1691.488	28.172	.059589	.209776			244.04	.112546
1691.640	27.972	.058609	.212472			245.92	.111079
1691.792	27.367	.055660	.214501	.214000	7399.0	243.41	.111036
1691.945	26.757	.052704	.212087			238.00	.113526
1692.097	26.911	.053445	.211699			224.71	.116806
1692.250	26.516	.051543	.213030	.299000	13681.	184.52	.127956
1692.402	26.487	.051403	.213995			136.01	.147641
1692.554	27.977	.058633	.212309	.332000	16999.	108.70	.164548
1692.707	29.795	.067643	.213110			91.042	.177387
1692.859	30.932	.073380	.208119	.311000	19522.	78.124	.193650
1693.012	30.656	.071979	.200772			73.347	.205577
1693.164	30.738	.072396	.188669			70.406	.220083
1693.316	32.008	.078888	.182549	.301000	18088.	62.660	.237476
1693.469	33.033	.084206	.178164			55.363	.255606
1693.621	32.867	.083337	.174839	.293000	13075.	49.974	.272657
1693.774	32.322	.080511	.176203	.300097	16872.	43.286	.291157
1693.926	32.649	.082202	.173424	.306000	20030.	38.553	.311147
1694.078	33.463	.086452	.172243			34.252	.329777
1694.231	33.389	.086064	.172865	.287000	19118.	31.215	.343989
1694.383	32.350	.080653	.175943			29.059	.352969
1694.536	33.251	.085341	.175017			25.973	.372440
1694.688	35.098	.095125	.173466	.177000	3889.0	22.959	.394301
1694.840	35.819	.099005	.177770			20.683	.405448
1694.993	34.396	.091381	.186236	.217000	7762.0	18.768	.412755
1695.145	31.840	.078021	.196277			18.510	.403519
1695.298	30.622	.071809	.202340	.145000	328.00	20.621	.375986
1695.450	29.637	.066852	.197416			24.298	.355737
1695.602	28.247	.059958	.191166	.152000	652.00	28.756	.338502
1695.755	26.651	.052195	.188947			34.664	.314394

DEPTH	GRBHC	VSHALE	NDPHIS	CORPHI	CORKH	RT	SWIND
1695.907	26.246	.050245	.191454	.198000	3311.0	39.475	.292733
1696.060	25.870	.048451	.195024			40.083	.286744
1696.212	23.754	.038492	.209557	.168000	1618.0	39.328	.275274
1696.364	21.518	.028252	.223753			37.345	.269601
1696.517	20.955	.025719	.238565	.196000	2629.0	33.710	.269176
1696.669	21.431	.027861	.250504	.249000	2668.0	30.689	.270139
1696.822	21.301	.027275	.256256			30.775	.264887
1696.974	20.855	.025270	.252933	.243000	1643.0	33.143	.258702
1697.126	20.406	.023266	.251012			34.527	.255591
1697.279	20.116	.021978	.241567	.253000	2238.0	32.993	.269852
1697.431	21.121	.026465	.236335			26.542	.304102
1697.584	23.516	.037387	.228726	.242000	4886.0	17.317	.380549
1697.736	30.686	.072130	.218248			9.530	.513020
1697.888	47.315	.165888	.201641	.224000	926.00	8.737	.527193
1698.498	65.628	.294621	.185039	.136000	9.800	6.962	.562974
1698.650	63.816	.280515	.190181			7.238	.548688
1698.803	60.145	.252914	.200703	.213000	606.00	7.643	.526669
1698.955	51.946	.195687	.215834			8.946	.484783
1699.108	42.981	.139529	.230936	.200000	122.00	11.341	.429194
1699.260	38.126	.111663	.242048			13.174	.393166
1699.412	36.690	.103740	.240628	.271000	4401.0	13.522	.392244
1699.565	35.675	.098228	.245565			14.991	.368855
1699.717	35.881	.099342	.246140	.270000	8950.0	10.903	.428741
1699.870	39.149	.117390	.243765			9.590	.453636
1700.022	44.991	.151572	.237718	.218000	569.00	8.818	.469788
1700.174	49.152	.177500	.229121			8.119	.492989
1700.327	48.247	.171746	.231887	.274000	3188.0	7.787	.500665
1700.479	45.239	.153082	.235393			8.136	.491355
1700.632	43.880	.144877	.238983	.260000	775.00	11.236	.418445
1700.784	42.703	.137884	.242089			11.672	.408886
1700.936	39.335	.118440	.242969	.257000	2249.0	14.465	.372896
1701.089	36.284	.101524	.244323			14.698	.372892
1701.241	35.733	.098538	.248246	.248000	5168.0	11.042	.423454
1701.394	38.487	.113676	.251762			7.759	.491101
1701.546	43.760	.144159	.257012	.278000	10261.	6.183	.528041
1701.698	48.948	.176199	.263485			5.501	.536660
1701.851	52.310	.198106	.252838	.228000	3478.0	5.248	.557686
1702.003	52.448	.199029	.239215			4.945	.597004
1702.156	50.897	.188788	.239065	.229000	1401.0	4.764	.612414
1702.308	50.632	.187055	.245231			4.529	.616701
1702.460	50.191	.184189	.243281	.040000	.100000	4.277	.638874
1702.613	48.473	.173176	.232505			4.343	.660735
1702.765	45.688	.155822	.223777	.226000	832.00	4.583	.670815
1702.918	43.736	.144019	.223159			4.801	.663144
1703.070	44.315	.147488	.221853	.213000	1448.0	4.948	.654783
1703.222	45.318	.153561	.219554			4.900	.659865
1703.375	46.037	.157963	.220446	.197000	957.00	4.828	.660398
1703.527	46.570	.161252	.223321			4.876	.649363
1703.680	45.804	.156535	.226628	.183000	920.00	4.857	.645810

DEPTH	GRBHC	VSHALE	NDPHIS	CORPHI	CORKH	RT	SWIND
1703.832	48.123	.170959	.222135			4.626	.663724
1703.984	55.054	.216690	.209769	.206000	1112.0	4.189	.700777
1707.185	62.199	.268205	.216626	.214000	123.00	3.325	.737125
1707.337	63.672	.279410	.217718			3.259	.735886
1707.490	64.258	.283923	.211921	.237000	1739.0	3.206	.752892
1707.642	62.835	.273015	.203822			3.174	.782559
1707.794	56.691	.228083	.208155	.214000	386.00	3.065	.811296
1707.947	48.822	.175392	.231574			2.922	.799913
1708.099	44.671	.149639	.251625	.245000	474.00	2.828	.777889
1708.252	41.147	.128800	.253468			2.806	.787741
1708.404	40.983	.127855	.211464	.244000	801.00	3.395	.825334
1708.556	41.858	.132929	.208414			3.514	.817401
1708.709	42.557	.137025	.218631	.215000	647.00	3.499	.787683
1708.861	40.855	.127115	.230459			3.215	.794216
1709.014	40.379	.124383	.228375	.211000	760.00	2.873	.845833
1709.166	41.004	.127976	.222773			2.867	.860411
1709.318	41.416	.130357	.211212	.195000	469.00	3.131	.857066
1709.471	41.165	.128904	.184345			4.379	.808552
1709.623	39.593	.119902	.156216	.033000	.050000	5.586	.820072
1709.776	40.207	.123398	.155407			5.850	.802316
1709.928	41.949	.133461	.187383	.203000	37.600	5.879	.690519
1710.080	45.416	.154157	.209073			4.961	.679216
1710.233	50.418	.185666	.214175	.116000	18.700	3.900	.731090
1710.385	57.476	.233635	.204887			3.779	.738277
1710.538	58.384	.240122	.214141	.161000	24.300	3.760	.714371
1710.690	56.438	.226307	.219969			3.604	.722835
1710.842	51.203	.190792	.233995	.176000	714.00	3.331	.736911
1710.995	48.346	.172370	.240099			3.141	.753669
1711.147	44.066	.145994	.246358	.243000	564.00	3.060	.762688
1711.300	44.132	.146388	.244107			3.079	.765424
1711.452	47.681	.168180	.234684	.254000	449.00	3.301	.750565
1711.604	57.512	.233891	.207543			3.692	.739743
1711.757	57.757	.235637	.189905	.230000	145.00	4.387	.722695
1711.909	55.595	.220427	.185276			5.215	.684724
1712.062	48.916	.175991	.205248	.108000	14.800	6.199	.607737
1712.214	47.994	.170149	.213051			6.766	.569737
1712.366	57.780	.235796	.197608	.115000	.990000	6.170	.596842
1721.358	56.750	.228501	.190733			3.479	.809151
1721.510	56.631	.227660	.194727			3.388	.808543
1721.663	57.660	.234942	.197634			3.546	.778449
1721.815	59.653	.249313	.196866			3.730	.753361
1721.968	58.693	.242346	.196657			3.839	.747494
1722.120	65.042	.290023	.180172			3.911	.756387
1722.730	63.813	.280490	.187739			3.690	.762862
1722.882	59.592	.248868	.190963			3.425	.801423
1723.034	54.607	.213617	.203223			3.144	.822413
1723.187	48.720	.174743	.214105			2.865	.853835

DEPTH	GRBHC	VSHALE	NDPHIS	CORPHI	CORKH	RT	SWIND
1723.339	44.887	.150944	.222259			2.583	.889006
1723.492	41.202	.129116	.227379			2.424	.915837
1723.644	42.390	.136041	.233621			2.412	.894919
1723.796	39.032	.116731	.234640			2.340	.917826
1723.949	37.527	.108341	.236953			2.282	.927589
1724.101	36.492	.102660	.234418			2.424	.912258
1724.254	39.725	.120649	.226524			2.381	.932160
1724.406	41.063	.128314	.217954			2.963	.859147
1724.558	40.420	.124614	.200801			4.298	.766543
1724.711	35.453	.097031	.174569			4.699	.836412
1724.863	33.915	.088831	.156839			4.623	.922021
1725.016	31.531	.076437	.177924			3.890	.919695
1725.168	33.145	.084791	.212224			2.554	.974152
1725.320	36.590	.103195	.224536			2.452	.937553
1725.473	37.375	.107502	.226084			2.815	.869740
1725.625	36.980	.105326	.222221			3.004	.855734
1725.778	33.987	.089213	.231239			3.001	.840158
1725.930	35.149	.095395	.232166			2.954	.839995
1726.082	38.000	.110960	.227426			2.923	.848033
1726.235	38.640	.114533	.225934			2.869	.857740
1726.387	39.519	.119482	.224777			2.718	.880401
1726.540	38.040	.111185	.234634			2.519	.889060
1726.692	37.225	.106675	.230743			3.050	.824150
1726.844	34.997	.094584	.222087			3.326	.821780
1726.997	33.183	.084984	.213790			3.537	.827890
1727.149	32.432	.081078	.221893			3.591	.800741
1727.302	32.344	.080620	.239316			3.039	.817751
1727.454	32.537	.081620	.250804			2.582	.851564
1727.606	31.543	.076499	.246351			2.629	.859320
1727.759	33.482	.086553	.242230			2.777	.842181
1727.911	35.262	.096002	.241957			2.825	.830482
1728.064	38.585	.114226	.250184			2.755	.808564
1728.216	38.473	.113597	.257110			2.511	.828190
1728.368	37.401	.107644	.253854			2.374	.862748
1728.521	36.528	.102857	.254615			2.352	.867329
1728.673	33.665	.087514	.262622			2.421	.843429
1728.826	32.545	.081665	.271017			2.458	.819861
1728.978	29.830	.067815	.276813			2.516	.804265
1729.130	29.636	.066845	.273636			2.621	.796403
1729.283	28.684	.062113	.268386			2.717	.797340
1729.435	30.486	.071120	.261150			2.861	.790306
1729.588	32.155	.079644	.255009			3.022	.780036
1729.740	33.109	.084599	.242377			2.930	.821232
1729.892	34.666	.092816	.236209			2.887	.839077
1730.045	38.918	.116090	.234105			2.897	.829312
1730.197	42.635	.137488	.245322			2.773	.804853
1730.350	45.536	.154893	.252419			2.725	.784898
1730.502	43.054	.139959	.262001			2.622	.785129
1730.654	44.002	.145607	.258345			2.451	.816644
1730.807	41.205	.129137	.259333			2.341	.841628

DEPTH	GRBHC	VSHALE	NDPHIS	CORPHI	CORKH	RT	SWIND
1730.959	42.316	.135608	.258864			2.423	.825428
1731.112	40.542	.125313	.259719			2.463	.822518
1731.264	40.645	.125907	.254897			2.489	.829817
1731.416	38.882	.115887	.248200			2.579	.838417
1731.569	38.349	.112901	.243104			2.652	.842284
1731.721	38.313	.112705	.243894			2.377	.885803
1731.874	39.114	.117193	.248854			2.117	.919208
1732.026	39.277	.118116	.251690			2.108	.912357
1732.178	40.791	.126744	.240724			2.111	.937818
1732.331	39.761	.120858	.232272			2.441	.902463
1732.483	40.563	.125434	.221364			2.929	.854711
1732.636	42.691	.137817	.213002			2.870	.880173
1732.788	45.393	.154023	.202906			3.092	.868990
1732.940	43.731	.143985	.187094			3.722	.850838
1733.093	42.421	.136224	.174443			4.080	.863057
1733.245	41.507	.13088	.169289			4.588	.837960
1733.398	43.993	.145557	.180594			4.971	.758739
1733.550	45.481	.154559	.192522			3.902	.807193
1733.702	48.404	.172741	.200495			3.617	.800720
1733.855	54.651	.213921	.196318			3.753	.772583
1734.007	61.240	.261014	.178457			3.948	.774392
1734.160	64.977	.289513	.160395			4.584	.753945
1734.464	63.726	.279821	.149386			4.871	.772162
1734.617	60.743	.257327	.166607			4.374	.773533
1734.769	56.573	.227255	.181947			3.867	.793728
1734.922	56.255	.225024	.188776			3.513	.812085
1735.074	58.433	.240470	.187550			3.439	.813796
1735.226	59.327	.246936	.190411			3.431	.802345
1735.379	58.587	.241577	.197446			3.336	.796787
1735.531	61.175	.260533	.192106			3.265	.808115
1735.684	62.201	.268216	.191904			3.214	.809992
1735.836	63.181	.275652	.191335			3.088	.822613
1735.988	56.869	.229336	.212257			2.763	.837565
1736.141	52.377	.198554	.226163			2.490	.861044
1736.293	49.049	.176846	.234951			2.406	.864877
1736.446	46.420	.160328	.238194			2.257	.893371
1736.598	43.159	.140583	.234132			2.397	.891611
1736.750	41.517	.130942	.211047			3.019	.869064
1736.903	41.574	.131276	.175936			4.336	.836241
1737.055	39.089	.117051	.158919			5.874	.789803
1737.208	32.430	.081065	.180178			6.110	.728726
1737.360	26.876	.053281	.211239			5.073	.719423
1737.512	26.204	.050048	.230855			3.397	.814222
1737.665	24.657	.042706	.240537			2.504	.916769
1737.817	23.194	.035898	.244217			2.324	.942907
1737.970	21.515	.028239	.250070			2.422	.911276
1738.122	21.806	.029556	.248881			2.653	.874948
1738.274	21.179	.026725	.248998			2.855	.845755
1738.427	18.624	.015419	.253601			2.970	.823485

DEPTH	GRBHC	VSHALE	NDPHIS	CORPHI	CORKH	RT	SWIND
1738.579	17.736	.011575	.258326			2.970	.812874
1738.732	18.743	.015938	.257945			2.739	.843957
1738.884	19.586	.019634	.256193			2.591	.869636
1739.036	18.485	.014816	.257870			2.522	.878898
1739.189	17.549	.010773	.257736			2.523	.881222
1739.341	17.437	.010292	.247843			2.876	.855171
1739.494	18.250	.013797	.227756			3.091	.883804
1739.646	19.333	.018522	.213579			3.162	.918816
1739.798	19.390	.018771	.219636			3.282	.881693
1739.951	20.622	.024228	.236053			3.368	.817439
1740.103	21.075	.026260	.248754			3.129	.809987
1740.256	21.720	.029164	.252978			2.773	.845056
1740.408	20.315	.022863	.254527			2.518	.884254
1740.560	18.914	.016687	.250255			2.494	.904585
1740.713	18.374	.014336	.243954			2.583	.909769
1740.865	19.819	.020661	.239488			2.755	.891746
1741.018	19.917	.021095	.240697			2.832	.876039
1741.170	19.747	.020344	.246006			2.851	.858140
1741.322	17.868	.012145	.246298			2.826	.865531
1741.475	18.141	.013327	.244941			2.708	.886792
1741.627	18.290	.013971	.248945			2.619	.888756
1741.780	18.029	.012841	.259173			2.439	.890105
1741.932	17.404	.010150	.266873			2.183	.917771
1742.084	17.635	.011144	.269094			2.071	.934302
1742.237	19.679	.020046	.262096			2.047	.955092
1742.389	21.786	.029466	.248951			2.069	.985125
1742.542	22.607	.033204	.229650			2.683	.926444
1742.694	29.607	.066700	.216839			3.248	.863284
1742.846	51.464	.192504	.191492			3.726	.801776
1756.105	62.497	.270453	.209443			3.434	.737008
1756.258	51.600	.193401	.228890			3.423	.733421
1756.410	48.846	.175549	.237160			3.571	.709219
1756.562	49.491	.179672	.239603			3.684	.691418
1756.715	50.720	.187630	.236524			3.728	.690136
1756.867	51.555	.193107	.228711			3.543	.721855
1757.020	52.796	.201351	.200901			3.667	.774194
1757.172	53.909	.208858	.161886			4.979	.771287
1757.324	54.092	.210100	.122852			7.697	.750273
1757.477	56.037	.223503	.098669			11.637	.694478
1757.629	59.350	.247101	.100161			13.656	.619109
1757.782	62.897	.273489	.119631			11.067	.598374
1757.934	62.199	.268202	.156519			7.070	.631656
1758.086	57.591	.234454	.192441			4.576	.698538
1758.239	54.149	.210487	.213167			3.467	.757260
1758.391	49.989	.182885	.226356			3.116	.779272
1758.544	46.614	.161528	.235043			3.087	.773189
1758.696	45.866	.156916	.244637			3.266	.732758
1758.848	47.603	.167690	.250232			3.436	.697960
1759.001	49.746	.181315	.251216			3.467	.686550

DEPTH	GRBHC	VSHALE	NDPHIS	CORPHI	CORKH	RT	SWIND
1759.153	48.630	.174176	.251617			3.410	.694549
1759.306	47.685	.168206	.244520			3.392	.714137
1759.458	49.059	.176908	.222933			4.103	.693231
1759.610	51.841	.194993	.189751			5.938	.642334
1759.763	53.499	.206079	.155560			7.889	.636609
1759.915	55.177	.217536	.142025			8.696	.638459
1760.068	56.308	.225401	.162903			7.680	.614115
1760.220	58.198	.238784	.189743			5.759	.629115
1760.372	59.747	.249995	.203504			4.499	.669638
1760.525	59.399	.247459	.208796			4.004	.697268
1760.677	57.304	.232416	.216463			3.932	.693656
1760.830	55.122	.217161	.227278			3.804	.688458
1760.982	53.106	.203434	.232196			3.727	.691372
1761.134	52.334	.198269	.229432			3.751	.697759
1761.287	52.324	.198202	.226768			3.869	.693317
1761.439	53.757	.207823	.223449			4.164	.671627
1761.592	54.694	.214212	.219144			4.684	.640530
1761.744	57.474	.233621	.201250			5.356	.628175
1761.896	61.772	.264994	.178438			6.103	.624091
1762.049	66.305	.299974	.167313			6.392	.618378

ENGINEERING

4) DRILL STEM TEST DATA

4.1 Drill Stem Test Report

One DST was conducted at Mylor #1, run by Australian DST Co. Ltd..

DST #1 was an open-hole off-bottom test of the Waarre and Flaxmans Formations over the interval 1665.7-1684.0m (driller's depth). Gas flowed to surface after 4 minutes, and at a maximum recorded rate of 4.21 MMCFD. The flowing wellhead pressure (FWHP) increased to 1125 psig at 14.30 hrs. The annulus level then dropped and at the same instant the FWHP began to fall down to 280 psig at 14.52hrs. The FWHP then began to rise again and increased to 1260 psig at 15.16hrs and remained at 1260 psig until the tool was closed at 15.25hrs. Charts indicate tool plugging and periodic packer bypass. 226m of mud and 5m of condensate were recovered from the drillstring.

Two Full Stream gas samples were taken at the choke manifold and a bottom hole sample was preserved for lab analysis.

The drill stem test reports follows

AUSTRALIAN

Telephone
(076) 222 655
(076) 221 150 FAX

AUSTRALIAN D.S.T. CO. PTY. LTD.

DST

COMPANY NAME	Bridge Oil Limited.
WELL NAME	Mylor #1
LOCATION	
TICKET #	2395
DST #	One

Australian DST Co. Pty. Ltd.

Box 619, Roma, Queensland 4455

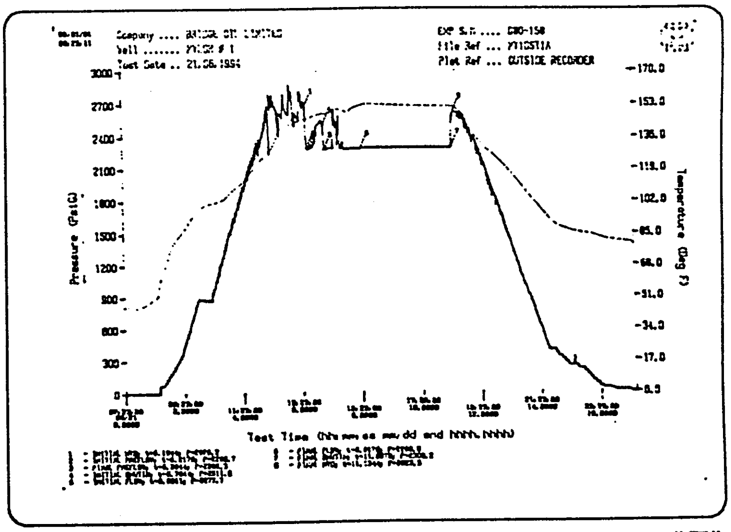
FINAL REPORT

CONVENTIONAL BOTTOM HOLE

COMPANY NAME :	Bridge Oil Limited.	TICKET #	2395
WELL NAME :	Mylor #1	D.S.T.#	One
LOCATION :		FORMATION	Warrare
TESTED INTERVAL :	1665.70 to 1684.00 m (18.30 m)	DATE	94/06/21

TEST PERIOD MINUTES:

PRE-FLOW :	05	FIRST SHUT-IN :	30
SECONFLOW:	75	SECOND SHUT-IN :	181
THIRDFLOW :		THIRD SHUT-IN :	



RECOVERY DURING FLOW PERIODS

FLUID RECOVERY TOTAL 237.41 m

237.41 m of No description given.
m of
m of
m of

GAS RECOVERY TIME kPa m^3/DAY

DOWNHOLE PRESSURE DATA (PSIG)

ALL MEASSUREMENTS ARE "SI"

RECORDER NUMBER CLOCK HOUR - EMP DEPTH METRES		13782 24 Hr. 1649.65	13784 24 Hr. 1658.75	080-258 EMP 1661.88	K338 24 Hr. 1670.46	080-158 EMP 1673.91	
PRESSURE PORT		FLUID	INSIDE	INSIDE	OUTSIDE	OUTSIDE	OUTSIDE
INITIAL HYDROSTATIC	(A)		2666.7	2657.7	2672.9	2676.2	
START FIRST FLOW	(B)	162.4	2257.4	2172.3	2282.3	2289.7	
END FIRST FLOW	(B1)	1527.4	2281.6	2173.5	2278.1	2286.3	
FIRST SHUT-IN	(C)	660.8	2514.8	2499.8	2515.6	2511.9	
START SECONDFLOW	(D)	1805.7	1912.5	2094.2	2253.1	2277.7	
END SECONDFLOW	(E)	356.1	2078.1	2114.0	2270.8	2288.8	
SECOND SHUT-IN	(F)	357.0	2279.5	2296.3	2280.2	2300.2	
FINAL HYDROSTATIC	(G)		2580.2	2605.7	2592.7	2623.3	
START THIRD FLOW	(H)						
END THIRD FLOW	(I)						
THIRD SHUTIN	(J)						

SEMI-LOG EXTRAPOLATION	FIRST SHUT-IN :	kPa	SLOPE	$kPa^2/10^6$ / Log Cycle
RECORDER #	SECOND SHUT-IN :	kPa	SLOPE	$kPa^2/10^6$ / Log Cycle
	THIRD SHUT-IN :	kPa	SLOPE	$kPa^2/10^6$ / Log Cycle
Permeability MD Draw Down	Skin Factor		Damage Ratio	

FIRST FLOW : None given.

SECONDFLOW : None given.

Australian DST Co. Pty. Ltd.
Box 619, Roma, Queensland 4455

FINAL REPORT

GAS - FLOW RATES and GENERAL DATA

COMPANY NAME :	Bridge Oil Limited.	TICKET #	2395
WELL NAME :	Mylor #1	D.S.T.#	One
LOCATION :		FORMATION	Warrare
TESTED INTERVAL :	1665.70 to 1684.00 m (18.30 m)	DATE	94/06/21

TIME	ORIFICE SIZE	SURFACE TEMP F	SURFACE PRESSURES PSI	RATE MCF/DAY	LIQUID	REMARKS

ADDITIONAL WELL and TEST INFORMATION:

Time started in	20:30 Hours	Mud Type	KCL	**ELEVATIONS:**	
Time on bottom	13:30 Hours	Mud Weight	1114 ft/lb.	K.B.	102.79 m
Time tool opened	13:34 Hours	Mud Viscosity	60 cp	Ground	97.00 m
Time tool pulled	18:26 Hours	Water Loss	--	Total Depth	1684.00 m
Time out of hole	11:45 Hours	Filter Cake	1.59 mm	**PIPE ABOVE TOOLS**	
Tool weight	3 000 lbs	Mud Drop	-- m	Drill Collar I.D.	73.0 mm
Weight set on packer	32 000 lbs	Tool Skid	-- m	Drill Pipe I.D.	92.5 mm
Initial String Weight	100 000 lbs	Bottom Choke	19.05 mm	Drill Collar	151.67 m
Weight pulled	-- lbs	Hole Size	215.9 mm	Drill Pipe	1436.74 m
Unseated string weight	105 000 lbs	Reverse	No mm	HWD. Pipe	55.37 m
		Circulated		Packer Size	190.5 mm
		BH. TEMP	50.2 C	No. of Packers	Two
		FILL	Nil m		

SAMPLES TAKEN:
Bottom Hole sampler
Fluid
Gas
Sent to

Hole Condition	Good
Tester	Vern Sale
Representative	Ken Smith
Contractor	Century
Rig Number	#11

Australian DST Co. Pty. Ltd.

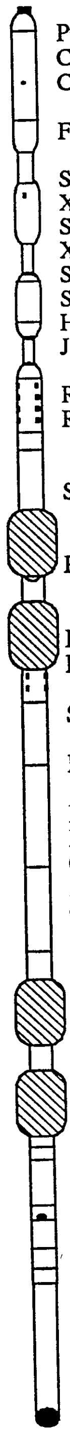
Box 619, Roma, Queensland 4455

FINAL REPORT

TEST TOOL - CONVENTIONAL

COMPANY NAME :	Bridge Oil Limited.	TICKET #	2395
WELL NAME :	Mylor #1	D.S.T.#	One
LOCATION :		FORMATION	Warrare
TESTED INTERVAL :	1665.70 to 1684.00 m (18.30 m)	DATE	94/06/21

TOTAL TOOL TO BOTTOM OF TOP PACKER			17.19
TOOL IN INTERVAL			9.30
BOTTOM PACKER AND ANCHOR			
TOTAL TOOL			26.49
DRILL COLLAR IN INTERVAL			9.00
D.C. ANCHOR	STANDS	SINGLES	
D.P. ANCHOR	STANDS	SINGLES	
TOTAL ASSEMBLY			35.49
D.C. ABOVE TOOLS	STANDS	SINGLES	151.67
H.W.D.P	STANDS	SINGLES	55.37
D.P. ABOVE TOOLS	STANDS	SINGLES	1436.74
Other Above Tool			7.51
TOTAL DRILL COLLARS, DRILL PIPE & TOOLS			1686.87
TOTAL DEPTH			1684.00
TOTAL STICK-UP ABOVE K.B.			2.78



PO SUB	.30
CO SUB	.30
CO SUB	.30
Fluid Rec.13782	1.52
SHUT-IN TOOL	1.98
XO SUB	.32
Sample Chamber	1.20
XO Sub	.40
SAMPLER	
SAMPLER	
HMV	1.72
JARS	1.87
	1.52
REC #13784	1.83
REC # 080-258	
SAFETY JOINT	.67
PACKER	2.03
PACKER	1.12
DEPTH 1665.70 m	
STUBB	.91
PERF	3.65
REC #K338	1.52
REC #080-158	2.13
C.O. SUB	
DRILL COLLAR	
C.O. SUB	
T.COLLAR DEPTH ______ m	
PACKER	
PACKER	
PERFS	
REC #	
C.O. SUB	.30
DRILL PIPE	9.00
C.O. SUB	.30
BULL NOSE	.49
T.D. 1684.00 m	

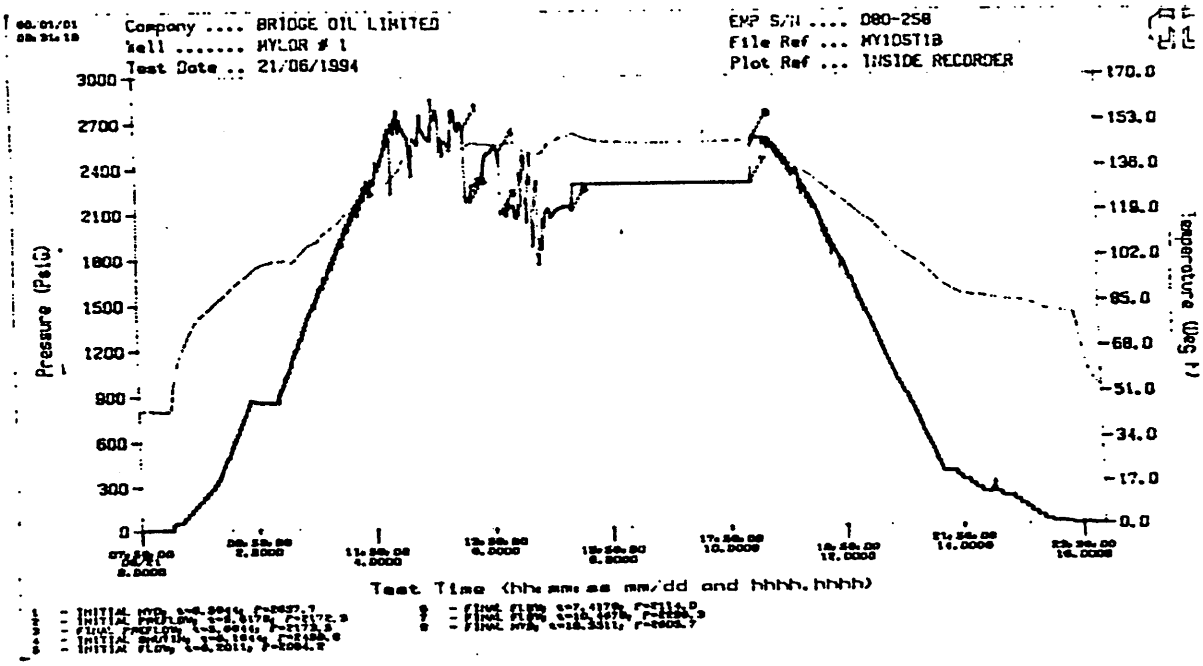
PIPE TALLY

DRILL COLLAR JOINT LENGTH — DRILL PIPE JOINT LENGTH

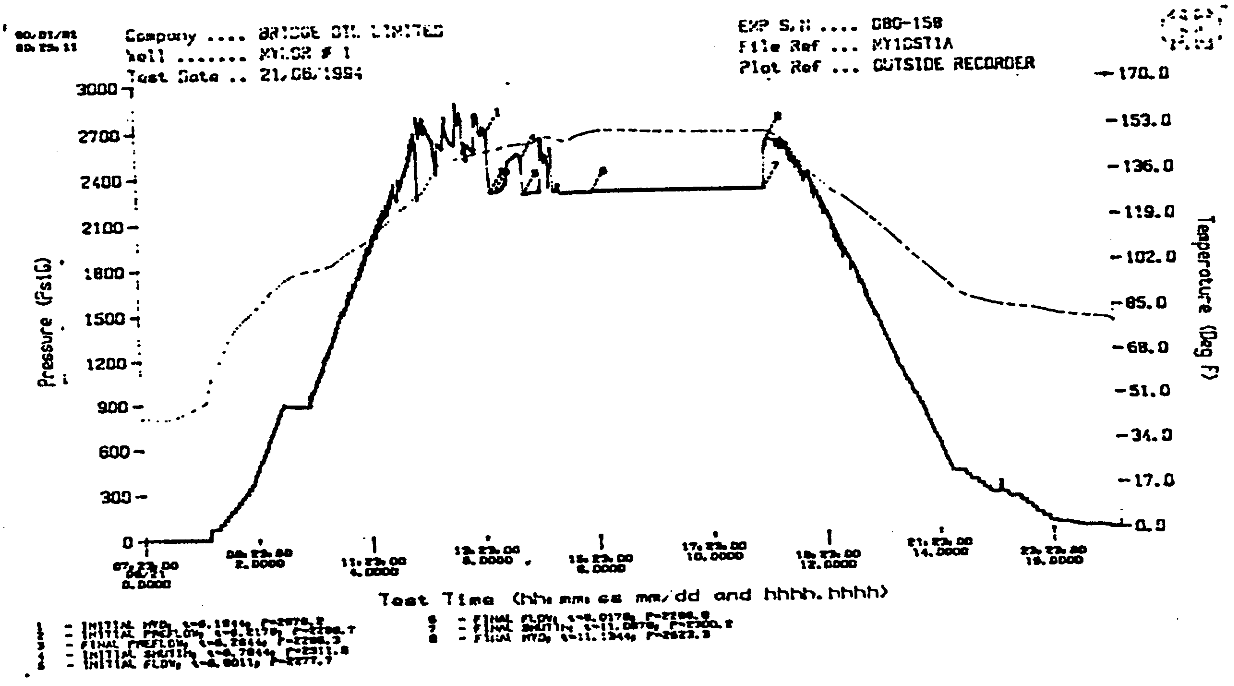
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
Total 1	Total 2	Total 3	Total 4
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
Total 5	Total 6	Total 7	Total 8
1	1	1	DC 1
2	2	2	DP 2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
			11
Total 9	Total 10	Total 11	TOTAL

Australian DST Co. Pty. Ltd.

Box 619, Roma, Queensland 4455



OUTSIDE



AUSTRALIAN D.S.T. CO. PTY. LTD.

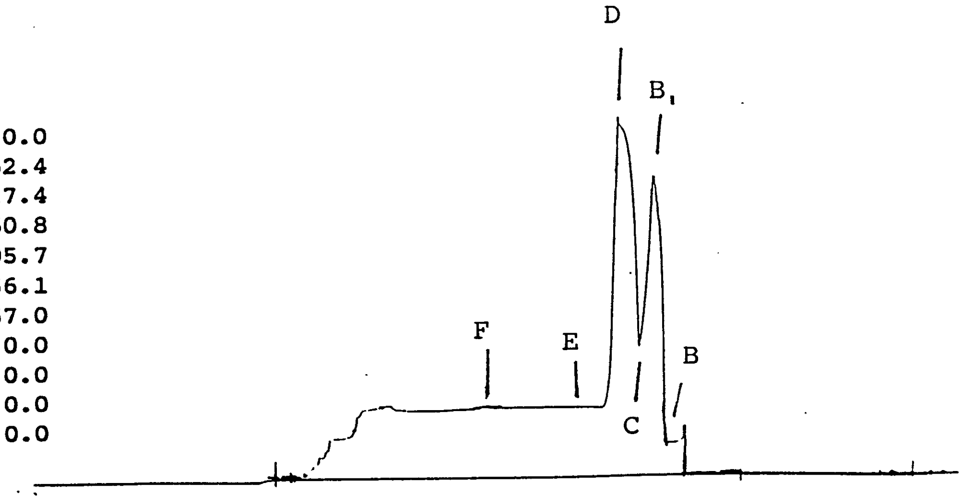
BOX 619, ROMA, QUEENSLAND 4455

Well Name :Mylor #1
Location :

Ticket #:2395
DST # :One

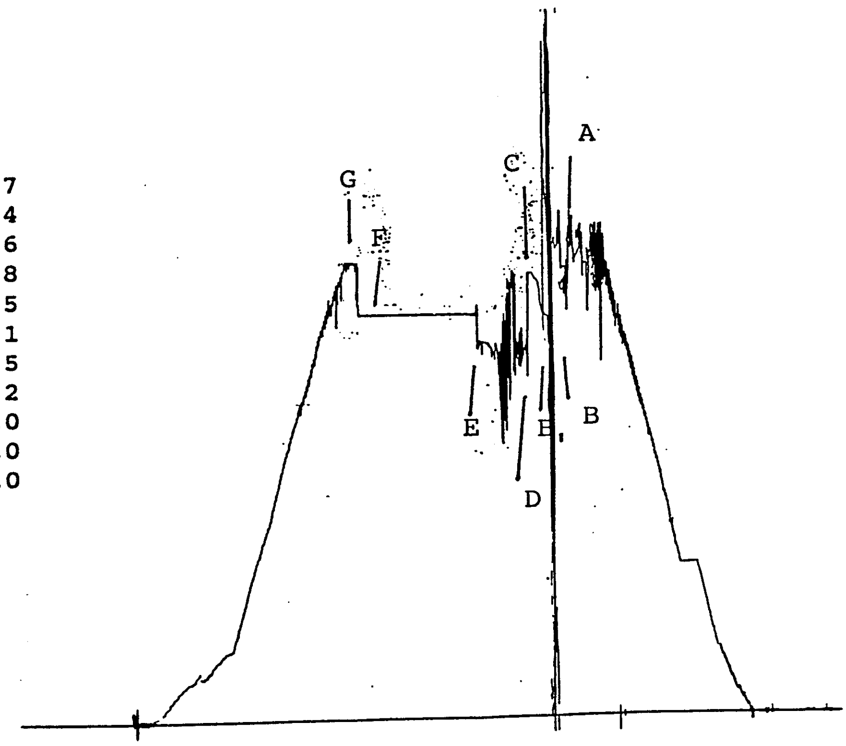
Recorder :13782
Depth :1649.65
Port :Fluid

A	IN Hydrostatic	:	0.0
B	Preflow	:	162.4
B1	End Preflow	:	1527.4
C	First Shutin	:	660.8
D	Second flow	:	1805.7
E	End 2nd flow	:	356.1
F	Second Shutin	:	357.0
G	FL Hydrostatic	:	0.0
H	Third flow	:	0.0
I	End third Flow	:	0.0
J	Third Shutin	:	0.0



Recorder :13784
Depth :1658.75
Port :Inside

A	IN Hydrostatic	:	2666.7
B	Preflow	:	2257.4
B1	End Preflow	:	2281.6
C	First Shutin	:	2514.8
D	Second flow	:	1912.5
E	End 2nd flow	:	2078.1
F	Second Shutin	:	2279.5
G	FL Hydrostatic	:	2580.2
H	Third flow	:	0.0
I	End third Flow	:	0.0
J	Third Shutin	:	0.0



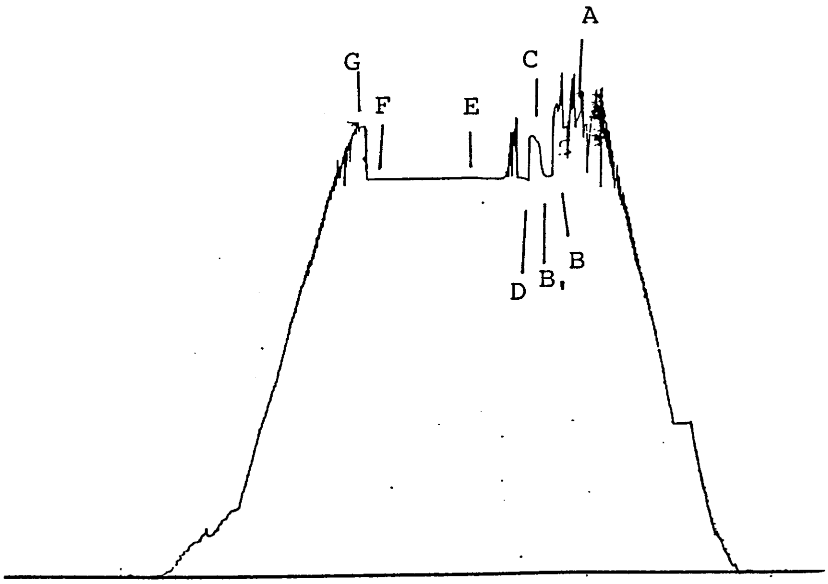
AUSTRALIAN D.S.T. CO. PTY. LTD.
BOX 619, ROMA, QUEENSLAND 4455

Well Name :Mylor #1
Location :

Ticket #:2395
DST # :One

Recorder :338
Depth :1670.46
Port :Outside

A	IN Hydrostatic	:	2672.9
B	Preflow	:	2282.3
B1	End Preflow	:	2278.1
C	First Shutin	:	2515.6
D	Second flow	:	2253.1
E	End 2nd flow	:	2270.8
F	Second Shutin	:	2280.2
G	FL Hydrostatic	:	2592.7
H	Third flow	:	0.0
I	End third Flow	:	0.0
J	Third Shutin	:	0.0



4.2 Gas And Liquid Composition Analyses

Compositional analysis of the oil/condensate sample taken on RFT run #2 from 1702.3mKB was carried out by Petrolab in Adelaide. The Petrolab report follows in appendix 4.

Gas/condensate samples recovered from both the DST tool chamber and the choke manifold on DST #1, and a gas/condensate sample from the RFT run on Mylor #1 were sent to Amdel Petroleum Services in Adelaide for geochemical analysis.

The Amdel reports follow in appendix 5.

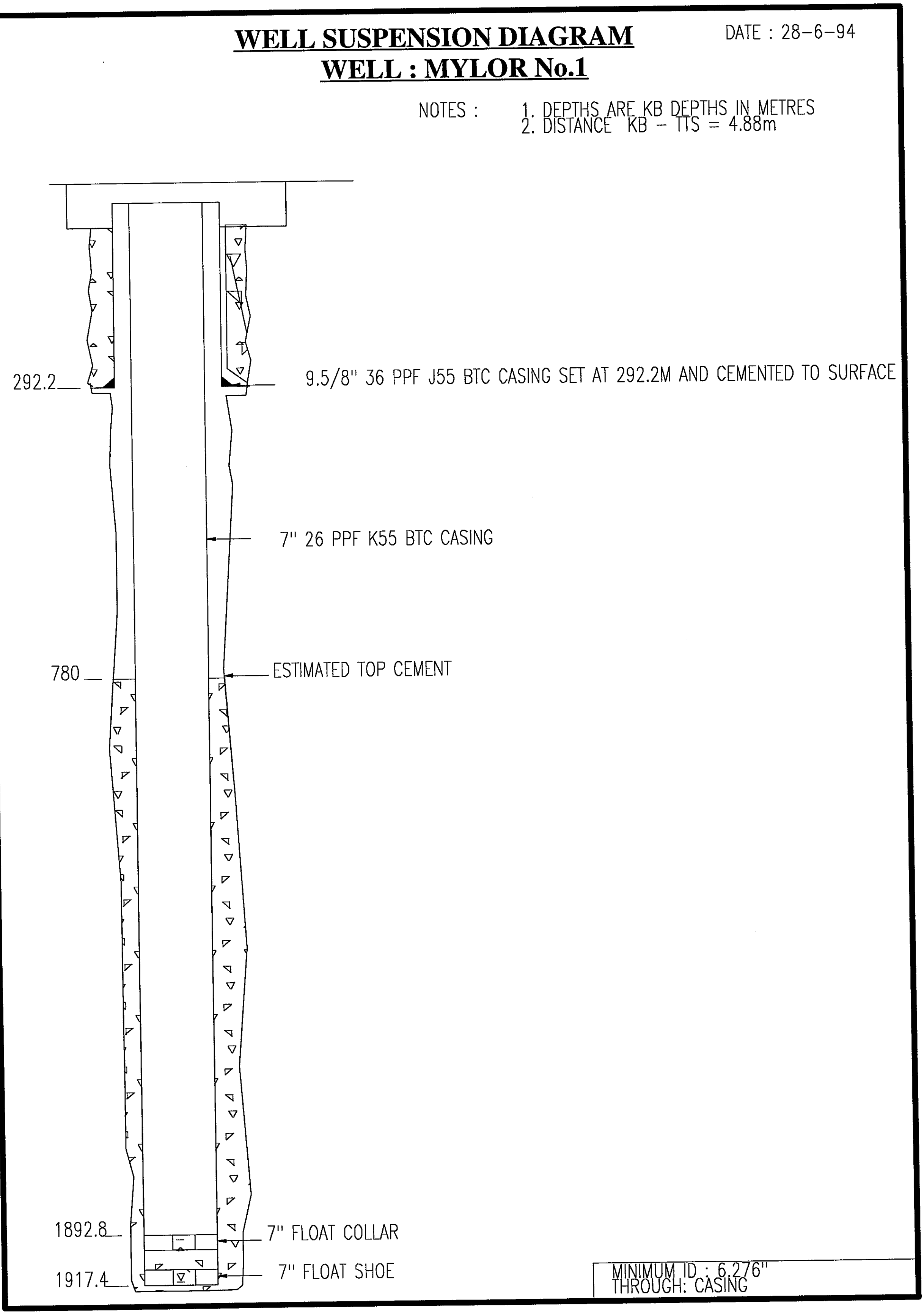
5) DRILLING DATA

5.1 Drilling Diary And Operations Report

DATE	DEPTH	OPERATION
12-Jun-94	51	Mobilised Century Rig 11 from Langley No.1 (GFE). Rigged up. Spudded Mylor No.1 at 2100 hrs 12 June 1994. Drilled 12.1/4" hole to 51m.
13-Jun-94	296	Drilled to 296m. Circulated clean and made wiper trip to 8" collars. RIH and circulated clean. POH laying out 8" DC. Rigged for and ran 24 jnts 9.5/8" 36ppf J55 BTC R3 casing to 292.6m. Blew seal in power tong, ran with chain tongs and rotary tongs. Installed cement head and circulated casing contents. Cement head manifold plugged with cement - cleared.
14-Jun-94	296	Cemented casing with 386sx class A cement mixed at 15.6 ppg. Displaced with water and bumped plug with 2000 psi. Good cement returns - +/- 22 bbls Float held OK. RCM plugged twice, surge tank blew relief vent. WOC total 7 hrs. Nippled up BOP. Installed choke manifold on dog house side and modified line to poor boy degasser. Buried flare line across lease. Repaired Koomey unit.
15-Jun-94	618	Pressure tested blind rams, pipe rams, casing, choke line & manifold, kill-line, stand-pipe, kelly cocks, stab in valve, inside BOP to 2000 and 300 psi. Tested annular preventer and flare line to 1500 and 300 psi. Made up 8.1/2" BHA and RIH. Drilled out shoe track and drilled 8.1/2" hole to 301m. Circulated hole clean and in balance. Pulled back into shoe and ran FIT Leak off at 400 psi with 8.5 ppg mud - EMW 16.5 ppg. Drilled 8.1/2" hole.
16-Jun-94	1058	Drilled to 982m. made wiper trip to shoe, hole good. Drilled 8.1/2" hole.
17-Jun-94	1365	Drilled to 1352m. made wiper trip to 982m. Tight hole at 1295m.
18-Jun-94	1644	RIH - no fill. Drilled 8.1/2" hole to 164.
19-Jun-94	1684	Drilled to 1684m. Circulated sample. Made wiper trip to shoe. RIH and circulated clean. POH strapping pipe.
20-Jun-94	1684	Completed POH. Made up cup tester and tested BOP as per programme. Repaired Koomey unit. Made up Australian DST conventional test tools and RIH. Installed test head. Ran DST No.1 1665.7 - 1684m. IFP 6 mins, ICIP 30 mins, FFP 74 mins, FCIP 60 mins. Immediate strong blow with gas to surface after 4 mins. Produced gas at 4.21 mmscfd with 1260 psig FWHP. Dropped bar and attempted to reverse out - tools plugged. POH and recovered 5m oil/condensate and 226m oil/condensate and gas cut mud. Charts indicated partial tool plugging and periodic packer bypass. Laid out test tools.
21-Jun-94	1684	Made up RCJB and RIH. Circulated and cleaned out fill 1666 - 1683m. Dropped ball and worked over lost cone. POH and recovered cone and junk. Made up corebarrel and RIH.
22-Jun-94	1715	RIH. Washed and reamed 1643 - 1684m. Cut core no.1 1684 - 1703m. POH and recovered core - 99%. Serviced core barrel and RIH. Cut core no.2 1703 - 1715m. POH.
23-Jun-94	1840	POH and recovered core - 81%. Laid out core barrels. Made up BHA and RIH. Washed and reamed 1672 - 1715m. Drilled 8.1/2" hole.

DATE	DEPTH	OPERATION
24-Jun-94	1922	Drilled to 1922m. Circulated clean and made wiper trip to 1540m. RIH washing and reaming1769 - 1782m, 1854 - 1877m. Circulated clean and POH laying out BHA. Rigged up Schlumberger and ran supercombo DLT-MSFL-AS LDT-CNT-GR-CAL-SP.
25-Jun-94	1922	Ran RFT No.1 with standard probe and ran gradient survey. Attempted sample at 1702.5m - tool plugged. POH and recovered 0.1 cu.ft gas and 100ml filtrate. Redressed RFT tool with Martineau probe and RIH. Attempted sample at 1702.5m. Low flow rate indicated by slow pressure build up. Reset tool at 1702.3m and completed filling 6 gal chamber - chamber plugged at 2256 psi. Switched to 2.3/4 gal chamber - chamber plugged at 2266 psi. POH. Drained 6 gal chamber recovering 45 cu.ft gas, 1850ml filtrate, and 150ml oil. Opening pressure not recorded due to mechanical problems. Small chamber preserved for lab. analysis.
26-Jun-94	1922	Schlumberger ran VSP and CST. Rigged down Schlumberger. Made up BHA and RIH to 1625m. Hole not displacing any returns. Washed and
27-Jun-94	1922	reamed 1638 - 1764m and 1831 - 1878m. Precautionary ream 1908 - 1918m. Washed and reamed 1918 - 1922m. Circulated clean and made 15 stand wiper trip. Hole tight at 1730m. Circulated and conditioned mud. POH laying down drill string. Rigged for and ran 7" casing.
28-Jun-94	1922	Ran total 160 jnts 7" 26 ppf K55 BTC casing. Pipe held up at 1917.4m. Unable to wash down. Circulated clean. Pumped preflush and tested lines to 3000 psi. Cemented with 310 sx class G cement plus 3.5% prehydrated bentonite plus 0.05 gal/sx D-081 retarder plus 0.01 gal/sx D-047 antifoam, slurry weight 12.5 ppg. Tailed in with 150 sx class G cement plus 1.5% Diacel FL plus 0.08 gal/sx D-080 dispersant plus 0.01 gal/sx D-047 antifoam, slurry weight 15.8 ppg. Displaced with water and bumped plug with 3000 psi. Held pressure for 15 mins. Bled off - no backflow. Lowered slip/seal assy. and landed casing with weight as cemented. Cut casing and removed BOP. Trimmed 7" stub. Installed 11" x 7.1/16" 3k tubing spool with X-bushing. Installed 7.1/16" blind flange with 1/2" NPT needle valve. NOTE : X-bushing not energised. Rig released to GFE Howmains No.1 at 2400 hrs 28 June 1994.

Figure 11 - Mylor #1 Suspension Diagram



5.2 Problem Summary

Table 4

DATE	HRS LOST	COST ($)	OPERATION
13-Jun-94	2	1492	Blew seal in power tong hydraulic motor. Ran casing with chain tong & rotary tong.
13-Jun-94	1	746	Cement head manifold plugged with cement RCM plugged, blew relief valve on surge tank
Various	4	2984	Electrical problem in Koomey recharge pump causing main breaker to drop out.
21-Jun-94	18	13428	Fished cones lost from bit No.2
Totals	25	$18,650	

5.3 Bit Record

Table 5

SIZE	TYPE	SERIAL	IADC CODE	DEPTH OUT	METERS DRILLED	HRS	CUMUL. HRS	M/HR	WOB	RPM	GPM	PUMP PSI	JETS	MUD TYPE	MUD DENS	MUD W/L
12.25	L115	58476	115	296	296.0	10.5	10.5	28.2	13	120	550	1100	3 x 15	Spud	8.4	NC
8.50	ETD417	88991	417	1684	1388	76.0	86.5	18.3	22	105	310	1575	1x0 + 2x14 Mini Ext	Gel Poly.	9.2	
8.50	CB502	7910768		1703	19	1.5	88	12.7	8	80	200	375		Gel Poly.	9.2	43.0
8.50	CB502	7910768		1715	12	3.5	91.5	3.4	12	80	220	500		Gel Poly.	9.2	41
8.50	ETD417	89005	417	1922	207	22	113.5	9.4	24	90	290	1350	2x14 + 1x0 Mini Ext	Gel Poly.	9.4	41

SIZE	TYPE	SERIAL	DULL CODE INNER	OUTER	DULL	LOC.	BEAR.	GAUGE	OTHER	PULLED
12.25	L115	58476	1	1	WT	A	E	0	NO	TD
8.50	ETD417	88991	2	2	LC	3	F		LT-ER	TQ
8.50	CB502	7910768	2	2	WT	A	X	0	NO	TD
8.50	CB502	7910768	3	3	WT	A	X	0	NO	PR
8.50	ETD417	89005	1	1	WT	A	E	0	NO	TD

5.4 Deviation Surveys

Table 6

Depth m KB	Angle deg
38	0.5
82	0.25
135	0.5
180	0.5
235	0.50
296	0.5
491	1.5
548	1.75
596	0.75
758	0.50
911	1.25
978	2.00
1026	2.00
1074	1.50
1170	1.00
1276	2.00
1352	1.50
1438	1.50
1554	2.00
1708	1.5
1909	1.00

Radius of Uncertainty **39.5metres**

Figure 13 Borehole Angle of Deviation

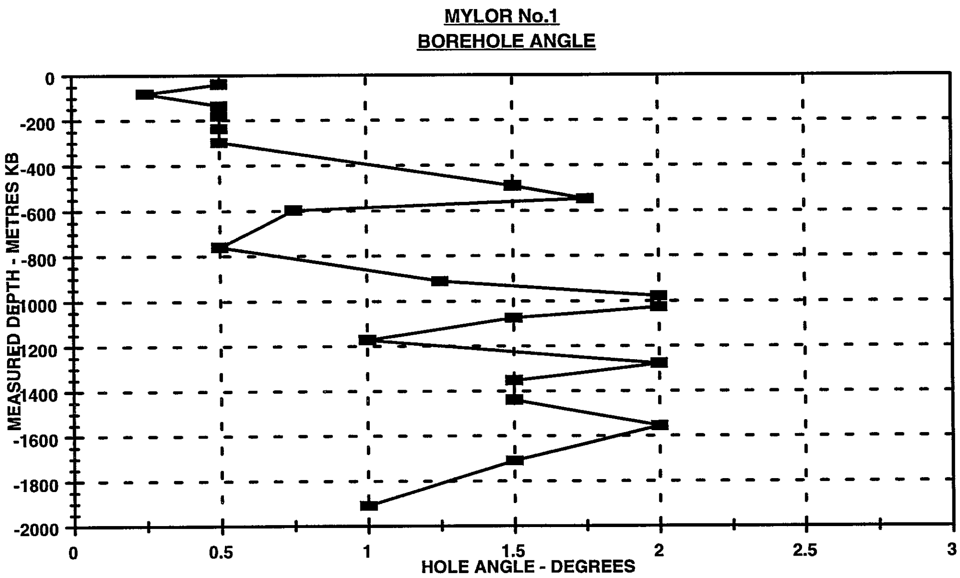
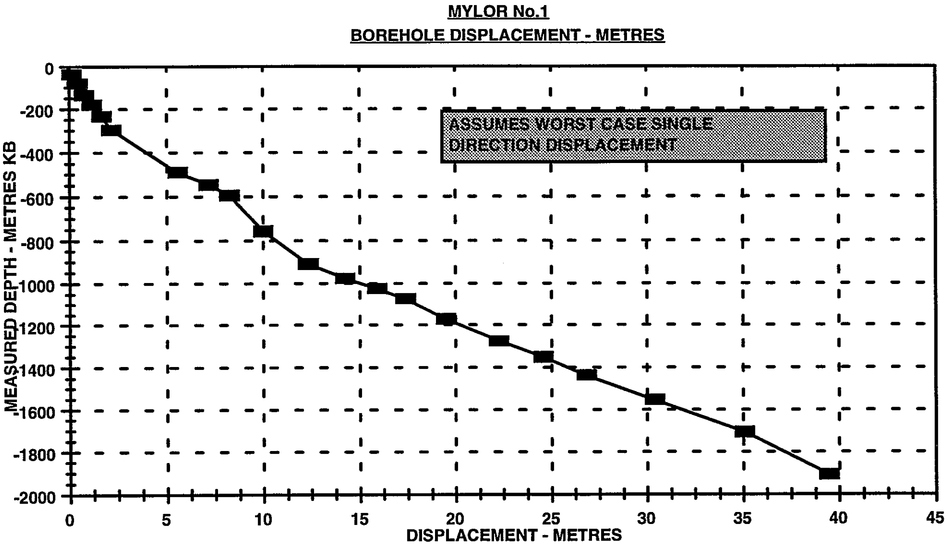


Figure 14 Borehole Displacement



5.5 Time Allocation

Table 7

Operation	Hrs	PERCENT
Drill	109.00	28.2
Circulate & Survey	14.50	3.7
Trip	23.50	6.1
Circulate	2.00	0.5
Ream	8.50	2.2
Casing/cementing	18.50	4.8
BOP	21.00	5.4
Core	37.50	9.7
Drill Stem Testing	36.50	9.4
Logging	46.00	11.9
Repair	4.00	1.0
Fishing	18.00	4.7
Abandonment	0.00	0.0
Complete	48.00	12.4
Total Hours	387.00	
Total Days	16.1	

PHASE BREAKDOWN

DRILL	197	50.9
LOST TIME	22	5.7
EVALUATE	120	31.0
COMPLETE/ABANDON	48	12.4

Figure 15 Time Allocation - Hours

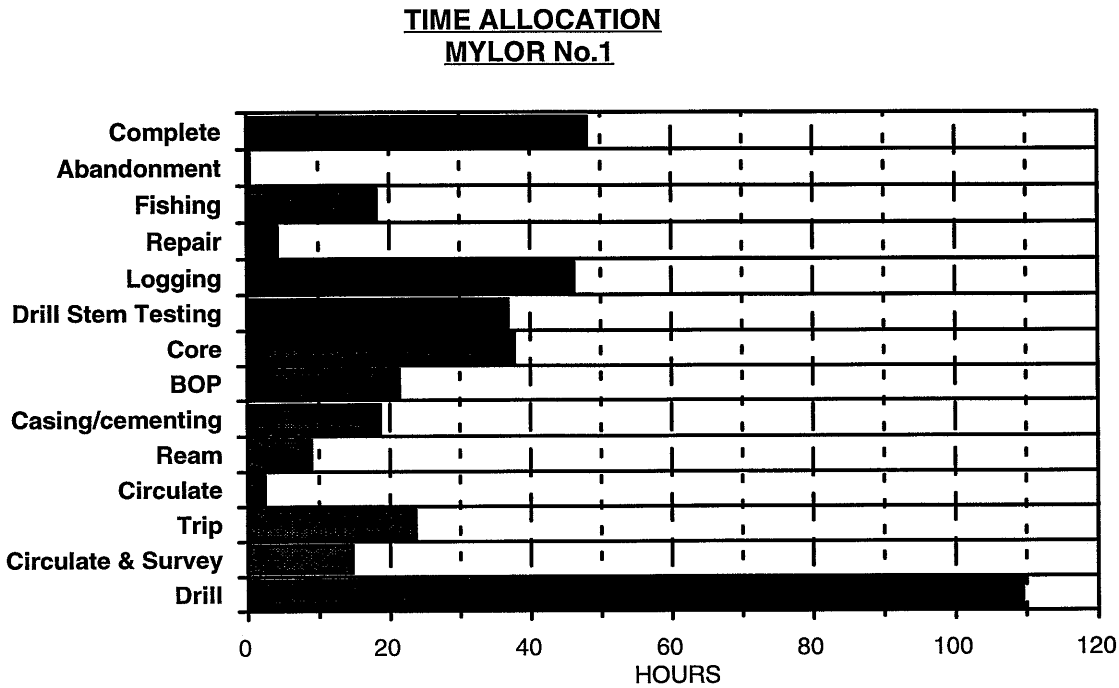


Figure 16 Time Allocation - Percentage

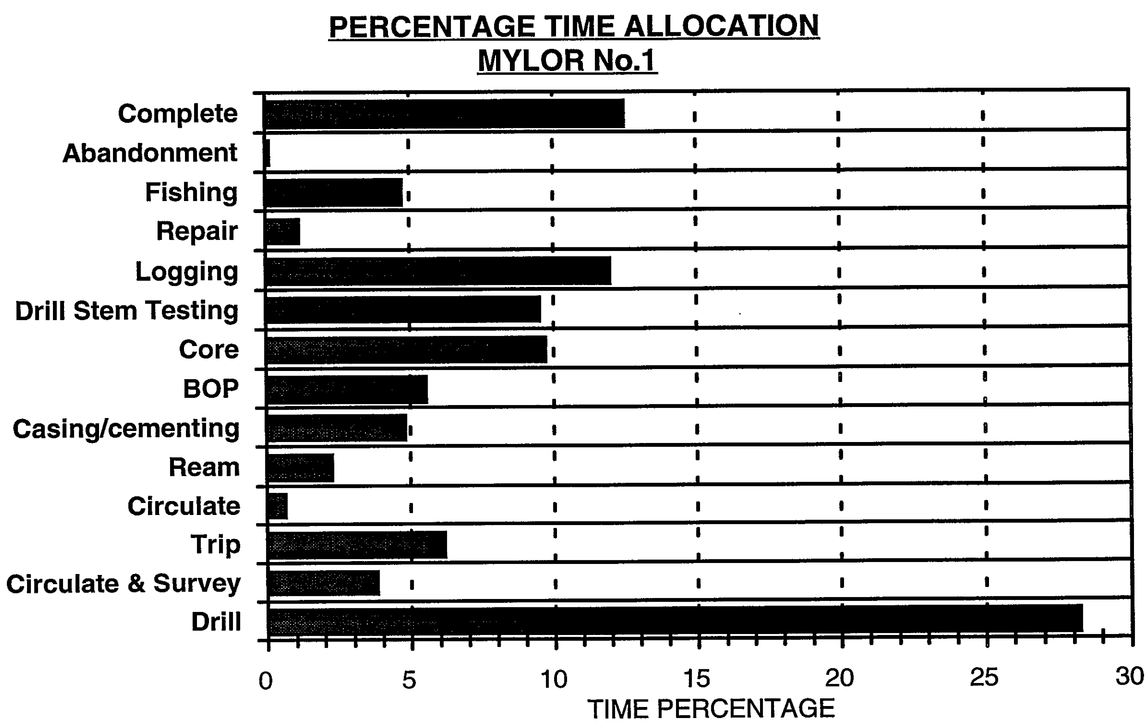
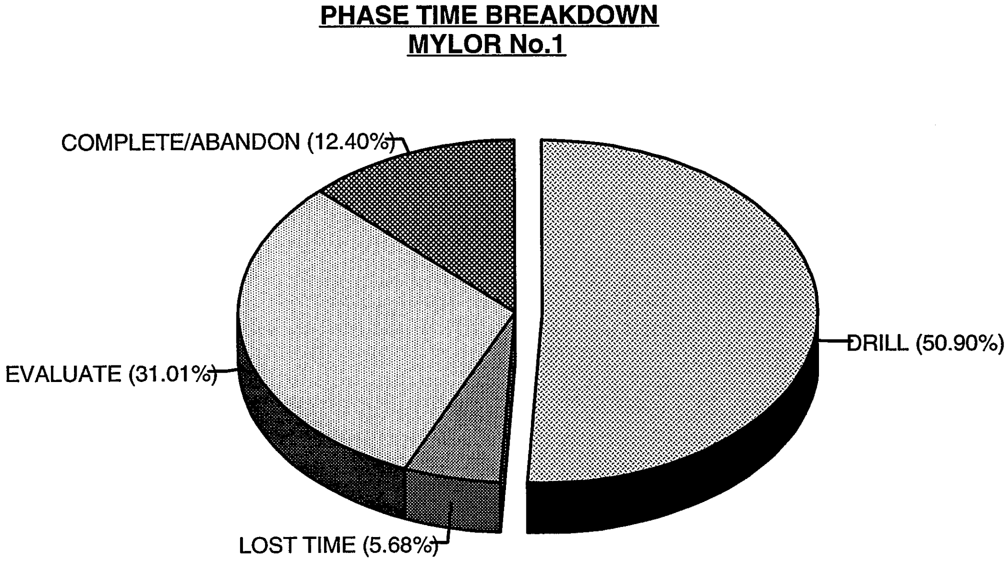


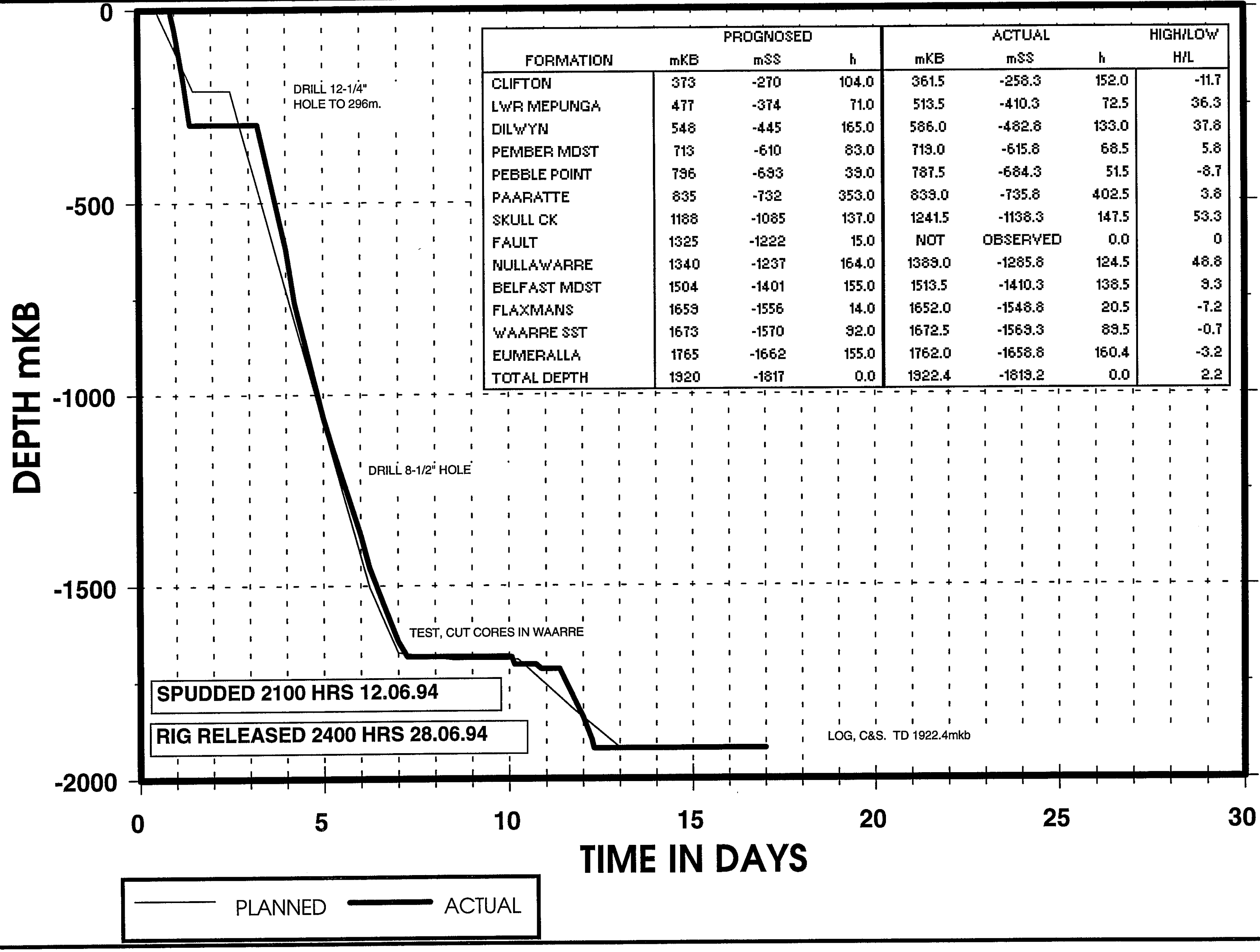
Figure 17


PHASE TIME BREAKDOWN
MYLOR No.1
COMPLETE/ABANDON (12.40%)
DRILL (50.90%)
EVALUATE (31.01%)
LOST TIME (5.68%)

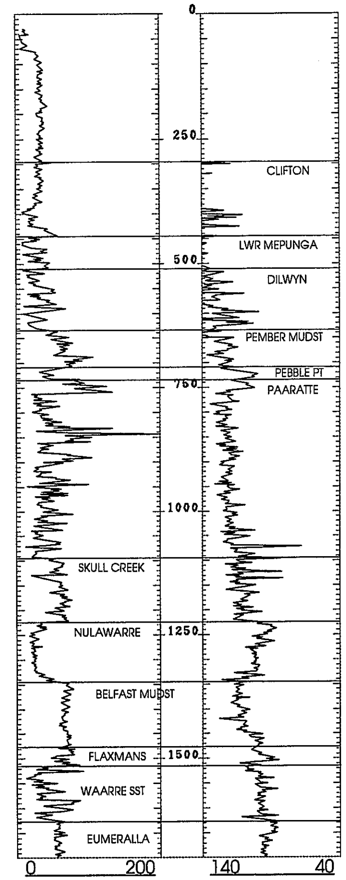
5.6 Operating Time - Depth Curve

RIG RELEASE DATE 28/06/94

MYLOR #1	KBE : 103.2m	LAT 38 31' 50.75"S	LINE : 7005 (Waarre 3D)	AFE COST : A$ 911,779 (C&S)
	GL : 97.4m	LONG 142 55' 27.80"E	SHOT POINT : 1795	CTD : A$801,062



FORMATION	PROGNOSED mKB	PROGNOSED mSS	PROGNOSED h	ACTUAL mKB	ACTUAL mSS	ACTUAL h	HIGH/LOW H/L
CLIFTON	373	-270	104.0	361.5	-258.3	152.0	-11.7
LWR MEPUNGA	477	-374	71.0	513.5	-410.3	72.5	36.3
DILWYN	548	-445	165.0	586.0	-482.8	133.0	37.8
PEMBER MDST	713	-610	83.0	719.0	-615.8	68.5	5.8
PEBBLE POINT	796	-693	39.0	787.5	-684.3	51.5	-8.7
PAARATTE	835	-732	353.0	839.0	-735.8	402.5	3.8
SKULL CK	1188	-1085	137.0	1241.5	-1138.3	147.5	53.3
FAULT	1325	-1222	15.0	NOT	OBSERVED	0.0	0
NULLAWARRE	1340	-1237	164.0	1389.0	-1285.8	124.5	48.8
BELFAST MDST	1504	-1401	155.0	1513.5	-1410.3	138.5	9.3
FLAXMANS	1659	-1556	14.0	1652.0	-1548.8	20.5	-7.2
WAARRE SST	1673	-1570	92.0	1672.5	-1569.3	89.5	-0.7
EUMERALLA	1765	-1662	155.0	1762.0	-1658.8	160.4	-3.2
TOTAL DEPTH	1920	-1817	0.0	1922.4	-1819.2	0.0	2.2



PORT CAMPBELL #4
Status: P & A
Rig Release: 26.08.64
(4km ESE of Mylor #1)

Figure 18
Page 88

5.7 Mud Properties Summary

Table 8

WELL: MYLOR No.1 **MUD TYPE :** FRESH WATER GEL/POLYMER **SPUD :** 12-Jun-94

Date	Depth	Density	Visc.	PV	YP	Gels		Fluid	Solids	Sand	MBC	pH	pf	mf	Sulphite	Cl	Ca	Operations
	m	ppg	sec			0	10	loss ml	%	%	ppb				mg/l	mg/l	mg/l	
12-Jun-94	51	8.4	28									12.5	2.00	2.30		400	560	Drill 12.1/4"
13-Jun-94	240	8.4	28									12.0	1.35	1.50		400	280	Drill 12.1/4"
13-Jun-94	269	9.0	44	10	15	6	10		5	0.30	13.0	11.0	0.48	0.68		400	160	Drill 12.1/4"
15-Jun-94	370	8.9	34	7	19	8	10		4.3	0.60	13.0	12.0	1.00	1.10		400	60	Drill 8.1/2"
15-Jun-94	618	9.1	40	10	14	6	29	14.0	5.5	1.00	13.0	9.5	0.22	0.32		400	60	Drill 8.1/2"
16-Jun-94	862	9.2	45	15	15	6	34	12.0	6.6	0.80	18.0	9.5	0.15	0.25		400	60	Drill 8.1/2"
16-Jun-94	1058	9.1	44	13	15	6	35	11.0	5.8	0.80	18.0	9.5	0.15	0.20		400	80	Drill 8.1/2"
17-Jun-94	1230	9.1	46	12	16	5	38	12.0	5.8	0.60	14.0	12.0	0.25	0.35		400	40	Drill 8.1/2"
17-Jun-94	1365	9.1	44	14	15	3	24	10.0	6.2	0.30	14.0	9.0	0.20	0.40		400	40	Drill 8.1/2"
18-Jun-94	1586	9.2	64	17	25	18	57	8.0	6.9	0.20	17.0	9.0	0.10	0.25		400	20	Drill 8.1/2"
18-Jun-94	1653	9.2	55	17	20	6	44	7.0	6.5	0.20	15.0	9.0	0.05	0.20		400	80	Drill 8.1/2"
19-Jun-94	1684	9.2	64	18	22	13	51	8.4	6.5	0.25	15.0	9.0	0.10	0.20		350	60	Wiper trip
20-Jun-94	1684	9.2	50	17	14	3	33	8.5	6.5	0.10	15.0	9.0	0.10	0.20		400	40	DST No.1
21-Jun-94	1684	9.3	43	14	14	6	35	7.8	6.9	0.25	13.5	10.0	0.25	0.45		350	40	Fish junk
22-Jun-94	1715	9.3	45	15	15	3	22	7.6	6.5	0.10	14.0	9.0	0.08	0.15		400	50	Core Nos.1&2
23-Jun-94	1840	9.4	45	14	11	4	16	7.0	7.6	0.30	15.0	9.0	0.10	0.18		400	60	Drill 8.1/2
24-Jun-94	1922	9.4	41	15	13	3	18	6.2	7.6	0.20	18.0	9.0	0.05	0.10		400	160	TD wiper
25-Jun-94	1922	9.4	41	14	13	2	14	6.0	6.5	0.20	14.0	9.0	0.08	0.15		400	240	RFT Nos 1&2
26-Jun-94	1922	9.5	38	10	9	1	10	6.0	8.8	0.20	14.0	8.5	0.01	0.45		300	90	Wiper trip
27-Jun-94	1922	9.5	45	13	14	3	17	6.4	8.6	0.30	14.0	9.0	0.14	0.25		300	50	Wiper trip
28-Jun-94	1922	9.5	45	14	14	3	15	6.4	8.6	0.30	14.0	9.0	0.14	0.25		300	50	Run casing

5.8 Chemical Consumption

Table 9

CHEMICAL CONSUMPTION

MUD PRODUCTS	Kg	Cost $
Kwik Thik	0	0.00
Caustic Soda	875	1135.05
Lime	840	270.06
QB-II	650	855.92
Soda Ash	50	32.30
Sodium Nitrate	200	323.32
Baracor 100	208	583.35
PAC-L	91	682.96
KwikSeal	0	0.00
PAC-R	432	3244.06
Baryte	3900	1244.88
Aquagel	3600	2063.52
CMC EHV	600	2558.64
Dextrid	1818	4345.60
EZ Mud L	114	492.90
EZ Spot	0	0.00
Baracide	25	549.92
Barafilm	0	0.00
Total Mud Cost	A$	18382.48

CEMENT & ADDITIVES	Kg	Cost $
Class A cement	21803	3494.56
Class G cement	23035	4222.18
Calcium Chloride	0	0.00
Aquagel	625	358.25
D-081	246	618.39
D-080	189	475.69
D-047	76	317.12
Diacel FL	105	
Total Cement Cost	A$	9486.19

5.9 Casing and Cementing Data

Table 10
SURFACE CASING AND CEMENTING DATA

Hole Depth - metres KB	**296**	
Hole Size - inches	**12.1/4**	
Casing Size - inches	**9.5/8**	
Weight - lb/ft	**36**	
Grade	**J55**	
Coupling	**BTC**	
Range	**3**	
Shoe Type	**GUIDE**	
Collar Type	**FLOAT**	
Shoe Depth - metres KB	**292.2**	
Collar Depth - metres KB	**280.4**	
Centralizer Type	**SPRING**	
Centralizer Depths - metres KB	**229, 268, 256**	
Cementing Service Co.	**DOWELL**	
Casing Running Service Co	**N/A**	
	TAIL	**LEAD**
Cement Type	**CLASS A**	
Cement Quantity - 42.5 kg sacks	**386**	
Slurry Density - lb/gal	**15.60**	
Slurry Volume - cubic feet	**455.0**	
Percent Excess	**50**	
Volume Estimate From Caliper/Nominal	**NOMINAL**	
Cement Additives	**NIL**	
Additive percent		
Cement Additives		
Additive percent		
Preflush Type	**WATER**	
Preflush Volume - barrels	**30.0**	
Preflush Density - lb/gal	**8.4**	
Displacement Fluid Type	**WATER**	
Displacement Fluid Volume - barrels	**71.1**	
Displacement Fluid Density - lb/gal	**8.4**	
Bumped Plug With - psi	**2000**	
Top of Cement - Obs./Est./CBL/Temp.	**SURFACE - OBSERVED**	
Remedial Cementing Required Y/N	**NO**	
Casing Running Time - Hrs	**5.5**	
Circulating Time - Hrs	**1**	
Cement Mixing Time - Mins	**80**	
Cement Displacement Time - Mins	**21**	
Wiper Plugs Used - Top/Bottom	**TOP**	
Reciprocated During Circulation Y/N	**YES**	
Rotated During Circulation Y/N	**NO**	
Reciprocated During Displacement Y/N	**NO**	
Rotated During Displacement Y/N	**NO**	

Table 11
PRODUCTION CASING AND CEMENTING DATA

Hole Depth - metres KB	1922	
Hole Size - inches	**8.1/2**	
Casing Size - inches	**7**	
Weight - lb/ft	**26**	
Grade	**K55**	
Coupling	**BTC**	
Range	**3**	
Shoe Type	**Davis Float**	
Collar Type	**Davis Float**	
Shoe Depth - metres KB	**1917.4**	
Collar Depth - metres KB	**1892.8**	
Centralizer Type	**Baker Spring**	
Centralizer Depths - metres KB	**1914, 1890, 1866, 1842, 1818, 1794, 1770, 1758, 1746, 1734, 1722, 1710, 1698, 1686, 1674 1662, 1650, 1614, 1578, 1542, 1506, 1470, 10**	
Cementing Service Co.	**Dowell Schlumberger**	
Casing Running Service Co	**NA**	
	LEAD	**TAIL**
Cement Type	**Class G**	**Class G**
Cement Quantity - 42.5 kg sacks	**310**	**150**
Slurry Density - lb/gal	**12.5**	**15.8**
Slurry Volume - cubic feet	**660**	**174**
Percent Excess	**10**	**10**
Volume Estimate From Caliper/Nominal	**Caliper**	**Caliper**
Cement Additives	**Prehyd.Gel**	**Diacel FL**
Additive percent	**3.5**	**1.5**
Cement Additives	**D-081**	**D-080**
Additive gal/sx	**0.05**	**0.05**
Cement Additives	**D-047**	**D-047**
Additive gal/sx	**0.01**	**0.01**
Preflush Type	**Water + Chem.wash**	
Preflush Volume - barrels	**20 + 20**	
Preflush Density - lb/gal	**8.40**	
Displacement Fluid Type	**Water**	
Displacement Fluid Volume - barrels	**238**	
Displacement Fluid Density - lb/gal	**8.4**	
Bumped Plug With - psi	**3000**	
Top of Cement - Obs./Est./CBL/Temp.	**780m - Estimated**	
Remedial Cementing Required Y/N		
Casing Running Time - Hrs	**15**	
Circulating Time - Hrs	**1**	
Cement Mixing Time - Mins	**27**	
Cement Displacement Time - Mins	**41**	
Wiper Plugs Used - Top/Bottom	**Yes**	
Reciprocated During Circulation Y/N	**Yes**	
Rotated During Circulation Y/N	**No**	
Reciprocated During Displacement Y/N	**Yes**	
Rotated During Displacement Y/N	**No**	

5.10 Tubular Tally

Table 12

TUBULAR TALLY SHEET

Well : MYLOR No.1 **Field :** EXPLORATION

Pipe Size: 9.5/8" **Threads :** BTC **Date :** 13-Jun-94

Jnt No.	No.of jnts	Weight-lb/ft	Grade	Coupling	Depth
1 - 24	24	36	K55	BTC	292.6

Jnt No.	Length	Cum.Length	Jnt No.	Length	Cum.Length
BDF	5.59	5.59			
X/O	0.65	6.24			
1	12.09	18.33			
2	12.07	30.40			
3	11.98	42.38			
4	12.02	54.40			
5	11.96	66.36			
6	11.54	77.90			
7	12.06	89.96			
8	11.90	101.86			
	101.86			0.00	
9	11.90	113.76			
10	11.71	125.47			
11	11.94	137.41			
12	11.86	149.27			
13	11.86	161.13			
14	11.71	172.84			
15	12.07	184.91			
16	11.86	196.77			
17	12.05	208.82			
18	11.95	220.77			
	118.91			0.00	
19	11.86	232.63			
20	12.01	244.64			
21	11.86	256.50			
22	11.65	268.15			
23	11.93	280.08			
Collar	0.34	280.42			
24	11.82	292.24			
Shoe	0.36	292.60			
	71.83			0.00	
	0.00			0.00	

Table 12 (continued)

TUBULAR TALLY SHEET

Well : MYLOR No.1 **Field** :EXPLORATION

Pipe Size: 7" **Threads :** BTC **Date :** 28/6/94

Jnt No.	No.of jnts	Weight-lb/ft	Grade	Coupling	Depth
1 - 160	160	26	K55	BTC	1916.99

Jnt No.	Length	Cum.Length	Jnt No.	Length	Cum.Length
Overstand	-2.49	-2.49	40	12.03	478.31
1	12.04	9.55	41	11.67	489.98
2	12.03	21.58	42	12.04	502.02
3	12.03	33.61	43	12.04	514.06
4	12.03	45.64	44	12.04	526.10
5	12.04	57.68	45	12.04	538.14
6	12.03	69.71	46	12.04	550.18
7	11.97	81.68	47	12.03	562.21
8	11.97	93.65	48	12.03	574.24
9	12.04	105.69	49	12.03	586.27
	105.69			119.99	
10	12.03	117.72	50	12.03	598.30
11	11.98	129.70	51	12.03	610.33
12	12.04	141.74	52	12.03	622.36
13	12.03	153.77	53	12.04	634.40
14	12.03	165.80	54	11.97	646.37
15	12.04	177.84	55	12.04	658.41
16	12.03	189.87	56	12.03	670.44
17	12.04	201.91	57	12.03	682.47
18	12.03	213.94	58	12.04	694.51
19	12.04	225.98	59	12.03	706.54
	120.29			120.27	
20	12.03	238.01	60	12.04	718.58
21	11.97	249.98	61	12.03	730.61
22	12.03	262.01	62	12.03	742.64
23	12.03	274.04	63	12.03	754.67
24	12.04	286.08	64	12.04	766.71
25	12.03	298.11	65	12.03	778.74
26	12.04	310.15	66	11.97	790.71
27	12.03	322.18	67	12.03	802.74
28	12.03	334.21	68	12.04	814.78
29	12.04	346.25	69	12.04	826.82
	120.27			120.28	
30	12.03	358.28	70	12.03	838.85
31	12.03	370.31	71	12.03	850.88
32	12.03	382.34	72	11.97	862.85
33	12.04	394.38	73	12.30	875.15
34	12.04	406.42	74	12.40	887.55
35	12.04	418.46	75	11.97	899.52
36	12.03	430.49	76	11.95	911.47
37	11.72	442.21	77	11.95	923.42
38	12.03	454.24	78	11.75	935.17
39	12.04	466.28	79	11.80	946.97
	120.03			120.15	

Table 12 (continued)

Jnt No.	Length	Cum.Length	Jnt No.	Length	Cum.Length
80	11.80	958.77	120	11.98	1437.17
81	11.80	970.57	121	12.05	1449.22
82	12.04	982.61	122	12.05	1461.27
83	12.04	994.65	123	12.05	1473.32
84	12.03	1006.68	124	12.04	1485.36
85	12.03	1018.71	125	12.04	1497.40
86	11.98	1030.69	126	12.03	1509.43
87	11.96	1042.65	127	12.03	1521.46
88	12.03	1054.68	128	12.03	1533.49
89	11.78	1066.46	129	12.05	1545.54
	119.49				
90	11.23	1077.69	130	12.04	1557.58
91	12.03	1089.72	131	12.04	1569.62
92	11.97	1101.69	132	12.03	1581.65
93	12.05	1113.74	133	11.97	1593.62
94	11.22	1124.96	134	11.97	1605.59
95	12.04	1137.00	135	11.97	1617.56
96	12.04	1149.04	136	12.02	1629.58
97	12.03	1161.07	137	11.97	1641.55
98	12.04	1173.11	138	12.02	1653.57
99	12.03	1185.14	139	11.98	1665.55
	118.68				
100	12.03	1197.17	140	12.03	1677.58
101	12.04	1209.21	141	10.60	1688.18
102	11.73	1220.94	142	12.02	1700.20
103	12.04	1232.98	143	12.04	1712.24
104	12.04	1245.02	144	12.03	1724.27
105	12.04	1257.06	145	12.03	1736.30
106	12.04	1269.10	146	12.03	1748.33
107	12.05	1281.15	147	12.04	1760.37
108	11.64	1292.79	148	11.97	1772.34
109	12.03	1304.82	149	12.03	1784.37
110	12.04	1316.86	150	12.03	1796.40
111	12.04	1328.90	151	11.97	1808.37
112	12.04	1340.94	152	11.97	1820.34
113	12.03	1352.97	153	12.02	1832.36
114	12.03	1365.00	154	12.03	1844.39
115	12.04	1377.04	155	12.04	1856.43
116	12.03	1389.07	156	11.97	1868.40
117	12.04	1401.11	157	12.02	1880.42
118	12.04	1413.15	158	12.03	1892.45
119	12.04	1425.19	Collar	0.41	1892.86
	120.37			108.49	

Table 12 (continued)

Jnt No.	Length	Cum.Length	Jnt No.	Length	Cum.Length
159	12.04	1904.49	38		
160	12.04	1916.53	39		
Shoe	0.46	1916.99	40		
1			41		
2			42		
3			43		
4			44		
5			45		
6			46		
7			47		
	24.54				
8			48		
9			49		
10			50		
11			51		
12			52		
13			53		
14			54		
15			55		
16			56		
17			57		
	0.00				
18			58		
19			59		
20			60		
21			61		
22			62		
23			63		
24			64		
25			65		
26			66		
27			67		
28			68		
29			69		
30			70		
31			71		
32			72		
33			73		
34			74		
35			75		
36			76		
37			77		
	0.00			0.00	

5.11 General Rig Data

Drilling Contractor	Century Drilling Ltd 357 Greenhill Road Toorak Gardens SA 5065
Cementing	Dowell Schlumberger 24 Bannick Court Canning Vale WA 6155
Testing	Australian DST Company Pty Ltd. Cnr. Mitchell & Southern Roads Roma QLD 4455
Electric Logging	Schlumberger Seaco Inc Level 3, 312 St Kilda Road Melbourne VIC 3004 Roma QLD 4455
Mud Logging	Baker Hughes Inteq 1-5 Bell Street Canningvale WA 6155
Wellsite Geology	Steven Robinson Oxford Geological Consultants 8 Oxford Street Hyde Park SA 5061

5.12 Rig Inventory

CENTURY DRILLING RIG #11

CARRIER:	Cooper LTO 750 Carrier with triple front and rear axles 54000lb front and 70000lb rear. All necessary highway equipment. Unit levelled with hydraulic jacks when stationary.
SUBSTRUCTURE:	17' floor height - 14' below table beams with hardwood matting.
DRAWWORKS:	Cooper 750 HP Drawworks. Model 42 x 12 - 42 x 8. 42 x 12 main drum with Fawick 28VC 1000 clutch and 3770 metres 9/16" sandline. Driven by 2 each Cat D3406TA Diesel Engines.
ROTARY TABLE:	National Rotary Table Model C-175.
DERRICK:	Cooper Derrick Model 118-365. Ground height 118'. Maximum rated static hook load 350000 lbs with 8 lines. Mast raised, lowered and telescoped hydraulically.
CROWN BLOCK:	Cooper Crown Block with 4 working sheaves. Fast line sheave and dead line sheave. All grooved for 1-1/8" line. Sandline sheave grooved for 9/16" line.
HOOK BLOCK:	National Hook Block Model 435 G-175. 175 tonne capacity. 4-35" sheaves grooved for 1-1/8" line.
SWIVEL:	P-200 National.
SLUSH PUMPS:	No. 1: National 8-P-80 Slush Pump. 6-1/4" x 8-1/2" Triplex single acting driven by Cat. D398TA Diesel Engine. No. 2: National 7-P-5 Slush Pump driven by Cat. D379TA Diesel Engine.
PULSATION DAMPENER:	1 each Hydril Pulsation Dampener type K20-3000.
MUD SYSTEM:	2 x 300bbl tanks incorporating 80bbl pill tank and 40bbl trip tank.
SHAKERS:	Brandt Dual Tandem Shaker.
DEGASSER:	Drilco Atmospheric Degasser Stand Pit. 7-1/2" H.P. 60 Hz, 230v, P/N. 22122-00.
DESANDER:	Demco Desander Model 122 12" two cone with Warman 6 x 4 Centrifugal pump driven by 50 HP Electric Motor.
DESILTER:	Pioneer Economaster Desilter model T12-E4 with Warman 6 x 4 Centrifugal pump driven by 50 HP Electric Motor.

MUD MIXING PUMP:	Warman 6 x 4 Centrifugal pump.
MUD AGITATORS:	4 only Brandt Mud Agitator Model MA 7.5.
B.O.P.'S AND ACCUMULATOR:	10" x 3000 Shaffer Double Gate B.O.P. with 2-3/8", 2-7/8", 3-1/2", 4-1/2", 7" and Blind. 10" x 3000 P.S.I. GK Annular. Koomey B.O.P. Control Unit. Accumulator Unit Model 100-11S. Gray inside B.O.P. C.I. W. 'F' Type Cup Tester (9-5/8").
CHOKE:	3" Manifold with 2" 5000 P.S.I. Chokes.
SPOOL:	10" x 3000 x 10" x 3000 Flanged Drilling Spool with 3" x 3000 flanged choke and kill outlets.
RECORDING INSTRUMENTS:	Martin Decker AWA6K Weight Indicator Type FS. Martin Decker GMA-504 Mud Pressure Gauge. Martin Decker HB-34 Tong Torque Indicator. Martin Decker P100001A Rotary R.P.M. Tacho. 2 each Martin Decker P100001A Pump S.P.M. Tacho. Martin Decker P436 Rota-Torque System. Martin Decker MFC101A Mud Flow fill System. MFTX4A-5 Mud Flow Sensor.
DRILLING RECORDER:	Martin Decker 6 Pen Record-o-Graph. Model RG67-EFSR4A1ASM.
AUTOMATIC DRILLER:	Satellite Automatic Driller Model SA100-50-1500.
P.V.T.:	Martin Decker MVC010A-000003 Mud Volume Totalizer.
WIRELINE STRIPPER:	Guiberson Oil Saver Type H-4.
SURVEY UNIT:	Totco 101706 Operating Unit No. 6 eight degree recorder.
MUD LAB:	Baroid Rig Laboratory Model 821.
KELLY:	5-1/4" HEX Kelly. 2-13/16" I.D. x 40' long with 6-5/8" API Reg. L.H. Box up 4" I.F. Pin down.
UPPER KELLY VALVE:	Upper Kelly Cock. 10000 test 6-5/8" API Reg. L.H. Connections.
LOWER KELLY VALVE:	Hydril Kelly Guard. 4-1/4" - 10000 P.S.I. 4" I.F. Pin and Box.
KELLY DRIVE BUSHING:	Varco Type 4 KRS Kelly Drive Bushing.
DRILL PIPE:	7000' Drill Pipe 4-1/2" O.D. 16.60lb Grade E Range 2 with 4" I.F. x 18 degree taper tool joints.
DRILL COLLARS:	20 each Drill Collars 6-1/4" O.D. slick 2-13/16 I.D. x 30' long with 4-1/2" XH pin and box connections.

FISHING TOOLS:	To suit pipe, collars and tubing.
SUBSTITUTES:	To suit drill string.
HANDLING TOOLS:	Farr Hydraulic Power Tongs, 13-3/8" Varco SSW-10 Spinning wrench. Manual tongs, elevators and slips to handle pipe, collars, casing and tubing.
WELDING EQUIPMENT:	Lincoln Electric Welder Model 400AS.
AIR COMPRESSORS:	Sullair compressor Package Model 10-30.
AC GENERATOR:	2 each Caterpillar 3408TA AC Generator model SR-4. 1800 rpm 60Hz 275kW.
FUEL TANKS:	2 each 10000 litre - Skid Mounted.
WATER TANK:	400 BBL tank with two Warman 3/2 pumps driven. 24hp electric motors.
PIPE RACKS:	5 sets 30" in length.
CATWALKS:	2 piece Catwalk drill pipe construction 42" height.
RADIO:	Codan Mobile Transceiver.
TRANSPORTATION:	International 530 Payloader. Toyota 4 x 4 Pickup. Toyota 4 x 4 Crew Vehicle.
RIG ACCOMMODATION:	1 Skid Mounted Toolpusher/Company Man Unit.

CAMP

ACCOMMODATION UNITS:	12 Man accommodation units. 10' x 40' skid mounted complete with beds, lined and air conditioning units.
KITCHEN UNIT:	One of 10' x 40' Skid Mounted. Fitted out with stove, ovens, heated food servery, hot plate, deep fat fryer, hot water heater, cold room and freezer. For attaching to diner unit.
DINER UNIT:	10' x 40' Skid Mounted, complete with tables and seating. For attaching to kitchen unit.
ABLUTION UNIT:	One 10' x 40'. With hand basins, toilets, urinal and showers. Laundry is partitioned off at one end.
CANTEEN UNIT:	One 10' x 40'. With office, canteen, freezer, lounge area and storage space.
GENERATOR HOUSE:	Complete with electric generator for 240 volt, 50 cycle camp power, together with fuel tank and water tank (GM 671 engines).

GEOPHYSICS

6) GEOPHYSICS

6.1 Seismic Processing Report

The velocity survey was carried out on 26 June, 1994 by Schlumberger using a dynamite source.

The final report is contained in a separate bound document. Excerpts of significant data from that report are reprinted on the following pages.

Schlumberger

Schlumberger Seaco Inc
ARBN: 009 473 147
(Incorporated in Panama with Limited Liability)
Level 3, 312 St Kilda Road, MELBOURNE VIC 3004
P.O. Box 7435, 479 St Kilda Road, MELBOURNE VIC 3004
Phone: (03) 696 6266 Fax: (03) 690 0309 Telex: AA 151320

BRIDGE OIL LTD.

WELL SEISMIC PROCESSING REPORT

Zero Offset VSP and Geogram

MYLOR #1

FIELD : EXPLORATION

COUNTRY : AUSTRALIA

COORDINATES : 038 31' 50.75" S
: 142 55' 27.80" E

LOCATION : VICTORIA

DATE OF SURVEY : 26 JUNE 1994

REFERENCE NO. : VSP :561023
GEOGRAM :561024

INTERVAL : 1920 - 292 M BELOW K.B.

CONTENTS

List of Tables

List of Figures

1. Introduction

A vertical seismic profile was recorded using the Well Seismic tool (WST) at the *Mylor #1* well. The data was processed using the conventional zero offset processing chain .

2. Data Acquisition

The data was acquired in one logging run using the single axis Well Seismic Tool (WST). Dynamites were used as source in two group locations. First location was 65 M North of the well head in 2.6 M deep shot holes below ground level, for VSP level depths 1900-1240 M. The second one was in the mud pit, 27 M South of the well head in an average 2.0 M below ground levels, for VSP level depth 1220-400 M. Recording was made on the Schlumberger Cyber Unit using LIS format .

Table 1. Survey Parameters

Elevation of KB	103.2 M
Elevation of DF	102.9 M
Elevation of GL	97.4 M
Total Depth	1900 M
Energy Source	Dynamites
Source Offset	65 M North and 27 M South
Source Depth	2.6 M and 2.0 M below GL
Reference Sensor	Firing Pulses
Ref. Sensor Offset	-
Ref. Sensor Depth	-
Source Azimuth	0 and 180 deg.

3. Sonic Calibration Processing

3.1 Sonic Calibration

A 'drift' curve is obtained using the sonic log and the vertical check level times. The term 'drift' is defined as the seismic time (from check shots) minus the sonic time (from integration of edited sonic). Commonly the word 'drift' is used to identify the above difference, or to identify the gradient of drift versus increasing depth, or to identify a difference of drift between two levels.

The gradient of drift, that is the slope of the drift curve, can be negative or positive.

For a negative drift $\frac{\Delta drift}{\Delta depth} < 0$ the sonic time is greater than the seismic time over a certain section of the log.

For a positive drift $\frac{\Delta drift}{\Delta depth} > 0$, the sonic time is less than the seismic time over a certain section of the log.

The drift curve, between two levels, is then an indication of the error on the integrated sonic or an indication of the amount of correction required on the sonic to have the TTI of the corrected sonic match the check shot times.

Two methods of correction to the sonic log are used.

1. Uniform or block shift. This method applies a uniform correction to all the sonic values over the interval. This uniform correction is applied in the case of positive drift and is the average correction represented by the drift curve gradient expressed in µsec/ft .

2. ΔT Minimum. In the case of negative drift a second method is used, called ΔT minimum. This applies a differential correction to the sonic log, where it is assumed that the greatest amount of transit time error is caused by the lower velocity sections of the log. Over a given interval the method will correct only Δt values which are higher than a threshold, the Δt_{min} . Values of Δt which are lower than the threshold are not corrected. The correction is a reduction of the excess of Δt over Δt_{min}, $\Delta t - \Delta t_{min}$.

$\Delta t - \Delta t_{min}$ is reduced through multiplication by a reduction coefficient which remains constant over the interval. This reduction coefficient, named G, can be defined as:

$$G = 1 + \frac{drift}{\int (\Delta t - \Delta t_{min})dZ}$$

Where drift is the drift over the interval to be corrected and the value $\int (\Delta t - \Delta t_{min})dZ$ is the time difference between the integrals of the two curves Δt and Δt_{min}. only over the intervals where $\Delta t > \Delta t_{min}$.

Hence the corrected sonic: $\Delta t = G(\Delta t - \Delta t_{min}) + \Delta t_{min}$.

3.2 Open Hole Logs

The Array Sonic Waveforms were recorded from 1920-1300 metres below KB and full waveform processing was undertaken to extract all of the slowness arrivals (compressional, shear and stoneley). The compressional slowness was then spliced with the sonic log from the interval 1300-292 metres below KB. The density log has also been included and edited to take into account bad hole condition.

The gamma ray and caliper logs are included as correlation curves.

3.3 Correction to Datum and Velocity Modelling

The sonic calibration processing has been referenced to mean sea level which is the seismic reference datum . Static corrections are applied to correct for source offset and source depth. This involves using a surface velocity of 1800 m/sec.

3.4 Sonic Calibration Results

The top of the sonic log (292.0 metres below KB) is chosen as the origin for the calibration drift curve.

The drift curve is the correction imposed upon the sonic log. The adjusted sonic curve is considered to be the best result using the available data. A list of shifts used on the sonic data is given below.

Table 2: Sonic Drift

Depth Interval (metres below KB)	Block Shift µsec/mt	Δt_{min} µsec/mt	Equiv Block shift µsec/mt
0-292	0	-	0
292-690	0	-	0
690-1309	1.62	-	1.62
1309-1920	9.17		9.17

4. Synthetic Seismogram Processing

GEOGRAM plots were generated using 25, 35, and 45 Hz zero phase ricker wavelets.

The presentations include both normal and reverse polarity on a time scale of 5 in/sec.

GEOGRAM processing produces synthetic seismic traces based on reflection coefficients generated form sonic and density measurements in the well-bore. The steps in the processing chain are the following:

Depth to time conversion
Reflection coefficient generation
Attenuation coefficient calculation
Convolution
Output

4.1 Depth to Time Conversion

Open hole logs are recorded from the bottom to top with a depth index. This data is converted to a two-way time index and flipped to read form the top to bottom in order to match the seismic section.

4.2 Primary Reflection Coefficients

Sonic and density data are averaged over chosen time intervals (normally 2 or 4 millisecs). Reflection coefficients are then computed using:

$$R = \frac{\rho_2 . v_2 - \rho_1 . v_1}{\rho_2 . v_2 + \rho_1 . v_1}$$

where:

ρ_1 = density of the layer above the reflection interface
ρ_2 = density of the layer below the reflection interface
v_1 = compressional wave velocity of the layer above the reflection interface
v_2 = compressional wave velocity of the layer below the reflection interface

This computation is done for each time interval to generate a set of primary reflection coefficients without transmission losses.

4.3 Primaries with Transmission Loss

Transmission loss on two-way attenuation coefficients is computed using:

$$A_n = (1 - R_1^2).(1 - R_2^2).(1 - R_3^2)...(1 - R_n^2)$$

A set of primary reflection coefficients with transmission loss is generated using:

$$Primary_n = R_n.A_{n-1}$$

4.4 Primaries plus Multiples

Multiples are computed from these input reflection coefficients using the transform technique from the top of the well to obtain the impulse response of the earth. The transform outputs primaries plus multiples.

4.5 Multiples Only

By subtracting previously calculated primaries form the above result we obtain multiples only.

4.6 Wavelet

A theoretical wavelet is chosen to use for convolution with the reflection coefficients previoulsy generated. Choices available include:

Klauder wavelet
Ricker zero phase wavelet
Ricker minimum phase wavelet
Butterworth wavelet
User defined wavelet

Time variant Butterworth filtering can be applied after convolution.

4.7 Polarity Convention

An increase in acoustic impedance gives a positive reflection coefficient, is written to tape as a negative number and is displayed as a white trough under normal polarity. Polarity conventions are displayed in figure 1.

4.8 Convolution

The standard procedure of convolving the wavelet with reflection coefficients; the output is the synthetic seismogram.

5. VSP Processing

The vertical component of the VSP data was processed using the conventional zero offset vertical incident processing chain. The following subsections describe the main aspects of the processing chain.

5.1 Stacking

A median stack was performed on the edited shots, and the firing pulse breaks were used as the zero time for stacking. The break time of each trace is recomputed after stacking.

The data quality is fairly good with the vertical component stacks displaying a consistent signature and a high signal to noise ratio, as seen on Plot 1.

5.2 Spherical Divergence Correction and Bandpass Filter

A bandpass filter of 5-100 hertz bandwidth was applied and time varying gain function of the exponential form :

$$GAIN(T) = \left(\frac{T}{T_o}\right)^{\alpha}$$

where T is the recorded time, T_o is the first break time and $\alpha = 1.0$

Trace equalisation was applied by normalising the RMS amplitude of the first break to correct for transmission losses of the direct wave. A normalisation window of 100 millisecs was used (see plot 2).

5.3 Velocity filter

The downgoing coherent energy is estimated using a three levels median velocity filter. The filter array is moved down one level after each computation and the process is repeated level by level over the entire data set. As a result, the deepest and shallowest levels are lost because of edge effects.

The residual wavefield is obtained by subtracting the downgoing coherent energy from the total wavefield. The residual wavefield is dominated by reflected compressional events (plot 3).

The upgoing wavefield is enhanced by making a median stack of the upgoing aligned traces using a 5 levels filter. The data is now displayed in two way time (plot 3).

5.4 Waveshaping Deconvolution

The waveshaping deconvolution operator is a double sided operator and is designed trace by trace opening 20 ms before the first break with a window length of 1000 ms. The desired outputs were chosen to be zero phase with a band width of 8-60 Hz. Once the design is made upon the downgoing wavefield, it is applied to the downgoing and subtracted wavefield at the same level. The upgoing compressional wavefield is enhanced in an exactly analogous manner to before.

The result of waveshaping deconvolution on the residual wavefield is shown in Plot 4. The deconvolution is applied before any coherency enhancement in order to collapse the multiple sequence of shear arrivals, diffractions or out of plane reflections.

5.5 Transpose VSP and Corridor Stack

The transposed VSP is a variation of the corridor stack. It consists of a number of different traces, each one representing the corridor stack seen by all the geophones, but at an steadily increasing distance above the reflectors. This provide information concerning reflector continuity and an indication of the presence of dip. In the case where there is some dip, each trace sees slightly further away from the borehole, but, however, there is no information as to the offset of events : the transpose can be considered a degraded offset VSP.

Produced from the final upgoing wavefield (input), the first trace of the transpose VSP is a corridor stack with a window length equivalent to the time difference between sequential level break times, and with the window starting at the break time of each level. Each subsequent trace is a corridor stack with the same window length, but with the window starting on each input trace at the end of the window used to produce the previous trace. For each trace of the transpose VSP, the window expands to the full remaining input trace length when the last input trace is considered, each time one trace higher in the input data set. See figure

A corridor stack was computed on the transposed VSP data. Instead of defining a constant timing window along the time breaks curve, varying time windows were selected to perform the most reliable presentation and also give a better match with the synthetic. This trace under normal circumstances should satisfy the assumption of one dimensionality and provide the best seismic representation of the borehole. Both transposed VSP and corridor stack results are displayed on Plot 5 .

5.6 VSP Acoustic Impedance Inversion

The zero phase waveshaping should permit a better interpretation of acoustic contrast, hence the data used for the inversion has been taken from the VSP after zero phase waveshaping deconvolution.

The inversion technique is based on entropy minimisation of the reflection coefficient series. In other words, the algorithm chooses the sparsest sequences of reflection coefficients as the preferred solution. The low frequency trend is extracted from the time depth curve such that the inversion technique is achieved without any input from the logged data.

It is important to point out that the acoustic impedance inversion is obtained without any input from the logged data. The quality of the inversion can be assessed by the similarity of the match between the logged impedance and inverted impedance.

Plots 6 and 7 are composite displays of the VSP data, inverted impedance, logged impedance and synthetic seismograms. These displays are a guide to the tie between the geograms and corridor stack.

There is a good tie between the synthetic seismogram and VSP. There are some subtle variations on the Amplitude of the events. The VSP provides a measure of the earth filter effect whilst the synthetic makes some very basic assumptions to approximate the earth filter effect.

A Summary of Geophysical Listings

Five geophysical data listings are appended to this report. Following is a brief description of the format of each listing.

A1 Geophysical Airgun Report

1. Level number: the level number starting from the top level (includes any imposed shots).

2. Measured depth from KB: *dkb*, the depth in metres from kelly bushing.

3. Vertical depth form SRD: *dsrd*, the depth in metres from seismic reference datum.

4. Observed travel time HYD to GEO: *tim*0, the transit time picked form the stacked data by subtracting the surface sensor first break time from the downhole sensor first break time.

5. Vertical travel time SRC to GEO: *timv*, is corrected for source to hydrophone distance and for source offset.

6. Vertical travel time SRD to GEO: *shtm*, is *timv* corrected for the vertical distance between source and datum.

7. Average velocity SRD to GEO: the average seismic velocity from datum to the corresponding checkshot level, $\frac{dsrd}{shtm}$.

8. Delta depth between shots: Δ*depth*, the vertical distance between each level.

9. Delta time between shots: Δ*time*, the difference in vertical travel time (*shtm*),between each level.

10. Interval velocity between shots: the average seismic velocity between each level, $\frac{\Delta depth}{\Delta time}$.

A2 Drift Computation Report

1. Level number: the level number starting from the top level (includes any imposed shots).

2. Vertical depth from KB: the depth in metres from kelly bushing

3. Vertical depth from SRD: the depth in metres from seismic reference datum.

4. Vertical travel time SRD to GEO: the calculated vertical travel time from datum to downhole geophone (see column 7, Geophysical Airgun Report).

5. Integrated raw sonic time: the raw sonic log is integrated from top to bottom and listed at each level. An initial value at the top of the sonic log is set equal to the checkshot time at that level. This may be an imposed shot if a shot was not taken at the top of the sonic.

6. Computed drift at level: the checkshot time minus the integrated raw sonic time.

7. Computed blk-shft correction: the drift gradient between any two checkshot levels $\left(\frac{\Delta \text{ drift}}{\Delta \text{ depth}}\right)$.

A3 Sonic Adjustment Parameter Report

1. Knee number: the knee number starting from the highest knee. (The first knees listed will generally be at SRD and the top of sonic. The drift imposed at these knees will normally be zero.)

2. Vertical depth from KB: the depth in metres from kelly bushing

3. Vertical depth from SRD: the depth in metres from seismic reference datum.

4. Drift at knee: the value of drift imposed at each knee.

5. Blockshift used: the change in drift divided by the change in depth between any two levels.

6. Delta-T minimum used: see section 4 of report for an explanation of Δt_{min}.

7. reduction factor: see section 4 of report.

8. Equivalent blockshift: the gradient of the imposed drift curve.

A4 Velocity Report

1. Level number: the level number starting from the top level (includes any imposed shots).

2. Vertical depth from KB: the depth in metres form kelly bushing.

3. Vertical depth from SRD: the depth in metres from seismic reference datum.

4. Vertical travel time SRD to GEOPH: the vertical travel time from SRD to downhole geophone (see column 7, Geophysical Airgun Report)

5. Integrated adjusted sonic time: the adjusted sonic log is integrated from top to bottom. An initial value at the top of the sonic is set equal the checkshot time at that level. (the adjusted sonic log is the drift corrected sonic log.)

6. Drift=shot time-raw sonic: the check shot time minus the raw integrated sonic time.

7. Residual=shot time-adj sonic: the check shot time minus the adjusted integrated sonic time. This is the difference between calculated drift and the imposed drift.

8. Adjusted interval velocity: the interval velocity calculated from the integrated adjusted sonic time at each level.

A5 Time Converted Velocity Report

the data in this listing has been resampled in time.

1. Two way travel time from SRD: this is the index for the data in this listing. The first value is at SRD (0 millisecs) and the sampling rate is 2 millisecs.

2. Measured depth from KB: the depth from KB at each corresponding value of two way time.

3. Vertical depth from SRD: the vertical depth from SRD at each corresponding value of two way time.

4. Average velocity SRD to GEO: the vertical depth from SRD divided by half the two way time.

5. RMS velocity: the root mean square velocity from datum to the corresponding value of two way time.

$$v_{rms} = \sqrt{\Sigma_1{}^n v_i{}^2 t_i / \Sigma^n{}_1 t_i}$$

where v_i is the velocity between each 2 millisecs interval.

6. First normal moveout: the correction time in millisecs to be applied to the two way travel time for a specified moveout distance (default = 1000 M).

$$\Delta t = \sqrt{t^2 + \left(\frac{X}{v_{rms}}\right)^2} - t$$

where:

Δt = normal moveout (secs)
X = moveout distance (metres)
t = two way time (secs)
v_{rms} = rms velocity (metres / sec)

7. Second normal moveout: the correction time in millisecs to be applied to the two way travel tome for a specified moveout distance (default = 1500 M).

8. Third normal moveout: the correction time in millisecs to be applied to the two way travel time for a specified moveout distance (default = 2000 M)

9. Interval velocity: the velocity between each sampled depth. Typically, the sampling rate is 2 millisecs two way time, (1 millisec one way time) therefore the interval velocity will be equal to the depth increment divided by 0.002. It is equivalent to column 9 from the Velocity Report.

GEOGRAM PLOTS

Drift Corrected Sonic
Seismic Calibration Log
25 hz zero phase Geogram
35 hz zero phase Geogram
45 hz zero phase Geogram

VSP PLOTS

Plot 1	Stacked data
Plot 2	Amplitude Recovery
Plot 3	Velocity Filter
Plot 4	Waveshaping Deconvolution Zero Phase
Plot 5	Waveshaping Deconvolution - Corridor Stack
Plot 6	VSP and Geogram Composite - normal polarity
Plot 7	VSP and Geogram Composite - reverse polarity

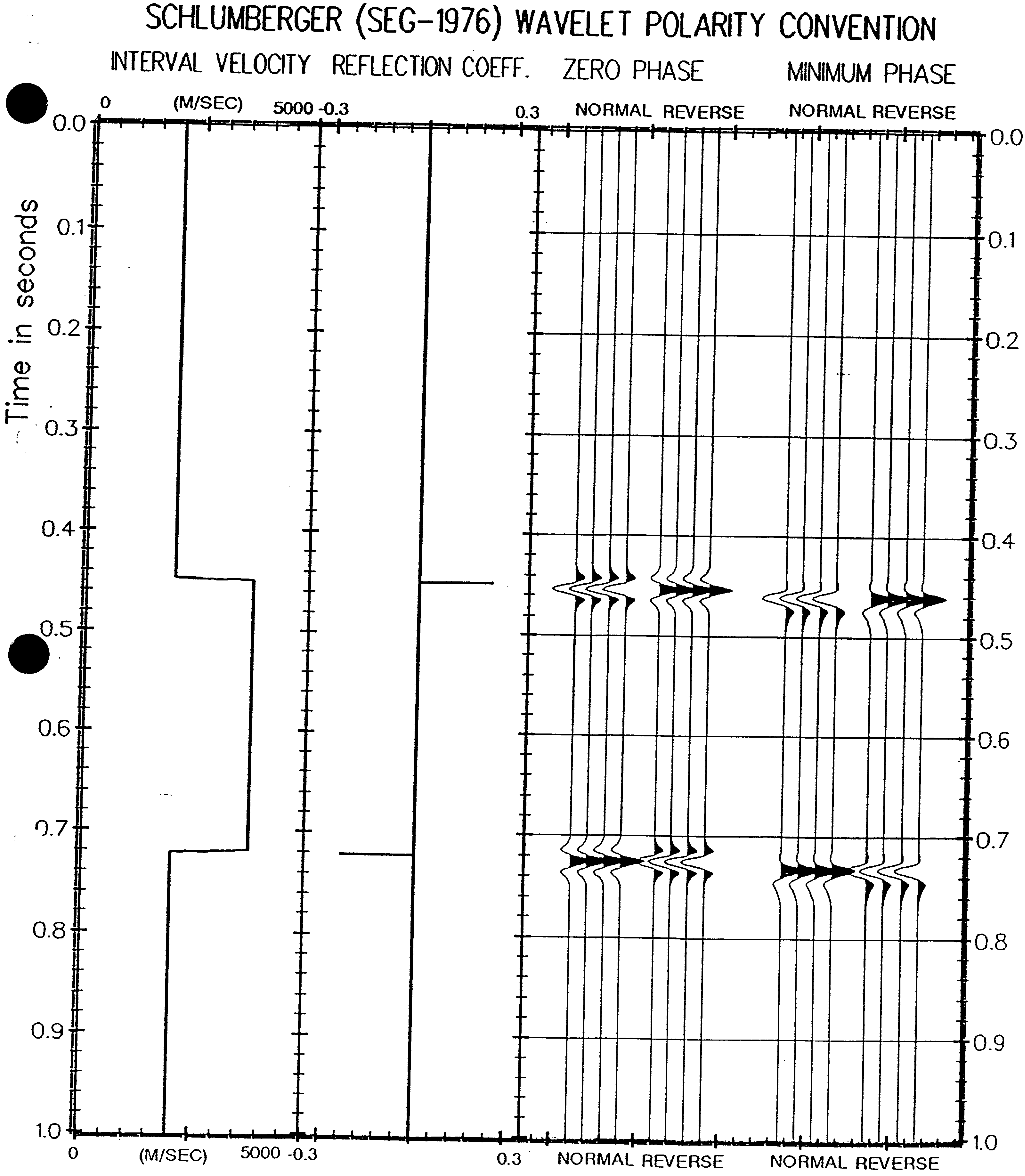

SCHLUMBERGER (SEG-1976) WAVELET POLARITY CONVENTION
INTERVAL VELOCITY
REFLECTION COEFF.
ZERO PHASE
MINIMUM PHASE
0
(M/SEC)
5000
-0.3
0.3
NORMAL
REVERSE
NORMAL
REVERSE
Time in seconds
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0

Figure 1

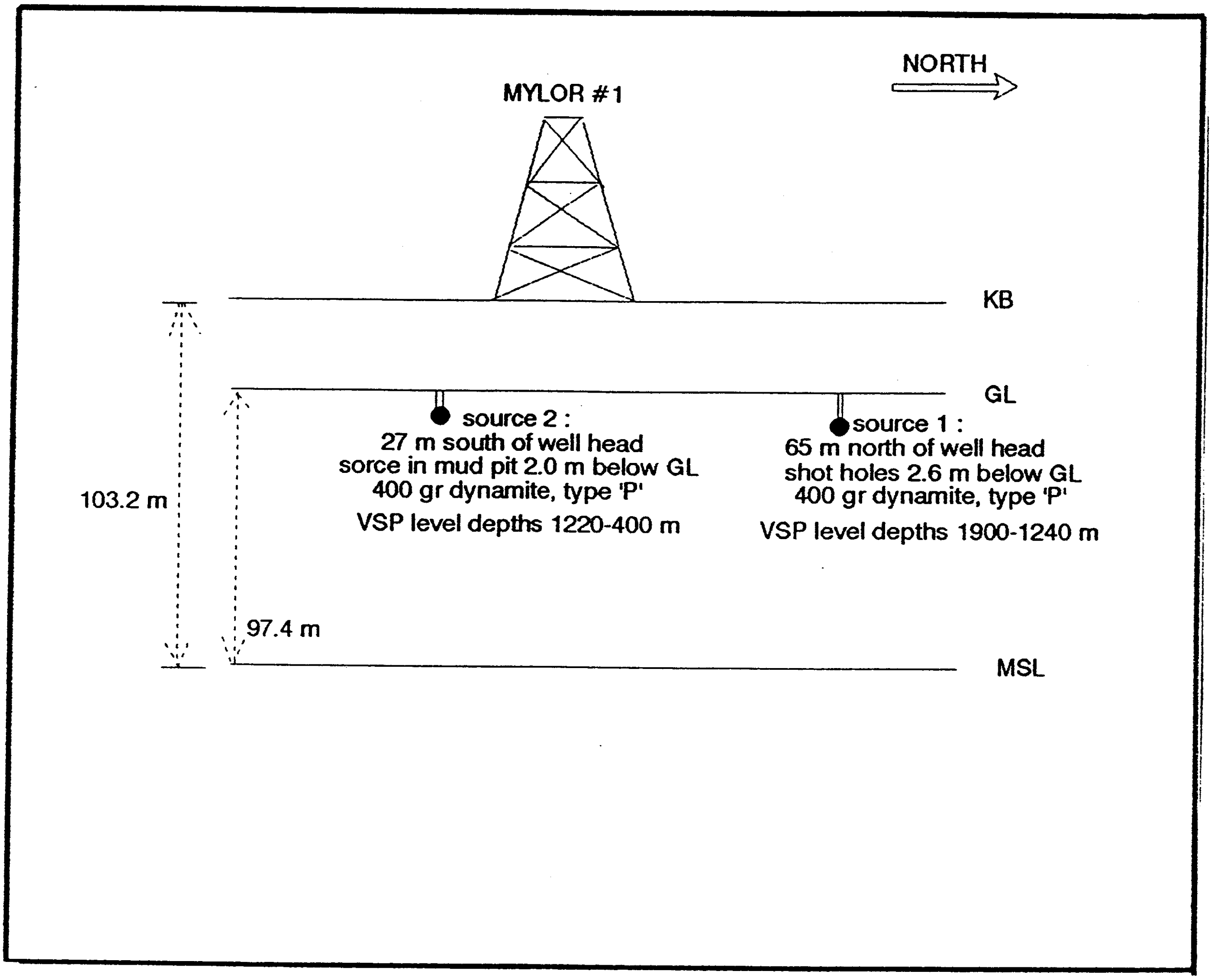

NORTH
MYLOR #1
KB
GL
source 2 :
27 m south of well head
sorce in mud pit 2.0 m below GL
400 gr dynamite, type 'P'
VSP level depths 1220-400 m
source 1 :
65 m north of well head
shot holes 2.6 m below GL
400 gr dynamite, type 'P'
VSP level depths 1900-1240 m
103.2 m
97.4 m
MSL

Figure 2

TRANSPOSE VSP

input : 8 traces of final upgoing wavefield
output : 4 traces of transposed VSP (refer=4)

The first trace of the transpose VSP is a corridor stack with a window length equivalent to the time difference between sequencial level break times, and with the window starting at the break times of each level. Each subsequent trace is a corridor stack with the same window length, but with the window starting on each input trace at the end of the window used to produce the previous trace.

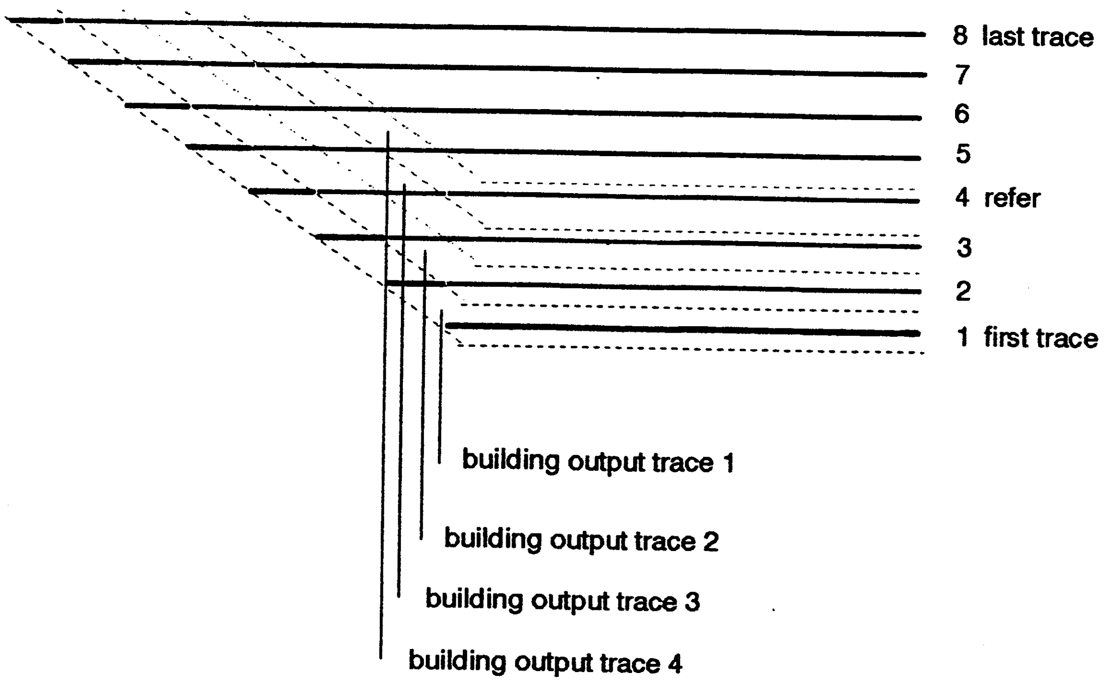


FIGURE 3

```
*******************
*                 *
*                 *
*                 *
*******************
*                 *
*   SCHLUMBERGER  *
*                 *
*******************
```

TIME CONVERTED VELOCITY REPORT

COMPANY : BRIDGE OIL LTD.
WELL : MYLOR #1
FIELD : EXPLORATION
STATE : VICTORIA
COUNTRY : AUSTRALIA
REFERENCE: SYJ-561023/561024
LOGGED : 26-JUN-1994

LONG DEFINITIONS

GLOBAL

KB	-	Elevation of the KELLY-BUSHING Above MSL or MWL
SRD	-	Elevation of the Seismic Reference Datum Above MSL or MWL
GL	-	Elevation of Users Reference (Generally Ground Level) Above SRD
UNERTH	-	UNIFORM EARTH VELOCITY (GTRFRM)
UNFDEN	-	UNIFORM DENSITY VALUE

MATRIX

MVODIS	-	MOVE-OUT DISTANCE FROM BOREHOLE

ZONE

LOFVEL	-	LAYER OPTION FLAG FOR VELOCITY: -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER
LAYVEL	-	USER SUPPLIED VELOCITY DATA
LOFDEN	-	LAYER OPTION FLAG FOR DENSITY : -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER
LAYDEN	-	USER SUPPLIED DENSITY DATA

SAMPLED

TWOT	-	Two Way Travel Time (Relative to the Seismic Reference)
DKB	-	Measured Depth from Kelly-Bushing
DSRD	-	Depth from SRD
AVGV	-	Average Seismic Velocity
RMSV	-	Root Mean Square Velocity (Seismic)
MVOT	-	Normal Move-Out
MVOT	-	Normal Move-Out
MVOT	-	Normal Move-Out
INTV	-	Internal Velocity, Average

(GLOBAL PARAMETERS)			(VALUE)	
ELEV OF KB AB. MSL (WST)	KB	:	103.200	M
ELEV OF SRD AB. MSL(WST)	SRD	:	0	M
ELEV OF GL AB. SRD(WST)	GL	:	0	M
UNIFORM EARTH VELOCITY	UNERTH	:	1881.50	M/S
UNIFORM DENSITY VALUE	UNFDEN	:	2.30000	G/C3

(MATRIX PARAMETERS)

	MVOUT DIST M
1	1000.0
2	1500.0
3	2000.0

(ZONED PARAMETERS)

		(VALUE)		(LIMITS)		
LAYER OPTION FLAG VELOC	LOFVEL	: 0		30479.7	-	0
USER VELOC (WST)	LAYVEL	: 1881.500	M/S	292.000	-	0
LAYER OPTION FLAG DENS	LOFDEN	:-1.000000		30479.7	-	0
USER SUPPLIED DENSITY DA	LAYDEN	: 0	G/C3	0	-	0

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
0	103.2	0						1882
2.00	105.1	1.9	1882	1882	529.49	795.24	1060.98	1882
4.00	107.0	3.8	1882	1882	527.51	793.25	1058.99	1882
6.00	108.8	5.6	1882	1882	525.52	791.26	1057.00	1881
8.00	110.7	7.5	1882	1882	523.55	789.28	1055.01	1882
10.00	112.6	9.4	1882	1882	521.58	787.30	1053.03	1881
12.00	114.5	11.3	1882	1882	519.63	785.33	1051.05	1882
14.00	116.4	13.2	1882	1882	517.68	783.36	1049.07	1882
16.00	118.3	15.1	1882	1882	515.73	781.40	1047.10	1882
18.00	120.1	16.9	1882	1882	513.80	779.44	1045.13	1881
20.00	122.0	18.8	1882	1882	511.87	777.49	1043.17	1882
22.00	123.9	20.7	1882	1882	509.95	775.54	1041.21	1882
24.00	125.8	22.6	1882	1882	508.03	773.60	1039.25	1881
26.00	127.7	24.5	1882	1882	506.13	771.66	1037.30	1882
28.00	129.5	26.3	1882	1882	504.23	769.73	1035.35	1881
30.00	131.4	28.2	1882	1882	502.34	767.80	1033.40	1881
32.00	133.3	30.1	1882	1882	500.45	765.88	1031.46	1882
34.00	135.2	32.0	1882	1882	498.58	763.96	1029.53	1881
36.00	137.1	33.9	1882	1882	496.71	762.05	1027.59	1881
38.00	138.9	35.7	1882	1882	494.85	760.14	1025.66	1882
40.00	140.8	37.6	1882	1882	492.99	758.24	1023.73	1881
42.00	142.7	39.5	1882	1882	491.15	756.34	1021.81	1881
44.00	144.6	41.4	1882	1882	489.31	754.45	1019.89	1882
46.00	146.5	43.3	1882	1882	487.48	752.56	1017.98	1881

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
48.00	148.4	45.2	1882	1882	485.65	750.68	1016.06	1881
50.00	150.2	47.0	1882	1882	483.84	748.80	1014.16	1882
52.00	152.1	48.9	1882	1882	482.03	746.93	1012.25	1881
54.00	154.0	50.8	1882	1882	480.23	745.06	1010.35	1881
56.00	155.9	52.7	1882	1882	478.43	743.20	1008.46	1881
58.00	157.8	54.6	1882	1882	476.65	741.34	1006.56	1881
60.00	159.6	56.4	1882	1882	474.87	739.49	1004.67	1881
62.00	161.5	58.3	1882	1882	473.09	737.64	1002.79	1881
64.00	163.4	60.2	1882	1882	471.33	735.80	1000.91	1882
66.00	165.3	62.1	1882	1882	469.57	733.96	999.03	1881
68.00	167.2	64.0	1882	1882	467.82	732.13	997.15	1882
70.00	169.1	65.9	1882	1882	466.08	730.30	995.28	1881
72.00	170.9	67.7	1882	1882	464.35	728.48	993.42	1881
74.00	172.8	69.6	1882	1882	462.62	726.66	991.55	1882
76.00	174.7	71.5	1882	1882	460.90	724.85	989.69	1881
78.00	176.6	73.4	1882	1882	459.18	723.04	987.84	1882
80.00	178.5	75.3	1882	1882	457.48	721.24	985.99	1881
82.00	180.3	77.1	1882	1882	455.78	719.44	984.14	1882
84.00	182.2	79.0	1882	1882	454.09	717.65	982.30	1881
86.00	184.1	80.9	1882	1882	452.40	715.86	980.45	1882
88.00	186.0	82.8	1882	1882	450.73	714.08	978.62	1882
90.00	187.9	84.7	1882	1882	449.06	712.30	976.78	1882
92.00	189.7	86.5	1882	1882	447.39	710.53	974.96	1881
94.00	191.6	88.4	1882	1882	445.74	708.76	973.13	1881

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
96.00	193.5	90.3	1882	1882	444.09	707.00	971.31	1882
98.00	195.4	92.2	1882	1882	442.45	705.24	969.49	1882
100.00	197.3	94.1	1882	1882	440.82	703.48	967.67	1882
102.00	199.2	96.0	1882	1882	439.19	701.73	965.86	1881
104.00	201.0	97.8	1882	1882	437.57	699.99	964.06	1882
106.00	202.9	99.7	1882	1882	435.96	698.25	962.25	1881
108.00	204.8	101.6	1882	1882	434.35	696.52	960.45	1882
110.00	206.7	103.5	1882	1882	432.75	694.79	958.66	1881
112.00	208.6	105.4	1882	1882	431.16	693.06	956.87	1882
114.00	210.4	107.2	1882	1882	429.58	691.35	955.08	1882
116.00	212.3	109.1	1882	1882	428.00	689.63	953.29	1881
118.00	214.2	111.0	1882	1882	426.43	687.92	951.51	1882
120.00	216.1	112.9	1882	1882	424.87	686.22	949.73	1881
122.00	218.0	114.8	1882	1882	423.31	684.52	947.96	1882
124.00	219.9	116.7	1882	1882	421.76	682.82	946.19	1881
126.00	221.7	118.5	1882	1882	420.22	681.13	944.42	1882
128.00	223.6	120.4	1882	1882	418.69	679.45	942.66	1882
130.00	225.5	122.3	1882	1882	417.16	677.77	940.90	1881
132.00	227.4	124.2	1882	1882	415.64	676.09	939.15	1882
134.00	229.3	126.1	1882	1882	414.12	674.42	937.39	1882
136.00	231.1	127.9	1882	1882	412.61	672.75	935.65	1882
138.00	233.0	129.8	1882	1882	411.11	671.09	933.90	1881
140.00	234.9	131.7	1882	1882	409.62	669.44	932.16	1882
142.00	236.8	133.6	1882	1882	408.13	667.78	930.42	1882

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
144.00	238.7	135.5	1882	1882	406.65	666.14	928.69	1881
146.00	240.5	137.3	1882	1882	405.18	664.49	926.96	1882
148.00	242.4	139.2	1882	1882	403.71	662.86	925.24	1882
150.00	244.3	141.1	1882	1882	402.25	661.22	923.51	1882
152.00	246.2	143.0	1882	1882	400.80	659.60	921.79	1881
154.00	248.1	144.9	1882	1882	399.35	657.97	920.08	1882
156.00	250.0	146.8	1882	1882	397.91	656.36	918.37	1882
158.00	251.8	148.6	1882	1882	396.48	654.74	916.66	1882
160.00	253.7	150.5	1882	1882	395.05	653.13	914.96	1881
162.00	255.6	152.4	1882	1882	393.63	651.53	913.26	1882
164.00	257.5	154.3	1882	1882	392.22	649.93	911.56	1882
166.00	259.4	156.2	1882	1882	390.81	648.34	909.87	1881
168.00	261.2	158.0	1882	1882	389.41	646.75	908.18	1882
170.00	263.1	159.9	1882	1882	388.02	645.16	906.49	1882
172.00	265.0	161.8	1882	1882	386.63	643.58	904.81	1882
174.00	266.9	163.7	1882	1882	385.25	642.00	903.13	1882
176.00	268.8	165.6	1882	1882	383.87	640.43	901.45	1882
178.00	270.7	167.5	1882	1882	382.51	638.87	899.78	1882
180.00	272.5	169.3	1882	1882	381.14	637.30	898.11	1882
182.00	274.4	171.2	1882	1882	379.79	635.75	896.45	1881
184.00	276.3	173.1	1882	1882	378.44	634.19	894.79	1882
186.00	278.2	175.0	1882	1882	377.10	632.65	893.13	1882
188.00	280.1	176.9	1882	1882	375.76	631.10	891.48	1881
190.00	281.9	178.7	1882	1882	374.43	629.56	889.83	1882

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
192.00	283.8	180.6	1882	1882	373.11	628.03	888.18	1882
194.00	285.7	182.5	1882	1882	371.79	626.50	886.54	1882
196.00	287.6	184.4	1882	1882	370.48	624.98	884.90	1882
198.00	289.5	186.3	1882	1882	369.17	623.46	883.26	1882
200.00	291.4	188.2	1882	1882	367.88	621.94	881.63	1882
202.00	293.2	190.0	1881	1881	366.60	620.45	880.03	1876
204.00	295.0	191.8	1880	1881	365.56	619.33	878.92	1784
206.00	296.8	193.6	1880	1880	364.47	618.13	877.72	1802
208.00	298.6	195.4	1879	1879	363.37	616.91	876.47	1808
210.00	300.5	197.3	1879	1879	362.16	615.50	874.97	1857
212.00	302.3	199.1	1879	1879	360.96	614.11	873.50	1852
214.00	304.2	201.0	1878	1878	359.85	612.85	872.19	1821
216.00	306.0	202.8	1878	1878	358.65	611.46	870.71	1854
218.00	307.9	204.7	1878	1878	357.38	609.94	869.06	1888
220.00	309.8	206.6	1878	1878	356.09	608.39	867.35	1900
222.00	311.7	208.5	1878	1878	354.84	606.90	865.72	1885
224.00	313.6	210.4	1878	1878	353.62	605.45	864.14	1876
226.00	315.4	212.2	1878	1878	352.40	603.99	862.56	1878
228.00	317.3	214.1	1878	1878	351.16	602.50	860.93	1888
230.00	319.2	216.0	1879	1879	349.86	600.91	859.16	1918
232.00	321.2	218.0	1880	1880	348.38	599.03	856.99	1998
234.00	323.1	219.9	1880	1880	347.17	597.58	855.39	1885
236.00	325.0	221.8	1880	1880	345.98	596.14	853.82	1881
238.00	326.8	223.6	1879	1879	344.90	594.88	852.49	1829

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
240.00	328.7	225.5	1879	1879	343.78	593.54	851.05	1853
242.00	330.6	227.4	1879	1879	342.55	592.04	849.38	1903
244.00	332.5	229.3	1879	1879	341.39	590.63	847.83	1878
246.00	334.3	231.1	1879	1879	340.24	589.24	846.31	1873
248.00	336.2	233.0	1879	1879	339.12	587.90	844.86	1857
250.00	338.1	234.9	1879	1879	338.02	586.56	843.41	1858
252.00	339.9	236.7	1879	1879	336.94	585.28	842.02	1844
254.00	341.7	238.5	1878	1878	335.86	583.98	840.61	1849
256.00	343.6	240.4	1878	1878	334.80	582.71	839.26	1837
258.00	345.5	242.3	1878	1878	333.69	581.35	837.76	1871
260.00	347.3	244.1	1878	1878	332.59	580.01	836.28	1865
262.00	349.2	246.0	1878	1878	331.42	578.55	834.65	1903
264.00	351.1	247.9	1878	1878	330.32	577.20	833.17	1870
266.00	353.1	249.9	1879	1879	329.01	575.52	831.22	1979
268.00	355.2	252.0	1881	1881	327.38	573.30	828.55	2144
270.00	357.3	254.1	1882	1883	325.80	571.18	826.00	2121
272.00	359.3	256.1	1883	1883	324.59	569.62	824.23	1949
274.00	361.6	258.4	1886	1887	322.60	566.83	820.76	2326
276.00	364.9	261.7	1896	1901	318.13	560.06	811.85	3277
278.00	367.6	264.4	1902	1908	315.31	555.93	806.54	2722
280.00	369.8	266.6	1904	1910	313.81	553.90	804.10	2145
282.00	372.0	268.8	1906	1912	312.20	551.68	801.39	2213
284.00	374.1	270.9	1908	1914	310.72	549.66	798.95	2154
286.00	376.4	273.2	1910	1916	309.09	547.40	796.19	2238

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
288.00	378.4	275.2	1911	1917	307.77	545.63	794.10	2078
290.00	380.5	277.3	1913	1919	306.47	543.88	792.03	2079
292.00	382.8	279.6	1915	1922	304.74	541.45	789.01	2313
294.00	385.0	281.8	1917	1923	303.28	539.45	786.59	2175
296.00	387.3	284.1	1919	1926	301.69	537.23	783.86	2258
298.00	389.3	286.1	1920	1927	300.44	535.54	781.87	2077
300.00	391.4	288.2	1921	1928	299.21	533.89	779.91	2070
302.00	393.5	290.3	1922	1929	298.01	532.28	778.02	2054
304.00	395.5	292.3	1923	1929	296.88	530.78	776.27	2020
306.00	397.5	294.3	1923	1930	295.79	529.34	774.60	1998
308.00	399.4	296.2	1924	1930	294.76	528.00	773.07	1959
310.00	401.5	298.3	1924	1931	293.63	526.48	771.28	2034
312.00	403.5	300.3	1925	1931	292.51	524.99	769.53	2028
314.00	405.6	302.4	1926	1932	291.37	523.44	767.71	2050
316.00	407.6	304.4	1927	1933	290.25	521.94	765.94	2037
318.00	409.6	306.4	1927	1933	289.19	520.53	764.29	2005
320.00	411.6	308.4	1928	1934	288.11	519.07	762.58	2025
322.00	413.6	310.4	1928	1934	287.05	517.65	760.92	2011
324.00	415.6	312.4	1929	1935	286.03	516.29	759.34	1990
326.00	417.7	314.5	1929	1935	284.95	514.82	757.61	2038
328.00	419.7	316.5	1930	1936	283.91	513.43	755.97	2012
330.00	421.7	318.5	1930	1936	282.92	512.10	754.43	1983
332.00	423.6	320.4	1930	1936	281.97	510.83	752.96	1961
334.00	425.6	322.4	1931	1937	280.97	509.49	751.39	1996

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
336.00	427.9	324.7	1933	1939	279.51	507.39	748.77	2310
338.00	430.0	326.8	1934	1940	278.45	505.94	747.05	2051
340.00	432.1	328.9	1934	1941	277.36	504.43	745.24	2080
342.00	434.1	330.9	1935	1941	276.38	503.10	743.68	2004
344.00	436.0	332.8	1935	1941	275.54	501.99	742.43	1901
346.00	438.0	334.8	1935	1941	274.53	500.61	740.79	2034
348.00	439.9	336.7	1935	1941	273.70	499.51	739.54	1901
350.00	441.9	338.7	1936	1942	272.70	498.12	737.89	2041
352.00	443.9	340.7	1936	1942	271.80	496.92	736.49	1958
354.00	445.8	342.6	1936	1942	270.98	495.83	735.25	1901
356.00	447.7	344.5	1935	1941	270.18	494.77	734.04	1891
358.00	449.6	346.4	1935	1941	269.30	493.58	732.66	1954
360.00	451.5	348.3	1935	1941	268.53	492.57	731.52	1868
362.00	453.5	350.3	1935	1941	267.62	491.31	730.04	1991
364.00	455.7	352.5	1937	1943	266.43	489.59	727.91	2212
366.00	458.2	355.0	1940	1946	264.80	487.14	724.76	2523
368.00	460.9	357.7	1944	1951	263.02	484.43	721.26	2634
370.00	463.9	360.7	1950	1958	260.60	480.64	716.24	3039
372.00	466.5	363.3	1953	1962	258.90	478.06	712.89	2619
374.00	469.0	365.8	1956	1966	257.42	475.84	710.05	2483
376.00	471.5	368.3	1959	1969	255.94	473.59	707.16	2503
378.00	473.8	370.6	1961	1970	254.79	471.92	705.08	2253
380.00	476.4	373.2	1964	1974	253.19	469.46	701.89	2611
382.00	478.8	375.6	1967	1977	251.83	467.42	699.29	2440

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
384.00	481.1	377.9	1968	1979	250.68	465.72	697.16	2290
386.00	483.1	379.9	1969	1979	249.84	464.54	695.75	2028
388.00	485.3	382.1	1969	1980	248.89	463.16	694.07	2133
390.00	487.6	384.4	1971	1982	247.68	461.36	691.78	2358
392.00	490.0	386.8	1974	1984	246.45	459.51	689.43	2387
394.00	492.4	389.2	1975	1986	245.26	457.73	687.17	2359
396.00	494.6	391.4	1977	1988	244.25	456.24	685.32	2218
398.00	496.8	393.6	1978	1989	243.22	454.72	683.42	2240
400.00	499.1	395.9	1980	1991	242.13	453.08	681.35	2307
402.00	501.3	398.1	1981	1992	241.16	451.65	679.58	2198
404.00	503.5	400.3	1982	1993	240.21	450.25	677.84	2192
406.00	505.7	402.5	1983	1994	239.27	448.86	676.11	2190
408.00	508.2	405.0	1985	1997	237.98	446.89	673.56	2501
410.00	510.9	407.7	1989	2000	236.54	444.64	670.63	2641
412.00	513.0	409.8	1989	2001	235.67	443.36	669.05	2146
414.00	515.3	412.1	1991	2003	234.66	441.85	667.14	2283
416.00	517.4	414.2	1991	2003	233.85	440.67	665.70	2097
418.00	519.5	416.3	1992	2004	233.01	439.43	664.17	2136
420.00	521.6	418.4	1992	2004	232.24	438.30	662.80	2066
422.00	523.8	420.6	1993	2005	231.35	436.99	661.16	2189
424.00	526.0	422.8	1994	2006	230.46	435.64	659.48	2209
426.00	528.2	425.0	1995	2007	229.58	434.32	657.83	2198
428.00	530.4	427.2	1996	2008	228.66	432.95	656.10	2236
430.00	532.7	429.5	1998	2009	227.68	431.45	654.19	2316

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
432.00	535.0	431.8	1999	2011	226.76	430.05	652.42	2263
434.00	537.2	434.0	2000	2012	225.85	428.67	650.68	2255
436.00	539.6	436.4	2002	2014	224.86	427.16	648.75	2338
438.00	541.8	438.6	2003	2015	223.99	425.84	647.08	2233
440.00	544.1	440.9	2004	2016	223.11	424.49	645.38	2250
442.00	546.4	443.2	2005	2017	222.20	423.11	643.62	2281
444.00	548.6	445.4	2006	2018	221.37	421.85	642.03	2206
446.00	550.8	447.6	2007	2019	220.51	420.53	640.37	2248
448.00	553.0	449.8	2008	2020	219.72	419.35	638.88	2167
450.00	555.3	452.1	2009	2021	218.80	417.92	637.06	2326
452.00	557.6	454.4	2011	2022	217.92	416.57	635.33	2286
454.00	559.9	456.7	2012	2024	217.03	415.18	633.55	2314
456.00	562.1	458.9	2013	2024	216.27	414.04	632.11	2161
458.00	564.1	460.9	2013	2025	215.59	413.02	630.86	2069
460.00	566.5	463.3	2014	2026	214.71	411.64	629.09	2325
462.00	568.8	465.6	2015	2027	213.83	410.29	627.35	2313
464.00	571.0	467.8	2016	2028	213.03	409.04	625.76	2248
466.00	573.1	469.9	2017	2029	212.33	407.98	624.43	2120
468.00	575.3	472.1	2018	2029	211.60	406.87	623.03	2163
470.00	577.5	474.3	2018	2030	210.81	405.65	621.47	2240
472.00	579.8	476.6	2020	2031	209.98	404.35	619.80	2301
474.00	582.2	479.0	2021	2033	209.10	402.96	618.00	2368
476.00	584.5	481.3	2022	2034	208.32	401.74	616.45	2251
478.00	586.7	483.5	2023	2035	207.56	400.57	614.95	2227

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
480.00	589.1	485.9	2024	2036	206.69	399.19	613.15	2379
482.00	591.3	488.1	2025	2037	205.91	397.96	611.57	2280
484.00	593.7	490.5	2027	2039	205.03	396.57	609.75	2397
486.00	596.4	493.2	2030	2042	203.96	394.83	607.43	2635
488.00	599.1	495.9	2032	2045	202.83	392.98	604.95	2711
490.00	601.4	498.2	2033	2046	202.05	391.74	603.36	2310
492.00	603.7	500.5	2035	2048	201.25	390.47	601.70	2342
494.00	606.0	502.8	2036	2049	200.49	389.28	600.16	2291
496.00	608.4	505.2	2037	2050	199.66	387.93	598.39	2408
498.00	610.8	507.6	2039	2052	198.82	386.59	596.63	2411
500.00	613.4	510.2	2041	2054	197.92	385.13	594.70	2502
502.00	615.7	512.5	2042	2055	197.11	383.83	593.00	2395
504.00	618.1	514.9	2043	2057	196.30	382.53	591.29	2402
506.00	620.4	517.2	2044	2058	195.59	381.39	589.81	2287
508.00	622.8	519.6	2046	2059	194.83	380.17	588.21	2354
510.00	625.3	522.1	2047	2061	193.96	378.76	586.34	2500
512.00	628.1	524.9	2051	2064	192.83	376.86	583.76	2843
514.00	630.5	527.3	2052	2066	192.09	375.67	582.20	2350
516.00	632.7	529.5	2052	2066	191.42	374.61	580.82	2259
518.00	635.0	531.8	2053	2067	190.74	373.51	579.39	2288
520.00	637.8	534.6	2056	2070	189.72	371.81	577.08	2747
522.00	640.4	537.2	2058	2073	188.83	370.35	575.13	2582
524.00	642.7	539.5	2059	2074	188.14	369.23	573.66	2328
526.00	645.0	541.8	2060	2075	187.46	368.13	572.22	2312

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
528.00	647.4	544.2	2061	2076	186.71	366.90	570.59	2426
530.00	649.9	546.7	2063	2078	185.93	365.62	568.88	2480
532.00	652.5	549.3	2065	2080	185.11	364.25	567.04	2552
534.00	654.8	551.6	2066	2081	184.41	363.12	565.54	2367
536.00	657.2	554.0	2067	2082	183.73	362.01	564.08	2352
538.00	659.5	556.3	2068	2083	183.07	360.92	562.64	2346
540.00	661.9	558.7	2069	2084	182.36	359.76	561.11	2403
542.00	664.5	561.3	2071	2086	181.53	358.37	559.23	2602
544.00	667.0	563.8	2073	2088	180.81	357.18	557.63	2452
546.00	669.6	566.4	2075	2090	179.99	355.80	555.77	2608
548.00	672.1	568.9	2076	2092	179.22	354.51	554.03	2543
550.00	674.8	571.6	2078	2094	178.40	353.13	552.16	2628
552.00	677.3	574.1	2080	2096	177.64	351.86	550.44	2547
554.00	679.8	576.6	2082	2097	176.93	350.67	548.85	2480
556.00	682.3	579.1	2083	2099	176.20	349.46	547.22	2509
558.00	684.8	581.6	2085	2101	175.46	348.21	545.52	2550
560.00	687.6	584.4	2087	2103	174.58	346.71	543.46	2767
562.00	690.4	587.2	2090	2106	173.70	345.20	541.39	2784
564.00	693.0	589.8	2091	2108	172.96	343.96	539.70	2568
566.00	695.5	592.3	2093	2110	172.23	342.72	538.02	2573
568.00	698.2	595.0	2095	2112	171.46	341.41	536.23	2645
570.00	700.8	597.6	2097	2114	170.69	340.09	534.44	2655
572.00	703.5	600.3	2099	2116	169.91	338.76	532.61	2683
574.00	706.2	603.0	2101	2119	169.15	337.47	530.85	2651

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
576.00	708.8	605.6	2103	2121	168.43	336.23	529.15	2620
578.00	711.3	608.1	2104	2122	167.75	335.08	527.58	2545
580.00	713.7	610.5	2105	2123	167.15	334.07	526.23	2407
582.00	716.2	613.0	2107	2125	166.52	333.00	524.77	2485
584.00	718.9	615.7	2108	2127	165.80	331.76	523.08	2642
586.00	721.4	618.2	2110	2128	165.16	330.67	521.59	2515
588.00	723.8	620.6	2111	2129	164.58	329.71	520.29	2394
590.00	726.1	622.9	2112	2130	164.04	328.79	519.06	2346
592.00	728.4	625.2	2112	2130	163.52	327.91	517.87	2322
594.00	730.7	627.5	2113	2131	163.01	327.06	516.75	2278
596.00	733.1	629.9	2114	2132	162.45	326.11	515.46	2405
598.00	735.7	632.5	2115	2134	161.79	324.98	513.91	2588
600.00	738.3	635.1	2117	2135	161.17	323.91	512.44	2538
602.00	740.8	637.6	2118	2136	160.56	322.86	511.00	2521
604.00	743.5	640.3	2120	2139	159.85	321.62	509.28	2717
606.00	746.2	643.0	2122	2141	159.12	320.35	507.52	2753
608.00	748.9	645.7	2124	2143	158.46	319.21	505.95	2635
610.00	751.4	648.2	2125	2144	157.85	318.16	504.50	2558
612.00	754.0	650.8	2127	2146	157.23	317.06	502.99	2603
614.00	756.7	653.5	2129	2148	156.56	315.90	501.37	2686
616.00	759.4	656.2	2131	2150	155.91	314.76	499.79	2666
618.00	762.0	658.8	2132	2151	155.31	313.73	498.37	2564
620.00	764.5	661.3	2133	2153	154.73	312.71	496.96	2554
622.00	767.0	663.8	2134	2154	154.17	311.75	495.63	2508

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
624.00	769.5	666.3	2136	2155	153.64	310.83	494.37	2459
626.00	771.9	668.7	2137	2156	153.12	309.92	493.13	2447
628.00	774.4	671.2	2138	2157	152.58	308.99	491.85	2486
630.00	777.0	673.8	2139	2159	151.99	307.97	490.43	2594
632.00	779.6	676.4	2141	2160	151.42	306.96	489.02	2590
634.00	782.4	679.2	2143	2162	150.74	305.75	487.33	2801
636.00	785.0	681.8	2144	2164	150.16	304.74	485.92	2609
638.00	787.6	684.4	2145	2165	149.60	303.76	484.56	2578
640.00	790.3	687.1	2147	2167	149.00	302.69	483.07	2680
642.00	793.0	689.8	2149	2169	148.35	301.54	481.44	2782
644.00	796.0	692.8	2152	2172	147.60	300.20	479.54	2985
646.00	799.0	695.8	2154	2175	146.88	298.90	477.70	2956
648.00	801.9	698.7	2156	2178	146.20	297.67	475.96	2895
650.00	804.9	701.7	2159	2181	145.46	296.35	474.07	3005
652.00	807.8	704.6	2161	2183	144.78	295.13	472.34	2906
654.00	810.6	707.4	2163	2185	144.18	294.06	470.83	2756
656.00	813.5	710.3	2165	2188	143.51	292.85	469.11	2915
658.00	816.1	712.9	2167	2190	142.96	291.86	467.71	2679
660.00	818.9	715.7	2169	2192	142.35	290.78	466.17	2798
662.00	821.9	718.7	2171	2194	141.70	289.60	464.50	2908
664.00	824.8	721.6	2174	2197	141.02	288.36	462.73	2989
666.00	827.8	724.6	2176	2200	140.34	287.13	460.96	2995
668.00	830.8	727.6	2178	2202	139.69	285.96	459.30	2933
670.00	833.8	730.6	2181	2205	139.00	284.71	457.50	3039

COMPANY BR[illegible] OIL LTD. WELL : MYLOR #1 PAGE 17

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
672.00	836.8	733.6	2183	2208	138.35	283.52	455.79	2987
674.00	839.7	736.5	2185	2210	137.75	282.44	454.25	2858
676.00	842.6	739.4	2188	2213	137.12	281.28	452.59	2967
678.00	845.5	742.3	2190	2215	136.54	280.24	451.09	2847
680.00	848.3	745.1	2192	2217	135.96	279.19	449.60	2852
682.00	851.2	748.0	2193	2219	135.40	278.16	448.12	2848
684.00	854.0	750.8	2195	2221	134.84	277.15	446.69	2817
686.00	856.9	753.7	2197	2224	134.25	276.07	445.13	2925
688.00	859.8	756.6	2199	2226	133.68	275.03	443.64	2885
690.00	862.8	759.6	2202	2229	133.05	273.87	441.96	3042
692.00	865.6	762.4	2203	2230	132.54	272.95	440.65	2752
694.00	868.2	765.0	2205	2232	132.10	272.15	439.51	2589
696.00	870.7	767.5	2205	2233	131.68	271.40	438.45	2531
698.00	873.3	770.1	2207	2234	131.22	270.57	437.27	2642
700.00	875.9	772.7	2208	2235	130.79	269.79	436.16	2583
702.00	878.5	775.3	2209	2236	130.35	268.99	435.02	2617
704.00	881.1	777.9	2210	2237	129.92	268.21	433.92	2590
706.00	883.7	780.5	2211	2238	129.50	267.44	432.82	2588
708.00	886.3	783.1	2212	2239	129.08	266.68	431.75	2570
710.00	888.9	785.7	2213	2240	128.65	265.89	430.62	2626
712.00	891.5	788.3	2214	2241	128.24	265.14	429.56	2572
714.00	894.2	791.0	2216	2243	127.80	264.34	428.41	2659
716.00	896.8	793.6	2217	2244	127.36	263.54	427.26	2668
718.00	899.5	796.3	2218	2245	126.90	262.71	426.06	2715

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
720.00	902.1	798.9	2219	2246	126.51	261.98	425.03	2562
722.00	904.7	801.5	2220	2247	126.09	261.22	423.94	2623
724.00	907.2	804.0	2221	2248	125.71	260.53	422.96	2517
726.00	909.7	806.5	2222	2249	125.35	259.87	422.02	2474
728.00	912.2	809.0	2222	2250	125.00	259.23	421.11	2450
730.00	914.8	811.6	2223	2251	124.60	258.50	420.07	2596
732.00	917.4	814.2	2225	2252	124.19	257.76	419.00	2627
734.00	920.0	816.8	2226	2253	123.78	257.00	417.90	2657
736.00	922.9	819.7	2227	2255	123.31	256.13	416.65	2827
738.00	925.6	822.4	2229	2256	122.88	255.34	415.50	2728
740.00	928.4	825.2	2230	2258	122.45	254.52	414.32	2764
742.00	931.1	827.9	2231	2259	122.03	253.76	413.21	2696
744.00	933.7	830.5	2233	2260	121.64	253.03	412.16	2644
746.00	936.4	833.2	2234	2261	121.24	252.30	411.11	2650
748.00	938.9	835.7	2235	2262	120.87	251.62	410.12	2582
750.00	941.6	838.4	2236	2263	120.49	250.90	409.09	2642
752.00	944.2	841.0	2237	2264	120.10	250.19	408.06	2647
754.00	947.0	843.8	2238	2266	119.69	249.43	406.95	2733
756.00	949.8	846.6	2240	2267	119.25	248.60	405.75	2834
758.00	952.4	849.2	2241	2268	118.87	247.90	404.73	2645
760.00	955.1	851.9	2242	2269	118.50	247.21	403.73	2637
762.00	957.9	854.7	2243	2271	118.08	246.42	402.57	2813
764.00	960.6	857.4	2245	2272	117.68	245.66	401.47	2752
766.00	963.5	860.3	2246	2274	117.24	244.85	400.27	2862

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
768.00	966.0	862.8	2247	2275	116.90	244.22	399.37	2545
770.00	968.7	865.5	2248	2276	116.54	243.54	398.37	2664
772.00	971.4	868.2	2249	2277	116.15	242.82	397.32	2717
774.00	974.1	870.9	2250	2278	115.79	242.14	396.34	2659
776.00	976.9	873.7	2252	2280	115.40	241.40	395.25	2779
778.00	979.7	876.5	2253	2281	115.00	240.65	394.14	2800
780.00	982.4	879.2	2254	2282	114.63	239.95	393.12	2715
782.00	985.1	881.9	2256	2284	114.25	239.24	392.09	2735
784.00	987.8	884.6	2257	2285	113.89	238.56	391.09	2706
786.00	990.7	887.5	2258	2287	113.47	237.78	389.93	2883
788.00	993.6	890.4	2260	2288	113.06	237.00	388.79	2882
790.00	996.3	893.1	2261	2290	112.70	236.31	387.77	2741
792.00	999.0	895.8	2262	2291	112.35	235.66	386.81	2677
794.00	1001.8	898.6	2263	2292	111.98	234.96	385.79	2758
796.00	1004.5	901.3	2265	2293	111.63	234.30	384.81	2713
798.00	1007.2	904.0	2266	2294	111.28	233.63	383.83	2725
800.00	1009.9	906.7	2267	2296	110.92	232.95	382.84	2745
802.00	1012.7	909.5	2268	2297	110.55	232.26	381.81	2790
804.00	1015.4	912.2	2269	2298	110.22	231.62	380.87	2692
806.00	1018.2	915.0	2270	2299	109.86	230.95	379.88	2755
808.00	1020.9	917.7	2272	2300	109.51	230.28	378.89	2759
810.00	1023.8	920.6	2273	2302	109.15	229.59	377.86	2819
812.00	1026.3	923.1	2274	2303	108.85	229.03	377.04	2557
814.00	1029.1	925.9	2275	2304	108.49	228.35	376.04	2795

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
816.00	1031.9	928.7	2276	2305	108.14	227.67	375.04	2807
818.00	1034.9	931.7	2278	2307	107.75	226.93	373.92	2941
820.00	1037.8	934.6	2280	2309	107.36	226.19	372.82	2942
822.00	1040.8	937.6	2281	2311	106.95	225.40	371.64	3031
824.00	1043.7	940.5	2283	2312	106.60	224.73	370.64	2833
826.00	1046.4	943.2	2284	2313	106.28	224.12	369.74	2705
828.00	1049.1	945.9	2285	2314	105.97	223.51	368.84	2708
830.00	1051.7	948.5	2286	2315	105.67	222.95	368.01	2626
832.00	1054.4	951.2	2287	2316	105.35	222.35	367.11	2724
834.00	1057.2	954.0	2288	2317	105.02	221.70	366.14	2817
836.00	1059.9	956.7	2289	2318	104.71	221.11	365.27	2699
838.00	1062.7	959.5	2290	2319	104.40	220.52	364.39	2714
840.00	1065.4	962.2	2291	2321	104.08	219.90	363.46	2778
842.00	1068.2	965.0	2292	2322	103.75	219.28	362.54	2782
844.00	1070.9	967.7	2293	2323	103.45	218.70	361.67	2710
846.00	1073.6	970.4	2294	2324	103.16	218.14	360.84	2666
848.00	1076.4	973.2	2295	2325	102.84	217.52	359.92	2796
850.00	1079.1	975.9	2296	2326	102.54	216.94	359.06	2727
852.00	1081.8	978.6	2297	2327	102.26	216.41	358.26	2643
854.00	1084.5	981.3	2298	2328	101.96	215.82	357.39	2742
856.00	1087.2	984.0	2299	2329	101.66	215.26	356.55	2711
858.00	1090.1	986.9	2300	2330	101.34	214.63	355.61	2851
860.00	1092.9	989.7	2302	2332	101.02	214.02	354.68	2843
862.00	1095.6	992.4	2303	2333	100.73	213.45	353.83	2731

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
864.00	1098.6	995.4	2304	2334	100.38	212.78	352.82	2962
866.00	1101.8	998.6	2306	2337	99.97	211.98	351.59	3249
868.00	1104.7	1001.5	2308	2338	99.65	211.35	350.65	2893
870.00	1107.7	1004.5	2309	2340	99.32	210.71	349.69	2919
872.00	1110.3	1007.1	2310	2340	99.05	210.19	348.90	2677
874.00	1113.0	1009.8	2311	2341	98.78	209.67	348.13	2661
876.00	1115.6	1012.4	2311	2342	98.54	209.20	347.42	2581
878.00	1118.1	1014.9	2312	2342	98.30	208.74	346.74	2518
880.00	1120.8	1017.6	2313	2343	98.04	208.24	345.98	2660
882.00	1123.2	1020.0	2313	2343	97.81	207.80	345.34	2486
884.00	1126.1	1022.9	2314	2345	97.51	207.20	344.43	2880
886.00	1129.0	1025.8	2316	2346	97.21	206.62	343.55	2858
888.00	1131.8	1028.6	2317	2347	96.92	206.06	342.70	2811
890.00	1134.7	1031.5	2318	2349	96.61	205.46	341.80	2897
892.00	1137.5	1034.3	2319	2350	96.33	204.90	340.95	2831
894.00	1140.4	1037.2	2320	2351	96.03	204.32	340.06	2887
896.00	1143.3	1040.1	2322	2352	95.74	203.75	339.21	2846
898.00	1146.6	1043.4	2324	2355	95.33	202.95	337.97	3374
900.00	1149.5	1046.3	2325	2356	95.04	202.37	337.08	2907
902.00	1152.3	1049.1	2326	2357	94.77	201.84	336.29	2781
904.00	1155.1	1051.9	2327	2358	94.50	201.32	335.49	2780
906.00	1157.9	1054.7	2328	2360	94.22	200.77	334.66	2853
908.00	1160.9	1057.7	2330	2361	93.92	200.18	333.77	2936
910.00	1164.3	1061.1	2332	2364	93.51	199.38	332.52	3441

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
912.00	1167.3	1064.1	2334	2365	93.22	198.79	331.62	2967
914.00	1171.0	1067.8	2337	2369	92.75	197.85	330.18	3713
916.00	1174.1	1070.9	2338	2371	92.43	197.22	329.21	3090
918.00	1177.1	1073.9	2340	2373	92.13	196.63	328.30	3012
920.00	1180.0	1076.8	2341	2374	91.86	196.11	327.50	2846
922.00	1182.9	1079.7	2342	2375	91.58	195.55	326.66	2929
924.00	1185.8	1082.6	2343	2376	91.31	195.02	325.84	2886
926.00	1188.7	1085.5	2344	2378	91.04	194.49	325.02	2900
928.00	1191.6	1088.4	2346	2379	90.76	193.94	324.18	2944
930.00	1194.6	1091.4	2347	2380	90.48	193.39	323.33	2951
932.00	1197.3	1094.1	2348	2381	90.24	192.90	322.60	2786
934.00	1200.1	1096.9	2349	2382	90.01	192.45	321.90	2712
936.00	1202.7	1099.5	2349	2383	89.78	192.00	321.23	2689
938.00	1205.4	1102.2	2350	2383	89.56	191.57	320.56	2676
940.00	1208.3	1105.1	2351	2384	89.31	191.08	319.81	2830
942.00	1211.2	1108.0	2352	2386	89.05	190.56	319.02	2897
944.00	1214.0	1110.8	2353	2387	88.81	190.08	318.29	2811
946.00	1216.7	1113.5	2354	2388	88.57	189.62	317.57	2784
948.00	1219.5	1116.3	2355	2389	88.33	189.14	316.85	2802
950.00	1222.4	1119.2	2356	2390	88.08	188.65	316.09	2876
952.00	1226.3	1123.1	2359	2394	87.62	187.72	314.63	3892
954.00	1229.2	1126.0	2361	2395	87.38	187.23	313.89	2866
956.00	1232.0	1128.8	2361	2396	87.15	186.77	313.18	2810
958.00	1234.9	1131.7	2363	2397	86.89	186.27	312.40	2932

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
960.00	1237.8	1134.6	2364	2398	86.65	185.79	311.66	2870
962.00	1240.6	1137.4	2365	2399	86.43	185.35	310.98	2767
964.00	1243.5	1140.3	2366	2400	86.17	184.83	310.19	2979
966.00	1246.5	1143.3	2367	2402	85.92	184.33	309.41	2953
968.00	1249.5	1146.3	2368	2403	85.66	183.82	308.62	2993
970.00	1252.7	1149.5	2370	2405	85.37	183.23	307.71	3193
972.00	1255.9	1152.7	2372	2407	85.08	182.65	306.80	3198
974.00	1258.8	1155.6	2373	2408	84.84	182.18	306.07	2905
976.00	1261.8	1158.6	2374	2409	84.59	181.66	305.27	3030
978.00	1264.7	1161.5	2375	2410	84.35	181.20	304.55	2894
980.00	1267.9	1164.7	2377	2412	84.08	180.64	303.68	3163
982.00	1270.9	1167.7	2378	2414	83.82	180.12	302.88	3061
984.00	1273.9	1170.7	2379	2415	83.58	179.64	302.13	2968
986.00	1276.8	1173.6	2380	2416	83.35	179.19	301.43	2879
988.00	1279.7	1176.5	2382	2417	83.12	178.72	300.69	2963
990.00	1282.7	1179.5	2383	2418	82.89	178.26	299.98	2921
992.00	1285.5	1182.3	2384	2419	82.67	177.81	299.30	2877
994.00	1288.4	1185.2	2385	2420	82.45	177.38	298.62	2873
996.00	1291.3	1188.1	2386	2421	82.23	176.95	297.95	2846
998.00	1294.3	1191.1	2387	2423	81.98	176.44	297.16	3092
1000.00	1297.5	1194.3	2389	2424	81.73	175.92	296.35	3133
1002.00	1300.6	1197.4	2390	2426	81.47	175.41	295.55	3121
1004.00	1303.7	1200.5	2391	2428	81.22	174.91	294.77	3093
1006.00	1306.7	1203.5	2393	2429	81.00	174.46	294.06	2956

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1008.00	1309.6	1206.4	2394	2430	80.78	174.01	293.36	2956
1010.00	1312.6	1209.4	2395	2431	80.55	173.55	292.64	2997
1012.00	1315.6	1212.4	2396	2432	80.32	173.09	291.93	2994
1014.00	1318.6	1215.4	2397	2434	80.09	172.63	291.21	3008
1016.00	1321.6	1218.4	2398	2435	79.87	172.18	290.51	2994
1018.00	1324.6	1221.4	2400	2436	79.64	171.72	289.79	3020
1020.00	1327.6	1224.4	2401	2437	79.42	171.27	289.09	3000
1022.00	1330.7	1227.5	2402	2439	79.19	170.81	288.36	3046
1024.00	1333.8	1230.6	2403	2440	78.96	170.34	287.62	3103
1026.00	1336.7	1233.5	2405	2441	78.75	169.91	286.94	2955
1028.00	1339.6	1236.4	2405	2442	78.55	169.51	286.33	2851
1030.00	1342.4	1239.2	2406	2443	78.36	169.14	285.75	2781
1032.00	1345.6	1242.4	2408	2445	78.11	168.62	284.92	3270
1034.00	1349.0	1245.8	2410	2447	77.84	168.08	284.07	3323
1036.00	1352.2	1249.0	2411	2448	77.60	167.58	283.28	3229
1038.00	1355.3	1252.1	2413	2450	77.36	167.10	282.53	3156
1040.00	1358.5	1255.3	2414	2452	77.12	166.62	281.77	3187
1042.00	1361.6	1258.4	2415	2453	76.91	166.17	281.07	3072
1044.00	1364.6	1261.4	2417	2454	76.69	165.74	280.38	3046
1046.00	1367.8	1264.6	2418	2456	76.47	165.28	279.66	3138
1048.00	1371.0	1267.8	2419	2457	76.23	164.81	278.91	3182
1050.00	1374.1	1270.9	2421	2459	76.01	164.34	278.18	3159
1052.00	1377.3	1274.1	2422	2460	75.79	163.89	277.47	3137
1054.00	1380.5	1277.3	2424	2462	75.54	163.40	276.69	3272

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1056.00	1383.7	1280.5	2425	2464	75.33	162.96	275.99	3126
1058.00	1386.6	1283.4	2426	2465	75.13	162.55	275.35	2990
1060.00	1389.7	1286.5	2427	2466	74.92	162.14	274.70	3045
1062.00	1392.8	1289.6	2429	2467	74.71	161.70	274.01	3119
1064.00	1395.9	1292.7	2430	2469	74.50	161.27	273.32	3131
1066.00	1399.0	1295.8	2431	2470	74.29	160.85	272.66	3069
1068.00	1402.0	1298.8	2432	2471	74.10	160.46	272.05	2967
1070.00	1404.9	1301.7	2433	2472	73.92	160.08	271.44	2962
1072.00	1407.9	1304.7	2434	2473	73.73	159.70	270.84	2959
1074.00	1410.9	1307.7	2435	2474	73.54	159.31	270.23	2981
1076.00	1413.9	1310.7	2436	2475	73.35	158.93	269.62	2995
1078.00	1416.8	1313.6	2437	2476	73.18	158.57	269.06	2894
1080.00	1419.7	1316.5	2438	2477	73.00	158.21	268.49	2909
1082.00	1422.7	1319.5	2439	2478	72.81	157.83	267.89	2983
1084.00	1425.5	1322.3	2440	2479	72.65	157.50	267.36	2814
1086.00	1428.3	1325.1	2440	2479	72.49	157.17	266.84	2808
1088.00	1431.1	1327.9	2441	2480	72.32	156.83	266.30	2859
1090.00	1434.1	1330.9	2442	2481	72.15	156.47	265.74	2915
1092.00	1437.0	1333.8	2443	2482	71.97	156.10	265.16	2975
1094.00	1440.1	1336.9	2444	2483	71.78	155.72	264.55	3042
1096.00	1443.1	1339.9	2445	2484	71.59	155.33	263.93	3068
1098.00	1446.3	1343.1	2446	2485	71.39	154.93	263.29	3127
1100.00	1449.3	1346.1	2448	2487	71.21	154.54	262.68	3069
1102.00	1452.4	1349.2	2449	2488	71.02	154.17	262.08	3033

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1104.00	1455.5	1352.3	2450	2489	70.83	153.77	261.46	3119
1106.00	1458.6	1355.4	2451	2490	70.64	153.39	260.84	3085
1108.00	1461.7	1358.5	2452	2491	70.46	153.00	260.23	3107
1110.00	1464.8	1361.6	2453	2493	70.27	152.62	259.61	3112
1112.00	1468.0	1364.8	2455	2494	70.07	152.22	258.97	3165
1114.00	1471.2	1368.0	2456	2496	69.88	151.81	258.32	3217
1116.00	1474.4	1371.2	2457	2497	69.67	151.39	257.65	3246
1118.00	1477.5	1374.3	2459	2498	69.49	151.01	257.05	3115
1120.00	1480.6	1377.4	2460	2500	69.31	150.64	256.46	3084
1122.00	1483.7	1380.5	2461	2501	69.13	150.27	255.86	3101
1124.00	1486.7	1383.5	2462	2502	68.96	149.92	255.31	2989
1126.00	1489.7	1386.5	2463	2503	68.79	149.58	254.76	3019
1128.00	1492.8	1389.6	2464	2504	68.61	149.20	254.16	3117
1130.00	1496.1	1392.9	2465	2505	68.42	148.81	253.53	3211
1132.00	1499.1	1395.9	2466	2506	68.25	148.46	252.97	3059
1134.00	1502.3	1399.1	2468	2508	68.07	148.08	252.36	3170
1136.00	1505.4	1402.2	2469	2509	67.90	147.73	251.79	3071
1138.00	1508.5	1405.3	2470	2510	67.72	147.37	251.22	3102
1140.00	1511.6	1408.4	2471	2511	67.54	146.99	250.61	3189
1142.00	1514.9	1411.7	2472	2513	67.35	146.61	250.00	3209
1144.00	1518.0	1414.8	2473	2514	67.18	146.25	249.43	3111
1146.00	1520.9	1417.7	2474	2515	67.03	145.93	248.92	2947
1148.00	1523.8	1420.6	2475	2516	66.88	145.62	248.43	2932
1150.00	1526.7	1423.5	2476	2516	66.73	145.32	247.95	2887

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1152.00	1529.7	1426.5	2477	2517	66.58	145.01	247.44	2968
1154.00	1532.6	1429.4	2477	2518	66.43	144.70	246.95	2922
1156.00	1535.6	1432.4	2478	2519	66.28	144.39	246.46	2940
1158.00	1538.5	1435.3	2479	2519	66.14	144.09	245.98	2896
1160.00	1541.3	1438.1	2480	2520	65.99	143.80	245.51	2888
1162.00	1544.1	1440.9	2480	2521	65.86	143.52	245.07	2798
1164.00	1547.0	1443.8	2481	2521	65.72	143.23	244.60	2903
1166.00	1549.9	1446.7	2481	2522	65.58	142.95	244.16	2817
1168.00	1552.7	1449.5	2482	2522	65.45	142.67	243.71	2845
1170.00	1555.5	1452.3	2483	2523	65.32	142.40	243.27	2808
1172.00	1558.3	1455.1	2483	2523	65.18	142.13	242.83	2816
1174.00	1561.2	1458.0	2484	2524	65.04	141.84	242.37	2903
1176.00	1564.1	1460.9	2485	2525	64.91	141.55	241.91	2876
1178.00	1567.1	1463.9	2485	2526	64.76	141.25	241.42	2985
1180.00	1570.0	1466.8	2486	2526	64.62	140.96	240.96	2914
1182.00	1573.1	1469.9	2487	2527	64.47	140.64	240.45	3044
1184.00	1576.1	1472.9	2488	2528	64.32	140.34	239.96	3009
1186.00	1579.0	1475.8	2489	2529	64.18	140.04	239.48	2978
1188.00	1581.9	1478.7	2489	2530	64.04	139.76	239.03	2891
1190.00	1584.9	1481.7	2490	2530	63.91	139.48	238.57	2928
1192.00	1587.9	1484.7	2491	2531	63.76	139.17	238.08	3026
1194.00	1590.9	1487.7	2492	2532	63.61	138.86	237.59	3047
1196.00	1594.0	1490.8	2493	2533	63.46	138.55	237.08	3081
1198.00	1597.0	1493.8	2494	2534	63.32	138.26	236.61	2989

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1200.00	1600.1	1496.9	2495	2535	63.17	137.95	236.12	3049
1202.00	1603.1	1499.9	2496	2536	63.03	137.64	235.62	3076
1204.00	1606.2	1503.0	2497	2537	62.88	137.34	235.13	3043
1206.00	1609.2	1506.0	2498	2538	62.74	137.04	234.65	3043
1208.00	1612.3	1509.1	2498	2539	62.59	136.75	234.17	3047
1210.00	1615.2	1512.0	2499	2539	62.46	136.48	233.73	2907
1212.00	1618.1	1514.9	2500	2540	62.33	136.21	233.30	2908
1214.00	1620.9	1517.7	2500	2541	62.21	135.95	232.88	2859
1216.00	1623.8	1520.6	2501	2541	62.08	135.69	232.46	2884
1218.00	1626.8	1523.6	2502	2542	61.95	135.40	231.99	3020
1220.00	1629.8	1526.6	2503	2543	61.81	135.11	231.53	3007
1222.00	1632.9	1529.7	2504	2544	61.68	134.83	231.08	3003
1224.00	1635.9	1532.7	2504	2545	61.54	134.55	230.62	3029
1226.00	1638.8	1535.6	2505	2545	61.41	134.27	230.18	2965
1228.00	1641.9	1538.7	2506	2546	61.27	133.99	229.72	3009
1230.00	1644.9	1541.7	2507	2547	61.13	133.70	229.25	3090
1232.00	1648.1	1544.9	2508	2548	60.99	133.39	228.75	3155
1234.00	1651.3	1548.1	2509	2549	60.84	133.09	228.25	3165
1236.00	1654.6	1551.4	2510	2551	60.67	132.74	227.68	3371
1238.00	1658.0	1554.8	2512	2552	60.51	132.40	227.13	3356
1240.00	1661.4	1558.2	2513	2554	60.35	132.06	226.57	3357
1242.00	1664.7	1561.5	2515	2556	60.19	131.72	226.01	3368
1244.00	1668.4	1565.2	2516	2558	60.00	131.32	225.36	3649
1246.00	1672.0	1568.8	2518	2560	59.81	130.93	224.73	3589

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1248.00	1675.0	1571.8	2519	2561	59.68	130.66	224.28	3062
1250.00	1678.4	1575.2	2520	2562	59.52	130.32	223.73	3397
1252.00	1681.4	1578.2	2521	2563	59.39	130.05	223.30	3002
1254.00	1684.5	1581.3	2522	2564	59.26	129.78	222.86	3065
1256.00	1687.8	1584.6	2523	2565	59.11	129.46	222.33	3316
1258.00	1691.2	1588.0	2525	2567	58.95	129.13	221.79	3389
1260.00	1694.3	1591.1	2526	2568	58.82	128.84	221.33	3153
1262.00	1697.5	1594.3	2527	2569	58.69	128.56	220.87	3128
1264.00	1700.4	1597.2	2527	2569	58.57	128.31	220.47	2961
1266.00	1703.3	1600.1	2528	2570	58.46	128.08	220.09	2874
1268.00	1706.5	1603.3	2529	2571	58.31	127.79	219.61	3234
1270.00	1709.8	1606.6	2530	2572	58.17	127.49	219.12	3253
1272.00	1713.1	1609.9	2531	2574	58.02	127.18	218.61	3336
1274.00	1716.5	1613.3	2533	2575	57.88	126.86	218.10	3344
1276.00	1719.8	1616.6	2534	2576	57.73	126.55	217.58	3378
1278.00	1723.3	1620.1	2535	2578	57.57	126.22	217.05	3407
1280.00	1726.6	1623.4	2537	2579	57.43	125.92	216.55	3325
1282.00	1729.8	1626.6	2538	2580	57.29	125.63	216.08	3252
1284.00	1733.1	1629.9	2539	2582	57.16	125.35	215.61	3232
1286.00	1736.5	1633.3	2540	2583	57.01	125.03	215.09	3411
1288.00	1740.0	1636.8	2542	2585	56.85	124.70	214.54	3512
1290.00	1743.4	1640.2	2543	2586	56.70	124.39	214.03	3400
1292.00	1746.6	1643.4	2544	2587	56.57	124.12	213.59	3184
1294.00	1749.9	1646.7	2545	2589	56.43	123.82	213.11	3321

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1296.00	1753.4	1650.2	2547	2590	56.28	123.50	212.58	3478
1298.00	1756.7	1653.5	2548	2591	56.15	123.21	212.11	3308
1300.00	1760.3	1657.1	2549	2593	55.98	122.87	211.54	3618
1302.00	1763.9	1660.7	2551	2595	55.82	122.53	210.99	3581
1304.00	1767.9	1664.7	2553	2598	55.62	122.11	210.29	4026
1306.00	1771.6	1668.4	2555	2600	55.45	121.75	209.69	3735
1308.00	1775.4	1672.2	2557	2602	55.29	121.39	209.10	3728
1310.00	1779.1	1675.9	2559	2604	55.11	121.02	208.50	3778
1312.00	1783.0	1679.8	2561	2607	54.93	120.64	207.86	3890
1314.00	1786.7	1683.5	2562	2609	54.77	120.30	207.30	3657
1316.00	1790.3	1687.1	2564	2611	54.62	119.97	206.75	3641
1318.00	1793.8	1690.6	2565	2612	54.47	119.66	206.25	3498
1320.00	1797.4	1694.2	2567	2614	54.33	119.35	205.74	3525
1322.00	1801.0	1697.8	2569	2616	54.17	119.02	205.19	3654
1324.00	1804.6	1701.4	2570	2617	54.02	118.70	204.67	3600
1326.00	1808.3	1705.1	2572	2619	53.86	118.37	204.12	3689
1328.00	1811.9	1708.7	2573	2621	53.72	118.06	203.61	3554
1330.00	1815.3	1712.1	2575	2623	53.58	117.77	203.13	3463
1332.00	1818.8	1715.6	2576	2624	53.44	117.48	202.65	3486
1334.00	1822.5	1719.3	2578	2626	53.29	117.16	202.12	3652
1336.00	1825.9	1722.7	2579	2627	53.16	116.87	201.64	3489
1338.00	1829.5	1726.3	2580	2629	53.01	116.57	201.14	3579
1340.00	1833.1	1729.9	2582	2631	52.87	116.27	200.64	3569
1342.00	1836.5	1733.3	2583	2632	52.74	115.99	200.19	3413

COMPANY BR[illegible]E OIL LTD. WEI : MYLOR #1

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1344.00	1839.9	1736.7	2584	2633	52.62	115.72	199.74	3405
1346.00	1843.4	1740.2	2586	2635	52.48	115.44	199.27	3507
1348.00	1846.8	1743.6	2587	2636	52.35	115.17	198.82	3430
1350.00	1850.2	1747.0	2588	2637	52.23	114.91	198.39	3363
1352.00	1853.6	1750.4	2589	2639	52.11	114.64	197.95	3409
1354.00	1856.8	1753.6	2590	2640	52.00	114.40	197.56	3226
1356.00	1860.1	1756.9	2591	2641	51.88	114.17	197.17	3243
1358.00	1863.9	1760.7	2593	2643	51.73	113.83	196.61	3842
1360.00	1867.4	1764.2	2594	2644	51.60	113.56	196.17	3442
1362.00	1870.8	1767.6	2596	2645	51.48	113.31	195.75	3380
1364.00	1874.1	1770.9	2597	2647	51.36	113.05	195.33	3386
1366.00	1877.4	1774.2	2598	2648	51.25	112.82	194.95	3224
1368.00	1880.6	1777.4	2599	2649	51.14	112.59	194.56	3257
1370.00	1883.9	1780.7	2600	2650	51.03	112.36	194.18	3250
1372.00	1887.2	1784.0	2601	2651	50.92	112.12	193.79	3283
1374.00	1890.5	1787.3	2602	2652	50.81	111.88	193.39	3331
1376.00	1893.8	1790.6	2603	2653	50.70	111.64	192.99	3336
1378.00	1897.2	1794.0	2604	2654	50.58	111.40	192.59	3341
1380.00	1900.5	1797.3	2605	2655	50.47	111.16	192.19	3360
1382.00	1903.9	1800.7	2606	2656	50.35	110.91	191.77	3411
1384.00	1907.3	1804.1	2607	2658	50.24	110.66	191.37	3378
1386.00	1910.7	1807.5	2608	2659	50.13	110.42	190.97	3351
1388.00	1914.1	1810.9	2609	2660	50.01	110.18	190.57	3397
1390.00	1917.5	1814.3	2610	2661	49.90	109.94	190.16	3414

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S

APPENDIX 1

APPENDIX

1. Routine Core Analysis Report

BRIDGE OIL LIMITED

WELL: MYLOR No.1

ROUTINE CORE ANALYSIS REPORT

12 July, 1994

ACS
LABORATORIES
AUSTRALIA

BRIDGE OIL LIMITED
255 Elizabeth Street
Sydney 2000 NSW

Attention: Franca Marasca

REPORT: 005-209 - WELL NAME: Mylor No.1

CLIENT REFERENCE: Verbal

MATERIAL: Mylor No.1 cores 1 & 2

LOCALITY: Otway Basin

WORK REQUIRED: Routine Core Analysis

Please direct technical enquiries regarding this work to the signatory below under whose supervision the work was carried out.

Warren Farley
General Manager
on behalf of ACS Laboratories Pty. Ltd.

Head Office: P.O.Box 396, Chermside, Qld. 4032, Australia
Telephone: 61 7 350 3999 Facsimile: 61 7 359 0222
ACS Laboratories Pty.Ltd.
ACN: 008 273 005

BRIDGE OIL LIMITED
255 Elizabeth Street
Sydney 2000 NSW

Attention: Franca Marasca

FINAL DATA REPORT - ROUTINE CORE ANALYSIS

REPORT: 005-209 WELL NAME: Mylor No.1

LOGISTICS

Core No. 1, 1685.00 - 1702.94 m (17.94m) was delivered to the Adelaide laboratory of ACS on 22nd June, 1994.
Core No. 2, 1703.00 - 1712.75 m (9.75m) was delivered to the Adelaide laboratory of ACS on 23rd June, 1994.

INTRODUCTION

The following report includes tabular data of permeability to air, helium injection porosity, summation of fluids porosity, residual fluid saturation and density determinations. Data presented graphically includes a continuous core gamma log, a core log plot and a porosity versus permeability to air plot.

STUDY AIMS

The analyses were performed with the following aims:

1. To provide depth correlation through provision of a continuous core gamma log over the cored interval.

2. To provide saturation, (So & Sw) and summation of fluids porosity data.

3. To provide air permeability, helium injection porosity and density data.

SAMPLING

The core was sampled as follows:

A. 2cm slices were taken across the core at 30cm intervals for fluid saturation and summation of fluids porosity measurements.

B. 1.5 " diameter core plugs were drilled from the whole core at 30cm intervals. The majority of these were drilled using 3% KCl brine as the bit lubricant, the remaining 28 samples were drilled frozen using liquid nitrogen. The core was orientated such that the plugs were drilled parallel to the bedding.

C. All plugs were trimmed and offcuts retained. The offcuts were dispatched to Bridge Oil for viewing and possible selection of petrology/palaeontology samples.

The sampling procedure is illustrated along with an analytical flow chart on the following page for easy reference.

The core was sampled and analysed as follows:

1. CONTINUOUS CORE GAMMA

The core was laid out according to depth markings, and a continuous core gamma trace produced by passing the core beneath a gamma radiation detector. The detector is protected from extraneous radiation by a lead tunnel. The detector signal is amplified and digitised to produce a gamma trace for comparison with the downhole log.

2. FLUID SATURATIONS AND SUMMATION OF FLUIDS POROSITY

The 2cm slices taken at 30cm intervals were used for these analyses. Approximately 100gms of material was taken from the centre of the slice, crushed and placed in a thermostatically controlled high temperature retort. The retort is programmed to heat initially to 180°C. At this temperature pore water is vaporised, condensed and recovered in receiving tubes. When water production ceases at 180°C the retort temperature is increased to 650°C. At this temperature residual hydrocarbons and remaining bound water are recovered. Using this procedure the volumes of oil and water in a known weight of core material can be determined.

To determine the gas volume, approximately 40g of fresh core is taken from the same slice, weighed and placed in a mercury displacement pump to determine bulk volume. Mercury is then injected into the sample at 750psig (5200 kpa). The amount of mercury injected corresponds to the gas volume of the sample. From these measurements the summation of fluids porosity is calculated. The oil and water saturation is then expressed as a percentage of the porosity.

3. NATURAL DENSITY

The natural density of the sample is obtained by dividing the weight of the fresh sample used for the gas volume measurement by its bulk volume.

4. SAMPLE EXTRACTION AND DRYING

After sampling as described earlier the plugs were initially dried at 80°C for 2 hours. The plugs were then placed in a soxhlet extractor to remove hydrocarbons. When the toluene in the Soxhlet was no longer discoloured, the core plugs were removed and checked under ultraviolet light to ensure all hydrocarbons had been removed.

After cleaning, all plugs were dried in a controlled humidity environment at 60°C and 40% relative humidity. The plugs were stored in an airtight plastic container and allowed to cool to room temperature before analysis.

5. AIR PERMEABILITY

Air permeability was determined on the 'regular' and 'A' set plugs. The plugs are placed in a Hassler cell at a confining pressure of 250 psig (1720 kpa). This pressure is used to prevent bypassing of air around the sample when the measurement is made.

During the measurement a known air pressure is applied to the upstream face of the sample, creating a flow of air through the sample. Permeability for each sample is then calculated using Darcy's Law through knowledge of the upstream pressure and flow rate during the test, the viscosity of air and the plug dimensions.

6. HELIUM INJECTION POROSITY

The helium injection porosity of the extracted and dried 'regular' and 'A' set core plugs was determined as follows. The plugs were sealed in a matrix cup and a known volume of Helium at 100psi reference pressure introduced to the cup. From the resultant pressure the unknown volume i.e. the grain volume was calculated using Boyles law, where $P_1V_1 = P_2V_2$

The bulk volume of the plugs was determined by mercury immersion. The difference between the grain volume and the bulk volume is the pore volume and from this the porosity is calculated as the volume percentage of pore space with respect to the bulk volume. The porosity calculated using this technique is an effective porosity.

7. APPARENT GRAIN DENSITY

The apparent grain density is determined by dividing the weight of the plug by the grain volume determined from the helium injection porosity measurement.

8. ROLLING AND SPECIFIED AVERAGES

These averages of both Helium injection porosity and permeability are obtained by using a "rolling" three (3) point method. In the case of porosity a weighted arithmetic average is used:

$$\phi \, av_{(i+1)} = [\phi_i + 2\phi_{(i+1)} + \phi_{(i+2)}] / 4$$

In the case of permeability a weighted geometric average is used:

$$K \, av_{(i+1)} = 10^{[(\log_{10} K_i + 2 \log_{10} K_{(i+1)} + \log_{10} K_{(i+2)}) / 4]}$$

At any sample point, excluding the first and last, a rolling average is obtained by using the value at the specified sample point, the value before it and the value of the sample point after it. In the cases of the first and last sample points, only 2 sample points are used.

Using porosity as an example, the average of the first data point is obtained from the formula:

$$\phi \, av_{(i)} = [2\phi_i + \phi_{(i+1)}] / 3$$

The average at the final data point is obtained by:

$\phi\ av_{(f)} = [\phi_{(f-1)} + 2\phi_{(f)}]/3$

The same method is used for permeability averages. At any break in the data the rolling averages are "re-started".

Data Key:			
	ϕ	=	porosity
	K	=	permeability
	i	=	initial
	av	=	average
	f	=	final

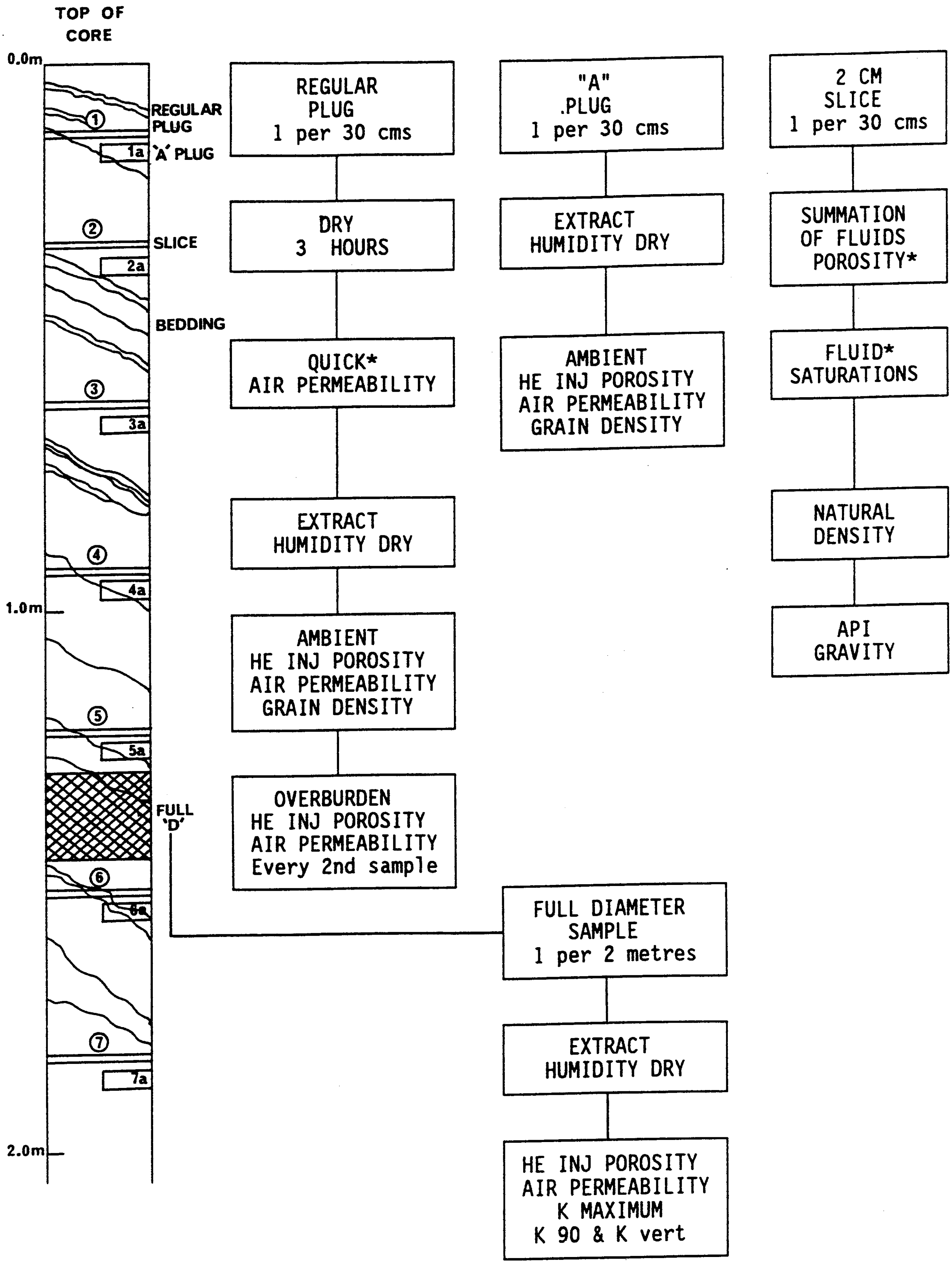
Specified averages are normal arithmetic averages which can be taken over any specified section of the core, as well as over the whole core.

The core and plug samples are currently held at ACS, Adelaide, laboratory awaiting further instructions.

We have enjoyed working for Bridge Oil on this project and look forward to working with you in the near future.

END OF REPORT

ANALYTICAL FLOW CHART



* Data reported within 16 hours of receipt of core

ACS LABORATORIES PTY. LTD.
ACN: 008 273 005
Petroleum Reservoir Engineering Data

CORE ANALYSIS FINAL REPORT

Company : BRIDGE OIL LIMITED
Well : MYLOR No.1
Field : WC
Core Int. : CORE NO.1 1685.00 - 1702.90M
Core Int. : CORE NO.2 1703.00 - 1712.75M
Core Int. :

Date : 24/06/94
File : 5-209
Location : OTWAY BASIN
ACS Lab. : ADELAIDE
Analyst : PNC

Sample Number	Depth	Porosity % HeInj	Porosity % Roll Ø	Density ND	Density GD	Permeability (md) KH	Permeability (md) Roll KH	Summation of Fluids Ø	Summation of Fluids Oil%	Summation of Fluids H2O%	Remarks
1	1685.10	12.8	13.1	2.47	2.68	65.2	118	10.8	0.0	66.4	MP
2	1685.60	13.8	13.8	2.39	2.64	391	293	13.6	0.0	72.2	
3	1685.90	14.9	16.9	2.22	2.65	746	934	19.9	0.0	45.8	
4	1686.20	24.0	21.3	2.04	2.63	3499	2914	23.0	0.0	48.7	
5	1686.50	22.4	20.2	2.08	2.63	7894	2790	20.4	0.0	46.7	
6	1686.80	12.0	16.0	2.23	2.64	278	1334	19.1	0.0	47.8	
7	1687.10	17.7	15.8	2.28	2.64	5196	2393	14.0	0.0	55.4	
8	1687.40	15.6	16.4	2.37	2.64	4367	5066	12.0	0.0	75.3	
9	1687.70	16.5	16.1	2.25	2.66	6648	3955	15.4	0.0	51.2	
10	1688.00	15.6	14.9	2.18	2.65	1267	584	17.7	0.0	55.4	
11	1688.30	12.0	14.4	2.25	2.64	10.9	120	18.5	0.0	72.0	
12	1688.60	17.9	15.7	2.22	2.64	1388	376	20.2	0.0	67.0	
13	1688.90	14.9	14.8	2.32	2.64	949	662	15.4	0.0	63.4	
14	1689.20	11.3	11.8	2.33	2.64	153	117	18.8	0.0	78.0	MP
15	1689.50	9.5	11.3	2.44	2.66	8.4	41.9	9.5	0.0	76.8	
16	1689.80	14.8	11.8	2.27	2.65	285	37.6	18.1	0.0	63.9	
17	1690.10	8.2	12.9	2.40	2.65	2.92	55.8	9.7	0.0	84.1	
18	1690.40	20.4	18.2	2.49	2.64	3982	778	9.2	0.0	86.6	
19	1690.65	23.6	22.3	2.22	2.63	7924	6558	21.3	0.0	68.6	
20	1691.20	21.4	24.1	2.19	2.66	7399	8777	28.6	0.0	77.3	
21	1691.68	29.9	28.6		2.65	13681	12386				MP
22	1692.00	33.2	31.9		2.65	16999	16667				MP
23	1692.20	31.1	31.4		2.65	19522	18502				MP
24	1692.45	30.1	30.2		2.65	18088	16999				MP
25	1692.82	29.3	29.8		2.62	13075	15775				MP
26	1693.08	30.6	29.8		2.64	20030	17795				MP
27	1693.38	28.7	26.4		2.66	19118	12990				MP
28	1693.70	17.7	21.5	2.19	2.64	3889	6883	18.4	0.0	52.5	
29	1694.00	21.7	18.9	2.18	2.65	7762	2960	22.3	0.0	57.6	
30	1694.30	14.5	16.5	2.22	2.64	328	859	19.0	0.0	52.7	
31	1694.60	15.2	16.2	2.26	2.66	652	824	16.3	0.0	59.9	
32	1694.90	19.8	17.9	2.17	2.64	3311	1844	22.1	0.0	58.0	
33	1695.20	16.8	18.3	2.31	2.65	1618	2185	14.7	0.0	61.1	
34	1695.50	19.6	20.2	2.29	2.66	2629	2337	19.6	0.0	65.2	
35	1695.80	24.9	23.4	2.35	2.64	2668	2355	19.7	0.0	69.4	
36	1696.10	24.3	24.7	2.11	2.64	1643	2004	23.5	0.0	48.6	
37	1696.40	25.3	24.8	2.11	2.64	2238	2518	25.8	0.0	58.9	
38	1696.70	24.2	24.0	2.12	2.63	4886	2652	23.4	0.0	57.0	
39	1697.00	22.4	22.2	2.09	2.64	926	1333	23.6	0.0	45.2	
40	1697.30	19.8	18.9	2.08	2.86	754	268	25.2	0.0	54.5	MP
41	1697.60	13.6	17.1	2.40	2.64	9.8	81.3	11.0	0.0	89.3	
42	1697.90	21.3	19.1	2.16	2.63	606	145	20.9	0.0	51.6	
43	1698.20	20.0	22.1	2.29	2.65	122	446	15.4	0.0	77.5	

PE604726

This is an enclosure indicator page.
The enclosure PE604726 is enclosed within the container PE900934 at this location in this document.

The enclosure PE604726 has the following characteristics:

ITEM_BARCODE =	PE604726
CONTAINER_BARCODE =	PE900934
NAME =	Core Plot Log
BASIN =	OTWAY
PERMIT =	PEP108
TYPE =	WELL
SUBTYPE =	WELL_LOG
DESCRIPTION =	Core Plot Log for Mylor-1
REMARKS =	
DATE_CREATED =	12/07/94
DATE_RECEIVED =	23/03/95
W_NO =	W1102
WELL_NAME =	MYLOR-1
CONTRACTOR =	ACS LABORATORIES
CLIENT_OP_CO =	BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

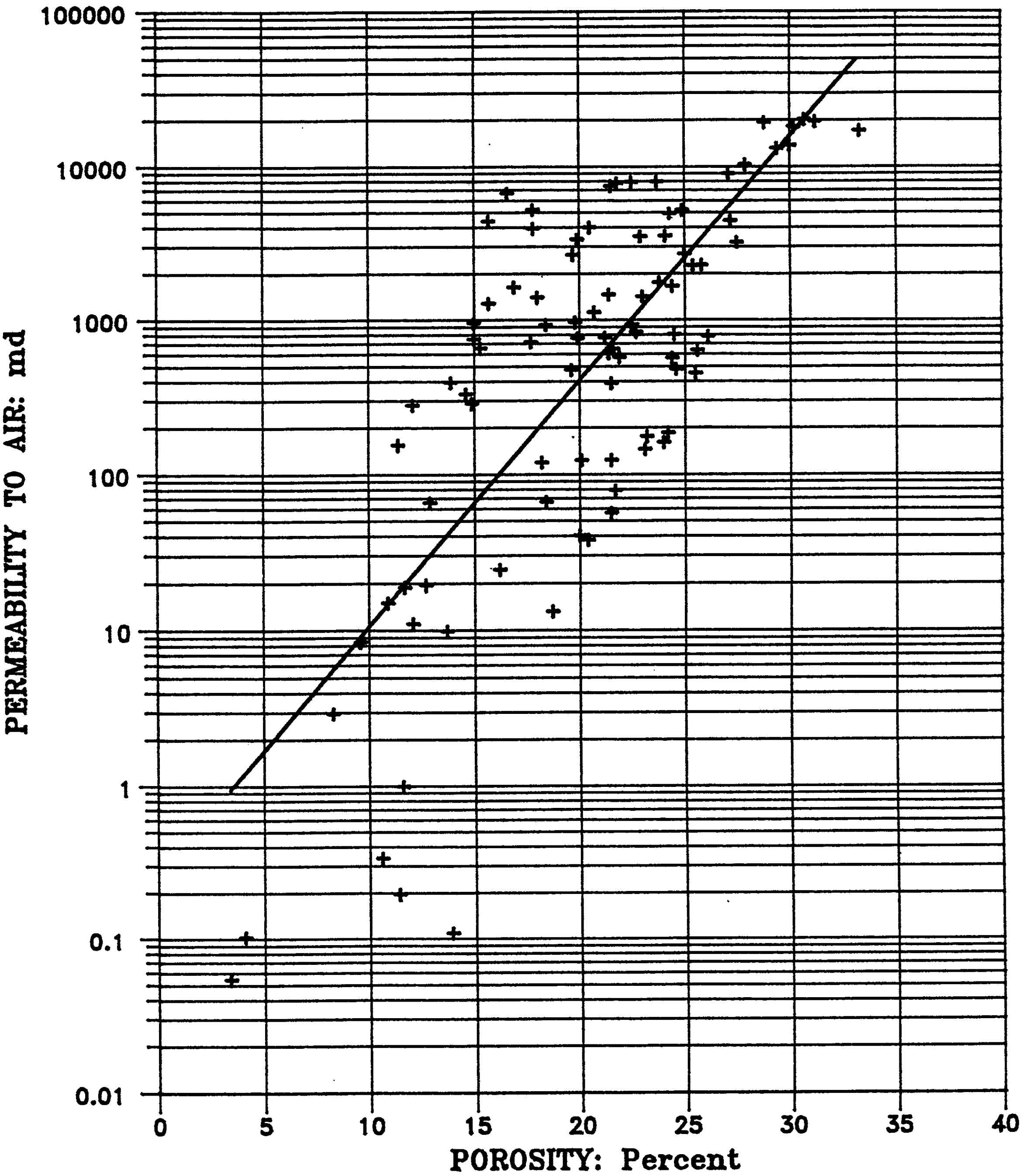
BRIDGE OIL LIMITED :
MYLOR No.1 : Analysis by
ACS LABORATORIES PTY. LTD.

Sample Number	Depth	Porosity % HeInj	Porosity % Roll Ø	Density ND	Density GD	Permeability (md) KH	Permeability (md) Roll KH	Summation of Fluids Ø	Summation of Fluids Oil%	Summation of Fluids H2O%	Remarks
44	1698.50	27.1	25.3	2.06	2.61	4401	2145	27.1	0.0	57.0	
45	1698.80	27.0	25.7	2.08	2.63	8950	3763	25.2	0.0	59.3	
46	1699.10	21.8	24.5	2.12	2.62	569	1743	24.2	0.0	56.9	
47	1699.40	27.4	25.7	2.03	2.63	3188	1455	27.1	0.0	52.4	
48	1699.70	26.0	26.3	2.06	2.62	775	1441	27.8	0.0	55.6	
49	1700.00	25.7	25.6	2.04	2.64	2249	2122	28.1	0.0	56.1	
50	1700.30	24.8	25.8	2.32	2.64	5168	4983	12.7	0.0	76.6	
51	1700.60	27.8	25.8	2.05	2.63	10261	6596	26.8	0.0	52.7	
52	1700.90	22.8	24.1	2.18	2.63	3478	3631	19.7	0.0	62.0	
53	1701.20	22.9	18.2	2.07	2.62	1401	162	20.1	0.0	73.1	
54	1701.50	4.0	13.4	2.10	2.66	0.10	10.5	24.8	0.0	56.9	
55	1701.80	22.6	17.6	2.17	2.61	832	101	19.3	0.0	67.6	
56	1702.10	21.3	21.2	2.24	2.63	1448	1137	17.8	0.0	71.8	
57	1702.40	19.7	19.8	2.11	2.63	957	1051	22.4	0.0	58.3	
58	1702.70	18.3	19.2	2.20	2.63	920	974	21.1	2.1	53.0	
59	1703.00	20.6	19.4	2.13	2.59	1112	605	20.5	3.1	45.6	
60	1703.30	18.1	20.2	2.17	2.57	118	223	22.8	3.8	54.0	
61	1703.60	23.9	21.1	2.21	2.65	160	79.1	22.3	0.0	82.4	
62	1703.90	18.6	20.3	2.22	2.66	13.0	32.3	21.0	0.0	80.3	
63	1704.20	19.9	20.0	2.21	2.65	39.9	32.8	19.9	0.0	74.5	
64	1704.50	21.4	21.7	2.36	2.65	55.8	69.1	12.1	0.0	91.7	
65	1704.80	24.1	23.2	2.29	2.64	184	135	14.3	0.0	83.1	
66	1705.10	23.1	23.0	2.20	2.66	174	144	22.0	0.0	79.2	
67	1705.40	21.6	21.2	2.32	2.64	78.2	91.4	12.3	0.0	80.7	
68	1705.70	18.3	20.9	2.16	2.63	65.6	121	25.7	0.0	79.8	MP
69	1706.00	25.5	22.7	2.18	2.64	632	238	24.2	0.0	80.4	
70	1706.30	21.4	23.0	2.22	2.61	123	359	18.0	0.0	82.6	
71	1706.60	23.7	22.6	2.20	2.64	1739	616	20.7	0.0	81.8	
72	1706.90	21.4	22.8	2.16	2.68	386	592	21.3	0.0	74.2	
73	1707.20	24.5	23.7	2.17	2.57	474	513	25.0	0.0	79.7	
74	1707.50	24.4	23.7	2.32	2.65	801	666	16.3	0.0	82.5	
75	1707.80	21.5	22.1	2.21	2.69	647	711	21.8	0.0	66.8	
76	1708.10	21.1	20.8	2.25	2.67	760	647	20.6	0.0	68.8	
77	1708.40	19.5	15.9	2.13	2.65	469	54.8	24.2	0.0	74.8	
78	1708.70	3.3	11.6	2.44	2.68	0.05	2.68	5.9	0.0	78.5	
79	1709.00	20.3	13.9	2.24	2.66	37.6	6.1	20.8	0.0	75.4	
80	1709.30	11.6	14.9	2.18	2.68	18.7	23.8	21.7	0.0	74.3	
81	1709.60	16.1	15.4	2.41	2.61	24.3	52.9	9.4	0.0	81.8	
82	1709.90	17.6	18.9	2.29	2.70	714	289	18.9	0.0	76.2	
83	1710.20	24.3	22.9	2.15	2.65	564	565	26.2	0.0	73.9	
84	1710.50	25.4	24.5	2.16	2.63	449	358	25.1	0.0	76.6	
85	1710.80	23.0	20.6	2.35	2.63	145	109	13.9	0.0	77.9	
86	1711.10	10.8	14.0	2.17	2.70	14.8	13.3	13.1	0.0	74.6	MP
87	1711.40	11.5	11.3	2.35	2.98	0.99	1.30	14.3	0.0	92.0	
88	1711.70	11.3	11.2	2.43	2.66	0.20	0.34	11.7	0.0	97.9	
89	1712.00	10.5	11.5	2.48	2.68	0.34	0.22	9.4	0.0	98.0	
90	1712.30	13.8	12.7	2.40	2.67	0.11	0.53	12.6	0.0	99.2	
91	1712.60	12.6	13.0	2.51	2.72	19.4	3.43	8.0	0.0	97.2	VF

VF = Vertical Fracture; HF = Horizontal Fracture; MP = Mounted Plug; SP= Short Plug
T# = Top of Core; B# = Bottom of Core; OWC = Probable Oil/Water Contact
Tr = Probable Transition Zone; GC = Probable Gas Cap; NS = Not suitable for SCAL

POROSITY vs PERMEABILITY

Company: BRIDGE OIL LIMITED
Well: MYLOR No.1
Depth: 1685.00 – 1712.75 Metres



SAMPLE DESCRIPTIONS

Sample #	Sample Description		
1	Sst	lt gry, v crs gn, abd Qtz pbl, prly srt, sbang, Cl Mtrx, tr Py, Tr carb	MOUNTED
2	Cgl	lt gry, pbly, prly srt, sbang, Cl Mtrx	
3	Sst	lt gry, v crs gn, prly srt, sbang, Cl Mtrx, Qtz pbl	
4	Sst	lt olv gry, mod wl srt, sbang, intrst Cl, Cl Mtrx	
5	Sst	as in 4 w/ occ Qtz pbl	
6	Cgl	lt gry, pbly, prly srt, sbang, Cl Mtrx,	irr. sample
7	Cgl	as in 6 w/ intrst Cl, tr Py	irr. sample
8	Cgl	as in 7	irr. sample
9	Cgl	as in 7	irr. sample
10	Cgl	lt gry, pbly, prly srt, sbang, abd intrst Cl	
11	Cgl	as in 10	
12	Cgl	as in 10	
13	Cgl	as in 10	
14	Cgl	as in 10	
15	Cgl	as in 10	irr. sample
16	Cgl	as in 10	irr. sample
17	Cgl	as in 10	irr. sample
18	Sst	lt gry, v crs gry, prly srt, sbang, mod amt Qtz pbl	
19	Sst	as in 18	
20	Sst	as in 18 w/ Cl Mtrx, intrst Cl nod, tr Py	
21	Sst	lt gry, med-crs gn, pr srt, sbang, pbly I.P., uncons, w/ induced frac	Mounted
22	Sst	as in 21	Mounted
23	Sst	as in 21	Mounted
24	Sst	as in 21 w/ th C lam	Mounted
25	Sst	as in 21 w/ tr carb	Mounted
26	Sst	as in 21	Mounted
27	Sst	as in 21	Mounted
28	Sst	lt gry, v crs gn, pbly I.P., prly srt, sbang, Cl Mtrx, dissem Py nod	irr. sample
29	Sst	as in 28 w/out Py	
30	Sst	as in 29	
31	Sst	lt gry, intrlam f & v crs Sd, th carb lam, prly srt, sbang, pbly, Cl Mtrx, tr Py	
32	Sst	lt gry, v crs, prly srt, sbang, pbly, Cl Mtrx	
33	Sst	as in 32 w/ C nod & assoc Py	
34	Sst	as in 33	
35	Sst	v lt br gry, med gn, mod wl srt, sbang, dirty, Cl Mtrx, fri	
36	Sst	as in 35 w/ th carb lam & spks	
37	Sst	as in 36	
38	Sst	as in 35 w/ carb spks	

SAMPLE DESCRIPTIONS

Sample #	Sample Description		
39	Sst	as in 36	
40	Sst	lt gry, v crs gn, mod wl srt, sbang, Qtz Cmt I.P., lam of intrst Py, Cl Mtrx	irr. sample
41	Sst	v lt gry, f gn, wl srt, sbang, Cl Mtrx, carb Md lam, Frac,	irr. sample
42	Sst	v lt gry, f gn, mod wl srt, sbang, Cl Mtrx, Md len lam, carb spks, occ v crs gns, tr Py	
43	Sst	as in 42	
44	Sst	f-med gn, mod srt, sbang, Cl Mtrx, carb/Cl lam, w/ assoc Py, occ v crs gns, fri	
45	Sst	f-med gn, mod srt, sbang, Cl Mtrx, occ crs gn, carb spks, fri	
46	Sst	as in 44	
47	Sst	as in 44	
48	Sst	as in 44	
49	Sst	as in 44	irr. sample
50	Sst	v lt gry, f-med gn w/ crs gn lam, prly srt, sbang, Cl Mtrx, tr carb lam, tr carb spks, tr Py, fri	
51	Sst	v lt gry, med-crs gn, prly srt, sbang, tr intrst Cl I.P., fri	
52	Sst	as in 51 w/ carb spks	
53	Sst	as in 50	
54	Sst	v lt gry, f-med gn, prly srt, sbang, carb stks, tr Py, v hd, calc Cmt	
55	Sst	as in 50	
56	Sst	v lt gry, med-crs gn, prly srt, sbang-sbrnd, Cl Mtrx, carb/Md lam, occ pbl, tr Py, fri	
57	Sst	as in 56	
58	Sst	as in 56	
59	Sst	as in 56	
60	Sst	as in 56	
61	Sst	v lt gry, f gn, wl srt, sbang, Cl Mtrx, carb lam	
62	Sst	as in 61	
63	Sst	as in 61	irr. sample
64	Sst	as in 61	
65	Sst	as in 61	
66	Sst	as in 61 w/out carb lam, calc cmt	
67	Sst	as in 61	
68	Sst	as in 61	Mounted
69	Sst	as in 61 w/out carb lam	
70	Sst	as in 61	
71	Sst	v lt gry, med gn, mod wl srt, sbang, Cl Mtrx, abd carb Md lam, tr Py	

SAMPLE DESCRIPTIONS

Sample #	Sample Description	
72	Sst	v lt gry, f-med gn, mod wl srt, sbang, Cl Mtrx, carb strks, lge elongate Py nod
73	Sst	v lt gry, f gn, wl srt, sbang, Cl Mtrx, abd carb lam w/ assoc dissem Py
74	Sst	as in 73 w/ less abd carb lam, calc cmt
75	Sst	v lt gry, f-crs gn, prly srt, sbang, carb Md lam, tr Py, tr sid, carb spks
76	Sst	v lt gry, med gn, wl srt, sbang, Cl Mtrx, carb lam, sid lam, tr Py
77	Sst	v lt gry, med gn, wl srt, sbang, Cl Mtrx, tr carb lam, calc Cmt
78	Sst	v lt gry, v f gn, wl srt, sbang, Cl Mtrx, carb & sid len lam, v hd, calc Cmt
79	Sst	v lt gry, f gn, wl srt, sbang, Cl Mtrx, th carb lam w/ assoc dissem Py & sid
80	Sst	v lt gry, f gn, wl srt, sbang, Cl Mtrx, calc cmt, mod abd dissem Py gn, tr carb lam w/ assoc sid
81	Sst	v lt gry, f-med gn, mod wl srt, sbang, Cl Mtrx, th carb Md lam, carb spks, tr Py, f frac
82	Sst	v lt gry, med-crs gn, prly srt, sbang, Cl Mtrx, calc Cmt, v crs gn lam, carb Md lam, sid nod, tr Py
83	Sst	v lt gry, f gn, mod wl srt, sbang, Cl Mtrx, calc cmt, carb lam, sid nod
84	Sst	as in 83 w/out sid nod
85	Sst	as in 84 short plug
86	Sst	v lt gry, v crs gn, prly srt, sbang, Cl Mtrx, carb spks Mounted
87	Sst	lt gry/br, v f gn, wl srt, sbang, Cl Mtrx, abd carb/Md len lam, abd sid nod, tr Py
88	Sst	lt gry, v f gn, wl srt, Cl Mtrx, abd f carb/Md lam, tr Py
89	Sst	as in 88
90	Sst	as in 88
91	Sst	lt gry, v f gn, wl srt, Cl Mtrx, abd th carb lam, lge sid nod, mic, tr Py, frac

APPENDIX 2

APPENDIX

2. Petrological Report

Thomas Geological Services

PETROLOGY REPORT

MYLOR #1

OTWAY BASIN

Report prepared for Bridge Oil Limited

by

ALLAN THOMAS, M.App.Sc.

October 1994

21 Beaven Avenue, Broadview SA 5083

Telephone: (08) 261 0366 Facsimile: (08) 261 0366 Pager: (08) 414 0390

CONTENTS

1. SUMMARY

Bridge Oil Limited submitted 12 core plug ends from Mylor #1 in the Otway Basin, for detailed petrological descriptions. The study was designed to ascertain the mineralogy, sediment provenance, diagenetic alteration and depositional environment. In addition, the descriptions were required to refine determination of facies from electric logs.

Samples from the cored section of Warre Sandstone in Mylor #1 have good to excellent reservoir quality, with visual estimates of porosity supported by core analysis data. Primary intergranular pores are abundant in all consolidated samples, and are connected by unobstructed pore throats. The only authigenic clay noted is minor pore filling kaolin. Porosity was enhanced by the dissolution of feldspars, and micropores up to 20 microns are evident between stacked kaolin platelets.

Compaction and authigenesis have had minor influences on reservoir quality, which is determined by granulometric characteristics (mainly sorting) and detrital clays. The latter are concentrated within laminae, the presence of which is likely to reduce vertical rather than horizontal permeability. Smectite and illite clays that were revealed by XRD analysis, are thought to be either associated with detrital clays in laminae and/or siltstone clasts, or introduced to samples via drilling mud contamination.

Problems may be encountered during high production rates due to movement of kaolin platelets, which may block pore throats, and sand.

Lithologically the samples are subarkoses and sublitharenites, with variable grain size and sorting (Table 1). They are friable due to paucity of authigenic cements and loose packing of grains. Framework grains in these lithologies comprise quartz, feldspars (dominantly untwinned K-feldspar), minor lithics, and trace amounts of mica and accessory minerals of zircon and tourmaline. Trace amounts of bright green glaucony (glauconite) were detected in samples 43 (1698.2m) to 77 (1708.4m) inclusive.

Matrix is composed of detrital clays associated with silty laminae, organic matter in stringers and possible pyritised bitumen, and drilling mud. Bitumen is interpreted from samples 4 (1686.2m), 43 (1698.2m), 50 (1700.3m), 53 (1701.2m), 57 1702.4m) and 67 (1705.4m), where opaque, pyritised globules occupy minor pores. In some instances smectite and illite that were detected by XRD analysis may have been introduced via drilling mud.

Authigenic minerals and cements consist of rare quartz, and minor pyrite, kaolin and carbonate. Kaolin precipitated in pores as vermiform booklets up to 20 microns in diameter, and as a replacement of feldspars. Poikilotopic carbonate (calcite) was evident in samples 77 (1708.4m) and 67 (1705.4m).

The dominant sediment source was from a granitic terrane, with minor sediment input from metamorphic and sedimentary areas. Distances of sediment transport were short or there was uplift in the source area. A moderate to high energy regime would be required to transport these sediments.

Evidence for changes to the depositional environment of the cored section of Warre Sandstone is found in core descriptions and supported by this study. Four distinctive environments are proposed, each sub-unit characterised by different lithology and electric log (GR) response.

SUB-UNIT	Environment	Driller's depths	Logger's depths
1	Quiet marine	1711.45m ↓	1712.45-1722.0m
2	Marine deltaic	?1708.7-1711.45m	?1709.7-1712.45m
3	Estuarine/lagoonal	1697.3-?1708.7m	1698.3-?1709.7m
4	Fluvial	1697.3m ↑	1572.5-1698.3m

For sub-unit 1, quiet marine sedimentation is indicated by calcareous greensand at the base of

core 2, whilst high GR readings may reflect the presence of K-rich glauconite in addition to shales. Overlying the greensand there are sands that display rare glauconite and siltstone rip-ups. These sands comprise sub-unit 2 and may represent the exclusively marine portion of a prograding deltaic sequence. The GR response shows coarsening upward cycles typical of a prograding sequence, but the electric log-interpreted top is approximately 2m higher than that obtained by examination of core log.

Coaly laminations noted in core descriptions from 1708.7m-*driller* (1709.7m-*logger*) and shallower, indicate beginnings of non-marine influence and sub-unit 3. Coarser and more poorly sorted sands in this zone may represent pulses of sediment. The GR response is typical of thin tidal/estuarine sands. In sub-unit 4, glauconite is not evident and sands are typical of a fluvial environment, dominated by channel and sheet/overbank deposits. An abrupt change to the GR log character at 1698m corresponds to the onset of thick pulses of clean fluvial sand.

There has been minor diagenetic alteration to this sequence of sandstones. Most samples show a similar diagenetic pathway and much of the alteration was early. Glauconite is a relatively early authigenic mineral which forms at the sediment-water interface. Where pyrite is disseminated throughout the opaque stringers it is probably an early precipitate related to the initial alteration of organic matter.

Alteration and corrosion of feldspars began during transportation, and continued after deposition to result in secondary porosity. Flushing of the sediment by meteoric waters could have resulted in this final phase of dissolution. Both kaolin and quartz precipitation are favoured in acidic conditions that lead to dissolution of feldspars. After burial, initial porosity would have been reduced by grain rotation and continued by mechanical compaction. Precipitation of carbonate spar cement may be linked to CO_2 released during carboxylation reactions associated with kerogen formation

There is evidence for hydrocarbon migration at two separate times. The first input of hydrocarbons may have been an oil charge, possibly reaching a height of at least 1686.2m. A later migration is apparent due to the fact that 1686.2m is now within the known gas zone, which suggests gas may have displaced the previous oil charge. Although the paragenetic sequence is not certain and all samples do not show each phase, the following diagenetic events have been recognised:

Event	Early	Middle	Late
	Diagenetic Stage		
Weathering	---		
Glauconite	---		
Pyrite	---		----
Chlorite	---		
Carbonate	---		-----
Dissolution	--------		
Kaolin	-----		
Quartz	---		
Compaction	---------------------	---------------------	----
Fracturing		-------	
Hydrocarbons			------ --------

TABLE 1. SUMMARY OF LITHOLOGY, TEXTURE & MINERALOGY MYLOR #1

Depth (m)	1685.1	1686.2	1688.6	1690.4	1692.2	1696.1	1698.2	1700.3	1701.2	1702.4	1705.4	1708.4
Lithology	subarkose	subarkose	subarkose	subarkose	subarkose	subarkose	subarkose	subarkose	subarkose	sublith-arenite	sublith-arenite	subarkose
Grain size	granule	medium	very coarse	coarse	coarse	coarse	fine	coarse	medium	very coarse	fine	medium
Sorting	poor	poor	poor	poor	moderate	moderate	moderate	moderate	poor	poor	well	mod-well
Structures	-	bedding	bedding	bedding	-	laminae	cross-laminae	laminae rip-ups	laminae ?burrows	laminae rip-ups	laminae fracture	laminae bioturbation
Framework grains												
Quartz	65	65	70	65	90	70	60	70	70	65	65	60
Feldspar	10	7	5	8	5	5	5	5	6	6	5	10
Lithics	-	1	1	tr	tr	1	2	1	1	10	6	4
Mica	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
Glaucony	-	-	-	-	-	-	tr	tr	tr	tr	tr	tr
Accessory	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
Matrix												
Detrital clay	-	-	-	-	-	2	5	3	1	2	3	-
Drilling mud	6	2	5	2	3	1	-	tr	tr	tr	-	-
Opaque material	-	tr	tr	tr	-	tr	2	1	tr	1	1	tr
Authigenic minerals & cements												
Quartz	-	tr	tr	tr	tr	tr	1	tr	1	tr	1	tr
Pyrite	2	tr	tr	tr	tr	tr	5	2	1	1	1	tr
Kaolin	tr	5	5	5	-	5	6	3	5	3	3	5
Carbonate	-	-	-		-	-	-	-	-	-	tr	10
Porosity												
Intergranular	10	16	10	14	nd	12	10	13	15	10	12	12
Dissolution	2	3	2	4	2	2	2	2	3	2	2	3
Microporosity	tr	1	2	2	nd	2	2	1	2	1	1	1
Core analysis												
Porosity (%)	12.8	24.0	17.9	20.4	31.1	24.3	20.0	24.8	22.9	19.7	21.6	19.5
Permeability (md)	65.2	3499	1388	3982	19000	1643	120	5168	1401	957	78.2	469
Bulk XRD												
Quartz	dom	dom	dom	dom	dom	dom	dom	dom	dom	dom	dom	dom
Feldspar	minor	minor	minor	minor	minor	minor	minor	minor	minor	minor	minor	minor
Kaolinite	minor	minor	minor	minor	minor	minor	minor	minor	minor	minor	minor	minor
Illite/muscovite	-	minor	minor	tr	tr	minor	tr	tr	tr	minor	minor	tr
Pyrite	tr	-	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
Calcite	-	-	-	-	-	-	-	-	-	-	tr	minor
Clay XRD												
Kaolinite	dom	dom	dom	dom	dom	dom	dom	dom	dom	dom	dom	dom
Illite	minor	minor	minor	minor	minor	minor	minor	minor	minor	minor	minor	minor
Montmorillonite	tr	tr	tr	tr	minor	minor	tr	tr	-	tr	tr	-
Quartz	minor	minor	minor	minor	minor	minor	minor	minor	minor	minor	minor	minor
Feldspar	tr	minor	minor	tr	tr	tr	tr	minor	tr	tr	tr	tr

dom=dominant, nd=not determined, tr=trace

2. INTRODUCTION

Bridge Oil Limited submitted 12 core plug ends from Mylor #1 in the Otway Basin, for detailed petrological description. The plug ends were in good condition except for sample 23, depth 1692.2m, which consisted of unconsolidated sand and rare chunks of poorly cemented grains. The study was designed to ascertain the mineralogy, sediment provenance, diagenetic alteration and depositional environment. In addition, the descriptions were required to refine determination of facies from electric logs.

The following services were provided:

Sample	Depth (m)	Thin section	XRD	Grain Size Analysis
1	1685.1	*	*	
4	1686.2	*	*	
12	1688.6	*	*	*
18	1690.4	*	*	
23	1692.2	*	*	*
36	1696.1	*	*	
43	1698.2	*	*	
50	1700.3	*	*	*
53	1701.2	*	*	
57	1702.4	*	*	*
67	1705.4	*	*	
77	1708.4	*	*	

3. METHODS

Core samples were described in hand specimen, then impregnated with araldite prior to thin section preparation. Blue dye was used in the araldite to facilitate description of porosity and permeability. Thin sections were systematically scanned to determine lithology, composition, porosity and textural relationships. All percentages given in thin section descriptions are based on visual estimates, not point counts.

To determine bulk mineralogy by X-ray diffraction, a portion of each sample was finely powdered and used to prepare an X-ray diffractometer trace. Continuous scans were run of these powders from 3° to 75° 2Θ, at 1°/minute, using Co K alpha radiation, 50kV and 35mA. For detailed clay mineralogy a less than 5 μm size fraction was separated. This was done by lightly crushing, addition of deflocculants, mechanical shaking for 10 minutes and settling of the dispersed material in a water column according to Stokes' Law. The less than 5 micron fractions were pipetted off and examined by plummet balance to determine solids contents, then prepared as oriented samples on ceramic plates held under vacuum. Samples were saturated with Mg solution and treated with glycerol. Continuous scans of oriented clay samples were run from 3° to 35° 2Θ at 1°/minute. Peaks were identified by comparison with JCPDS files stored in a computer program called XPLOT.

Grain size analysis was performed by measuring the long axes of 100 randomly chosen grains per thin section, and computing their means and standard deviations. Trask sorting coefficient (So) and inclusive graphic standard deviation (IGSD) are also given for comparison. IGSD was calculated according to the method given by Folk (1980). Qualitative sorting labels used in the text are based on standard deviation cut-offs as follows:

Sorting	Std Dev (phi units)
very well	<0.35
well	0.35-0.5
moderately well	0.5-0.71
moderate	0.71-1.0
poor	1.0-2.0
very poor	>2.0

4. PETROLOGY

4.1 Mylor #1, sample 1, depth 1685.1m

Hand specimen description

The sample consisted of core plug end portions, and was a medium light grey (N6), friable sandstone with a minor amount of pyrite cement. There was no reaction to 10% HCl and visual porosity was very good. No sedimentary structures were evident.

Thin section description

Name: Conglomerate: immature subarkose

Texture:

Granule sized grains dominate the sample, although diameters range from 0.10mm (very fine sand) to 5mm (pebble). The grains are typically fractured and displaced, probably by drilling. Framework grains are subrounded to rounded, poorly sorted and of moderate to high sphericity. Disaggregated grains and paucity of cement indicates a friable sample with minimal cement. Contacts between sand sized grains are at points and tangents, whilst granules have sutured contacts. In minor instances, quartz grains have penetrated altered and corroded feldspars (Fig. 1a). No sedimentary structures are evident.

Porosity:

Primary intergranular pores are observed throughout the sample, with porosity controlled by poor sorting. There has been infiltration by drilling mud indicated by the presence of meniscus-shaped bridges of silty material between grains (Fig. 1b). This material has filled pores and disturbed grains to an uncertain extent, thus estimation of porosity is interpretative. Porosity estimates are based on the fact that significant porosity and permeability are required before infiltration will occur. Porosity of 12.8% and permeability of 65.2md were measured on the corresponding core plug.

Visual Estimate of Composition		%
Framework grains	Quartz	65
	Feldspar	10
	Mica	tr
	Accessory minerals	tr
Matrix	Drilling mud	6
Authigenic minerals and cements	Quartz	tr
	Pyrite	5
	Kaolin	2
Porosity	Intergranular	10
	Dissolution	2
	Microporosity	tr

Framework grains:

Quartz grains are water-clear, with minor dusty examples due to minute indeterminate inclusions. Both monocrystalline and polycrystalline grains exhibit straight to slightly undulose extinction. In rare instances vacuole trails are apparent, whilst mineral inclusions include tourmaline and rutile needles. Carlsbad-twinned (alkali) feldspars show corrosion and kaolinisation along preferred crystallographic axes (Fig. 1a).

Flakes of muscovite and chloritised biotite are bent and have splayed terminations. Accessory minerals include tourmaline and rounded grains of fine sand sized zircon.

Matrix:

Brown clays that form bridges between grains are interpreted as drilling mud. In addition, silty material composed of grain fragments, possible organic matter and clays is present in pores. This latter material displays meniscus-like margins and shrinkage spaces adjacent to grains, which are features typical of infiltrated material.

Authigenic minerals and cements:

Rare quartz overgrowths are apparent due to euhedral terminations on grains. Framboids of pyrite are present on grain margins, whilst patches of massive pyrite cement grains in minor areas. Booklets of kaolin up to 10 microns in diameter are present in pores. Kaolin is also associated with altered feldspars.

X-ray diffraction

Bulk XRD (Fig. 2a) indicates that quartz is the dominant mineral present, and that K-feldspar and kaolinite are in minor proportions. Pyrite is also apparent. Kaolinite 1T dominates the clay fraction (Fig. 2b), and there is a minor amount of illite 2M1 and scarce smectite (montmorillonite). Smectite and illite may have been introduced to the sample via drilling mud. Quartz and K-feldspar were also detected.

4.2 Mylor #1, sample 4, depth 1686.2m

Hand specimen description

The sample consisted of core plug ends, and was a light olive grey (5Y 6/1), friable sandstone. There was no reaction to 10% HCl and visual porosity was good. No sedimentary structures were evident.

Thin section description

Name: Medium sandstone: submature subarkose.

Texture:

Framework grains range in diameter from 0.07mm (very fine sand) to 3mm (granule), and are poorly sorted, angular to subrounded and of low sphericity. Coarser grains tend to be better rounded. Alignment of grains indicates that bedding is parallel at the scale of the thin section. Grain contacts are dominantly at points and tangents, with minor concavo-convex examples. The latter are effects of moderate compaction, which has also resulted in bent micas and minor instances of deformed to crushed feldspars (Fig. 3a).

Porosity:

Primary intergranular pores are evenly distributed throughout the section, and pore throats are unobstructed by authigenic minerals. Honeycombed feldspars, corroded lithics and grain sized to oversized pores indicate that porosity has been gained by dissolution of labile minerals. Microporosity is associated with minor, pore-filling kaolin (Fig. 3b). Rounded opaque material in pores, composed of pyritised ?bitumen, is interpreted to represent fossil oil droplets. Porosity of 24.0% and permeability of 3499md were measured on the corresponding core plug.

Visual Estimate of Composition		%
Framework grains	Quartz	65
	Feldspar	7
	Lithics	1
	Mica	tr
	Accessory minerals	tr
Matrix	Drilling mud	2
	Opaque material	tr
Authigenic minerals and cements	Quartz	tr
	Pyrite	tr
	Kaolin	5
Porosity	Intergranular	16
	Dissolution	3
	Microporosity	1

Framework grains:

Quartz is mainly monocrystalline, with less than 1% of polycrystalline grains. Both varieties quartz have straight to slightly undulose extinction and rarely display vacuole trails. A minor proportion of polycrystalline quartz shows evidence of strain. Mineral inclusions of biotite, tourmaline and rutile needles are rare in the quartz. Lithics include rounded mudstone, distorted grains of schist and micrographic quartz-feldspar rock. Feldspars are typically corroded and are either untwinned or display microcline twinning, thus are potassic.

Flakes of muscovite and rare biotite are bent and have splayed terminations. Minute rounded zircons are associated with biotite, whilst fine sand sized tourmaline is also evident.

Matrix:

Brown drilling mud is clearly evident coating grains and bridging pore spaces. Globules of opaque material in pores may be bitumen, whilst rare opaque flakes may represent organic matter.

Authigenic minerals and cements:

Euhedral terminations and rarely apparent dust rims that outline detrital grains indicate the presence of quartz overgrowths. Pyrite has replaced ?bitumen and other ?organic matter. Minute to small framboids of pyrite have crystallised at grain margins. Kaolin booklets approximately 10 microns in diameter have filled minor pores.

X-ray diffraction

Bulk XRD (Fig. 4a) indicates that quartz is dominant, and that K-feldspar and kaolinite are present in minor amounts. Trace amounts of illite/muscovite are suggested. In the clay fraction (Fig. 4b), kaolinite 1T is the dominant mineral phase, with illite 2M1 and smectite (18 Å montmorillonite) apparent in minor amounts. Smectite and illite clays are inferred to have infiltrated the sample from drilling mud. Quartz and K-feldspar were also detected.

4.3 Mylor #1, sample 12, depth 1688.6m

Hand specimen description

The sample consisted of 2 core plug ends, and was an olive grey (5Y 4/1) friable sandstone. There was no reaction to 10% HCl and visual porosity was good. No sedimentary structures were evident.

Thin section description

Name: Very coarse sandstone: pebbly immature subarkose.

Texture:

Framework grains range from 0.10mm (very fine sand) to 6.15mm (pebble) in diameter, and have a measured mean of 1.04mm (very coarse sand). There are brown meniscus-like rims of ?drilling mud on most grains, which are angular to subrounded, poorly sorted (standard deviation is 1.17Ø) and of low to moderate sphericity. Granules and coarse sand sized grains are subrounded to rounded (Fig. 5a). Displacement and minor fracturing of grains probably occurred during drilling.

Contacts between finer grains are at points and tangents, whilst minor development of concavo-convex and microsutured contacts between coarser particles indicate the effects of moderate compaction. Distortion of softer grains such as micas, lithics and feldspars, is apparent. Some fracturing of feldspars may also be due to compaction. Planar bedding is are evident due to grain size variation.

Porosity:

Primary intergranular pores and unobstructed pore throats are observed throughout the section. The main limiter to porosity is the poor sorting, with further reduction due to compaction effects. Dissolution of labile minerals (feldspars and to a lesser extent, lithic fragments) has resulted in porosity gains, although much of this porosity is within the grains (Fig. 5b). Further porosity is associated with kaolin booklets in pores (microporosity). Porosity of 17.9% and permeability of 1388md were measured on the corresponding core plug.

Visual Estimate of Composition		%
Framework grains	Quartz	70
	Feldspar	5
	Lithics	1
	Mica	tr
	Accessory minerals	tr
Matrix	Drilling mud	5
	Opaque material	tr
Authigenic minerals and cements	Quartz	tr
	Pyrite	tr
	Kaolin	5
Porosity	Intergranular	10
	Dissolution	2
	Microporosity	2

Framework grains:

Quartz is mainly monocrystalline, with straight to slightly undulose extinction and rare vacuole trails. Mineral inclusions of tourmaline and rutile needles are rarely apparent. There are a minor number of polycrystalline quartz grains, some of which display strained extinction. K-feldspars are apparent due to low birefringent, untwinned and corroded grains. There are rare feldspars that exhibit microcline twinning but plagioclase is not evident. Lithics include chert and quartz-mica schist. Tourmaline and rounded zircon comprise the accessory minerals.

Matrix:

Drilling mud consists of brown clays and a pale mixture of clays and grain fragments, that coat grains, fill minor pores and form bridges between grains. Small flecks of opaque material are likely to be organic matter.

Authigenic minerals and cements:

Quartz overgrowths are noted due to euhedral terminations and dust rims on rare grains. Patches of pyrite have cemented grains, whilst rare isolated cubes of pyrite occur on grain rims. A minor proportion of ?organic matter has been replaced by pyrite. Kaolin booklets approximately 10 microns in diameter fill a minor proportion of pores.

X-ray diffraction

Bulk XRD (Fig. 6a) indicates that quartz is dominant, and that kaolinite and K-feldspar are minor components. Illite/muscovite and smectite are also represented in the trace. In the clay fraction (Fig. 6b), kaolinite 1T (dominant), illite 2M1 and smectite (18Å montmorillonite) are apparent. Drilling mud may have contributed smectite and illite to the sample. Quartz and K-feldspar were also detected.

4.4 Mylor #1, sample 18, depth 1690.4m

Hand specimen description

The sample consisted of 2 core plug ends, and was an olive grey (5Y 4/1), friable sandstone. There was no reaction to 10% HCl and visual porosity was very good. A patch of pyrite cement approximately 1cm in diameter was apparent. Pebble layers defined bedding.

Thin section description

Name: Coarse sandstone: submature subarkose.

Texture:

Alternating beds approximately 1cm thick, of medium and very coarse to granule sized grains, comprise the sample. Contacts between beds are gradational and parallel at the scale of the thin section. Subrounded framework grains range in diameter from 0.10mm (very fine sand) to 4mm (granule). They are poorly sorted and of moderate sphericity. Contacts between grains are generally at points and tangents, with rare concavo-convex examples. However, between granule-sized quartz grains, minor microsuturing is evident. These features, together with bent micas and distorted lithics, are results of moderate compaction. Fractures are apparent in rigid grains, and those within feldspars are considered to be the result of compaction, whereas quartz grains may have been broken during drilling.

Porosity:

Primary intergranular pores are evident in all portions of the sample. Patches of kaolin in pores have reduced primary porosity, but are associated with microporosity. Between adjacent intergranular pores, pore throats are unobstructed by authigenic or detrital material (Fig. 7a), hence permeability is high. Dissolution of feldspars (Figs 7a & 7b) has been extensive and led to significant gains in porosity. Porosity of 20.4% and permeability of 3982md were measured on the corresponding core plug.

Visual Estimate of Composition		%
Framework grains	Quartz	65
	Feldspar	8
	Lithics	tr
	Mica	tr
	Accessory minerals	tr
Matrix	Drilling mud	2
	Opaque material	tr
Authigenic minerals and cements	Quartz	tr
	Pyrite	tr
	Kaolin	5
Porosity	Intergranular	14
	Dissolution	4
	Microporosity	2

Framework grains:

Quartz is mainly monocrystalline, with straight extinction, mineral inclusions of tourmaline and rare vacuole trails. Polycrystalline quartz forms approximately 2% of total grains, and exhibits moderately undulose extinction patterns typical of quartz derived from a metamorphic terrane.

Mineral inclusions of biotite, tourmaline and rutile needles are rare in the quartz. Schistose lithics are further evidence of metamorphic origin of some grains, whilst chert and a single sandstone fragment are also apparent. K-feldspars are present, with simple and rare microcline twinning. Feldspars are commonly corroded and rarely extensively altered to clays (predominantly kaolin).

Muscovite flakes are bent and display splayed terminations. Accessory minerals of tourmaline and zircon are noted.

Matrix:

Brown drilling mud forms bridges between grains and thin grain coatings. Small flecks of opaque material are likely to be composed of organic matter.

Authigenic minerals and cements:

Quartz overgrowths are apparent due to minute druse and euhedral terminations. Dust rims that outline detrital grain margins are very rare. Pyrite framboids have crystallised at grain margins and within kaolin in pores (Fig. 7b). Kaolin booklets are up to 10 microns in diameter and may be intergrown with druse overgrowth on quartz grains.

X-ray diffraction

Bulk XRD (Fig. 8a) shows that quartz is dominant, and that K-feldspar and kaolinite are present in minor amounts. Trace amounts of illite/muscovite and pyrite are also indicated. Kaolinite1T dominates the clay fraction (Fig. 8b), with illite 2M1 and smectite (18 Å montmorillonite in minor proportions. The latter may have been introduced via drilling mud. Quartz and K-feldspar were also detected.

4.5 Mylor #1, sample 23, depth 1692.2m

Hand specimen description

The sample consisted of unconsolidated sand, olive grey (5Y 4/1) in colour. There was no reaction to 10% HCl and visual porosity was interpreted to be very good.

Thin section description

Name: Coarse sandstone: unconsolidated subarkose.

Texture:

Individual grains that comprise the sample are coated with brown drilling mud (Fig. 9a). They range in diameter from 0.10mm (very fine sand) to 2.15mm (granule), with a mean of 0.68mm (coarse sand). They are moderately sorted (standard deviation 0.74Ø), subrounded to rounded and of moderate to high sphericity. Very angular particles are interpreted to be fragments of grains broken during drilling processes. There are rare examples of grain aggregates in the sample, and these exhibit contacts at points and tangents (Fig. 9b). No sedimentary features are apparent.

Porosity:

Excellent porosity is indicated by the lack of detrital clays and unconsolidated nature of the sample. Visible intergranular porosity was not estimated in this sample due to the lack of grain contacts and absence of intergranular pores. Trace amounts or authigenic cement will not restrict permeability, and authigenic clays are not observed. Honeycombed feldspars indicate that dissolution of labile grains has occurred. Infiltration by drilling mud points to high permeability. Porosity of 31.1% and permeability of 19 darcies were measured on the corresponding core plug.

Visual Estimate of Composition		%
Framework grains	Quartz	90
	Feldspar	5
	Lithics	tr
	Accessory minerals	tr
Matrix	Drilling mud	3
	Opaque material	tr
Authigenic minerals and cements	Quartz	tr
	Pyrite	tr
Porosity	Intergranular	nd
	Dissolution	2

Framework grains:

Monocrystalline grains dominate the quartz fraction. These have straight to slightly undulose extinction, rare vacuole trails and mineral inclusions of biotite, tourmaline and rutile needles. Minor examples of polycrystalline quartz show moderately undulose extinction. Corroded grains of untwinned, low birefringent grains suggest K-feldspars are the dominant variety of feldspar. There are rare examples of microcline. Lithics of granophyric igneous origin, chert and quartz-mica schist are apparent in trace amounts. Tourmaline accessory grains are present.

Matrix:

Brownish drilling mud rims grains. Opaque material that adheres to rare grains may represent organic matter.

Authigenic minerals and cements:

Quartz overgrowths are evident due to rare euhedral terminations and druse on grains. Dust rims that outline detrital grains are noted in scarce examples. Pyrite has replaced a minor proportion of ?organic matter.

X-ray diffraction

Bulk XRD (Fig. 10a) indicates that quartz is dominant, with K-feldspar and kaolinite in minor amounts. Pyrite is an additional mineral found. In the clay fraction (Fig. 10b), kaolinite 1T (dominant), illite 2M1 (minor) and 18 Å montmorillonite are apparent. Since detrital and authigenic clays are not apparent in the thin section, these clays may have been introduced via drilling mud. Quartz and K-feldspar were non clay minerals detected in the trace.

4.6 Mylor #1, sample 36, depth 1696.1m

Hand specimen description

The sample consisted of 2 core plug ends, and was an olive grey (5Y 4/1), friable sandstone. There was no reaction to 10% HCl and visual porosity was very good. Carbonaceous stringers and silty laminae were apparent.

Thin section description

Name: Coarse sandstone: moderately sorted subarkose

Texture:

Subangular to subrounded framework grains range in diameter from 0.08mm (very fine sand) to 1.5mm (very coarse sand). A stylolitic lamina is 0.5cm thick and contains detrital clays that rim grains and fill pores. Grain contacts within the lamina are mainly concavo-convex and sutured, whereas elsewhere these contacts are tangential to concavo-convex. The latter contacts reflect different effects of compaction throughout the sample. Other effects of compaction are bent micas and deformed feldspars and lithics. In some instances feldspars are crushed to a large extent, but in other cases deformation is minor despite significant dissolution.

Porosity:

Primary intergranular pores are more abundant in the cleaner zones, where pore throats are unobstructed (Fig. 11a). In these regions horizontal permeability should be relatively high. However, within the lamina pores tend to be isolated and overall vertical permeability will be reduced. Secondary dissolution is apparent due to honeycombed feldspars and oversized pores, and microporosity is associated with clays, particularly between booklets of authigenic kaolin. Porosity of 24.3% and permeability of 1643md were measured on the corresponding core plug.

Visual Estimate of Composition		%
Framework grains	Quartz	70
	Feldspar	5
	Lithics	1
	Mica	tr
	Accessory minerals	tr
Matrix	Detrital clays	2
	Drilling mud	1
	Opaque material	tr
Authigenic minerals and cements	Quartz	tr
	Pyrite	tr
	Kaolin	5
Porosity	Intergranular	12
	Dissolution	2
	Microporosity	2

Framework grains:

Monocrystalline quartz has straight to slightly undulose extinction and rare vacuole trails. Mineral inclusions of biotite, tourmaline and rutile needles are rare in the quartz. Minor examples of polycrystalline grains exhibit moderately undulose extinction and elongate, sutured crystal boundaries, features that indicate a strained metamorphic origin. Lithics of chert, schist, recrystallised glass and ?epidote-rich lithologies are evident.

Potassic feldspars are corroded along preferred crystallographic axes and partially altered to low birefringent (kaolinitic) clays. No plagioclase grains are apparent. Flakes of muscovite are bent and have splayed terminations. Accessory minerals of tourmaline and zircon are present.

Matrix:

Dark brown, illitic clays rim grains and fill pores in the lamina. In addition, stylolites are composed of dark clays and insoluble residues. Brown material that bridges grains commonly exhibits meniscus-like margins. This material is interpreted to be contamination from drilling mud. Stringers and blebs of opaque material probably represent organic matter.

Authigenic minerals and cements:

Quartz overgrowths are observed due to euhedral and druse terminations on grains. Dust rims that outline detrital grain margins are rarely apparent. Pyrite has replaced organic matter and crystallised as cubes and framboids on grain margins. There are rare patches of pyrite that have cemented framework grains. Kaolin fills pores, particularly in silty laminae (Fig. 11b). Kaolin platelets replace feldspars and have crystallised on the rims of quartz grains, where they may have intergrown with minor quartz overgrowths or have partially replaced quartz.

X-ray diffraction

Quartz dominates the bulk XRD trace (Fig. 12a). K-feldspar, kaolinite and illite/muscovite are present in minor amounts, whilst pyrite is a scarce component. In the clay fraction (Fig. 12b), Kaolinite 1T is the dominant clay mineral, with illite 2M1 and smectite (18 Å montmorillonite) in minor proportions. Quartz and K-feldspar were also detected.

4.7 Mylor #1, sample 43, depth 1698.2m

Hand specimen description

The sample consisted of 2 core plug ends, and was a light olive grey (5Y 7/1), moderately friable sandstone. There was no reaction to 10% HCl and visual porosity was good. Carbonaceous rich stringers and cross laminae were evident.

Thin section description

Name: Fine sandstone: submature subarkose.

Texture:

Subangular to subrounded framework grains range from 0.03mm (coarse silt) to 1.0mm (coarse sand) in diameter. They are moderately sorted and of moderate sphericity. Contacts between grains are tangential to concavo-convex, and pliable material such as glaucony grains, mica flakes and opaque stringers are bent by compaction. Furthermore, minor feldspars have been crushed, probably during burial. Cross lamination is evident due to stringers of opaque material and the presence of detrital clays in layers approximately 0.5mm thick.

Porosity:

Porosity is unevenly distributed in the sample. Cleaner portions have abundant primary intergranular pores with unobstructed pore throats. In these regions visual porosity forms up to 18% of the sample (Fig. 13a). There are pyritic, droplet-shaped patches throughout the cleaner zones. These are interpreted to be fossil oil droplets and may indicate that a thicker oil column was present in the past (Figs 13 a & 13b). Within clay and opaque rich laminae however, primary intergranular porosity is much reduced, pores are isolated and vertical permeability will be low as a result.

Dissolution of labile grains, particularly feldspars, has resulted in porosity gains throughout the sample, and microporosity is associated with kaolin (Fig. 13b). Micropores up to 20 microns are common between booklets of kaolin. Porosity of 20.0% and permeability of 122md were measured on the corresponding core plug.

Visual Estimate of Composition		%
Framework grains	Quartz	60
	Feldspar	5
	Lithics	2
	Mica	tr
	Glaucony (glauconite)	tr
	Accessory minerals	tr
Matrix	Detrital clays	5
	Opaque material	2
Authigenic minerals and cements	Quartz	1
	Pyrite	5
	Kaolin	6
Porosity	Intergranular	10
	Dissolution	2
	Microporosity	2

Framework grains:

Monocrystalline and less common polycrystalline quartz have straight to slightly undulose extinction and rare vacuole trails. Mineral inclusions of biotite, tourmaline and rutile needles are rare in the quartz. Feldspars are dominantly untwinned (potassic) varieties, and corroded to high degree. Lithics of chert, schist and rare siltstone are apparent. Flakes of muscovite and minor biotite have splayed terminations. There are rare grains of bright green glauconite. Accessory minerals of tourmaline, zircon and garnet are apparent.

Matrix:

Detrital clays in the laminae are pale to dark brown in colour, these rim grains and fill pores. Opaque material in stringers is probably composed of organic matter. Opaque droplet-like objects in pores within cleaner portions of the sample may contain residual bitumen.

Authigenic minerals and cements:

Quartz overgrowths are evident due to euhedral terminations on grains. Pyrite cubes and framboids adhere to framework grains. Pyrite has replaced ?bitumen in pores within cleaner regions of the sample, as well as organic matter in opaque stringers. Pyrite also forms minor patches of cement. Kaolin booklets up to 20 microns in diameter fill a minor proportion of pores, and are more common in the clayey laminae than cleaner portions of the sample. Cement stratigraphy suggests that kaolin precipitated after the development of quartz overgrowths.

X-ray diffraction

Quartz dominates the bulk XRD trace (Fig. 14a), K-feldspar and kaolinite are apparent in minor amounts, whilst illite/muscovite and pyrite are scarce. In the clay fraction (Fig. 14b), kaolinite 1T is dominant, with illite 2M1 as a minor component. Quartz and K-feldspar were also detected.

4.8 Mylor #1, sample 50, depth 1700.3m

Hand specimen description

The sample consisted of 2 core plug ends, and was a light olive grey (5Y 6/1), very friable sandstone. Dark silt/carbonaceous laminae and rip-up clasts were prominent in one plug end. The other plug end displayed horizontal laminae defined by layers of clean, coarse grains. Differences between the plug ends may reflect heterogeneity of sandstone at this depth. There was no reaction to 10% HCl and visual porosity was very good in each portion.

Thin section description

Name: Coarse sandstone: submature subarkose.

Texture:

Framework grains range from 0.03mm (silt - in fine grained laminae) to 3.2mm (granule - in clean portions of the sample) in diameter. The mean diameter was calculated to be 0.44mm (medium sand). Grains are moderately sorted (standard deviation 0.93Ø), angular to subrounded, and of low to moderate sphericity. Coarser grains are generally subrounded and of moderate sphericity (Fig. 15a). Contacts between grains are tangential to concavo-convex, which denote moderate compaction. Compaction effects are also apparent due to bent micas, deformed ?organic stringers and fractured feldspars. Laminae up to 2mm thick are outlined by ?organic matter, a decrease in grain size and presence of detrital clays. There are discontinuous stylolites in the laminae.

Porosity:

Primary intergranular pores are abundant in the clean portions of the sample, where opaque, pyritic droplet-like objects suggest the former presence of oil (Fig. 15a). These ?droplets are similar to those described in previous samples. Pore throats are unobstructed in the clean portions of the sample, through which fluids may pass freely. In the clay rich laminae, pores are isolated and minor, so that vertical permeability of this region will be reduced (Fig. 15b).

Dissolution of labile minerals (particularly feldspars) has resulted in porosity gains, whilst microporosity is associated with kaolin in pores. Porosity of 24.8% and permeability of 5168md were measured on the corresponding core plug.

Visual Estimate of Composition		%
Framework grains	Quartz	70
	Feldspar	5
	Lithics	1
	Mica	tr
	Glaucony (glauconite)	tr
	Accessory minerals	tr
Matrix	Drilling mud	tr
	Detrital clays	3
	Opaque material	1
Authigenic minerals and cements	Quartz	tr
	Pyrite	2
	Kaolin	3
Porosity	Intergranular	13
	Dissolution	2
	Microporosity	1

Framework grains:

Quartz is dominantly monocrystalline, with straight to slightly undulose extinction and rare vacuole trails. Mineral inclusions of biotite, tourmaline and rutile needles are rare in the quartz. Polycrystalline quartz grains display moderately undulose extinction. Corroded feldspars have either no twinning or microcline cross hatching. The latter are observed in rare instances. Unaltered feldspars are scarce. Lithics are composed of siltstone (rip-up clast), chert, mudstone and schist lithologies. Flakes of muscovite up to 0.5mm long have splayed terminations. Biotite is less common, of smaller size and partially altered to chlorite. Distorted, very fine to fine sand sized glaucony particles are composed of bright green (unoxidised) glauconite. Rounded accessory grains of tourmaline, zircon and opaque minerals are present.

Matrix:

Drilling mud lines rare pores. Brown illitic clays rim grains and fill pores in laminae. Opaque material in stringers and irregular fragments probably represents solid organic matter, whilst opaque droplet-like objects in pores may represent dead bitumen.

Authigenic minerals and cements:

Quartz overgrowths are evident in the cleaner portions of the sample, where there are euhedral terminations and rare druse outlines on grains. Dust rims that outline detrital grain margins are very rarely observed. Pyrite has replaced ?oil in droplets and approximately half the organic matter that occurs in clay rich laminae. In addition, pyrite cubes and framboids have crystallised on grains. Kaolin booklets, commonly vermiform and up to 20 microns in diameter, have crystallised in pores.

X-ray diffraction

Bulk XRD (Fig. 16a) indicates that quartz is dominant, K-feldspar and kaolinite are minor components, whilst illite/muscovite and pyrite are present in trace amounts. XRD of the clay fraction confirms that kaolinite 1T is the major clay mineral, with illite 2M1 and smectite (18Å montmorillonite) present in lesser proportions. Quartz and K-feldspar were also detected in the clay trace.

4.9 Mylor #1, sample 53, depth 1701.2m

Hand specimen description

The sample consisted of core plug ends, and was a light olive grey (5Y 6/1), friable sandstone. Dark (carbonaceous rich) laminae contained small patches of clean sandstone that may have been burrows. There were rounded patches of pyrite up to 5mm in diameter and dark rip-up clasts. There was no reaction to 10% HCl and visual porosity was good.

Thin section description

Name: Medium sandstone: submature subarkose.

Texture:

Framework grains range from 0.05mm (coarse silt) to 2.1mm (granule) in diameter, they are angular to subrounded and of low to moderate sphericity. The subarkose is relatively loosely packed, with most grain contacts at points and tangents (Fig. 17a). Moderate compaction has resulted in bent micas, deformed glaucony and fractured feldspars.

Opaque stringers, changes in grain size and alignment of grains delineate laminae. Laminae are approximately 5mm thick and have gradational contacts. An indistinct cross-lamination is apparent due to changes in laminae direction. Opaque droplet-like objects are present in pores, but these are less prevalent than in the previous sample.

Porosity:

Primary intergranular pores with unobstructed pore throats are apparent throughout the subarkose. Compaction, and precipitation of kaolin, quartz and pyrite has reduced porosity whilst dissolution of labile minerals has resulted in porosity gains. The latter is particularly evident in honeycombed feldspars. Microporosity is associated with kaolin in pores. Porosity of 22.9% and permeability of 1401md were measured on the corresponding core plug.

Visual Estimate of Composition		%
Framework grains	Quartz	70
	Feldspar	6
	Lithics	1
	Mica	tr
	Glaucony (glauconite)	tr
	Accessory minerals	tr
Matrix	Drilling mud	tr
	Detrital clays	1
	Opaque material	tr
Authigenic minerals and cements	Quartz	1
	Pyrite	1
	Kaolin	5
Porosity	Intergranular	15
	Dissolution	3
	Microporosity	2

Framework grains:

Monocrystalline grains dominate the quartz fraction. These have straight to slightly undulose extinction and rare vacuole trails. Mineral inclusions of biotite, tourmaline and rutile needles are rare in the quartz. Polycrystalline grains constitute less than 5% of the quartz, and display straight crystal boundaries and undulose extinction. Feldspars are either untwinned or display microcline cross-hatching, which suggests that feldspars are potassic and that plagioclase is rare or absent. Corrosion and kaolinisation of feldspars has been extensive. Lithics of chert, micrographic quartz-feldspar lithologies and schist are present. Flakes of muscovite and lesser chloritised biotite have splayed terminations. Distorted grains of bright green glauconite comprise the rare glaucony. Accessory minerals of tourmaline and zircon are evident.

Matrix:

Drilling mud adheres to a minor proportion of grains. Brown illitic clays rim grains and fill pores in laminae that also contain opaque ?organic stringers. Other opaque material is in the form of irregular blebs (possibly representing woody material) and rounded shapes in pores interpreted as dead bitumen.

Authigenic minerals and cements:

Quartz overgrowths are noted from euhedral terminations on a minor amount of grains (Fig. 17b). Accurate estimation of authigenic quartz percentage is not possible owing to the paucity of dust rims, but is inferred to be minor as most grains have short contact boundaries. Pyrite has replaced a minor proportion of ?bitumen, other solid organic matter and chert lithics. Kaolin booklets up to 20 microns in diameter have crystallised in pores and replaced feldspars. Kaolin rarely displays a vermiform habit.

X-ray diffraction

Bulk XRD (Fig. 18a) indicates that quartz is dominant, K-feldspar and kaolinite are minor whilst illite/muscovite and pyrite are barely evident. A relatively high kaolinite peak suggests more clay in the XRD sample than observed in thin section, which may be due to sample heterogeneity. Kaolinite 1T dominates the clay fraction (Fig. 18b), and illite 2M1 is a minor component. Quartz and K-feldspar were also detected.

4.10 Mylor #1, sample 57, depth 1702.4m

Hand specimen description

The sample consisted of 2 core plug ends, and was an olive grey (5Y 4/1), friable sandstone. There was no reaction to 10% HCl and visual porosity was very good. Patches of pyrite cemented sandstone up to 1cm in diameter were apparent. There were siltstone clasts up to 2.5cm in diameter, and dark laminae evident in both plug ends.

Thin section description

Name: Very coarse sandstone: immature sublitharenite.

Texture:

Framework grains range in diameter from 0.03mm (silt) to 2.5cm (pebble), with a mean of 1.29mm (very coarse sand). The pebbles are siltstone clasts. Grains are poorly sorted (standard deviation is 1.42Ø), subrounded and of moderate sphericity. Contacts between grains are mainly at points and tangents, although contacts between very coarse sand grains show some evidence of microsuturing and pressure dissolution.

The sublitharenite displays 3 beds. The first, composed mainly of medium sand sized grains and 2 silt rip-ups, is truncated by a bed composed of very coarse sand and the pebble sized siltstone. This bed is 3cm thick, grades to a medium sand size and is capped by a silty lamina which contains fine sized grains. The silty lamina is a maximum of 3mm thick, and in turn is truncated by a clean, medium sand. Another flattened siltstone rip-up is incorporated in this final layer.

Porosity:

Abundant primary intergranular pores are noted in the coarse regions of the sublitharenite (Fig. 19a). Unobstructed pore throats, drilling mud and opaque droplet-like shapes interpreted as fossil oil, suggest a high permeability for cleaner portions. However, the presence of silty laminae and rip-ups indicate restricted vertical permeability. Dissolution of labile grains has increased porosity, and microporosity is associated with kaolin in pores. Intragranular porosity is apparent due to dissolution of labile minerals in siltstone lithics. Porosity of 19.7% and permeability of 957md were measured on the corresponding core plug.

Visual Estimate of Composition		%
Framework grains	Quartz	65
	Feldspar	6
	Lithics	10
	Mica	tr
	Glaucony	tr
	Accessory minerals	tr
Matrix	Drilling mud	tr
	Detrital clays	2
	Opaque material	1
Authigenic minerals and cements	Quartz	tr
	Pyrite	1
	Kaolin	3
Porosity	Intergranular	10
	Dissolution	2
	Microporosity	1

Framework grains:

Quartz is mainly monocrystalline, with straight to slightly undulose extinction, vacuoles that are rarely in trails and mineral inclusions of tourmaline and muscovite. Polycrystalline quartz is minor and displays slightly elongate crystal boundaries and undulose extinction. K-feldspar displays simple twinning and cross-hatched (microcline) twinning, and grains are extensively corroded and kaolinised (Fig. 19b).

Lithics are dominated by flattened siltstone (?rip-ups). The siltstone contains framework grains composed of quartz, feldspars, chert lithics, mica flakes and minute glaucony (glauconite) in a matrix of illitic clays and opaque stringers. Authigenic pyrite has replaced opaque ?organic matter and crystallised as cubes and framboids throughout the siltstone. Other lithics include chert and schist.

Muscovite flakes up to 0.2mm in length are bent and have splayed terminations. Chloritised biotite is restricted to the silty lamina. Silt to very fine sand sized glaucony grains are composed of bright green glauconite. Accessory minerals of tourmaline and zircon are present.

Matrix:

Drilling mud partially coats a minor proportion of grains and forms bridges between grains. Brown detrital clays are illitic and restricted to the silty lamina. In this region they coat grains and fill pores. Opaque material consists of irregular blebs, stringers and globules in pores. Stringers and blebs are more prevalent in the silty lamina, whereas ?bitumen globules are restricted to clean regions.

Authigenic minerals and cements:

Quartz overgrowths are evident due to euhedral terminations and rare dust rims that outline detrital grains. Pyrite cubes are scattered throughout kaolin filled pores and partially rim grains. Pyrite has replaced organic matter in stringers and ?bitumen globules. Kaolin that is rarely vermiform fills pores and is associated with feldspar.

X-ray diffraction

Bulk XRD (Fig. 20a) indicates that quartz is dominant, with kaolinite, K-feldspar and illite/muscovite that are in minor amounts. Smectite and pyrite are noted in trace amounts. In the clay fraction (Fig. 20b), Kaolinite 1T is the dominant mineral phase. Illite 2M1 is minor, whilst a trace amount of smectite is apparent. Quartz and K-feldspar were also detected.

4.11 Mylor #1, sample 67, depth 1705.4m

Hand specimen description

The sample consisted of 2 core plug ends, and was an olive grey (5Y 5/1), moderately friable sandstone. There was a trace amount of slow reaction to 10% HCl and visual porosity was good. Fine laminae were evident due to dark carbonaceous/clayey streaks. In addition, there were thin rip-ups approximately 1cm in diameter.

Thin section description

Name: Fine sandstone: submature sublitharenite.

Texture:

Subrounded framework grains range from 0.06mm (very fine sand) to 0.45mm (medium sand) in diameter, they are moderately well sorted and of moderate to high sphericity. Contacts between grains are mainly tangential to concavo-convex, indicating that compaction has been moderate. Compaction has also resulted in stylolitised stringers, bent micas and fractured feldspars.

Laminae are apparent due to presence of detrital clays, alignment of opaque stringers and a flattened rip-up siltstone clast. There is a discontinuous, planar healed fracture evident in one portion of the section. This fracture displays a minute thickness and very little relative movement, and is oriented normal to the layering (vertical).

Porosity:

Primary intergranular pores are abundant except within clayey laminae. They are interconnected by pore throats unobstructed by detrital clays (Fig. 21a), and horizontal permeability is interpreted to be good. A minor proportion of pores contain opaque globules interpreted as dead bitumen. Porosity gains are evident due to dissolution of labile grains. Microporosity is associated with kaolin in pores. Vertical permeability will be restricted due to silty laminae, in which porosity is very low (Fig. 21b). Porosity of 21.6% and permeability of 78.2md were measured on the corresponding core plug.

Visual Estimate of Composition		%
Framework grains	Quartz	65
	Feldspar	5
	Lithics	6
	Mica	tr
	Glaucony	tr
	Accessory minerals	tr
Matrix	Detrital clays	3
	Opaque material	1
Authigenic minerals and cements	Quartz	1
	Pyrite	1
	Kaolin	3
	Carbonate	tr
Porosity	Intergranular	12
	Dissolution	2
	Microporosity	1

Framework grains:

Monocrystalline and rare polycrystalline quartz have straight to slightly undulose extinction and rare vacuole trails. Mineral inclusions of tourmaline and rutile needles are rare in the quartz. K-feldspar and rare plagioclase exhibit corrosion and minor kaolinisation along preferred crystallographic axes.

The siltstone rip-up is composed of angular framework grains (quartz feldspar, chert, micas) in an illite rich clay matrix. There are opaque ?organic stringers scattered throughout the siltstone and pyrite cubes are also evident. Other lithics include chert and micaceous schist. Flakes of chloritised biotite have splayed terminations, whilst bent muscovite flakes are up to 0.2mm long. Deformed grains of bright green glaucony composed of glauconite typically have minute brownish cores. These cores may indicate a minor proportion of illite and/or chlorite. Accessory minerals of tourmaline and rounded, very fine zircon are present.

Matrix:

Detrital clays rim grains and fill pores in laminae. Opaque material is present as stringers, irregular blebs and portions of globules. The latter may represent bitumen whilst other opaques are probably composed of organic matter.

Authigenic minerals and cements:

Quartz overgrowths are apparent due to euhedral terminations, triple point junctions and minor instances of dust rims. Pyrite has replaced organic matter in stringers, blebs and globules, and crystallised as cubes on the margins of grains. Kaolin has precipitated in pores and along crystallographic axes of feldspars. Irregular patches of micritic carbonate have cemented a minor proportion of grains. The reddish colour of some patches suggests they are Fe rich (siderite or ankerite). There are lesser amounts of coarse carbonate spar which cements grains.

X-ray diffraction

Bulk XRD (Fig. 22a) illustrates the dominance of quartz, and the minor presence of K-feldspar, kaolinite and illite/muscovite. Trace amounts of calcite and pyrite are indicated. In the clay fraction (Fig. 22b), kaolinite 1T is dominant, whilst illite 2M1 is minor. Quartz and K-feldspar were also detected.

4.12 Mylor #1, sample 77, depth 1708.4m

Hand specimen description

The sample consisted of 2 core plug ends, and was a medium light grey (N6), friable sandstone. There was a moderate reaction to 10% HCl and visual porosity was very good. Carbonaceous stringers and laminae were discontinuous, suggestive of bioturbation.

Thin section description

Name: Medium sandstone: carbonate cemented subarkose.

Texture:

Framework grains that range from 0.07mm (very fine sand) to a single grain of flattened siltstone, 2.5mm (granule) in diameter, are angular to subrounded, moderately well sorted and of low to moderate sphericity. Very fine to fine grains tend to be more angular and of lower sphericity than coarser grains. A discontinuous lamina contains silt sized grains and clayey matrix. Elsewhere, indistinct lamination is evident due to vague alignment of framework grains. Loose packing of grains can be inferred from contacts which are dominantly at points and tangents. There are minor concavo-convex contacts, whilst sutured contacts are absent.

Porosity:

Primary intergranular pores, interconnected by unobstructed pore throats, are evident throughout the sample except where carbonate cement is distributed (Fig. 23a). Where patches of carbonate cement have occluded intergranular pores, porosity is restricted to dissolution of labile grains, notably feldspars. Corrosion of the latter ranges from minor to almost complete, resulting in porosity gains. Microporosity is associated with kaolin. Porosity of 19.5% and permeability of 469md were measured on the corresponding core plug.

Visual Estimate of Composition		%
Framework grains	Quartz	60
	Feldspar	10
	Lithics	4
	Mica	tr
	Glaucony (glauconite)	tr
	Accessory minerals	tr
Matrix	Opaque material	tr
Authigenic minerals and cements	Quartz	tr
	Carbonate	10
	Pyrite	tr
	Kaolin	5
Porosity	Intergranular	12
	Dissolution	3
	Microporosity	1

Framework grains:

Monocrystalline and polycrystalline quartz grains are of clear to slightly dusty appearance, have straight to slightly undulose extinction and rare vacuole trails. Mineral inclusions of biotite, tourmaline and rutile needles are rare in the quartz. Feldspars are mainly untwinned potassic varieties, with minor examples that exhibit K-feldspar and plagioclase twinning. They are typically corroded and commonly associated with kaolin. These effects are particularly evident along preferred crystallographic axes.

Lithics show igneous textures such as micrographic intergrowths of quartz and feldspar, in addition to the flattened siltstone or rip-up clast. Muscovite and lesser examples of chloritised biotite flakes are bent and have splayed terminations. Glaucony composed of bright green glauconite commonly have nuclei composed of other framework grains. Accessory grains of tourmaline are apparent.

Matrix:

Stringers and irregular patches of opaque material probably represent organic matter.

Authigenic minerals and cements:

Quartz overgrowths are apparent due to euhedral and druse terminations on grains, although dust rims that outline detrital margins are rarely observed. Druse silica is intergrown with kaolin, suggesting that these phases may be coeval. Pyrite that has partially replaced ?organic matter in stringers and ferromagnesian minerals may represent an early phase. Elsewhere, pyrite cubes have crystallised in kaolin, carbonate and on margins of quartz overgrowths and suggests later pyritisation. Kaolin has precipitated in pores and replaced feldspars. Booklets of kaolin are approximately 10 microns in diameter. Carbonate spar has cemented and partially embayed quartz grains, and replaced a minor proportion of labile minerals such as feldspar. The poikilotopic nature of carbonate (Fig. 23b) suggests that it is a deep burial cementing phase.

X-ray diffraction

Quartz dominates the bulk XRD trace, with calcite, K-feldspar and kaolinite in minor amounts (Fig. 24a). In the clay fraction (Fig. 24b), the dominance of kaolinite 1T and minor presence of illite 2M1 are apparent. Quartz and K-feldspar were also detected.

5. XRD TABLES

Table 2. BULK MINERALOGY Mylor #1

Depth (m)	Qtz	Feld	Kaol	I/M	Cal	Pyr
		Strongest peak height in counts				
1685.1	33263	300	199	-	-	159
1686.2	21029	466	315	260	-	-
1688.6	37367	582	535	321	-	tr
1690.4	28877	376	370	266	-	92
1692.2	28788	408	236	202	-	77
1696.1	25849	222	383	277	-	tr
1698.2	25061	246	632	tr	-	98
1700.3	29032	6186	315	tr	-	133
1701.2	30954	2209	1060	203	-	tr
1702.4	26628	349	1445	414	-	125
1705.4	33689	730	1228	454	120	99
1708.4	26647	1080	547	tr	1782	99

Qtz=quartz, Feld=K-feldspar, Kaol=kaolinite, I/M=illite/muscovite, Cal=calcite and Pyr=pyrite.

Table 3 CLAY XRD MINERALOGY Mylor #1

Depth (m)	Smec	Kaol	Illite	Quartz	Feld
	Strongest peak height in counts				
1685.1	tr	5044	1051	4448	306
1686.2	tr	7305	817	3007	500
1688.6	tr	7076	829	2687	535
1690.4	tr	7796	631	4247	370
1692.2	1457	5140	803	3787	348
1696.1	1028	8171	1219	3923	378
1698.2	tr	11492	634	2332	365
1700.3	tr	11494	667	2582	397
1701.2	-	10735	625	1872	301
1702.4	tr	8905	964	1353	334
1705.4	tr	6548	687	1943	299
1708.4	-	15042	741	2083	409

Smec=smectite (18 Å montmorillonite), Kaol=kaolinite 1T, Illite=illite 2M1 and Feld=feldspar.

All the XRD results are summarised in the tables above. To facilitate between-sample comparisons of relative abundance for the same mineral, the results in each table are given in counts of peak height. These figures are based on the strongest line for each mineral detected. Caution should be used in assessing relative abundance from these figures since peak height is also significantly affected by factors such as crystal size and crystallinity. For these reasons the figures are even more unreliable when comparing different minerals in the same sample. For example, based on peak height alone carbonate minerals will always appear less abundant than similar proportions of quartz because of differences in crystallinity. Clay minerals will also appear to be less abundant than quartz in a bulk XRD trace because of differences in crystal size. Furthermore, comparison should not be made between peak heights given for bulk samples and those for the clay fractions because results have been influenced by the sampling and preparation methods. XRD will not usually detect minerals which represent less than approximately 5% of the total rock composition.

6. GRAINSIZE ANALYSIS

Sample	Depth (m)	Mean (mm)	Mode (mm)	Max (mm)	Min (mm)	So	Std Dev (phi)	IGSD (phi)	SIEVE Mean	EQUIV Std Dev
12	1688.2	1.04	0.75	6.15	0.10	1.67	1.17	1.16	0.89	1.16
23	1692.2	0.68	0.55	2.15	0.10	1.34	0.74	0.75	0.59	0.72
50	1700.3	0.44	0.33	3.20	0.03	1.37	0.93	0.87	0.38	0.91
57	1702.4	1.29	0.58	25.00	0.03	1.49	1.42	1.04	1.10	1.41

So is the Trask sorting.
Std Dev is the standard deviation
Phi units lineate the Wentworth scale (1phi = 0.5mm, 2phi = 0.25mm, etc)
IGSD is the inclusive graphic standard deviation of Folk (1980).
Sieve equivalents have been derived according to the equations of Harrell and Eriksson (1979).

Some scope for obtaining different results exists due to the presence of interpreted silt rich rip-ups in samples 50 and 57. If these are considered to be clay drapes over ripples rather than rip-up clasts, then individual grains within silty zones should be counted, and results skewed to finer grain sizes. Sieving will probably result in disaggregation of the ?rip-ups, and probably yield analyses different to those above.

7. DISCUSSION

a) Reservoir quality

Samples from the cored section of Warre Sandstone in Mylor #1 have good to excellent reservoir quality. Visually estimated porosities range from 12% (sample 1, depth 1685.1m) to 20% (sample 4, depth 1686.2m and sample 53, 1701.2m), with no estimate determined for sample 23, depth 1692.2m. The latter sample consists of unconsolidated sand, and has a high inferred reservoir quality based on the presence of drilling mud contamination, lack of detrital clay and paucity of authigenic cement. This hypothesis is confirmed by core analysis, which reveals porosity of 31.1% and permeability of 19 darcies for the corresponding plug. Porosity and permeability measurements of plugs from sands over the entire cored interval illustrate consistently good to very good porosity with high permeabilities.

Primary intergranular pores are abundant in all consolidated samples, and are connected by unobstructed pore throats. The only authigenic clay noted is kaolin, which fills pores and does not normally restrict flow. The lack of authigenic clays in pore throats has resulted in high permeability values recorded by core analysis. Porosity was enhanced by the dissolution of labile minerals, particularly feldspars. Microporosity is associated with authigenic kaolin in pores, with micropores up to 20 microns evident between stacked (vermiform) platelets.

Compaction and authigenesis have had minor influences on reservoir quality, which is determined by granulometric characteristics (mainly sorting) and detrital clays. The latter are concentrated within laminae, the presence of which is likely to reduce vertical rather than horizontal permeability. Other clays, of similar appearance to detrital clays, are present in flattened siltstone lithics or rip-up clasts, and are not considered likely to restrict permeability.

Smectite and illite clays that were revealed by XRD analysis, are thought to be either associated with detrital clays in laminae and/or siltstone clasts, or introduced to samples via drilling mud contamination. The latter was evident in most samples and noted in the core descriptions. Authigenic smectite/illite clays were not apparent in thin section examination.

Problems may be encountered during high production rates due to movement of kaolin platelets, which may block pore throats. The friable nature of samples was noted in hand specimen and core descriptions, which suggests that production of sand may also present problems.

b) Lithology and mineralogy

Lithologically the samples are subarkoses and two sublitharenites, with the latter classification due to large siltstone clasts (rip-ups) in samples 57 (1702.4m) and 67 (1702.4m). Grain size and sorting are variable, from poorly sorted conglomerates and coarse to medium sands, to fine grained, well sorted sands. They are friable due to paucity of authigenic cements, and show grain contacts dominantly at points and tangents. The latter reflect loose packing of grains, and indicate low to moderate compaction.

Framework grains in these lithologies comprise quartz, feldspars (dominantly untwinned K-feldspar), minor lithics, and trace amounts of mica and accessory minerals of zircon and tourmaline. The scarcity of plagioclase was confirmed by XRD analysis, which detected only K-feldspars. Trace amounts of bright green glaucony (glauconite) were detected in samples 43 (1698.2m) to 77 (1708.4m) inclusive.

Matrix is composed of detrital clays associated with silty laminae, organic matter in stringers and possible bitumen, and drilling mud. Bitumen is interpreted from samples 4 (1686.2m), 43 (1698.2m), 50 (1700.3m), 53 (1701.2m), 57 1702.4m) and 67 (1705.4m), where opaque, pyritised globules occupy minor pores. The presence of drilling mud in some samples is evident due to dark silt that lines pores and forms meniscus-shaped bridges between grains. Illite and smectite that were detected in clay XRD traces of most samples may comprise detrital clays and be present in siltstone clasts. However, clasts and detrital clays were not observed in samples 1 (1688.6m), 4 (1690.4m) and 23 (1692.2m). In these instances smectite and illite may have been introduced via drilling mud.

Authigenic minerals and cements consist of quartz, pyrite, kaolin and carbonate. Quartz overgrowths were detected in most samples, but as 1% or less of total compositions. Pyrite was observed as minute cubes and massive patches that cement grains, and as replacement of organic matter in stringers and globules. Kaolin precipitated in pores as vermiform booklets up to 20 microns in diameter, and as a replacement of feldspars. Kaolin typically comprises approximately 5% of samples. Two forms of carbonate were noted in sample 67, (1705.4m), namely patches of reddish micrite (probably siderite or ankerite) and clear poikilotopic spar. Poikilotopic carbonate was evident in sample 77 (1708.4m), and revealed to be calcite by bulk XRD analysis.

c) Sediment provenance and depositional environments

The dominant sediment source was from a granitic terrane. This provenance is apparent due to the presence of K-feldspar throughout the sequence, in concentrations up to 10%. The overwhelming variety of quartz is unstrained and monocrystalline, and there are rare plutonic igneous lithics, which support this view. However, there have also been minor sediment inputs from metamorphic and sedimentary terranes, as indicated by rare strained quartz, schistose lithics and sedimentary lithics such as sandstone and chert. There does not appear to have been any significant change in sediment source during deposition of this sequence of samples.

The coarse size of grains indicates that distances of sediment transport were short or that there was uplift in the source area. Most sediments are poorly sorted and contain angular to subrounded grains, which support the concept of short distances of sediment transport. Where the sediments are poorly sorted in the coarse grained subarkoses and contain rip-up clasts, it can be assumed that rates of sedimentation were relatively rapid. A moderate to high energy regime would be required to transport these sediments.

Evidence for changes to the depositional environment of the cored section of Warre Sandstone is found in core descriptions and supported by this study. Four distinctive environments are proposed, each sub-unit characterised by different lithology and electric log (GR) response.

SUB-UNIT	Environment	Driller's depths	Logger's depths
1	Quiet marine	1711.45m ↓	1712.45-1722.0m
2	Marine deltaic	?1708.7-1711.45m	?1709.7-1712.45m
3	Estuarine/lagoonal	1697.3-?1708.7m	1698.3-?1709.7m
4	Fluvial	1697.3m ↑	1572.5-1698.3m

For sub-unit 1, quiet marine sedimentation is indicated by calcareous greensand at the base of core 2, from 1711.45 to at least 1712.75m (1712.45-1713.75m log depths). Glauconite formation is restricted to marine environments and enhanced in conditions where sedimentation rates are low, pH is neutral and Eh at the oxidation-reduction boundary. The presence of interbedded silts supports the notion of a low energy environment, whilst high GR readings may reflect the presence of K-rich glauconite in addition to shales.

Overlying the greensand there are sands (up to 1708.7m-*driller*, corresponding to 1709.7m-*logger*) that display rare glauconite and siltstone rip-ups. These sands comprise sub-unit 2 and may represent the exclusively marine portion of a prograding deltaic sequence as coal laminations were not recorded during core logging of this section. This ?basal wedge of deltaic sand is represented on the GR curve by coarsening upward cycles typical of a prograding sequence. The top of this unit is difficult to pick on the GR log, unless it is taken to be the top of a blocky shape capped with a distinctive fining upward character at 1707.5m-*logger* (corresponding to 1706.5m-*driller*). This log interpretation differs from that obtained by examination of core, based on the absence of coals. Whichever interpretation is adopted, this unit is thin and may thicken in the source direction.

Coaly laminations noted in core descriptions from 1708.7m-*driller* (1709.7m-*logger*) and shallower, indicate beginnings of non-marine influence. A mixed or brackish marine depositional environment is implied for sub-unit 3 (up to 1697.3m-*driller* or 1698.3m-*logger*), due to presence of glauconite (marine), coal laminations (non-marine) and fine grained well sorted sediments (possibly winnowed by currents, waves or tides). Previously suggested environments such as estuarine or back lagoonal settings are supported by this evidence. Coarser and more poorly sorted sands in this zone may represent pulses of sediment brought into the depositional environment during floods. The GR response above 1707.5m-*logger* is typical of thin tidal/estuarine sands with both fining up and coarsening upwards signatures.

No glauconite is evident at depths shallower than 1697.3m-*driller* (1698.3m-*logger*), either during core logging or in this study. Above this depth sands tend to be coarse to conglomeratic and massive, and contain siltstone clasts, slumps and interlaminated coals. These sediments are typical of a fluvial environment, dominated by channel and sheet/overbank deposits. An abrupt change to the GR log character at 1698m corresponds to the onset of thick pulses of clean fluvial sand. In Mylor #1, the bell-shaped character suggests a channel deposit, approximately 7m thick. This character may not be evident in other parts of the basin, where crevasse splay or other overbank/sheet sands with responses similar to the section above 1690m, may be represented. The distinction between tidal sands and fluvial sands may not be apparent from log shape alone in these instances.

The cored sequence is thus interpreted to represent a prograding deltaic sequence that overlies sediments of a quiet marine setting. The delta consists of a thin marine wedge, a middle portion containing mixed environment deposits and a thick upper zone of high energy fluvial sediments. Corresponding changes in the character of the GR log are evident for each sub-unit.

d) Diagenetic alteration

There has been minor diagenetic alteration to this sequence of sandstones. Most samples show a similar diagenetic pathway and much of the alteration was early. Since all samples display altered feldspars that have been crushed and deformed by compaction, some of the alteration may have commenced during weathering prior to transport and deposition.

Glauconite is a relatively early authigenic mineral which forms at the sediment-water interface. After burial it is gradually converted to illite when Al substitutes for Fe in the lattice structure. The Fe may be partially retained in the glaucony grain where it imparts a brownish stain, or be released and available for precipitation as pyrite. Where pyrite is disseminated throughout the opaque stringers it is probably an early precipitate related to the initial alteration of organic matter, the decay of which created local anoxic conditions necessary for flourishing of sulphur producing bacteria. Elsewhere, oxygenated (bicarbonate) waters may have been present, and Fe released during the conversion of glauconite to illite could have formed Fe rich carbonate, as was noted in sample 67, depth 1705.4m. The micritic habit of this carbonate suggests that it was an early phase.

Alteration and corrosion of feldspars continued after deposition to result in secondary porosity. Flushing of the sediment by meteoric waters could have resulted in this final phase of dissolution. In some instances the dissolution of feldspars probably provided a source of Si and Al for the precipitation of kaolin, and the excess Si necessary for the rare quartz overgrowths. The association of authigenic kaolin with corroded feldspars was noted in many samples. Both kaolin and quartz precipitation are favoured in acidic conditions that lead to dissolution of feldspars. However, the relative lack of quartz cements despite the abundance of feldspars and authigenic kaolin suggests that flushing was sufficient to remove excess SiO_2.

After burial, initial porosity would have been reduced by grain rotation. Continued mechanical compaction resulted in the bending of micas and crenulation of opaque stringers, and deformation of soft lithics and corroded feldspars to further reduce original porosity. Minor fracturing was noted in sample 67, depth 1705.4m. There is no direct evidence for the timing of this fracturing, but it is considered likely to have been associated with a structural event. Carbonate spar cement is poikilotopic, indicative of deep burial. This cementing phase may be linked to CO_2

released during carboxylation reactions associated with kerogen formation, as $CaCO_3$ dissolved from deeper zones is re-precipitated at shallower depths in response to changing pH conditions. If this is the case, then later carbonate may have preceded release of hydrocarbons.

There is evidence for hydrocarbon migration at two separate times. The first input of hydrocarbons may have been an oil charge, possibly reaching a height of at least 1686.2m. A sample from this depth reveals the presence of pyritic globules, interpreted as relic oil droplets. Pyrite could have been precipitated as a result of biodegradation of this oil. A later migration is apparent due to the fact that 1686.2m is now within the known gas zone, which suggests gas may have displaced the previous oil charge.

Although the paragenetic sequence is not certain and all samples do not show each phase, the following diagenetic events have been recognised:

Event	Early	Middle	Late
	Diagenetic Stage		
Weathering	---		
Glauconite	---		
Pyrite	---		----
Chlorite	---		
Carbonate	---		-----
Dissolution	--------		
Kaolin	-----		
Quartz	---		
Compaction	----------------------	----------------------	
Fracturing		-------	
Hydrocarbons			------ --------

8. CONCLUSIONS

1. Reservoir quality is high due to the dominance of primary intergranular porosity and unobstructed pore throats. No authigenic illite or smectite was observed.

2. Production problems may occur due to movement of kaolin platelets and/or sand.

3. Lithologically the samples are mainly coarse grained subarkoses, with two sublitharenites.

3. Sediment provenance was dominantly from a granitic terrane.

4. The cored sequence is interpreted to represent a prograding deltaic sequence that overlies sediments of a quiet marine setting.

5. The delta consists of a thin marine wedge, a middle portion containing mixed environment deposits and a thick upper zone of high energy fluvial sediments. Corresponding changes in the character of the GR log are evident for each sub-unit.

6. Diagenetic alteration has been minor, with the most widespread authigenic mineral being kaolin.

9. GLOSSARY

Framboid
A cluster of pyrite crystals with a spheroidal outline.

Glaucony
A term used to describe green minerals without any genetic connotations. If the green minerals can be identified, a specific mineral name is given.

Honeycomb Porosity
Secondary porosity produced by the corrosion (etching) of detrital grains.

Micrographic Intergrowth
A regular intergrowth of two minerals.

nd
Abbreviation meaning not detected or not determined.

Vacuole
Gas or liquid filled inclusion.

10. REFERENCES

Folk, R L, 1980 - The Petrology of Sedimentary Rocks: Hemphill Publishing Company, Austin, Texas.

Harrell, J A and Eriksson, K A, 1979 - Empirical Conversion Equations For Thin-Section and Sieve Derived Distribution Parameters. *Journal of Sedimentary Petrology* 49, No 1, p 273-280.

PE906740

This is an enclosure indicator page.
The enclosure PE906740 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906740 has the following characteristics:

ITEM_BARCODE =	PE906740
CONTAINER_BARCODE =	PE900934
NAME =	Photomicrograph, Appendix 2, Figure 1
BASIN =	OTWAY
PERMIT =	PEP108
TYPE =	WELL
SUBTYPE =	PHOTOMICROGRAPH
DESCRIPTION =	Photomicrograph, Appendix 2, Figure 1, Mylor-1
REMARKS =	
DATE_CREATED =	31/10/94
DATE_RECEIVED =	23/03/95
W_NO =	W1102
WELL_NAME =	MYLOR-1
CONTRACTOR =	THOMAS GEOLOGICAL SERVICES
CLIENT_OP_CO =	BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

11. FIGURES AND CAPTIONS

Figure 1a.

Quartz grains (clear and brown) are shown penetrating corroded K-feldspar (grey). Note that the feldspar displays a simple (carlsbad) twin plane (arrow) and dissolution porosity (blue-tinged opaque areas). Mylor #1, sample 1, depth 1685.1m. Crossed nicols. Field of view 2.6mm.

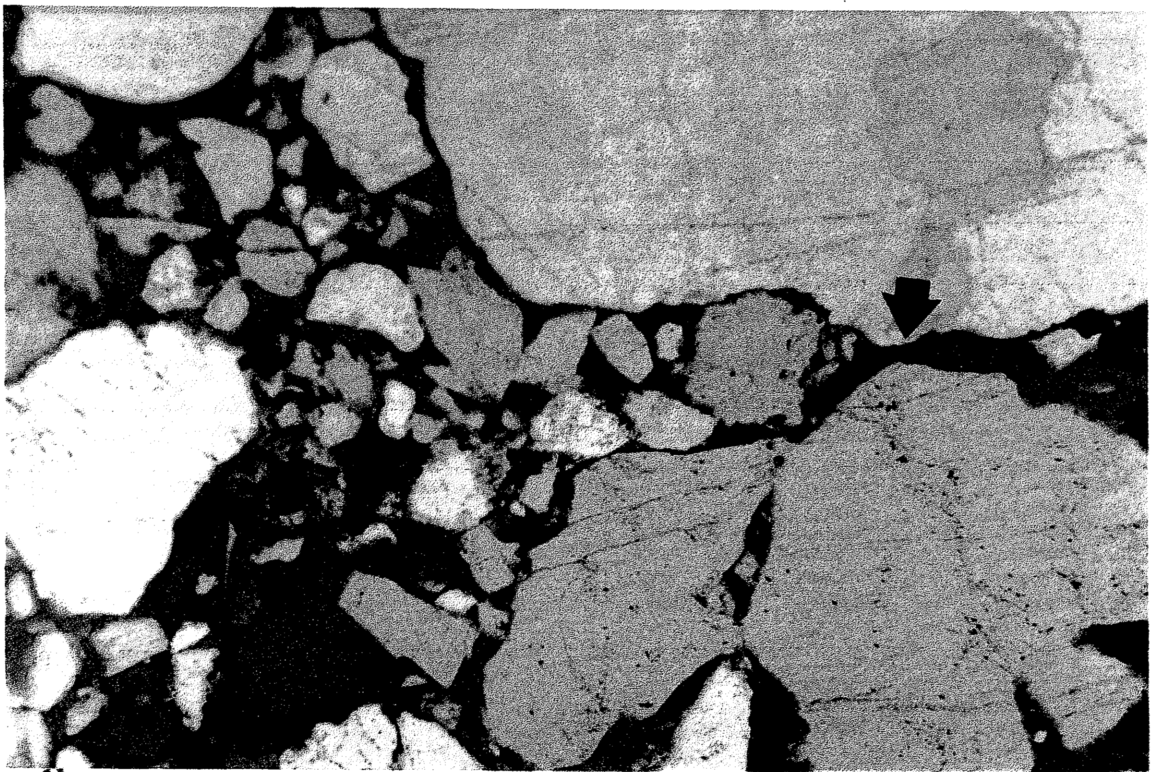


Figure 1b.

Dark clays that rim grains and form bridges between grains (arrow) are interpreted to be drilling mud. Note the abundant porosity (blue) and that contacts between quartz grains (clear) are at tangents. Mylor #1, sample 1, depth 1685.1m. Plane light. Field of view 2.6mm.

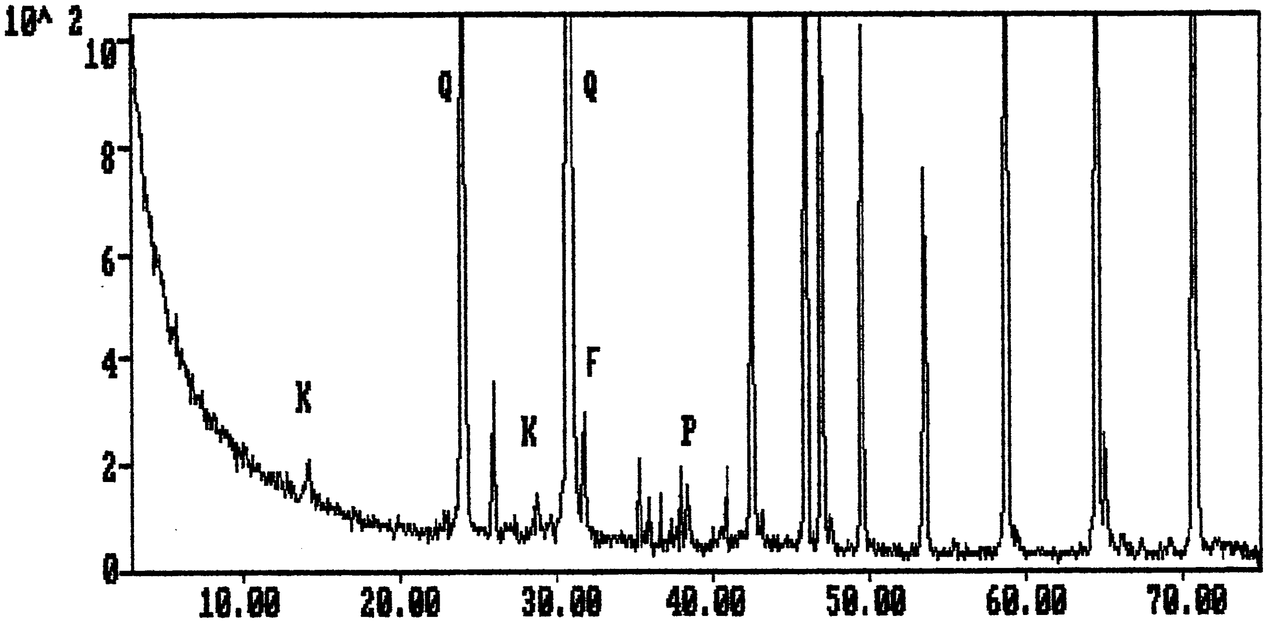


Figure 2a.

Bulk XRD trace of Mylor #1, sample 1, depth 1685.1m. Only the strongest peaks for each mineral identified have been labelled. K=kaolinite, I/M=illite/muscovite, Q=quartz, F=K-feldspar and P=pyrite. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

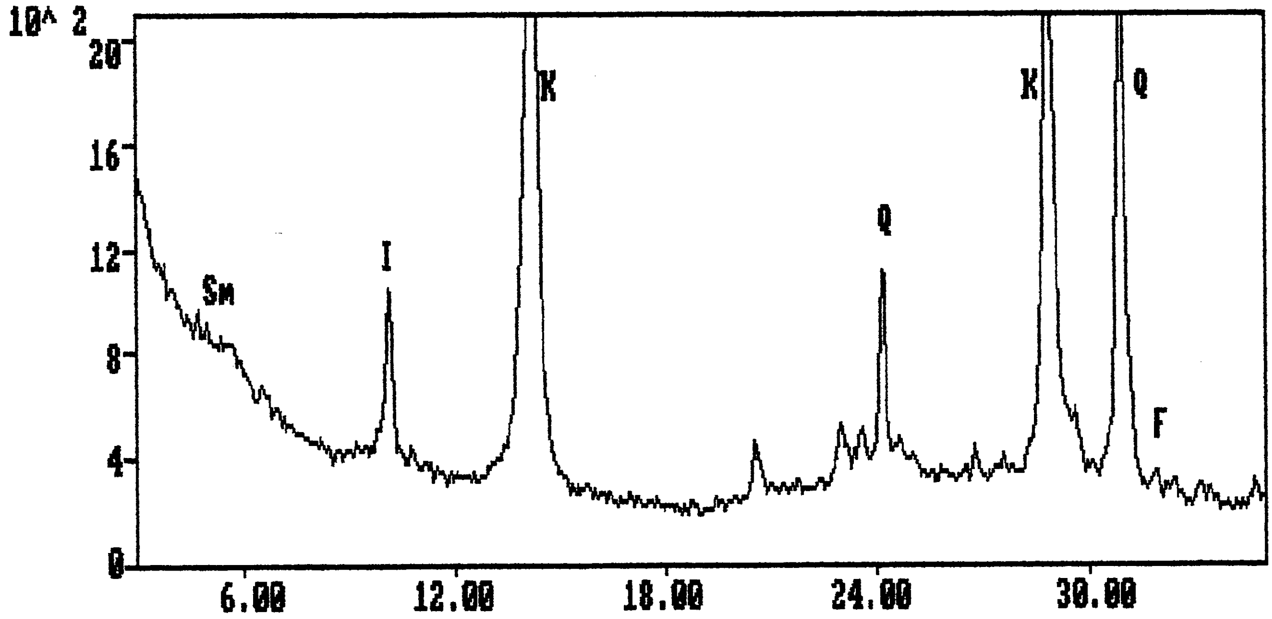


Figure 2b.

Clay XRD trace of Mylor #1, sample 1, depth 1685.1m. Sm=smectite (montmorillonite), I=illite 2M1, K=kaolinite 1T, Q=quartz and F=feldspar. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

PE906741

This is an enclosure indicator page.
The enclosure PE906741 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906741 has the following characteristics:

ITEM_BARCODE =	PE906741
CONTAINER_BARCODE =	PE900934
NAME =	Photomicrograph, Appendix 2, Figure 3
BASIN =	OTWAY
PERMIT =	PEP108
TYPE =	WELL
SUBTYPE =	PHOTOMICROGRAPH
DESCRIPTION =	Photomicrograph, Appendix 2, Figure 3, Mylor-1
REMARKS =	
DATE_CREATED =	31/10/94
DATE_RECEIVED =	23/03/95
W_NO =	W1102
WELL_NAME =	MYLOR-1
CONTRACTOR =	THOMAS GEOLOGICAL SERVICES
CLIENT_OP_CO =	BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

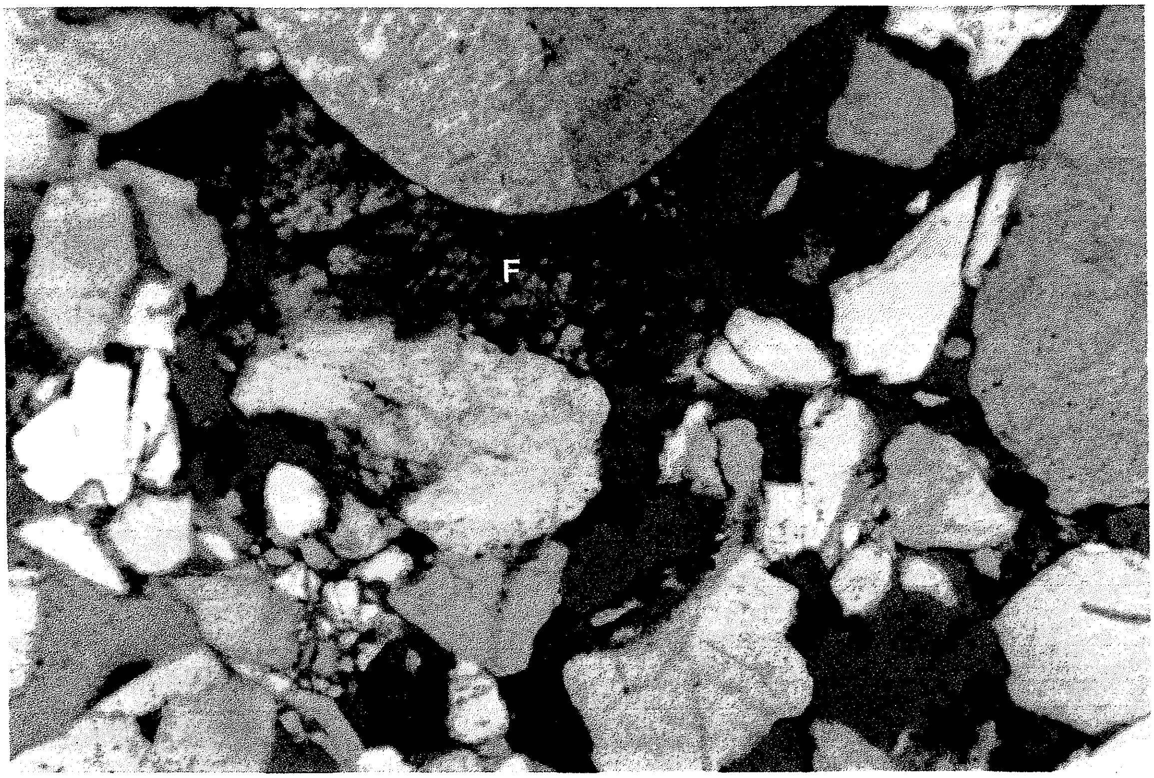


Figure 3a.

A distorted and crushed grain of feldspar (F) displays dissolution porosity (blue). Note the dark rims of drilling mud around most grains. Shattering of quartz grains (clear) may be due to drilling processes. Mylor #1, sample 4, depth 1686.2m. Plane light. Field of view 2.6mm.

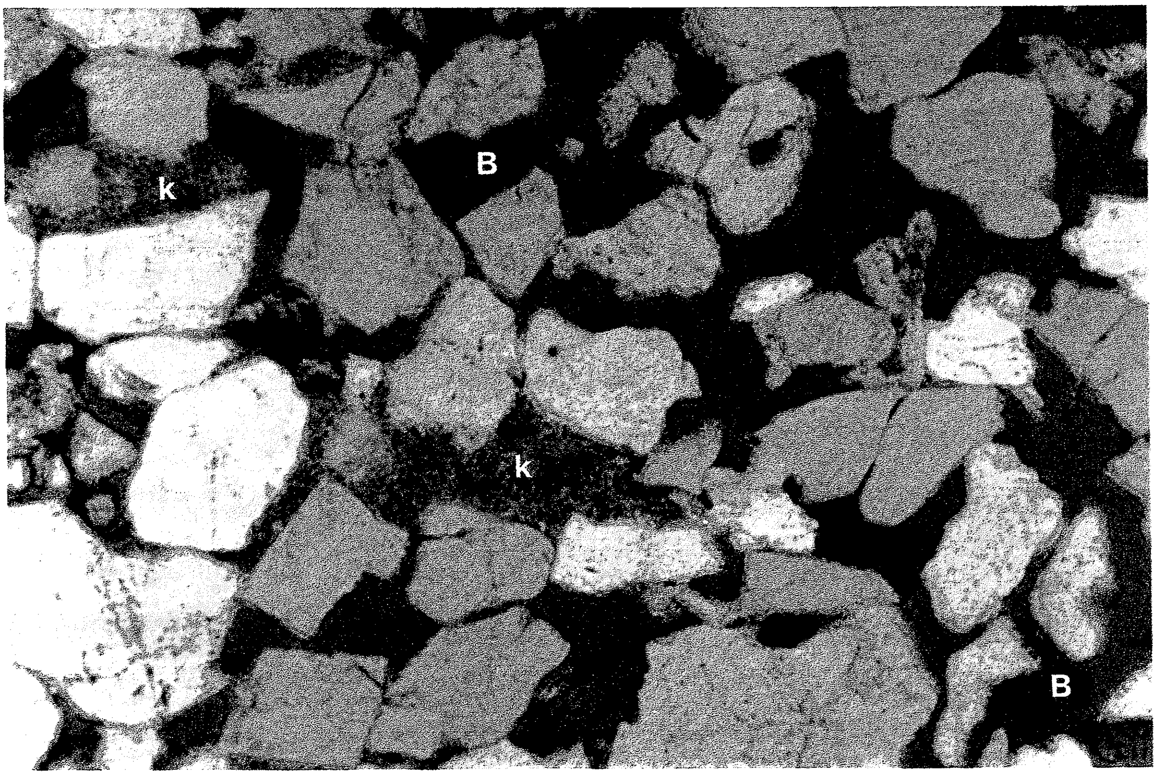


Figure 3b.

Kaolin (K) that fills pores in this view of the subarkose is coloured light blue due to associated microporosity. Note that pore throats are unobstructed except for dark drilling mud. Rounded opaque-rimmed areas in pores may represent bitumen (B). Mylor #1, sample 4, depth 1686.2m. Plane light. Field of view 2.6mm.

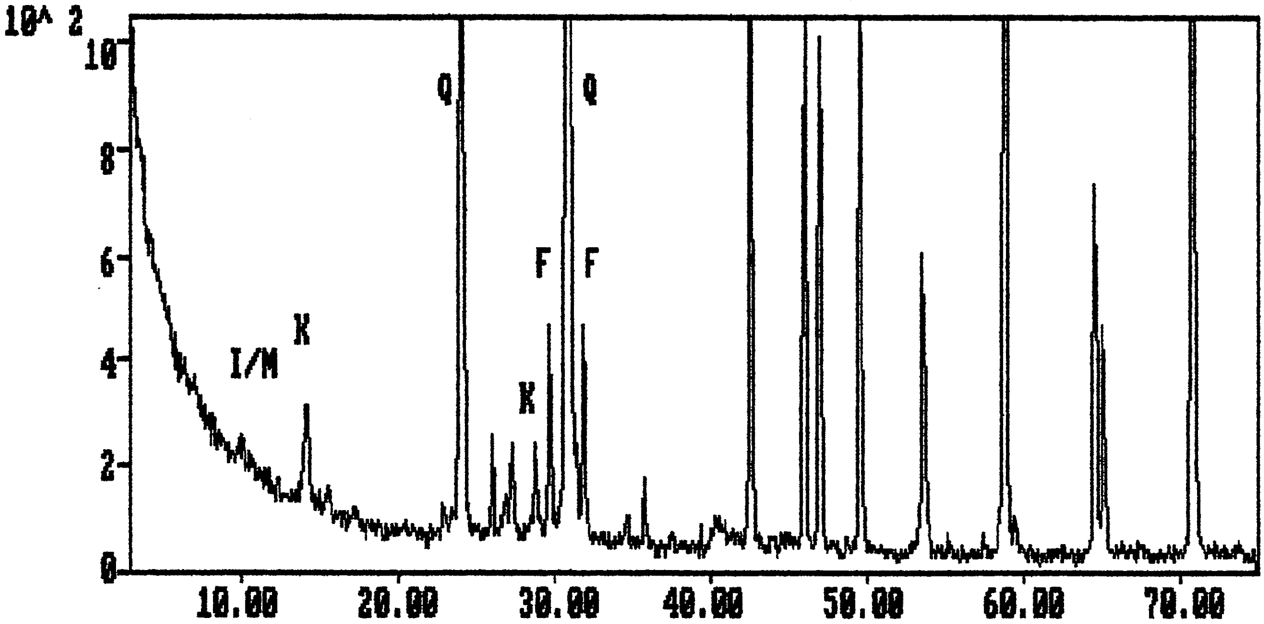


Figure 4a.

Bulk XRD trace of Mylor #1, sample 4, depth 1686.2m. Only the strongest peaks for each mineral identified have been labelled. K=kaolinite, I/M=illite/muscovite, Q=quartz, F=K-feldspar and P=pyrite. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

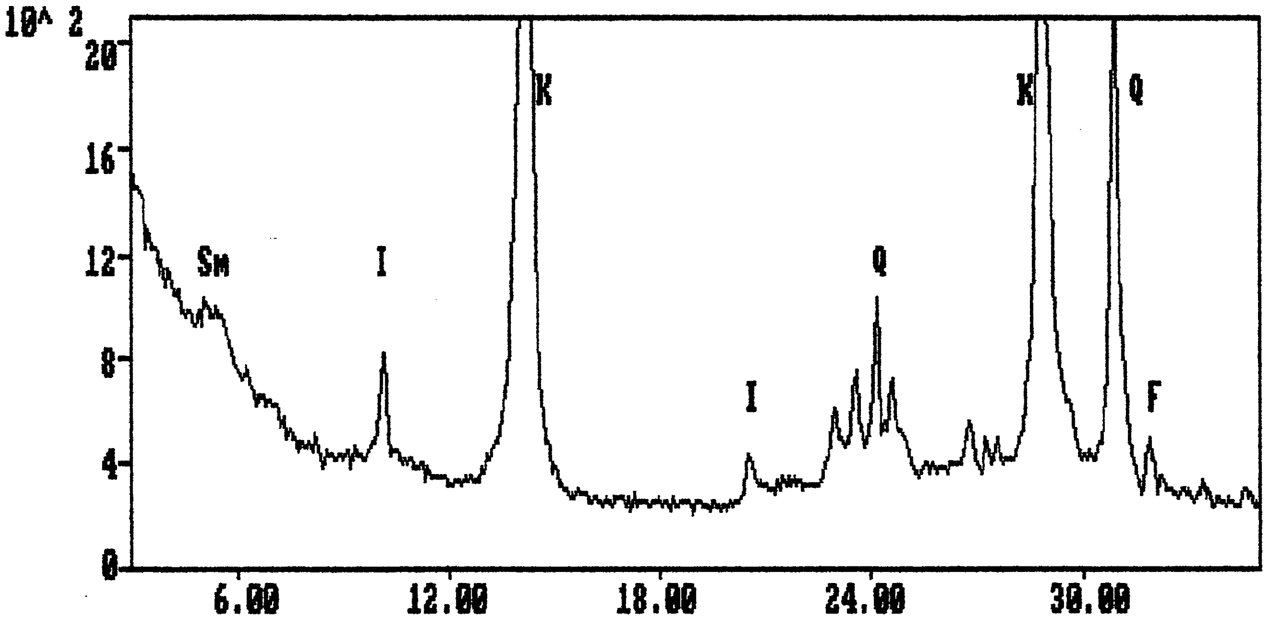


Figure 4b.

Clay XRD trace of Mylor #1, sample 4, depth 1686.2m. Sm=smectite (montmorillonite), I=illite 2M1, K=kaolinite 1T, Q=quartz and F=feldspar. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

PE906742

This is an enclosure indicator page.
The enclosure PE906742 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906742 has the following characteristics:

ITEM_BARCODE =	PE906742
CONTAINER_BARCODE =	PE900934
NAME =	Photomicrograph, Appendix 2, Figure 5
BASIN =	OTWAY
PERMIT =	PEP108
TYPE =	WELL
SUBTYPE =	PHOTOMICROGRAPH
DESCRIPTION =	Photomicrograph, Appendix 2, Figure 5, Mylor-1
REMARKS =	
DATE_CREATED =	31/10/94
DATE_RECEIVED =	23/03/95
W_NO =	W1102
WELL_NAME =	MYLOR-1
CONTRACTOR =	THOMAS GEOLOGICAL SERVICES
CLIENT_OP_CO =	BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

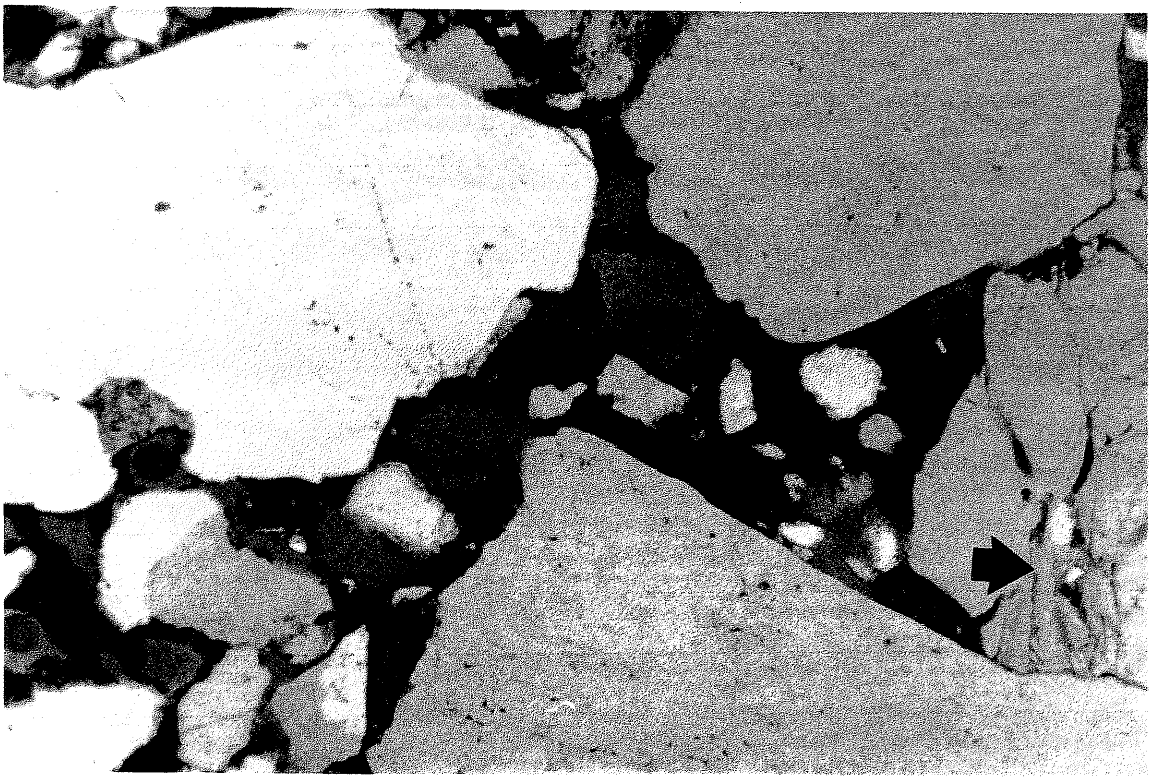


Figure 5a.

Granule-sized grains of quartz (clear) display sub-rounded margins. Note the heavy infiltration of drilling mud (dark) and intergranular porosity (blue). Fracturing of a quartz grain (arrow) was probably initiated during drilling. Mylor #1, sample 12, depth 1688.6m. Plane light. Field of view 2.6mm.

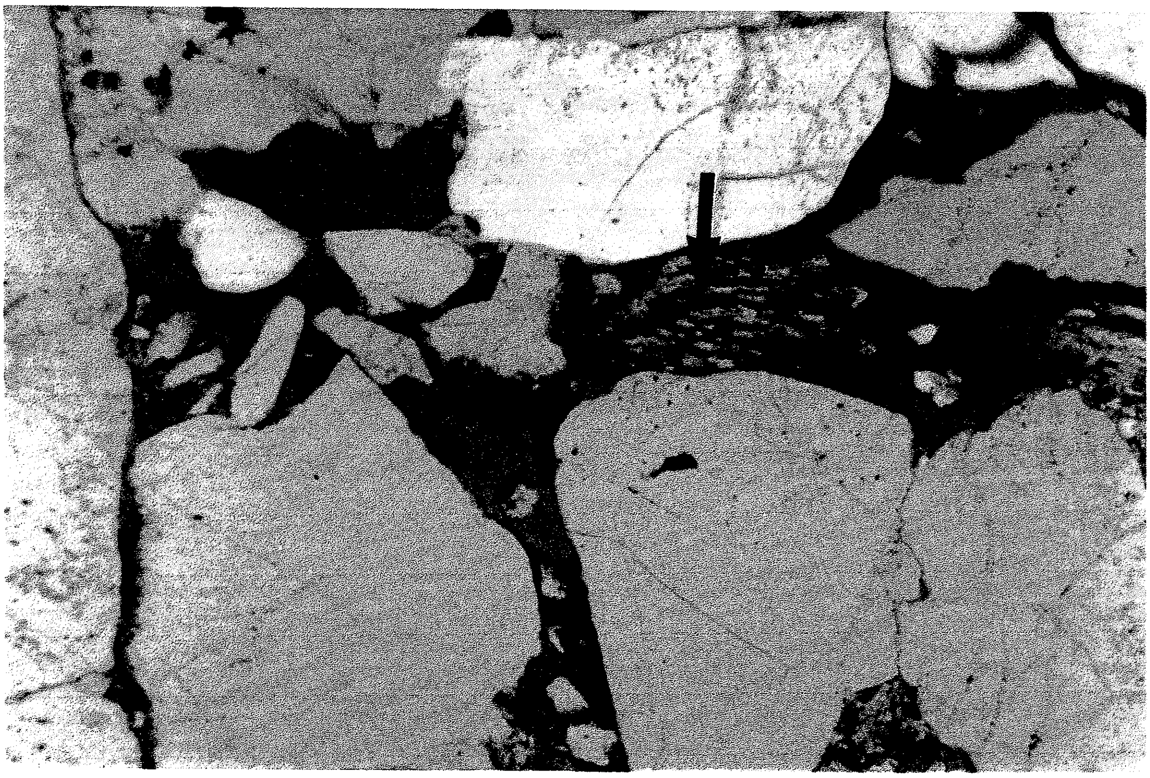


Figure 5b.

Honeycomb pores in feldspar (arrow) are intragranular and may not be interconnected in all instances. Note that this feldspar has not been crushed despite extensive dissolution. Mylor #1, sample 12, depth 1688.6m. Plane light. Field of view 2.6mm.

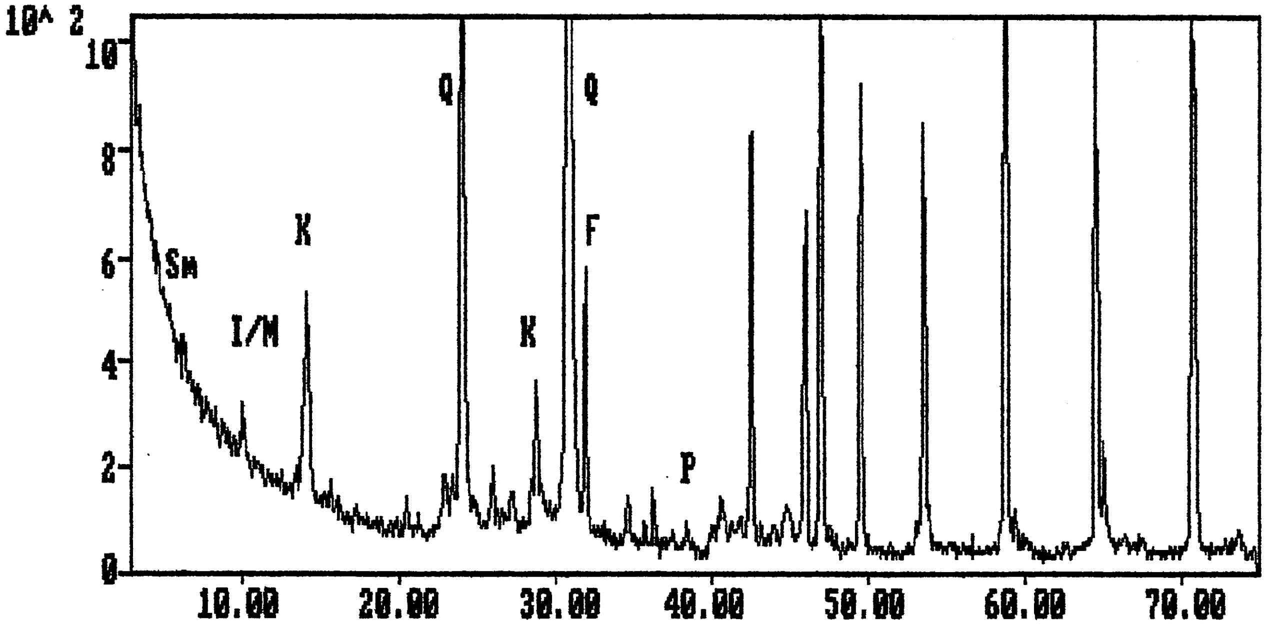


Figure 6a.

Bulk XRD trace of Mylor #1, sample 12, depth 1688.6m. Only the strongest peaks for each mineral identified have been labelled. K=kaolinite, I/M=illite/muscovite, Q=quartz, F=K-feldspar and P=pyrite. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

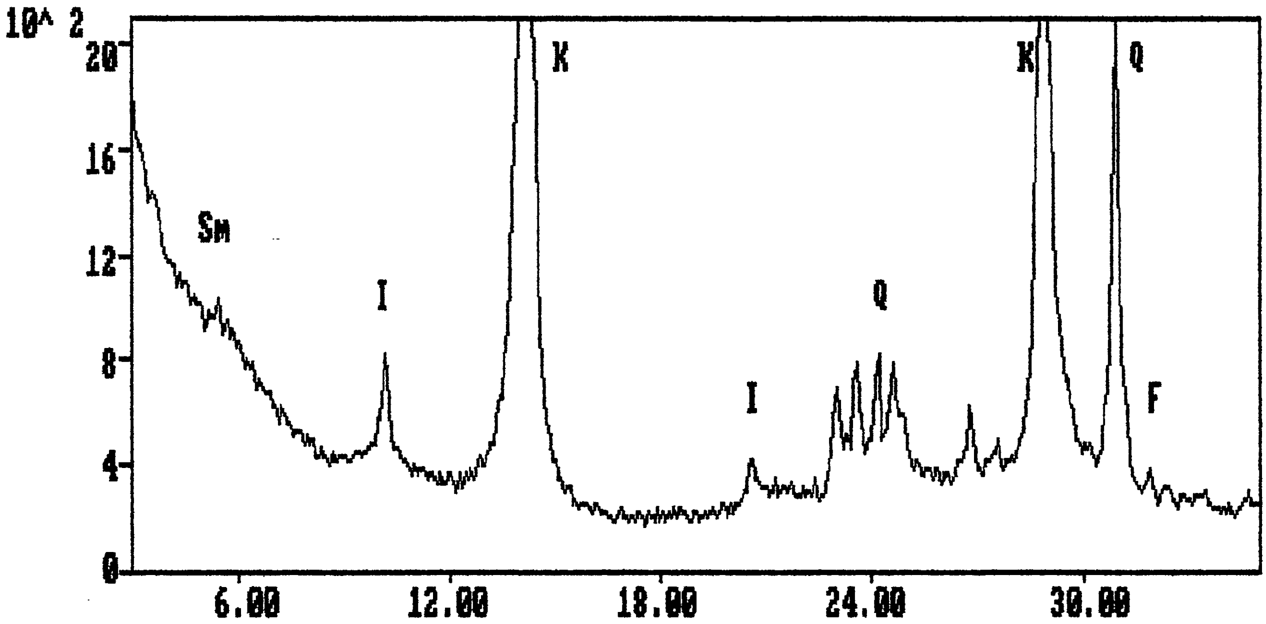


Figure 6b.

Clay XRD trace of Mylor #1, sample 12, depth 1688.6m. Sm=smectite (montmorillonite), I=illite 2M1, K=kaolinite 1T, Q=quartz and F=feldspar. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

PE906743

This is an enclosure indicator page.
The enclosure PE906743 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906743 has the following characteristics:

ITEM_BARCODE = PE906743
CONTAINER_BARCODE = PE900934
NAME = Photomicrograph, Appendix 2, Figure 7
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = PHOTOMICROGRAPH
DESCRIPTION = Photomicrograph, Appendix 2, Figure 7, Mylor-1
REMARKS =
DATE_CREATED = 31/10/94
DATE_RECEIVED = 23/03/95
W_NO = W1102
WELL_NAME = MYLOR-1
CONTRACTOR = THOMAS GEOLOGICAL SERVICES
CLIENT_OP_CO = BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

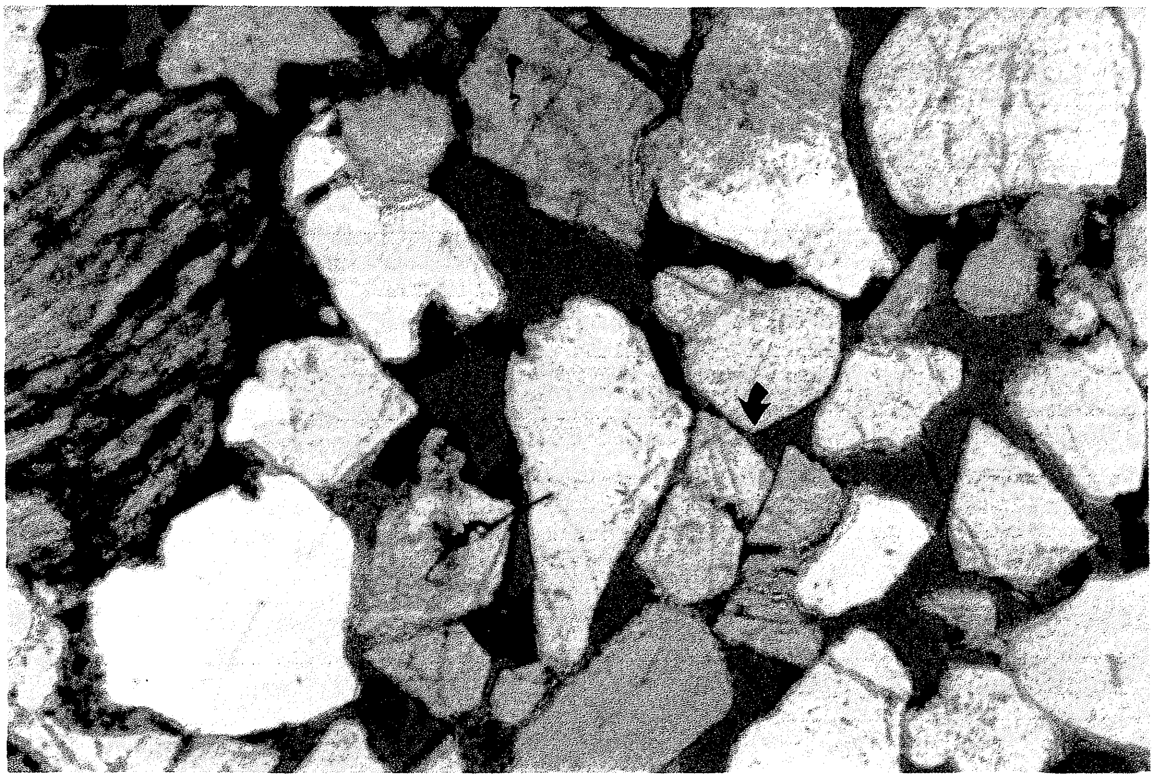


Figure 7a.

Unobstructed pore throats, bridged by dark drilling mud in some instances, clearly illustrate that this subarkose constitutes a good reservoir. Note the euhedral termination on a quartz grain (arrow) that indicates minor silicification, although no dust rim is apparent. Mylor #1, sample 18, depth 1690.4m. Plane light. Field of view 2.6mm.

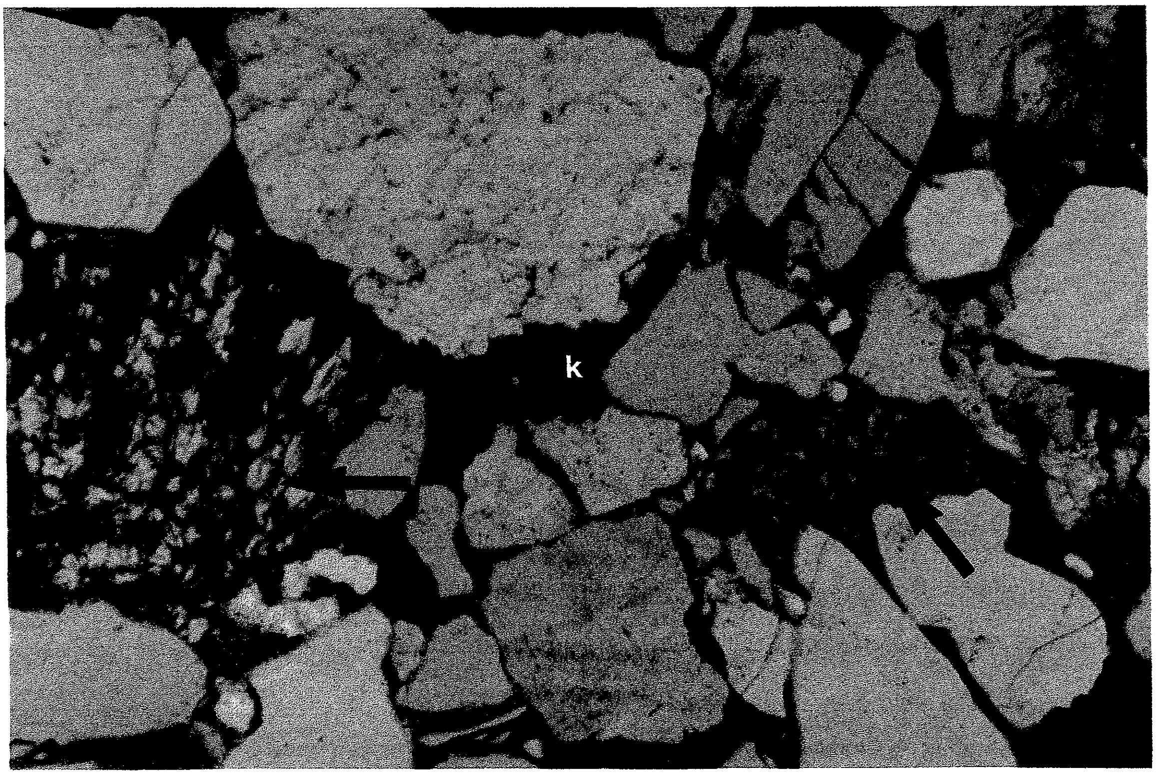


Figure 7b.

Opaque material in a kaolin-filled pore (K) is pyrite. Note fractured and corroded feldspars (arrows). Mylor #1, sample 18, depth 1690.4m. Plane light. Field of view 2.6mm.

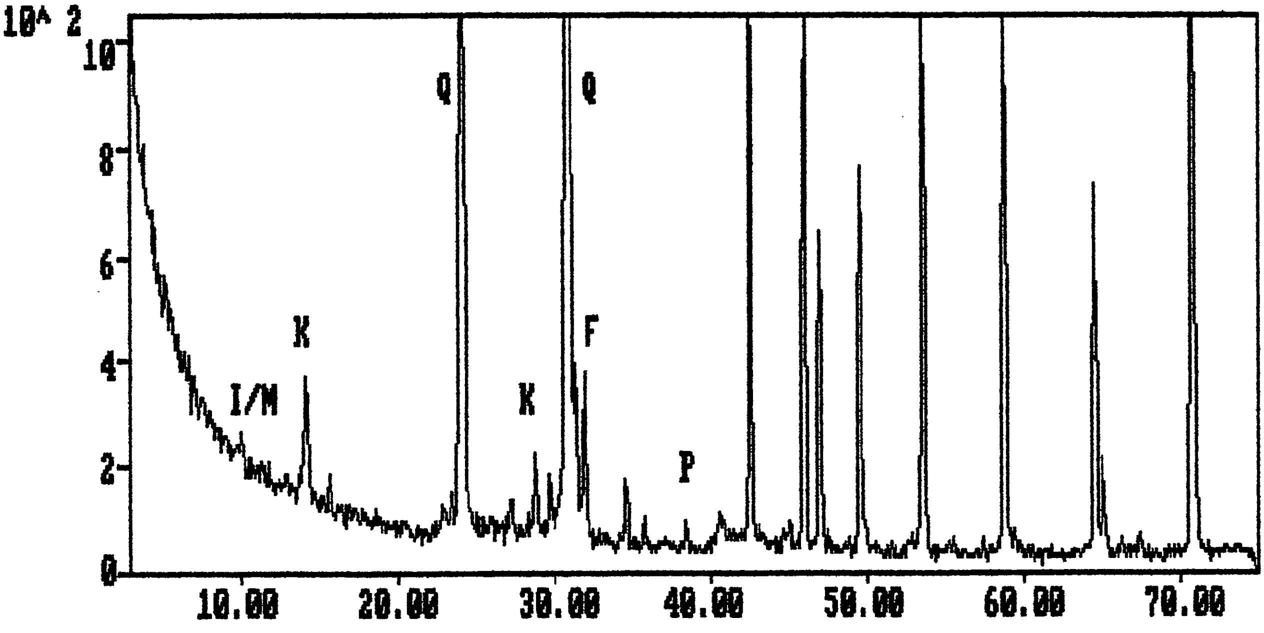


Figure 8a.

Bulk XRD trace of Mylor #1, sample 18, depth 1690.4m. Only the strongest peaks for each mineral identified have been labelled. K=kaolinite, I/M=illite/muscovite, Q=quartz, F=K-feldspar and P=pyrite. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

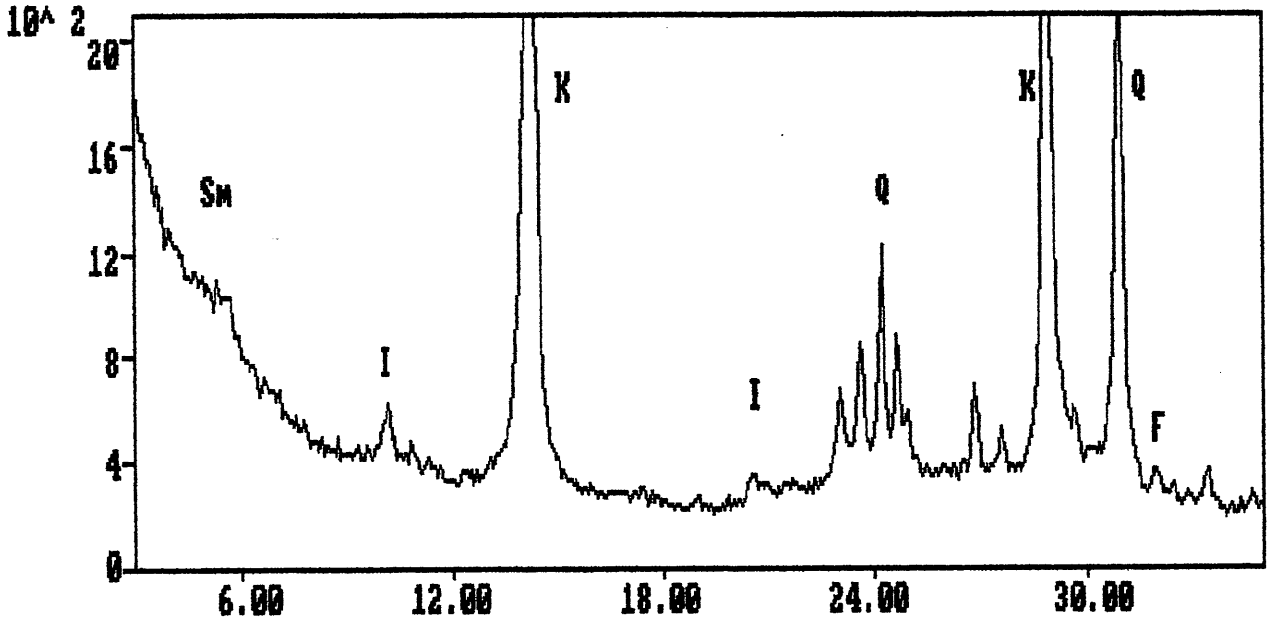


Figure 8b.

Clay XRD trace of Mylor #1, sample 18, depth 1690.4m. Sm=smectite (montmorillonite), I=illite 2M1, K=kaolinite 1T, Q=quartz and F=feldspar. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

PE906744

This is an enclosure indicator page.
The enclosure PE906744 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906744 has the following characteristics:

ITEM_BARCODE = PE906744
CONTAINER_BARCODE = PE900934
NAME = Photomicrograph, Appendix 2, Figure 9
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = PHOTOMICROGRAPH
DESCRIPTION = Photomicrograph, Appendix 2, Figure 9, Mylor-1
REMARKS =
DATE_CREATED = 31/10/94
DATE_RECEIVED = 23/03/95
W_NO = W1102
WELL_NAME = MYLOR-1
CONTRACTOR = THOMAS GEOLOGICAL SERVICES
CLIENT_OP_CO = BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

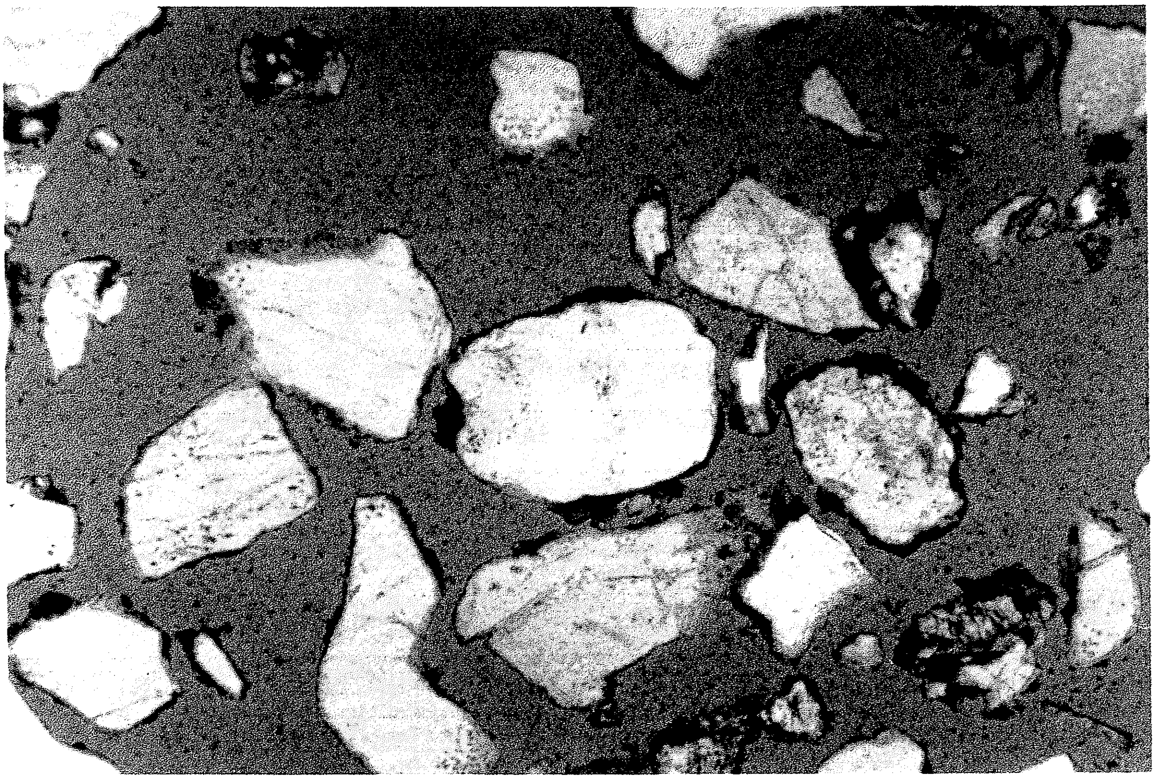


Figure 9a.

The disaggregated nature of this subarkose is clearly evident in this view. Note that dark drilling mud coats most grains. Very angular material may be fragments of grains broken during drilling. Mylor #1, sample 23, depth 1692.2m. Plane light. Field of view 2.6mm.

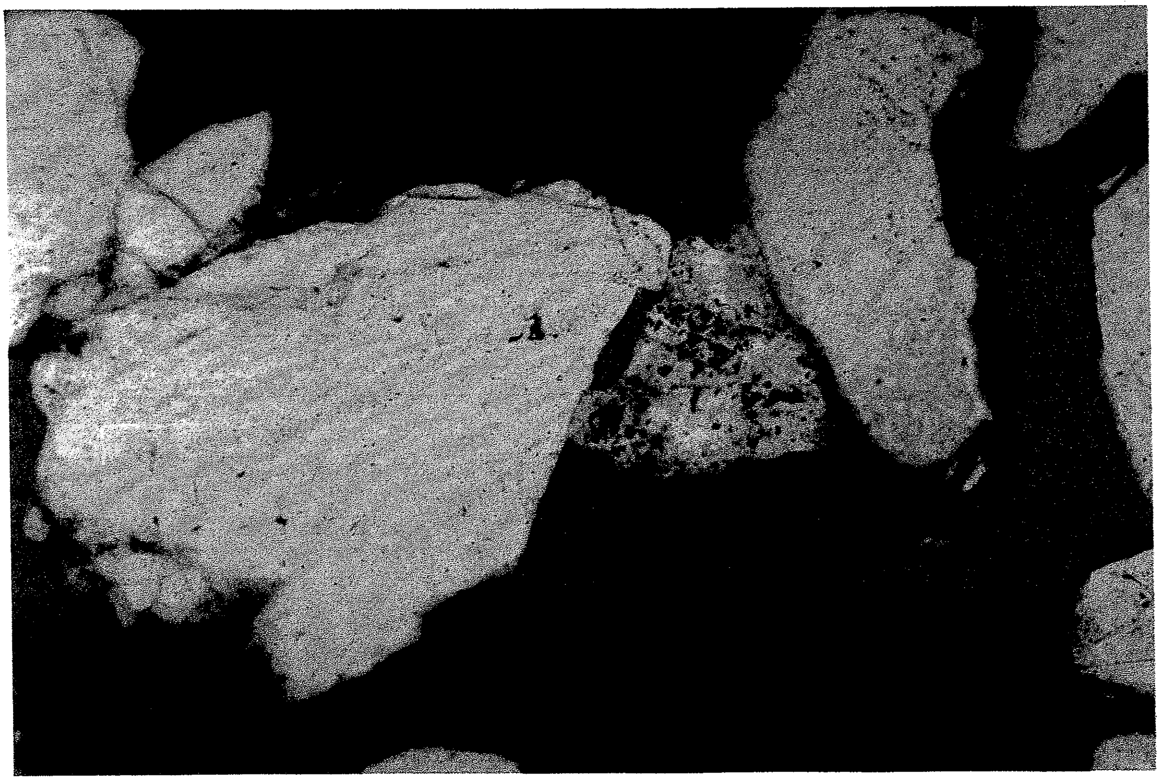


Figure 9b.

A rare portion of sample that retains cemented grains is apparent in this view. Note that grains are touching at minor points only. Mylor #1, sample 23, depth 1692.2m. Plane light. Field of view 1.0mm.

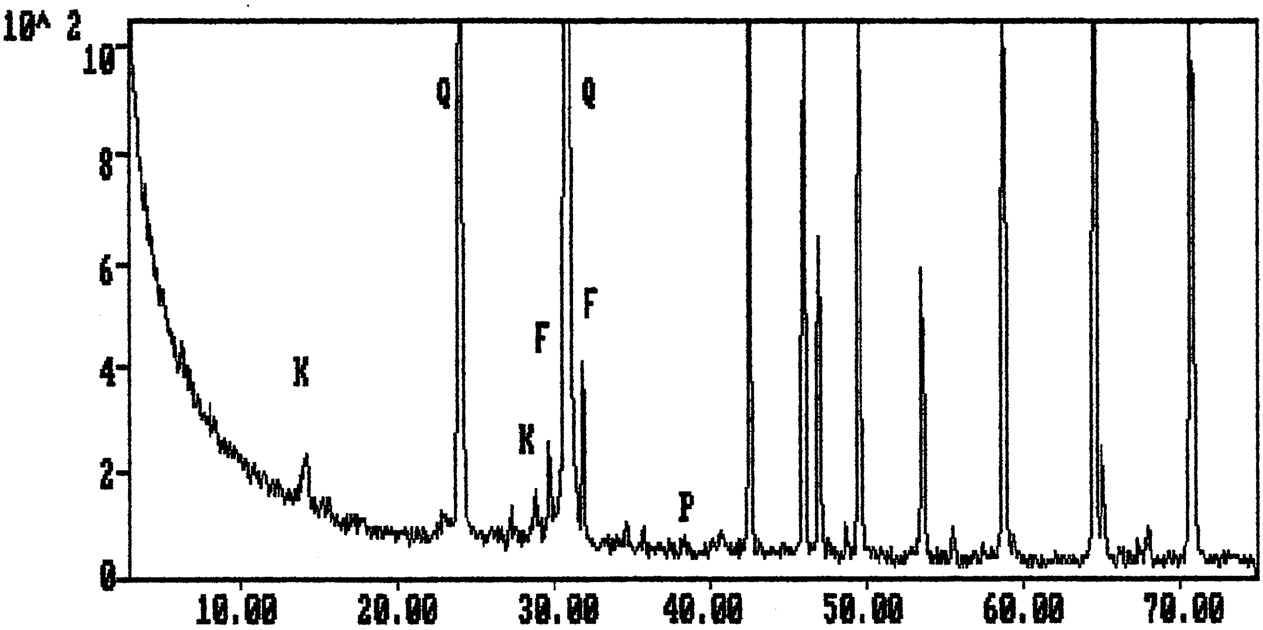


Figure 10a.

Bulk XRD trace of Mylor #1, sample 23, depth 1692.2m. Only the strongest peaks for each mineral identified have been labelled. K=kaolinite, I/M=illite/muscovite, Q=quartz, F=K-feldspar and P=pyrite. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

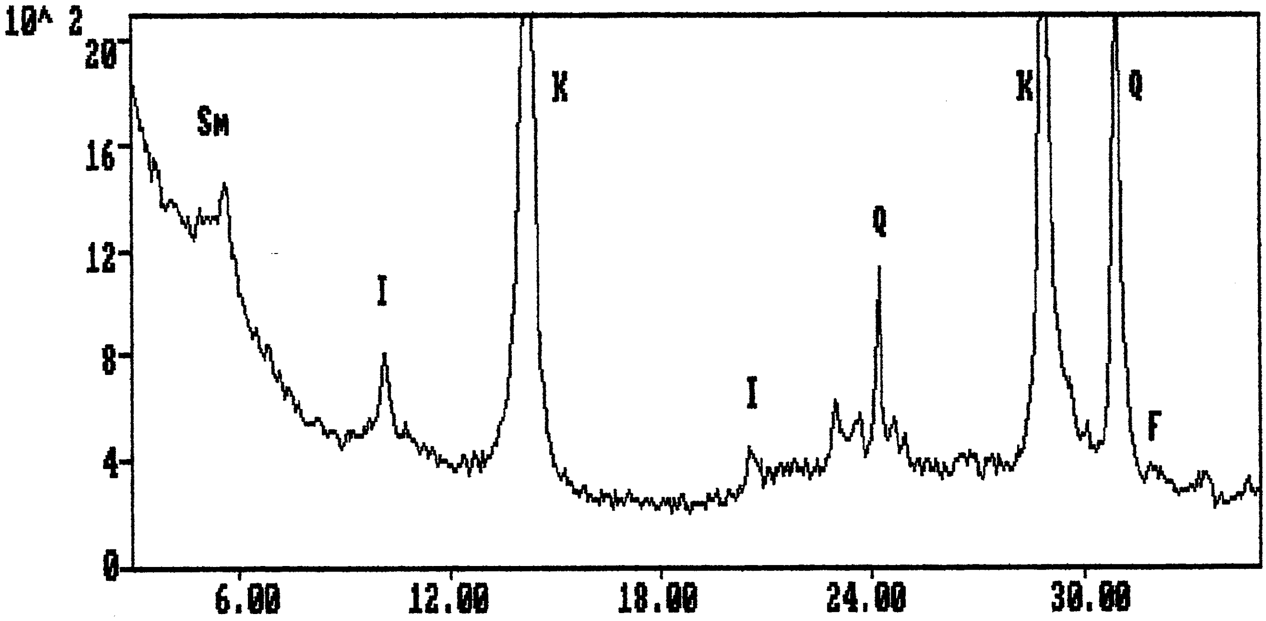


Figure 10b.

Clay XRD trace of Mylor #1, sample 23, depth 1692.2m. Sm=smectite (montmorillonite), I=illite 2M1, K=kaolinite 1T, Q=quartz and F=feldspar. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

PE906745

This is an enclosure indicator page.
The enclosure PE906745 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906745 has the following characteristics:

ITEM_BARCODE = PE906745
CONTAINER_BARCODE = PE900934
NAME = Photomicrograph, Appendix 2, Figure 11
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = PHOTOMICROGRAPH
DESCRIPTION = Photomicrograph, Appendix 2, Figure 11, Mylor-1
REMARKS =
DATE_CREATED = 31/10/94
DATE_RECEIVED = 23/03/95
W_NO = W1102
WELL_NAME = MYLOR-1
CONTRACTOR = THOMAS GEOLOGICAL SERVICES
CLIENT_OP_CO = BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

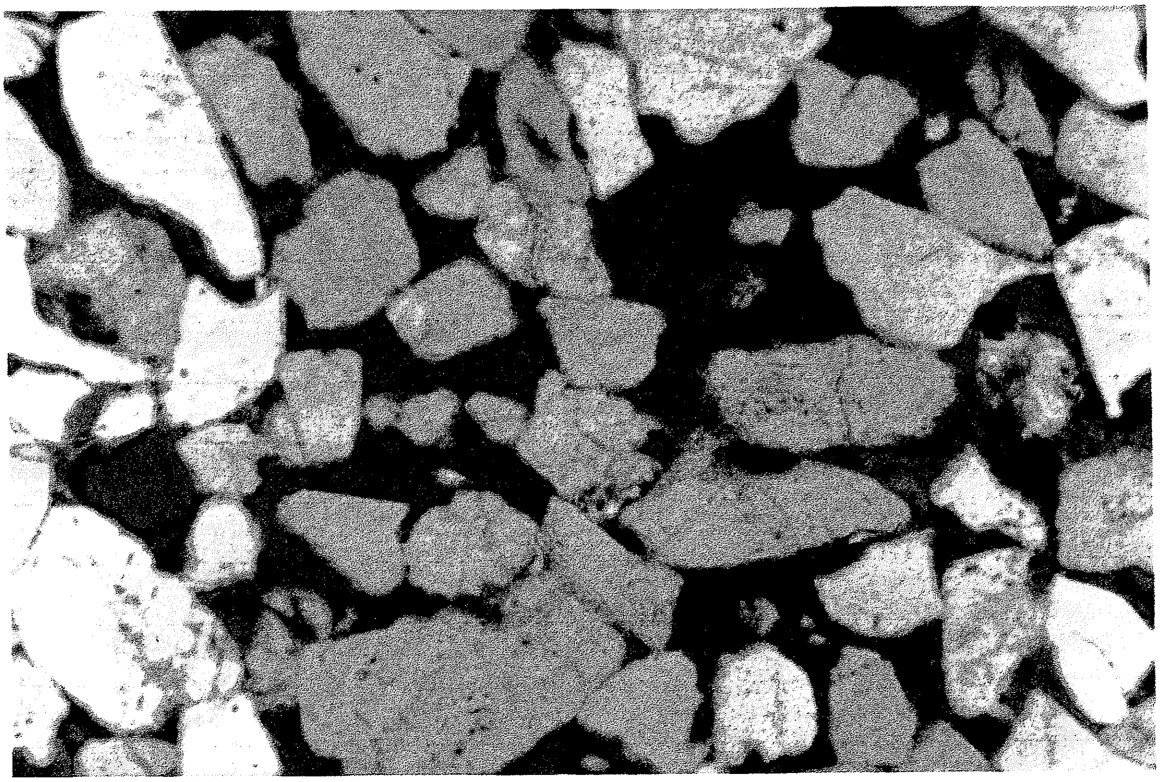


Figure 11a.

Abundant porosity (blue) is accompanied by unobstructed pore throats and bridges of drilling mud (dark material). Mylor #1, sample 36, depth 1696.1m. Plane light. Field of view 2.6mm.

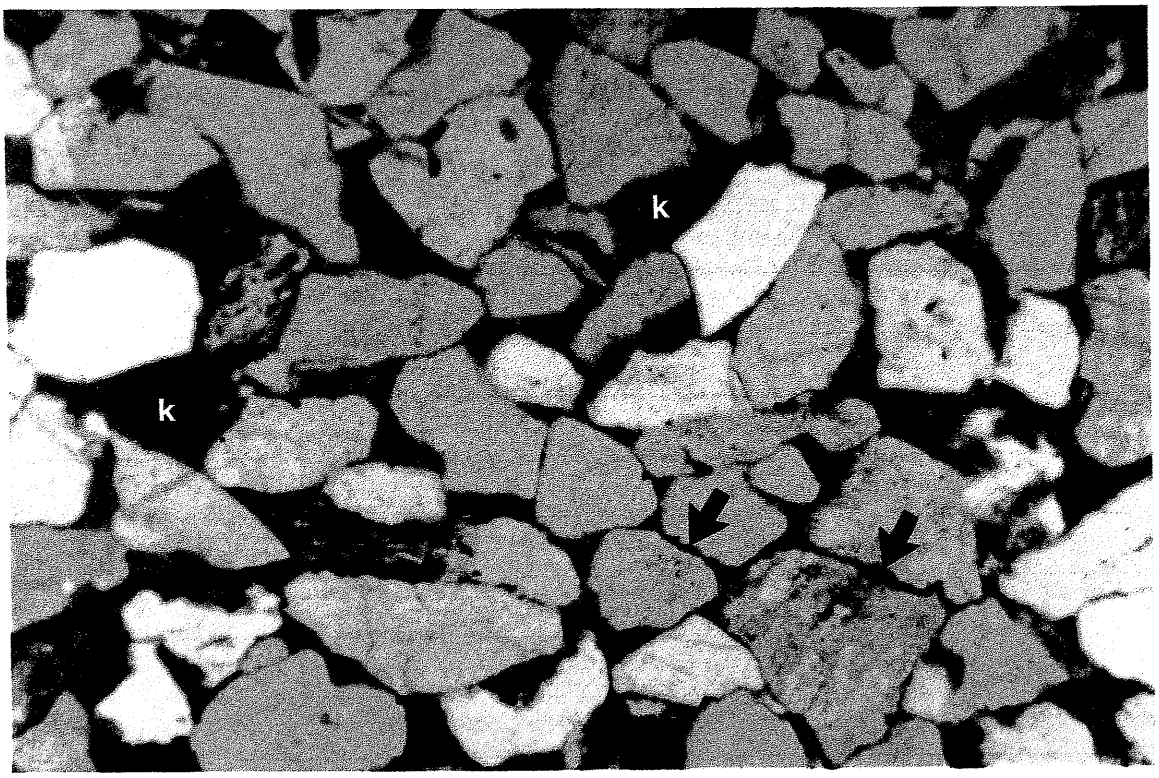


Figure 11b.

Pores are isolated and are filled with kaolin (K) in this lamina within the subarkose. Microsutured contacts between grains (arrows) are outlined by detrital clays and insoluble material. Mylor #1, sample 36, depth 1696.1m. Plane light. Field of view 2.6mm.

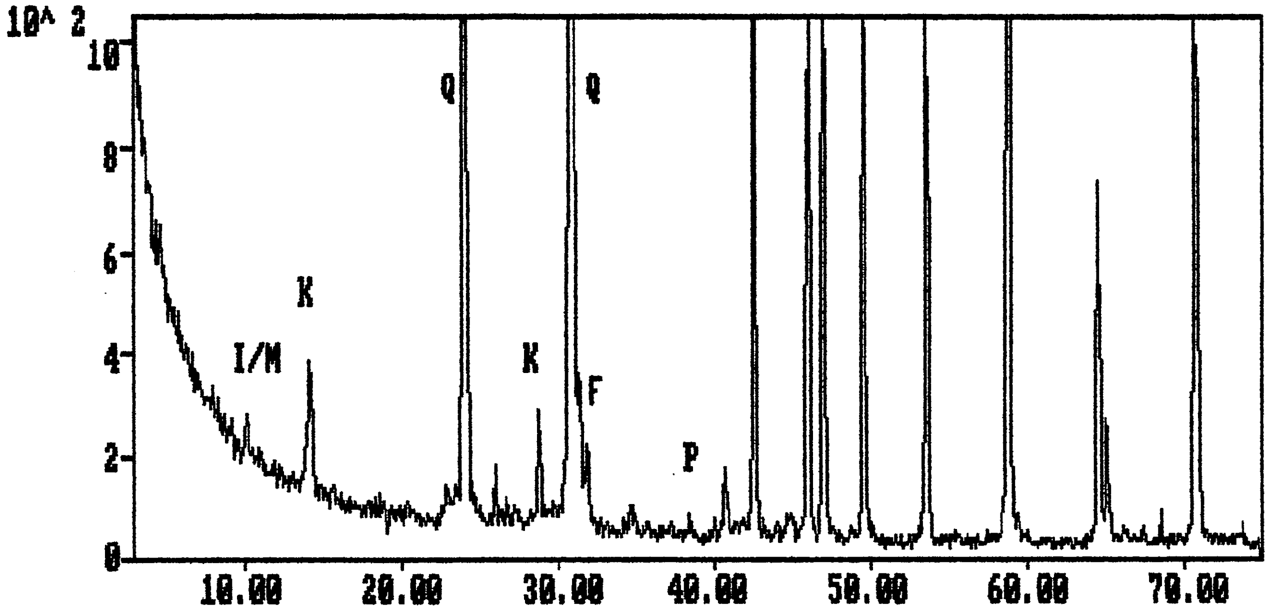


Figure 12a.

Bulk XRD trace of Mylor #1, sample 36, depth 1696.1m. Only the strongest peaks for each mineral identified have been labelled. K=kaolinite, I/M=illite/muscovite, Q=quartz, F=K-feldspar and P=pyrite. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

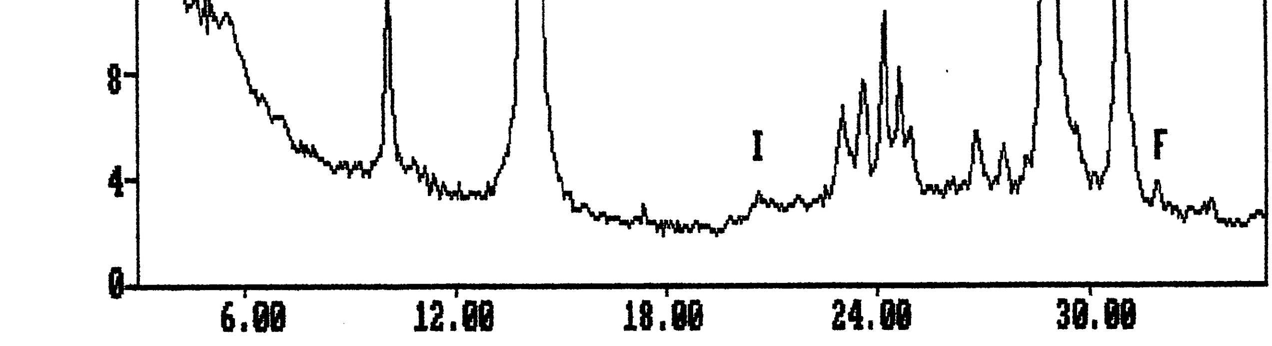


Figure 12b.

Clay XRD trace of Mylor #1, sample 36, depth 1696.1m. Sm=smectite (montmorillonite), I=illite 2M1, K=kaolinite 1T, Q=quartz and F=feldspar. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

PE906746

This is an enclosure indicator page.
The enclosure PE906746 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906746 has the following characteristics:

ITEM_BARCODE =	PE906746
CONTAINER_BARCODE =	PE900934
NAME =	Photomicrograph, Appendix 2, Figure 13
BASIN =	OTWAY
PERMIT =	PEP108
TYPE =	WELL
SUBTYPE =	PHOTOMICROGRAPH
DESCRIPTION =	Photomicrograph, Appendix 2, Figure 13, Mylor-1
REMARKS =	
DATE_CREATED =	31/10/94
DATE_RECEIVED =	23/03/95
W_NO =	W1102
WELL_NAME =	MYLOR-1
CONTRACTOR =	THOMAS GEOLOGICAL SERVICES
CLIENT_OP_CO =	BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

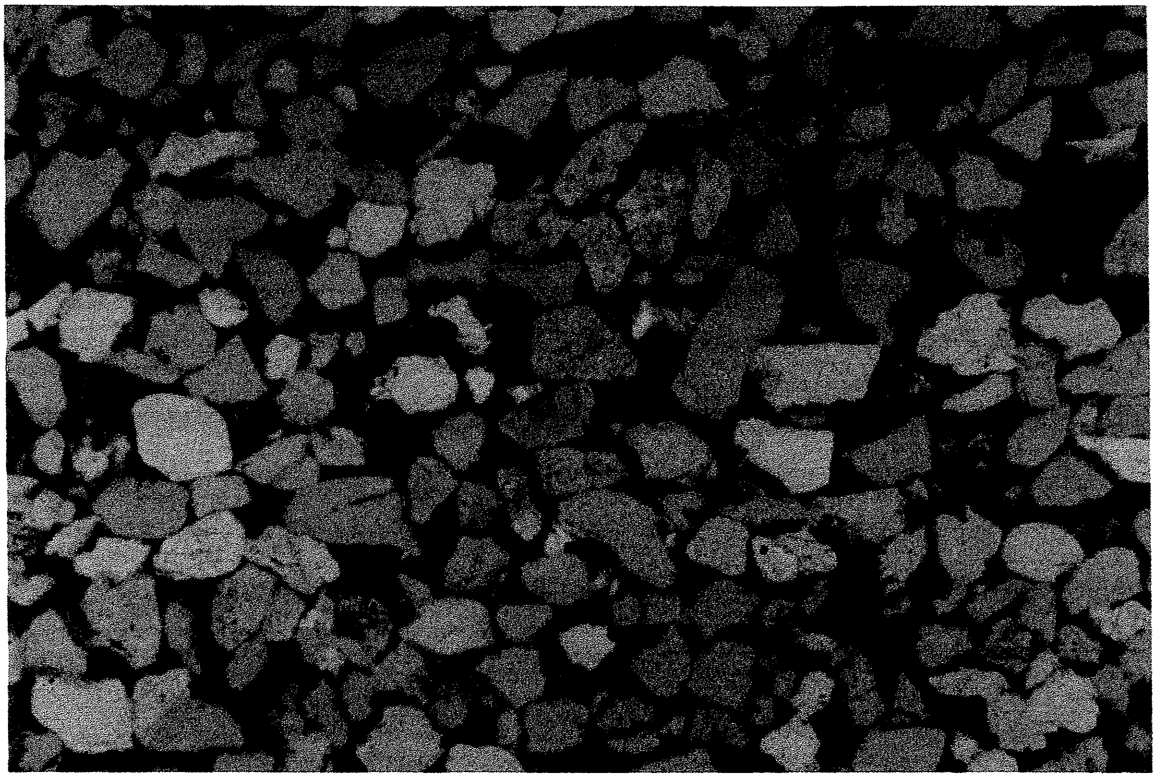


Figure 13a.

Good porosity (blue) is visible throughout this view of subarkose. Note pyritic droplet-like objects in pores, interpreted as fossil oil remnants. White material in other pores is kaolin. Mylor #1, sample 43, depth 1698.2m. Plane light. Field of view 2.6mm.

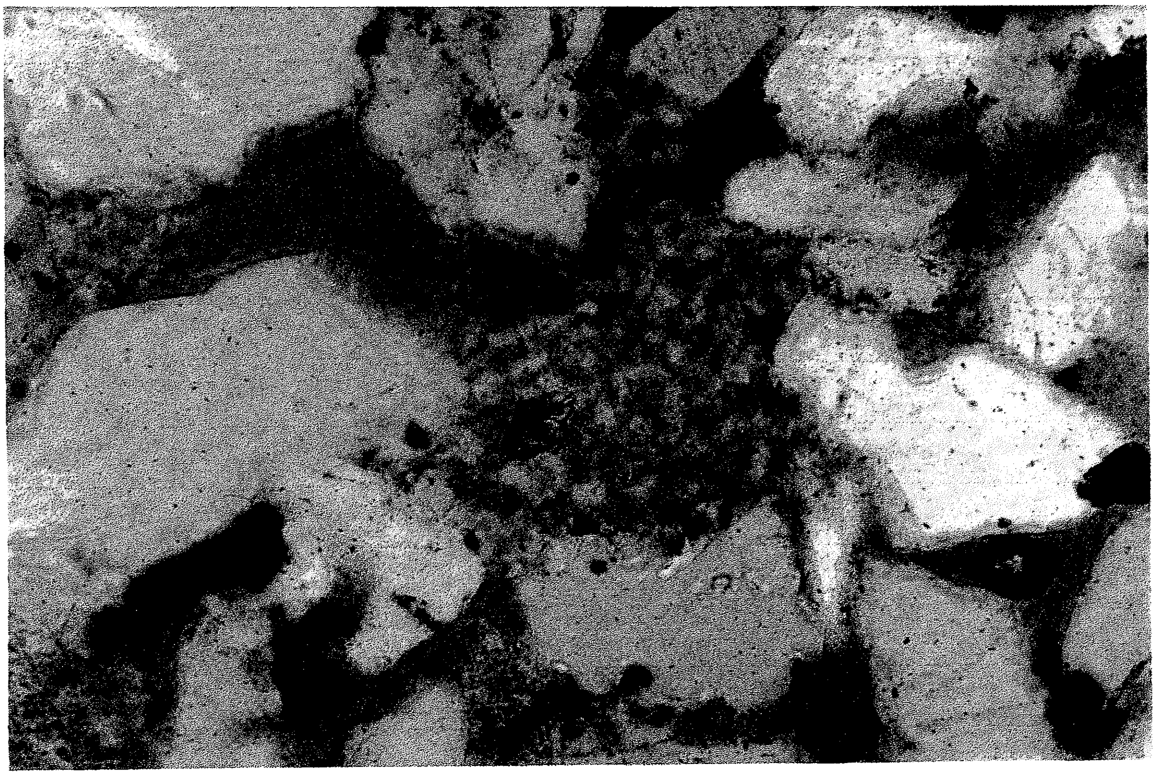


Figure 13b.

Microporosity (blue) is associated with kaolin (white) in a pore within the subarkose. Note that barely evident platelets (20 μm in diameter) are stacked in a vermiform manner. Rounded patches of opaque materiel are pyritic. Mylor #1, sample 43, depth 1698.2m. Plane light. Field of view 0.5mm.

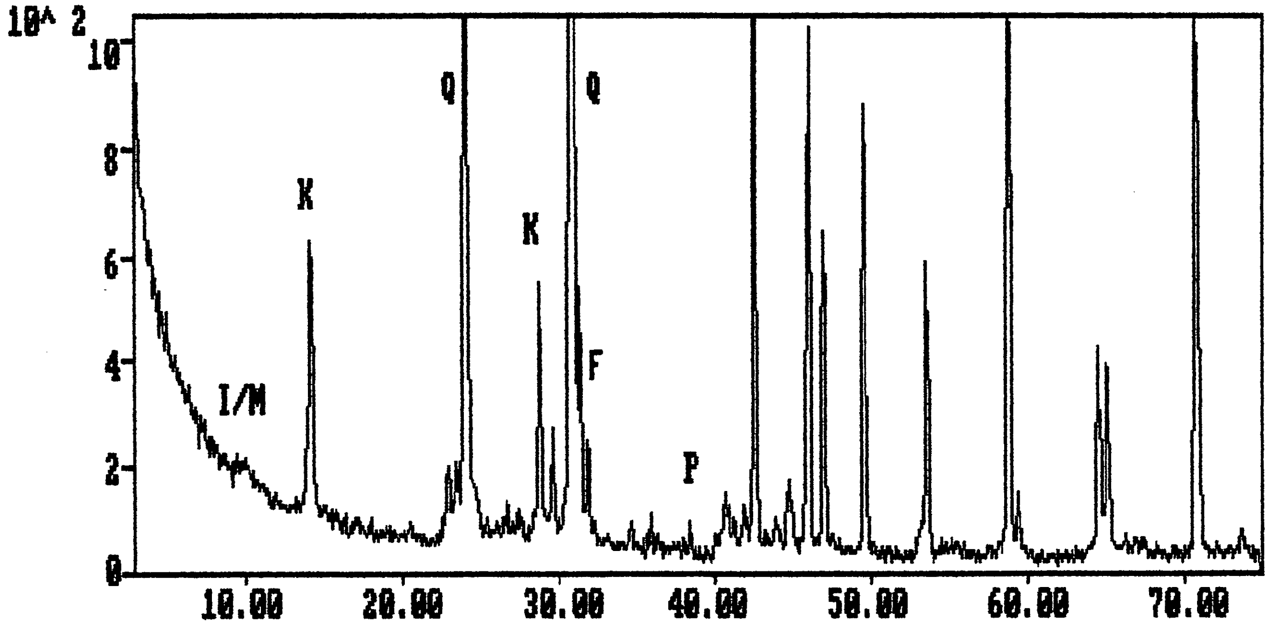


Figure 14a.

Bulk XRD trace of Mylor #1, sample 43, depth 1698.2m. Only the strongest peaks for each mineral identified have been labelled. K=kaolinite, I/M=illite/muscovite, Q=quartz, F=K-feldspar and P=pyrite. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

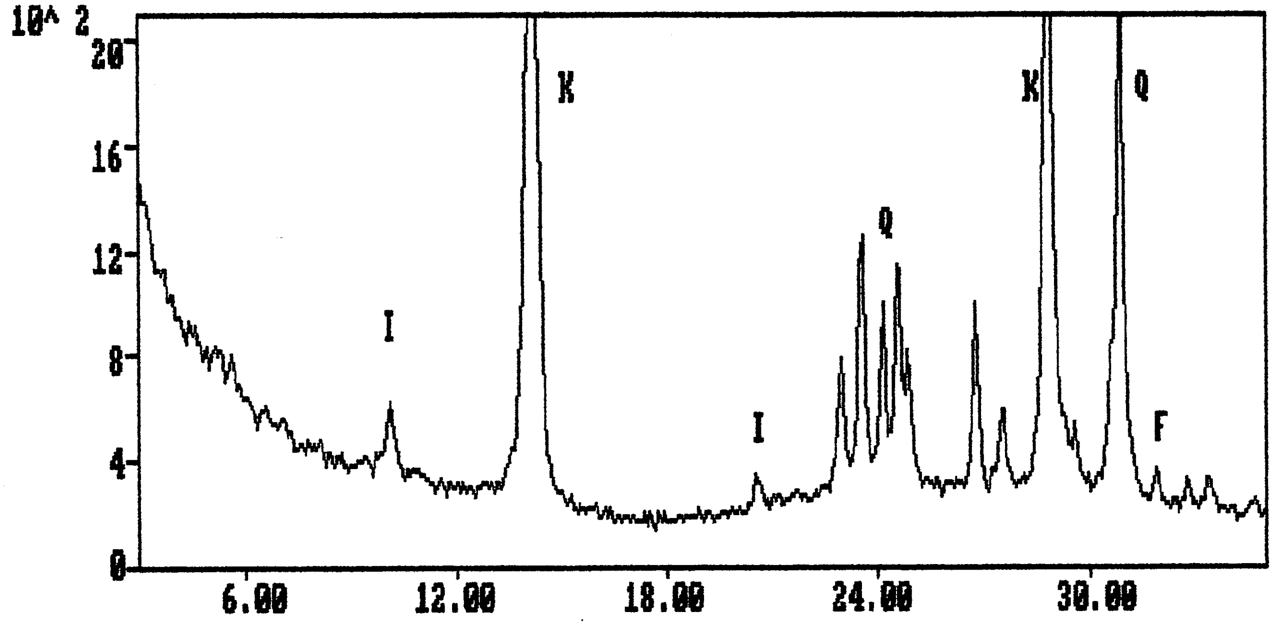


Figure 14b.

Clay XRD trace of Mylor #1, sample 43, depth 1698.2m. I=illite 2M1, K=kaolinite 1T, Q=quartz and F=feldspar. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

PE906747

This is an enclosure indicator page.
The enclosure PE906747 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906747 has the following characteristics:

ITEM_BARCODE =	PE906747
CONTAINER_BARCODE =	PE900934
NAME =	Photomicrograph, Appendix 2, Figure 15
BASIN =	OTWAY
PERMIT =	PEP108
TYPE =	WELL
SUBTYPE =	PHOTOMICROGRAPH
DESCRIPTION =	Photomicrograph, Appendix 2, Figure 15, Mylor-1
REMARKS =	
DATE_CREATED =	31/10/94
DATE_RECEIVED =	23/03/95
W_NO =	W1102
WELL_NAME =	MYLOR-1
CONTRACTOR =	THOMAS GEOLOGICAL SERVICES
CLIENT_OP_CO =	BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

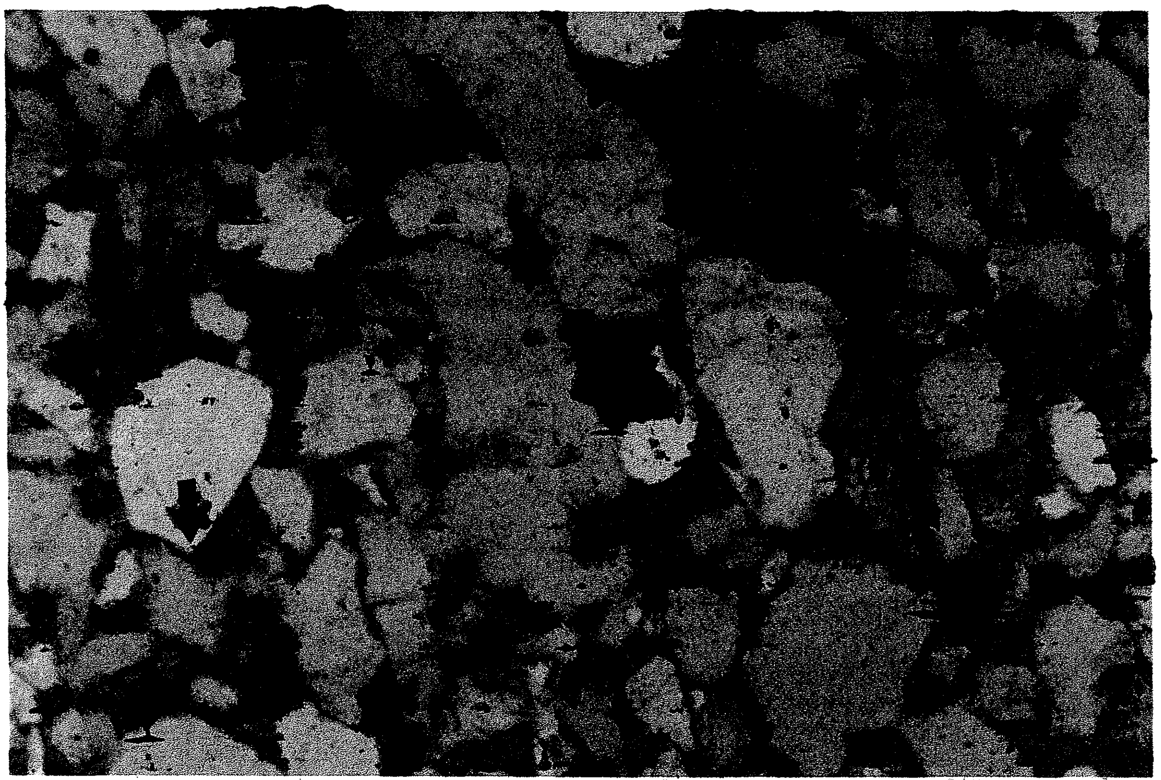


Figure 15a.

The texture of the subarkose is clearly evident in this subarkose. Note the euhedral terminations of quartz overgrowths (arrows) on otherwise rounded coarse grains. Porosity (blue) contains ?droplets of pyritic opaques, interpreted as fossil oil. Mylor #1, sample 50, depth 1700.3m. Plane light. Field of view 2.6mm.

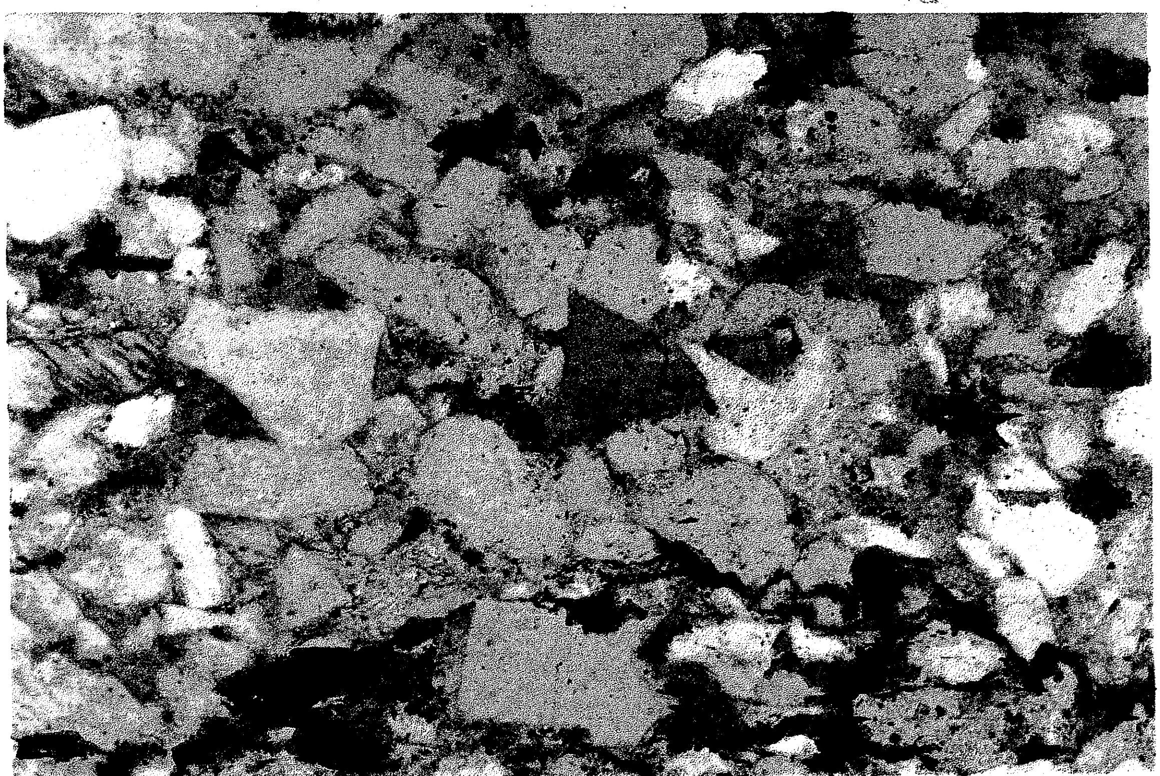


Figure 15b.

This photomicrograph shows a clay rich lamina in which pores are isolated, and permeability through this zone will be low. Note the stylolites delineated by dark clays and pyritised material. Mylor #1, sample 50, depth 1700.3m. Plane light. Field of view 1.0mm.

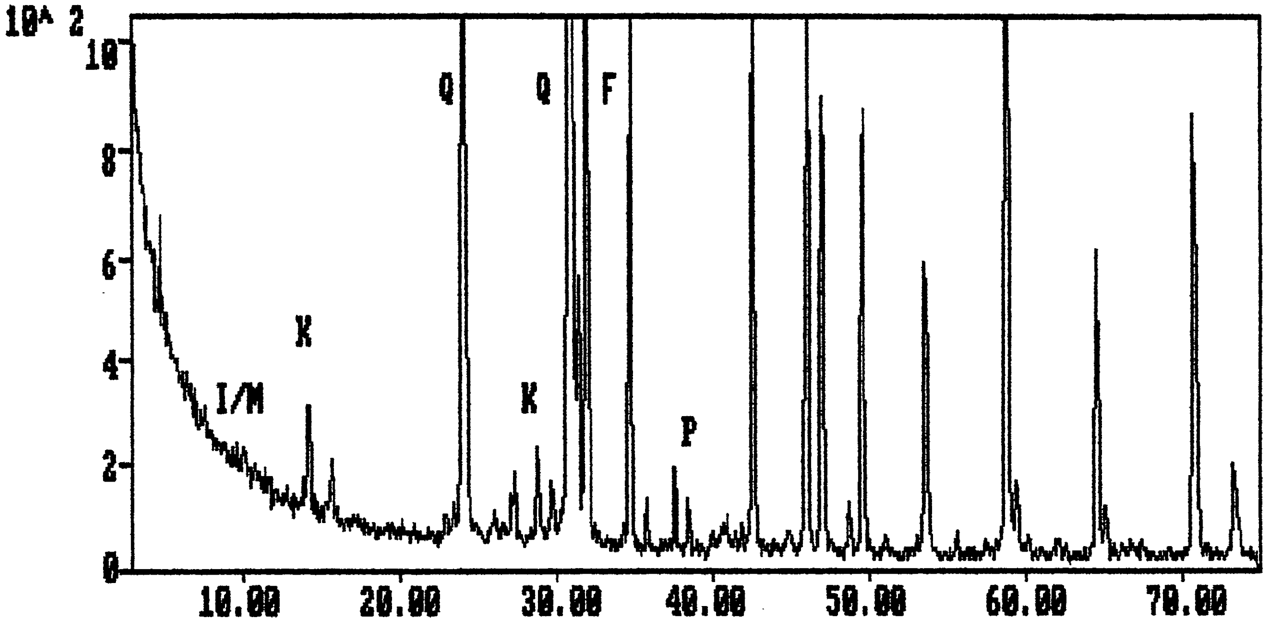


Figure 16a.

Bulk XRD trace of Mylor #1, sample 50, depth 1700.3m. Only the strongest peaks for each mineral identified have been labelled. K=kaolinite, I/M=illite/muscovite, Q=quartz, F=K-feldspar and P=pyrite. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

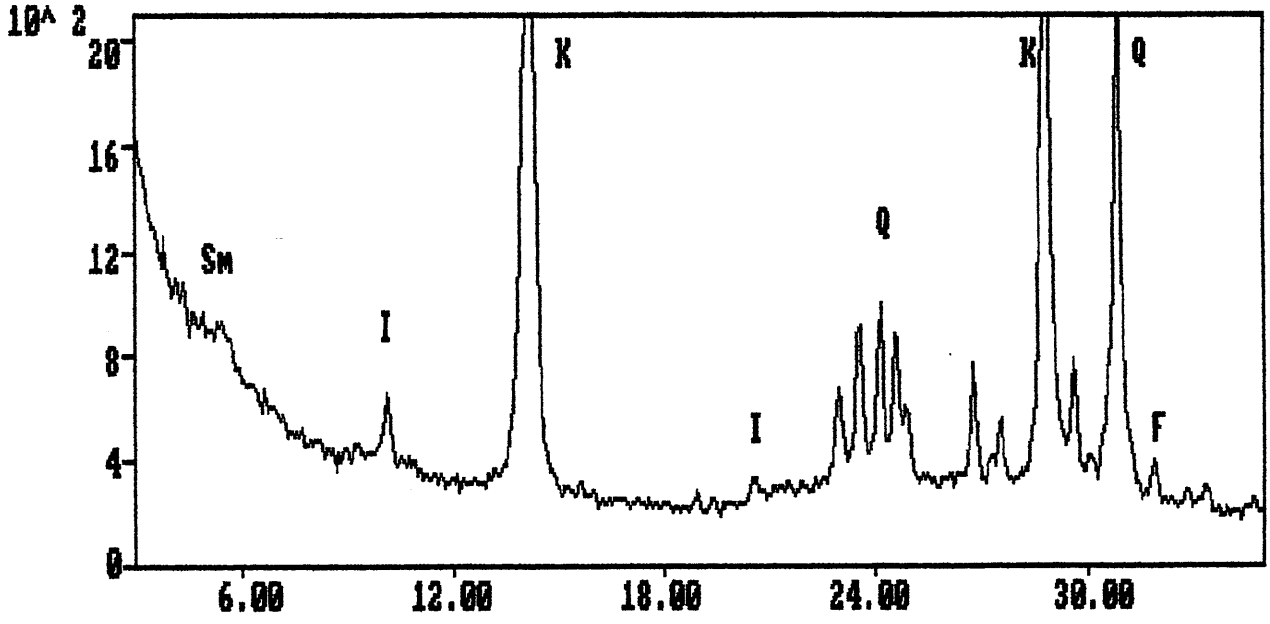


Figure 16b.

Clay XRD trace of Mylor #1, sample 50, depth 1700.3m. Sm=smectite (montmorillonite), I=illite 2M1, K=kaolinite 1T, Q=quartz and F=feldspar. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

PE906748

This is an enclosure indicator page.
The enclosure PE906748 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906748 has the following characteristics:

ITEM_BARCODE =	PE906748
CONTAINER_BARCODE =	PE900934
NAME =	Photomicrograph, Appendix 2, Figure 17
BASIN =	OTWAY
PERMIT =	PEP108
TYPE =	WELL
SUBTYPE =	PHOTOMICROGRAPH
DESCRIPTION =	Photomicrograph, Appendix 2, Figure 17, Mylor-1
REMARKS =	
DATE_CREATED =	31/10/94
DATE_RECEIVED =	23/03/95
W_NO =	W1102
WELL_NAME =	MYLOR-1
CONTRACTOR =	THOMAS GEOLOGICAL SERVICES
CLIENT_OP_CO =	BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

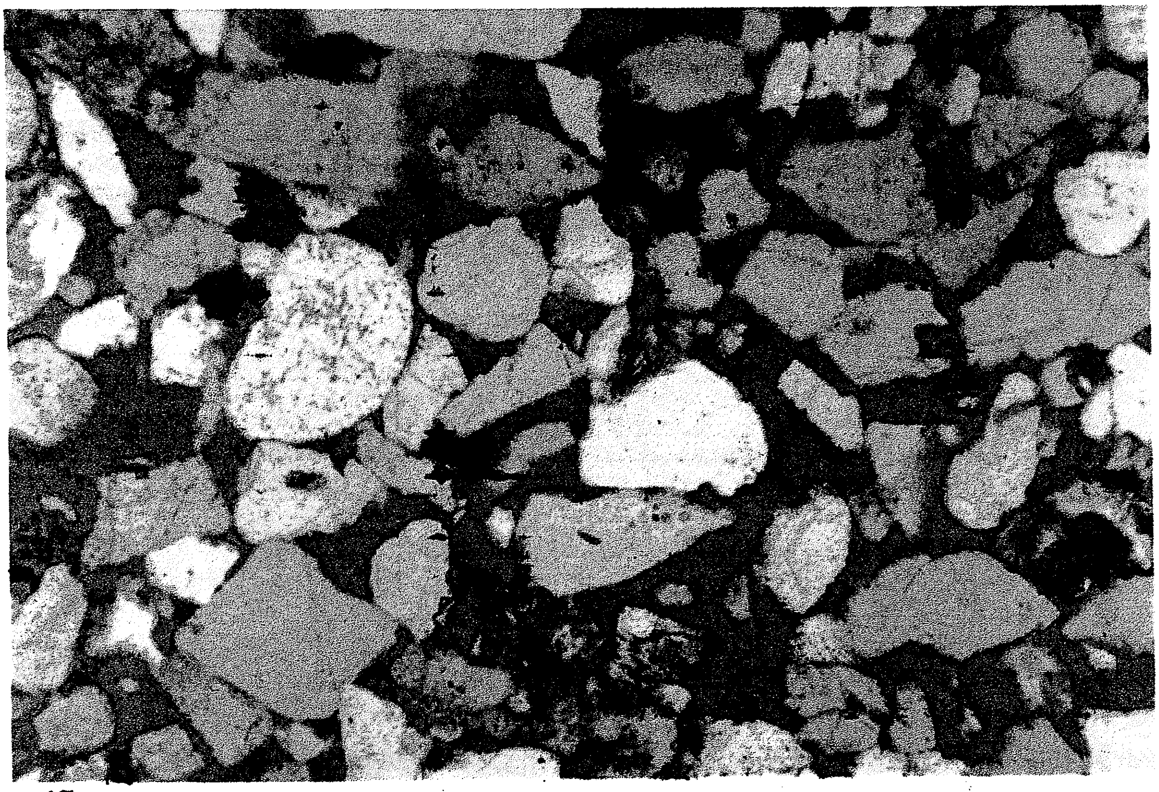


Figure 17a.

This photomicrograph illustrates the loose packing and friable nature of the subarkose. Note the unobstructed pore throats and minor occurrences of pyritic ?droplets (opaque) in pores. Mylor #1, sample 53, depth 1701.2m. Plane light. Field of view 2.6mm.

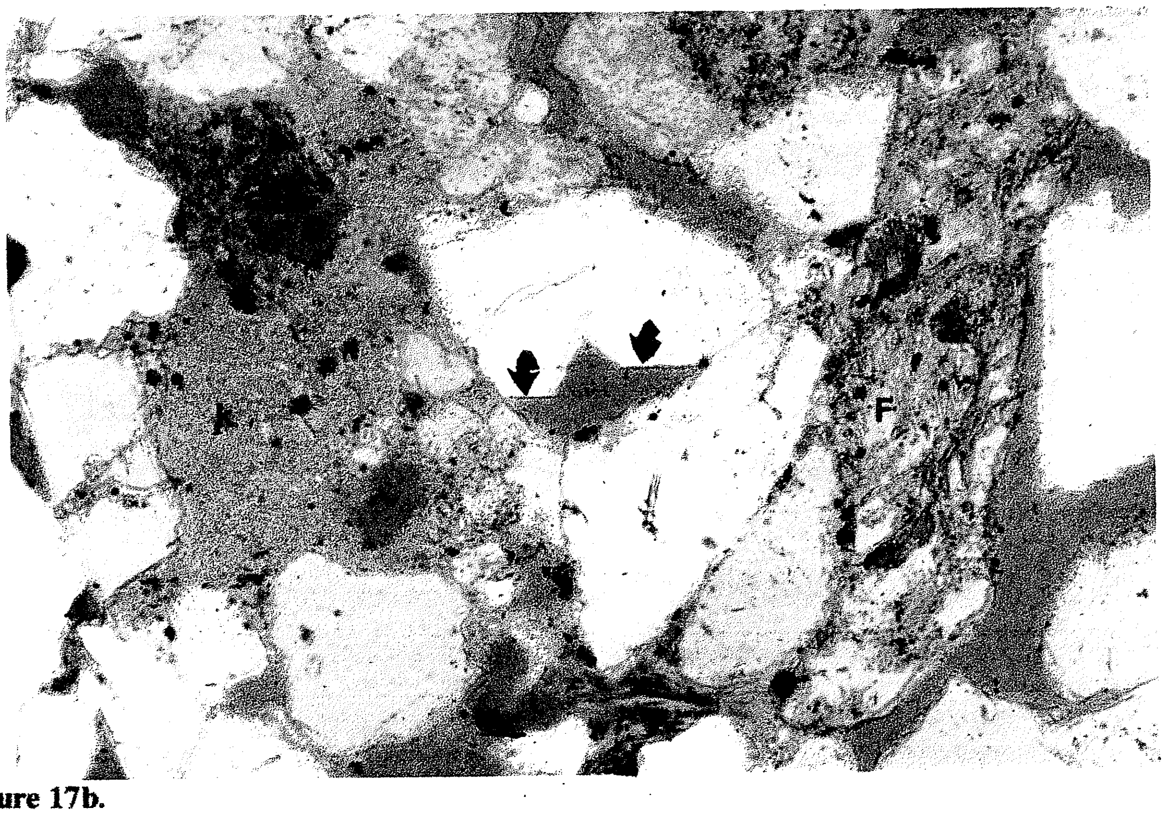


Figure 17b.

Euhedral terminations on grains denote the presence of quartz overgrowths (arrows). Kaolin (K) fills a pore and a squashed, partially dissolved feldspar (F) is also apparent. Mylor #1, sample 53, depth 1701.2m. Plane light. Field of view 1.0mm.

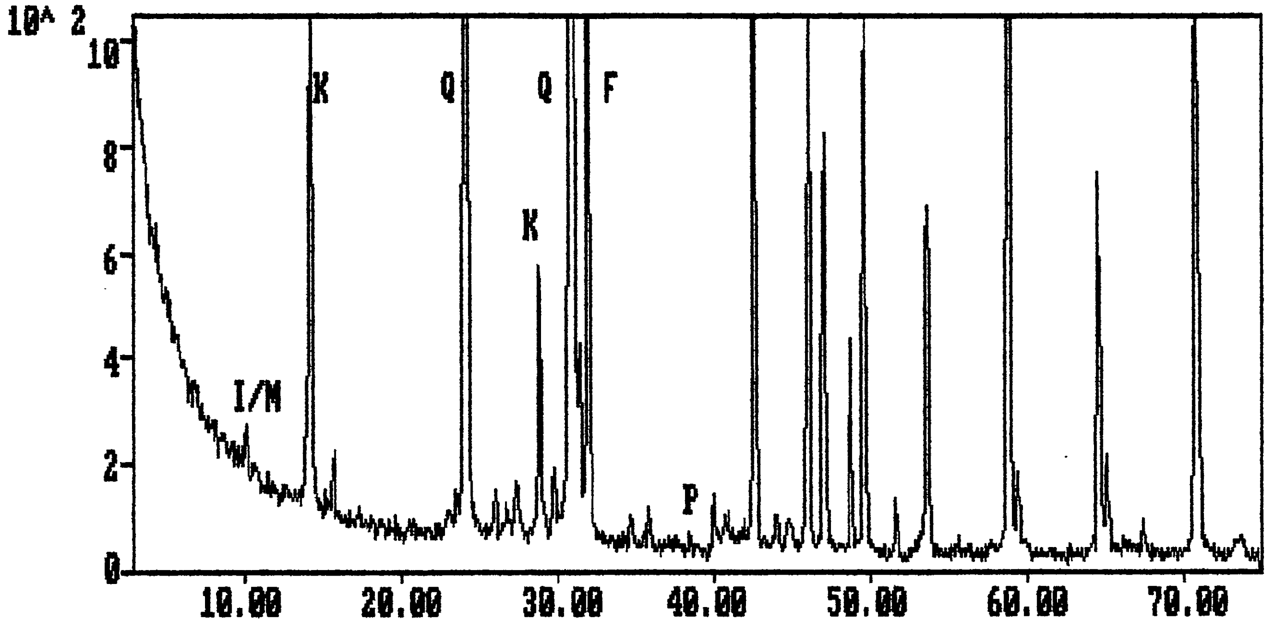


Figure 18a.

Bulk XRD trace of Mylor #1, sample 53, depth 1701.2m. Only the strongest peaks for each mineral identified have been labelled. K=kaolinite, I/M=illite/muscovite, Q=quartz, F=K-feldspar and P=pyrite. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

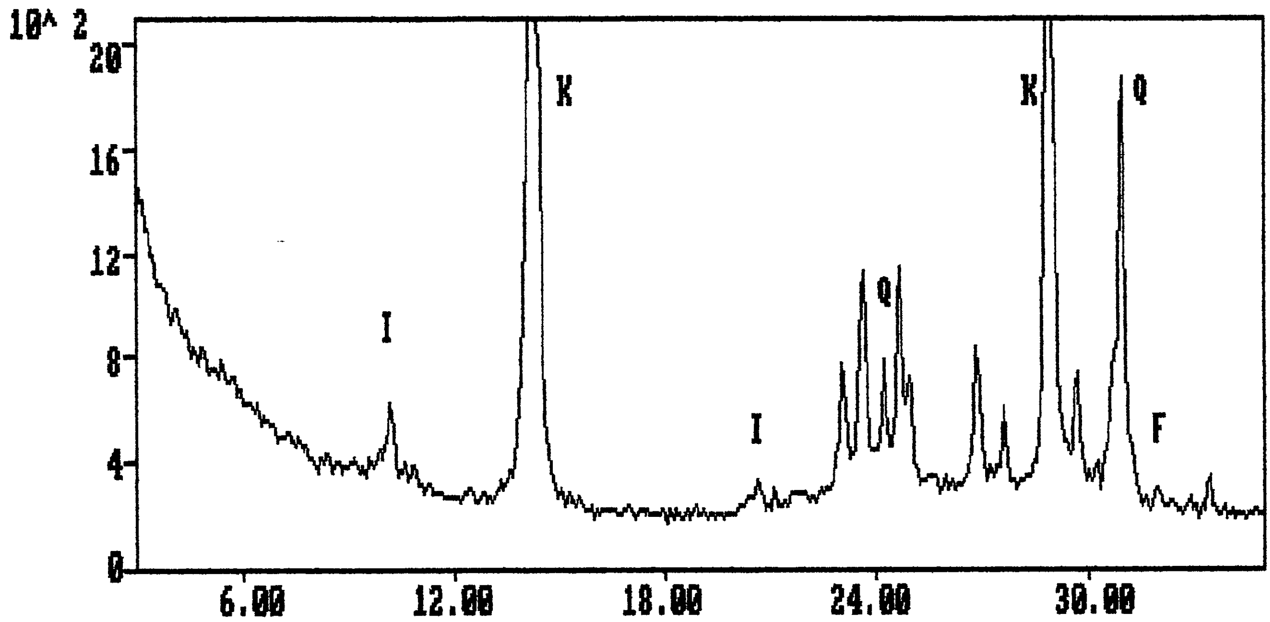


Figure 18b.

Clay XRD trace of Mylor #1, sample 53, depth 1701.2m. I=illite 2M1, K=kaolinite 1T, Q=quartz and F=feldspar. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

PE906749

This is an enclosure indicator page.
The enclosure PE906749 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906749 has the following characteristics:

ITEM_BARCODE =	PE906749
CONTAINER_BARCODE =	PE900934
NAME =	Photomicrograph, Appendix 2, Figure 19
BASIN =	OTWAY
PERMIT =	PEP108
TYPE =	WELL
SUBTYPE =	PHOTOMICROGRAPH
DESCRIPTION =	Photomicrograph, Appendix 2, Figure 19, Mylor-1
REMARKS =	
DATE_CREATED =	31/10/94
DATE_RECEIVED =	23/03/95
W_NO =	W1102
WELL_NAME =	MYLOR-1
CONTRACTOR =	THOMAS GEOLOGICAL SERVICES
CLIENT_OP_CO =	BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

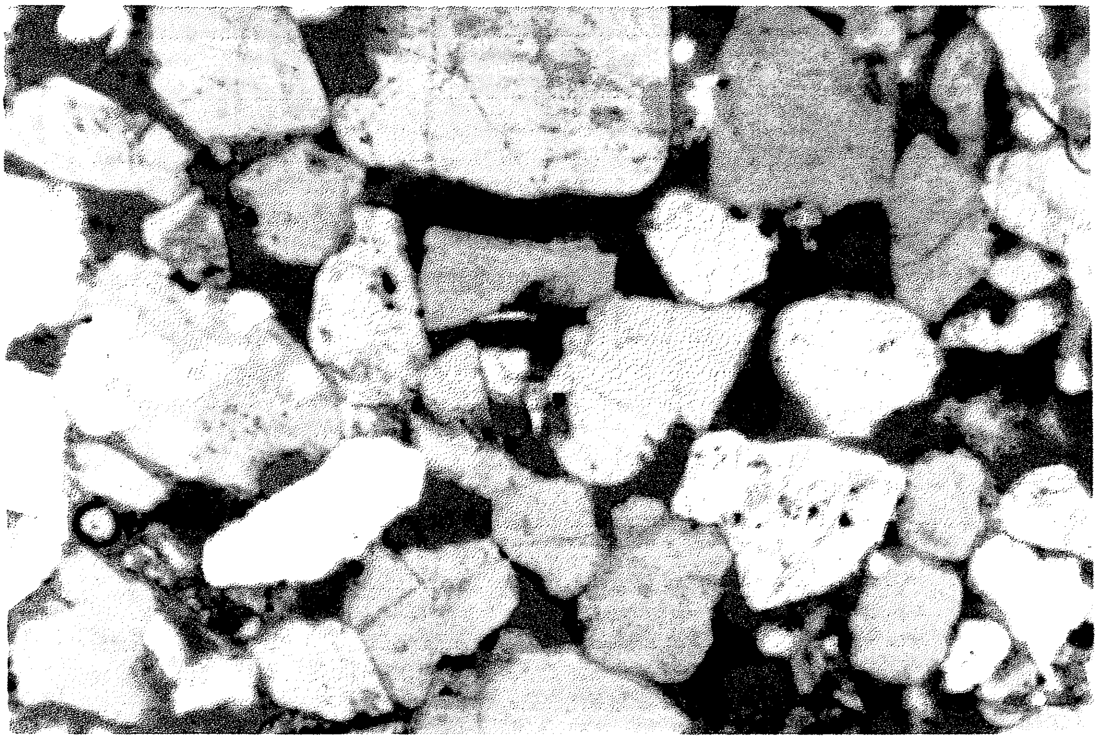


Figure 19a.

Abundant intergranular porosity (blue) is evident in this portion of sublitharenite. Note that infiltration of dark drilling mud has formed partial grain rims and bridges. Mylor #1, sample 57, depth 1702.4m. Plane light. Field of view 2.6mm.

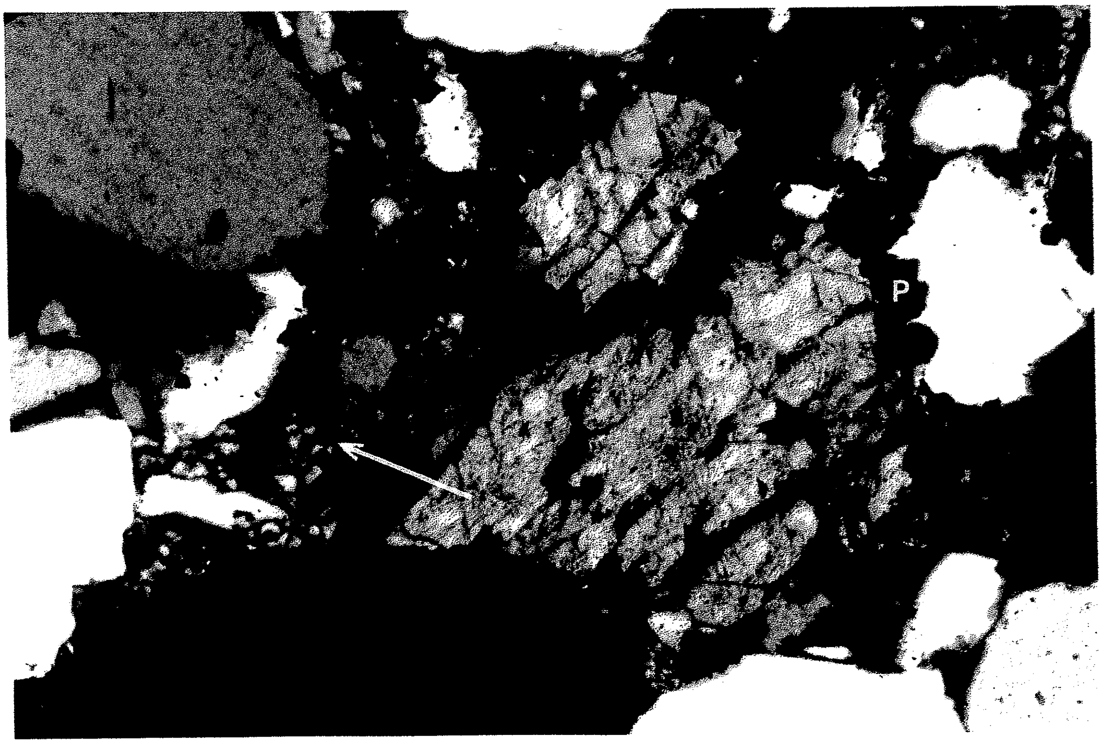


Figure 19b.

A grain of K-feldspar (light grey) displays lack of twinning and corrosion along crystallographic axes. Note kaolin (arrow) and opaque pyrite (P). Mylor #1, sample 57, depth 1702.4m. Crossed nicols. Field of view 1.0mm.

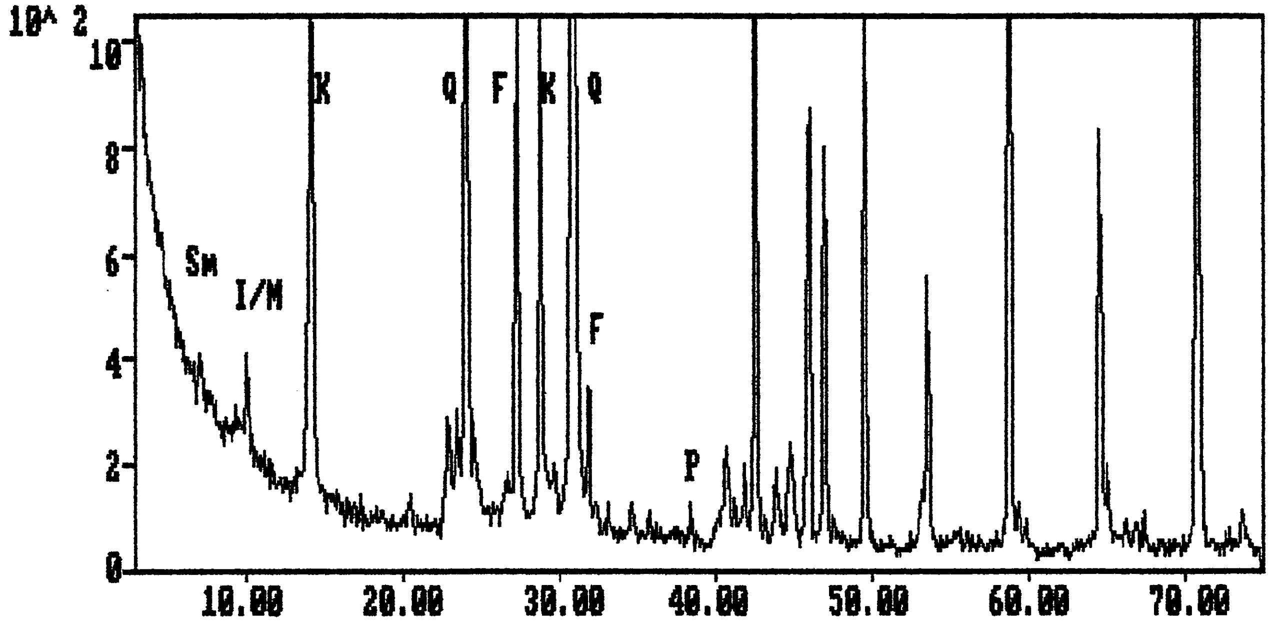


Figure 20a.

Bulk XRD trace of Mylor #1, sample 57, depth 1702.4m. Only the strongest peaks for each mineral identified have been labelled. K=kaolinite, I/M=illite/muscovite, Q=quartz, F=K-feldspar and P=pyrite. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

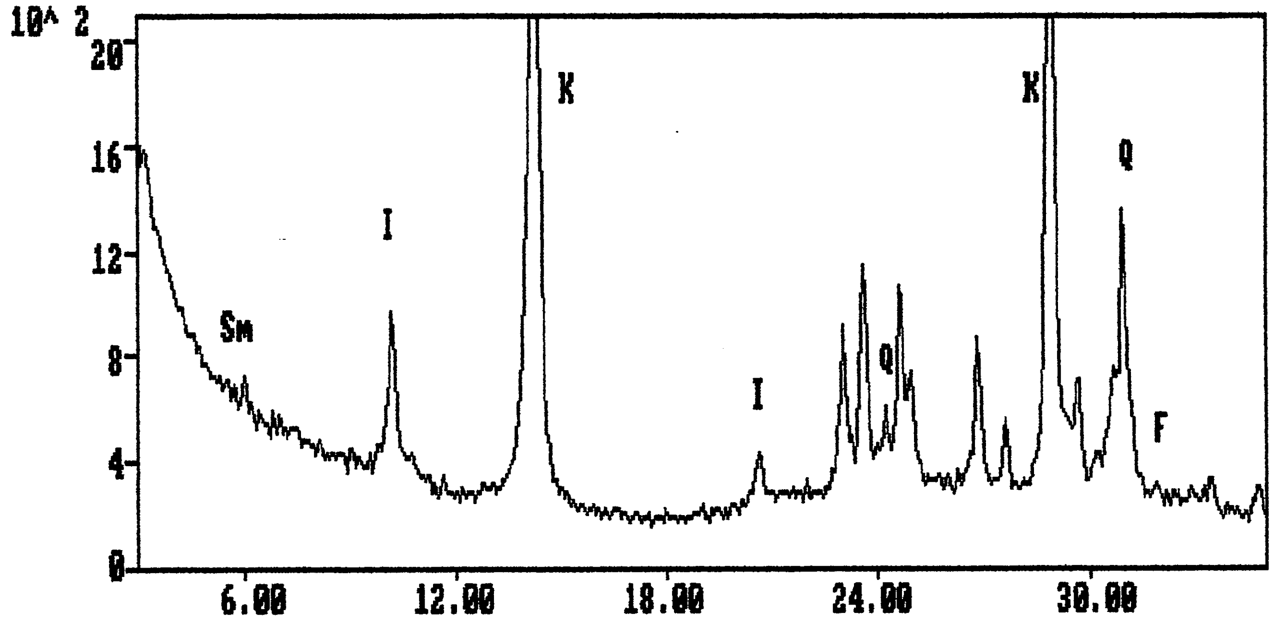


Figure 20b.

Clay XRD trace of Mylor #1, sample 57, depth 1702.4m. Sm=smectite (montmorillonite), I=illite 2M1, K=kaolinite 1T, Q=quartz and F=feldspar. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

PE906750

This is an enclosure indicator page.
The enclosure PE906750 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906750 has the following characteristics:

ITEM_BARCODE = PE906750
CONTAINER_BARCODE = PE900934
NAME = Photomicrograph, Appendix 2, Figure 21
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = PHOTOMICROGRAPH
DESCRIPTION = Photomicrograph, Appendix 2, Figure 21, Mylor-1
REMARKS =
DATE_CREATED = 31/10/94
DATE_RECEIVED = 23/03/95
W_NO = W1102
WELL_NAME = MYLOR-1
CONTRACTOR = THOMAS GEOLOGICAL SERVICES
CLIENT_OP_CO = BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

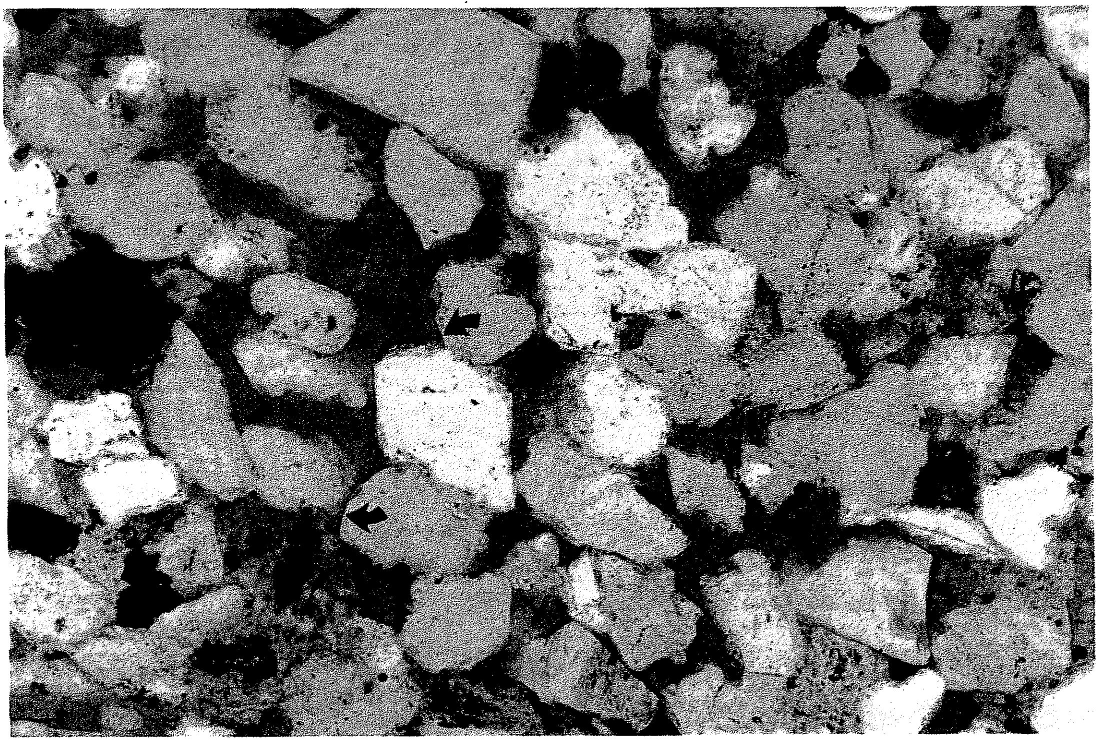


Figure 21a.

Primary intergranular pores and unobstructed pore throats are clearly evident in this subarkose. Note the euhedral terminations on quartz grains (arrows). White material in some pores is kaolin. Mylor #1, sample 67, depth 1705.4m. Plane light. Field of view 1.0mm.

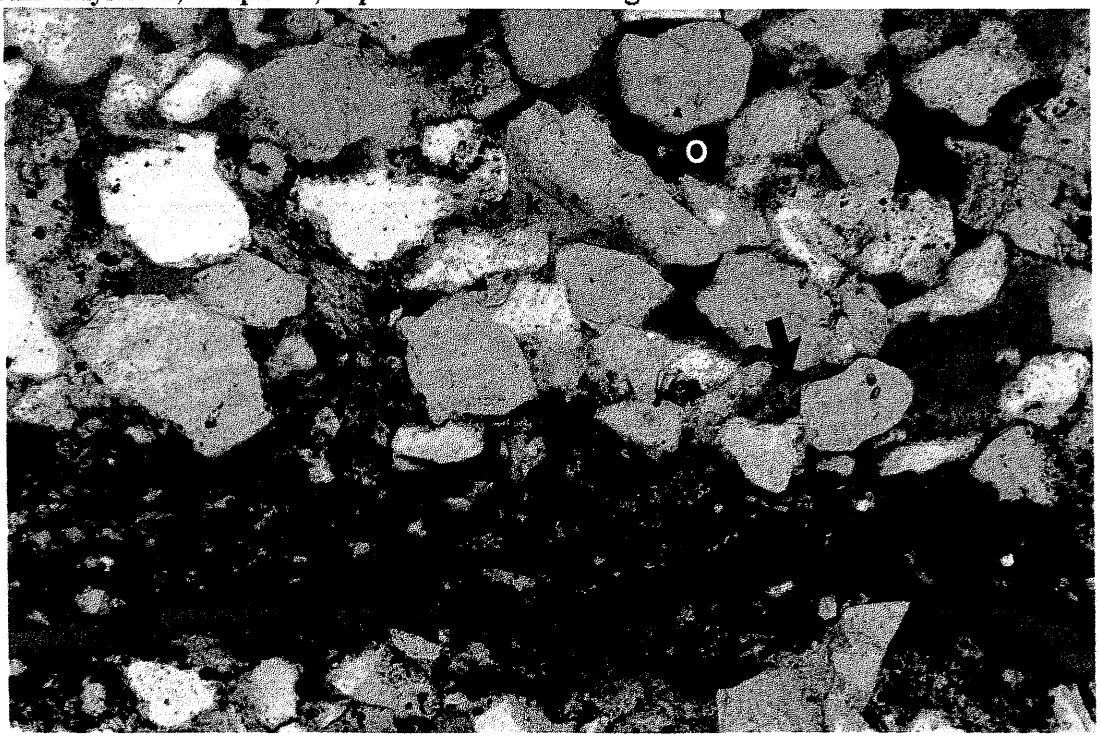


Figure 21b.

A silty lamina with no porosity is evident in this portion of the sample. Note the milky kaolin (K), green chloritised biotite (arrow) and pyritic globule of ?fossil oil (O). Fracturing within the lamina resulted from sample preparation. Mylor #1, sample 67, depth 1705.4m. Plane light. Field of view 1.0mm.

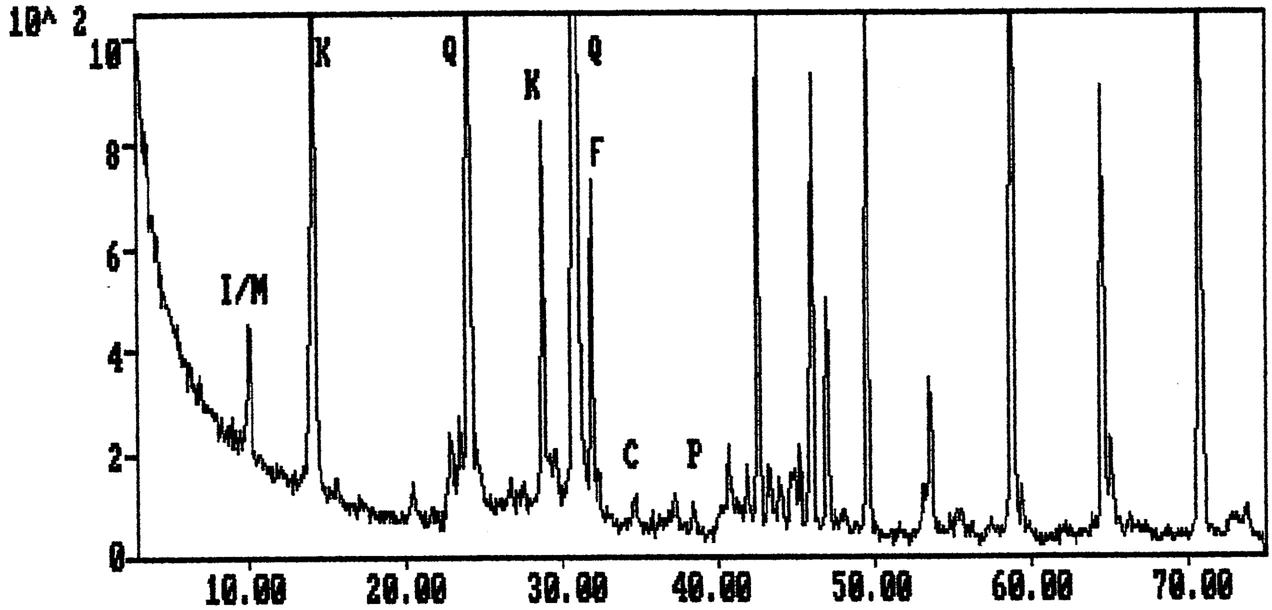


Figure 22a.

Bulk XRD trace of Mylor #1, sample 67, depth 1705.4m. Only the strongest peaks for each mineral identified have been labelled. K=kaolinite, I/M=illite/muscovite, Q=quartz, F=K-feldspar, C=calcite and P=pyrite. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

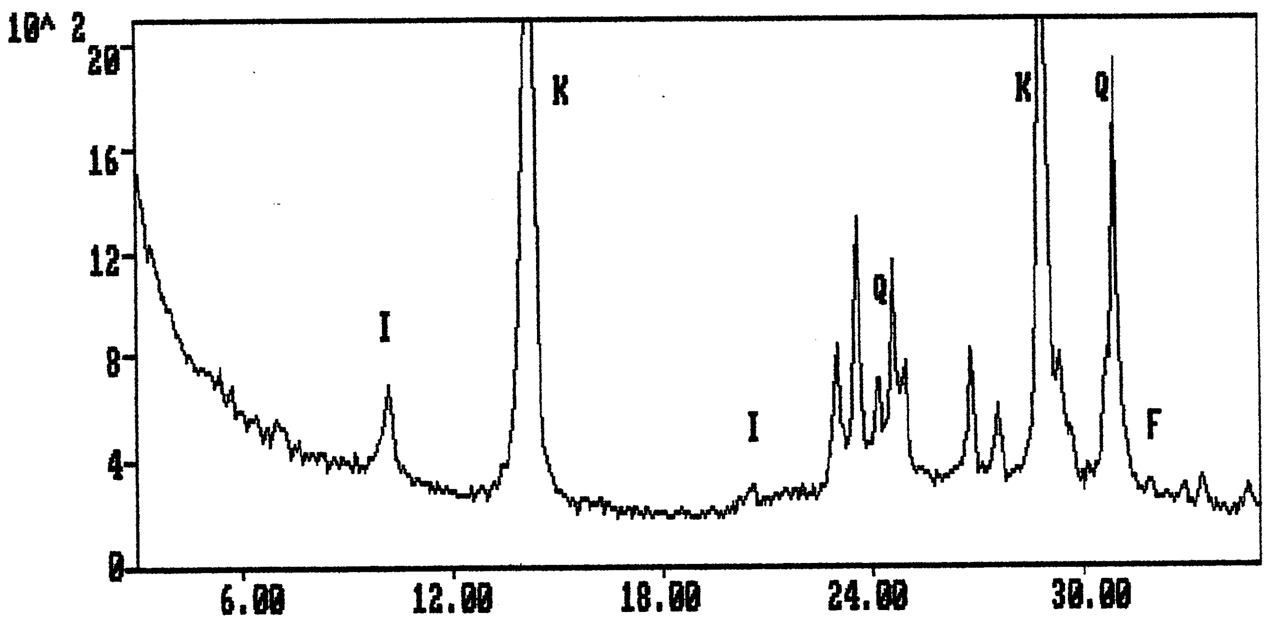


Figure 22b.

Clay XRD trace of Mylor #1, sample 67, depth 1705.4m. Sm=smectite (montmorillonite), I=illite 2M1, K=kaolinite 1T, Q=quartz and F=feldspar. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

PE906751

This is an enclosure indicator page.
The enclosure PE906751 is enclosed within the container PE900934 at this location in this document.

The enclosure PE906751 has the following characteristics:

ITEM_BARCODE =	PE906751
CONTAINER_BARCODE =	PE900934
NAME =	Photomicrograph, Appendix 2, Figure 23
BASIN =	OTWAY
PERMIT =	PEP108
TYPE =	WELL
SUBTYPE =	PHOTOMICROGRAPH
DESCRIPTION =	Photomicrograph, Appendix 2, Figure 23, Mylor-1
REMARKS =	
DATE_CREATED =	31/10/94
DATE_RECEIVED =	23/03/95
W_NO =	W1102
WELL_NAME =	MYLOR-1
CONTRACTOR =	THOMAS GEOLOGICAL SERVICES
CLIENT_OP_CO =	BRIDGE OIL LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

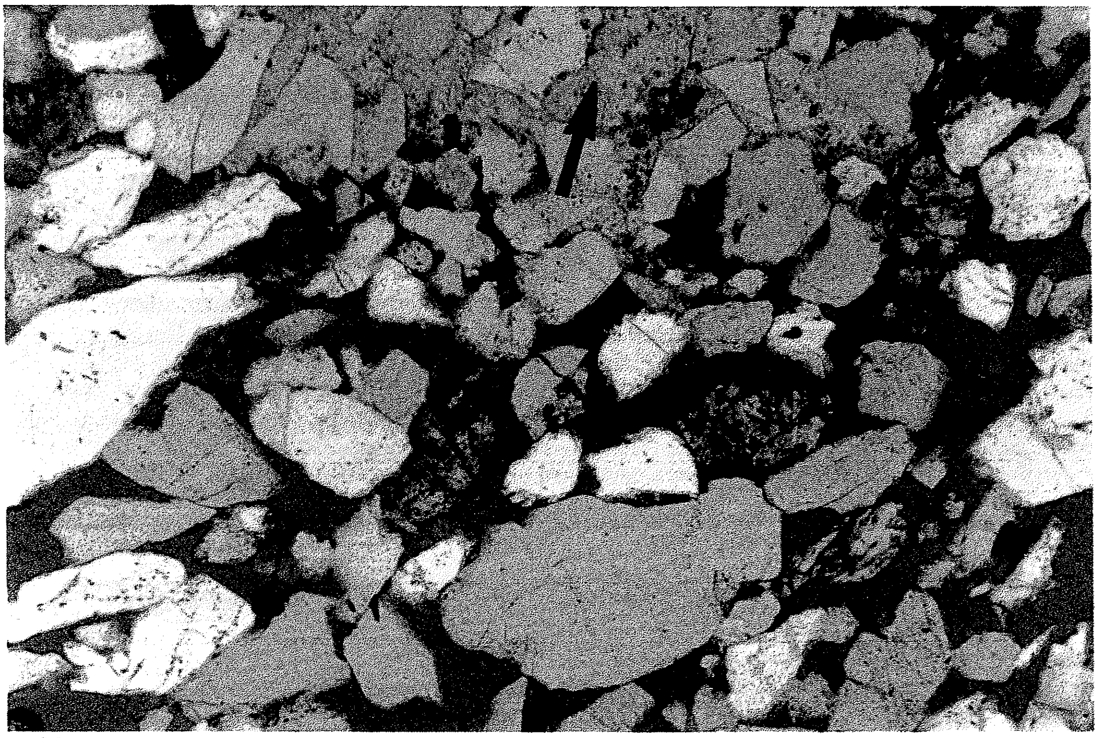


Figure 23a.

In this general view of subarkose, pores are abundant except for a patch containing carbonate cement (arrow). Some pores are partially filled with white kaolin. Mylor #1, sample 77, depth 1708.4m. Plane light. Field of view 2.6mm.

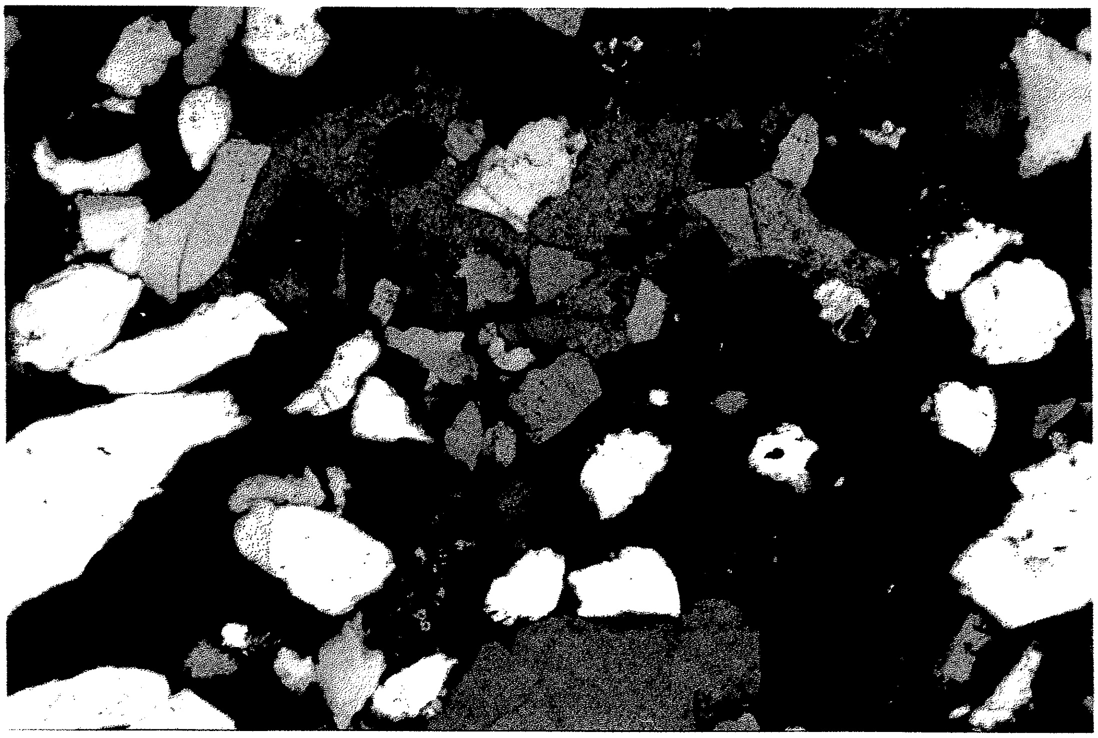


Figure 23b.

Same field of view as for figure 23a, but with crossed nicols. Note the even extinction of carbonate (poikilotopism), indicative of deep burial cement. The angular to subrounded nature of grains is clearly apparent.

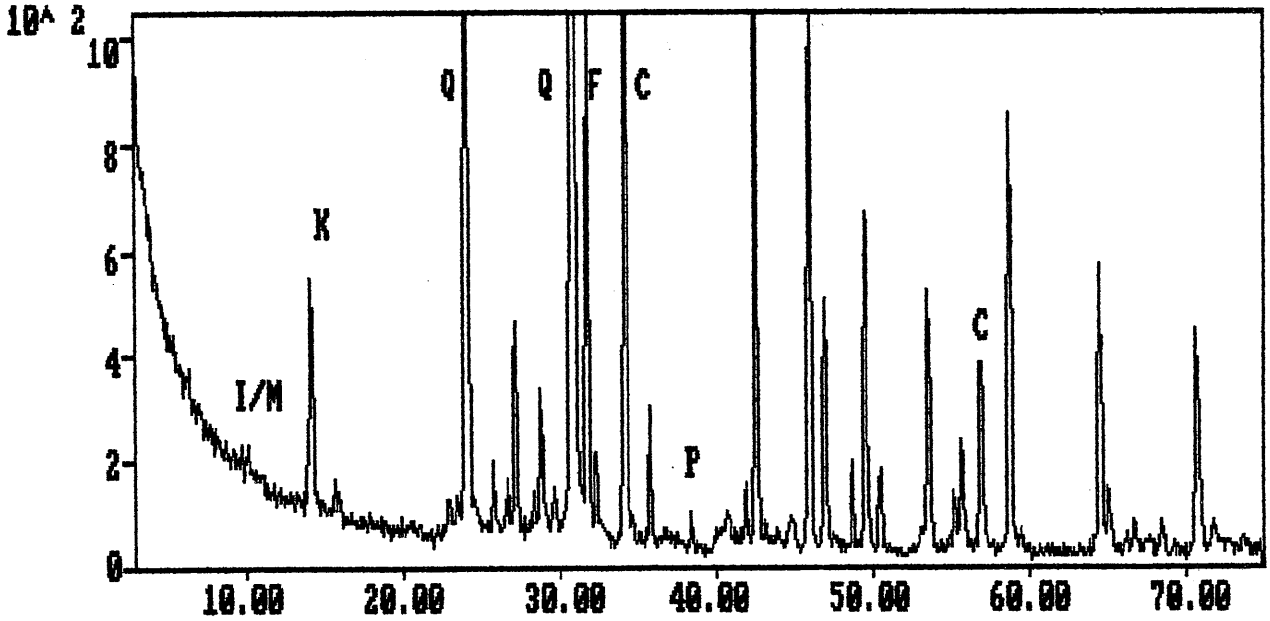


Figure 24a.

Bulk XRD trace of Mylor #1, sample 77, depth 1708.4m. Only the strongest peaks for each mineral identified have been labelled. K=kaolinite, I/M=illite/muscovite, Q=quartz, F=K-feldspar, C=calcite and P=pyrite. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.

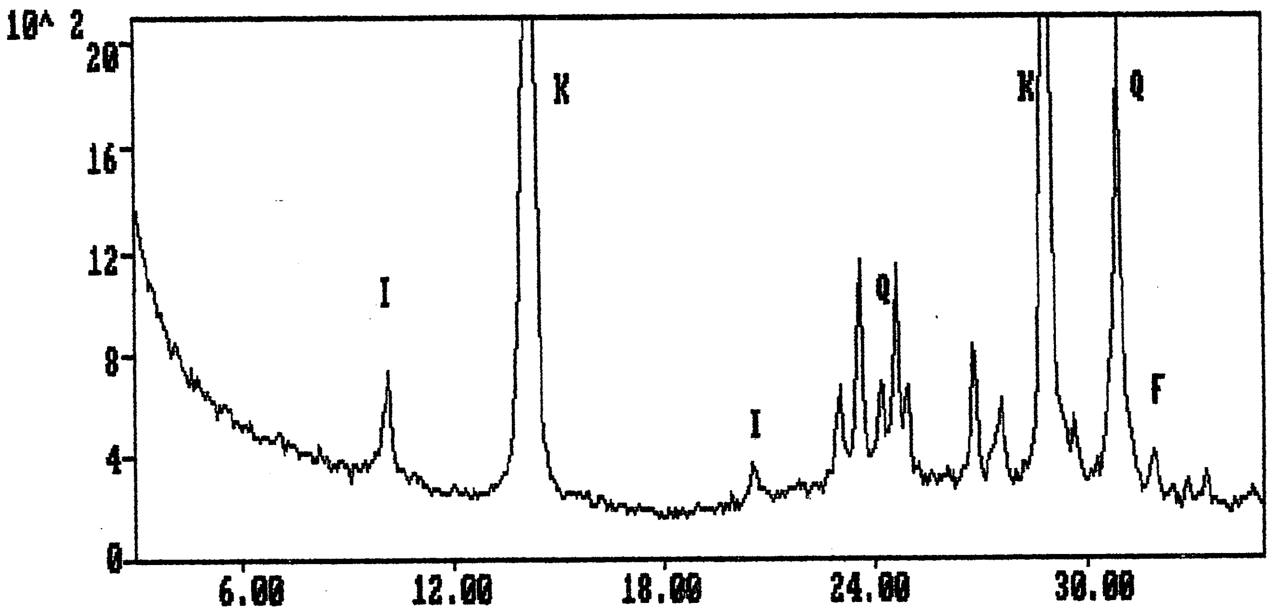


Figure 24b.

Clay XRD trace of Mylor #1, sample 77, depth 1708.4m. I=illite 2M1, K=kaolinite 1T, Q=quartz and F=feldspar. The horizontal axis is in degrees 2 theta and the vertical axis represents counts.