

DEPT. NAT. RES & ENV



PE900988



PETROLEUM DIVISION

09 OCT 1992

PEP 111
OTWAY BASIN
VICTORIA

SHAW-1

WELL COMPLETION REPORT

(W1066)

M i n o r a R e s o u r c e s N L



AN Boji / m m / km

8 October 1992

PETROLEUM DIVISION

Department of Manufacturing
& Industry Development
151 Flinders Street
MELBOURNE VIC 3000

09 OCT 1992

Attention: Mr K Gardner - Director Energy

Dear Sir

RE: PEP 111 - SHAW-1 WELL COMPLETION REPORT

Please find enclosed a copy of the Shaw-1 Well Completion Report which completes Minora's work commitments as Operator of PEP 111.

Yours faithfully
for MINORA RESOURCES NL

E Kopsen
Chief Explorationist

Encl

Ref: P111-456/EK:tm



SHAW NO. 1
WELL COMPLETION REPORT
PEP 111 - OTWAY BASIN

MINORA RESOURCES NL
OCTOBER 1992

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SUMMARY

Shaw-1 was drilled as a wildcat exploration well. The primary objectives were Clifton/Dilwyn Formations and Pebble Point/Paaratte Formations. The Upper Eumeralla Formation was a secondary objective.

The well is located approximately 25km northwest of the township of Port Fairy in southwestern Victoria and 3.25km east-southeast of the Windermere-1 oil discovery (Figures 1 & 2).

Drilling commenced at 1600 hours on 27 May 1992 and reached a total depth of 960m (KB) at 2200 hours on 1 June 1992.

No significant hydrocarbon indications were observed whilst drilling. The maximum background gas recorded was 1150 ppm C1 at 955m in the Upper Eumeralla Formation.

At total depth a Dual Laterolog - MLL - MRS - SP - Compensated Sonic - GR - Caliper log was run.

The logs confirmed all potential reservoir rocks are water saturated. A Composite Well Log is included as Appendix 1.

No open hole drill stem tests were required to evaluate the well and no coring was attempted, either conventional or sidewalls.

Shaw-1 was plugged and abandoned as a dry hole and the rig was released at 1800 hours on 3 June 1992.

1. INTRODUCTION

Shaw-1, the third well drilled by the PEP 111 Joint Venture, was drilled to test the hydrocarbon potential of the Tertiary and the Upper Cretaceous sequences.

Sandstones within the Clifton, Dilwyn, Pebble Point and Paaratte Formations exhibit very good to excellent reservoir characteristics and have occasionally shown encouraging hydrocarbon indications in Otway Basin wells. Sandstones within the Upper Eumeralla Formation of the Lower Cretaceous Otway Group were recognised as a secondary objective.

A prominent regional Miocene aged structural closure is mapped at the Clifton Formation and Dilwyn Formation seismic horizons, these defining the primary objective level for the prospect. The structure is a fault-bounded north-south compression faulted anticline partly co-incident with deeper east-west block faulting formed during Cretaceous rifting. The major east-west fault beneath the Shaw structure is known as the Windermere Fault.

The Shaw structure is defined by a close grid of good quality seismic data recorded between 1985 and 1991 and tied to adjacent well control.

The Gellibrand Marl provides a regional seal for the Clifton/Dilwyn reservoirs. The Pember Mudstone probably seals both vertically and laterally the Pebble Point/Paaratte reservoir system. Similarly, the Belfast Mudstone seals the sandstones of the underlying Eumeralla Formation.

The recognition of good quality source rocks in the underlying Eumeralla Formation, the presence of oil shows at various levels nearby in the Windermere wells and the absence of any shows whilst drilling, leads to the conclusion that no effective migration has occurred into the section tested by Shaw-1.

2. WELL HISTORY

2.1 Location (Figures 1 & 2)

Co-ordinates:	Latitude: 38 14' 27.47" S Longitude: 142 02' 56.43" E
UTM Co-ordinates:	Eastings: 591 799.5 Northings: 5 766 914.0
Seismic Reference:	Line OPP 85B-32 V.P. 610 Near the intersection of Line OPP 85A-07 V.P. 624
Property Owner:	J.R. & S.J. Bullock Box 349 PO HAMILTON VIC 3300

2.2 General Data

Well Name:	SHAW NO. 1
Operator:	Minora Resources NL (25.5%) 8th Floor, Durack Centre 263 Adelaide Terrace PERTH WA 6000
Participants:	Cultus Petroleum (Aust) NL (43.5%) 25-27 Merriwa Street GORDON NSW 2072
	Pan Pacific Petroleum (Vic) NL (21.0%) Level 4, Tandem House 76 Berry Street NORTH SYDNEY NSW 2060
	Lennard Oil NL (10.0%) C/- Walhalla Mining Co Ltd 3 Spring Street SYDNEY NSW 2000

Elevation: Ground Level: 45m ASL
Kelly Bushing: 50.5m ASL
(unless otherwise stated,
all depths in this report refer
to KB.)

Total Depth: Driller: 960.0m
Wireline Logger: 956.5m

Spud Date: 27 May 1992 @ 1600 hours
Total Depth Reached: 1 June 1992 @ 2200 hours
Rig Released: 3 June 1992 @ 1800 hours
Drilling Time to T.D.: 6 days

2.3 Drilling Summary (Figures 3 & 4)

Drilling Contractor

Department of Manufacturing and Industry Development
of Victoria, Drilling Unit (refer to Appendix F for
Rig Specifications).

Drilling Rig

DMID Rig 21.

Conductor

A 18" conductor was set at 12.5m prior to rig arrival.

Surface Casing

Size: 9⁵/₈"
Weight & Grade: 36 lb/ft (11 joints) surface
to 133.29m
47 lb/ft (10 joints) 133.29
to 263.38m

Accessories: Float collar at 250.80m
Float shoe at 262.83m
Centralisers on joints no. 1,
2, 4 & 5.

Shoe: 263.38m

Cemented 9⁵/₈" casing with 203 sacks Class A
cement with 2% prehydrated bentonite followed by 156
sacks neat Class A cement. Bumped plug with 1500 psi,
good returns to surface.

Cement Plugs

Plug No. 1

Interval: 780 - 870m
Cement: Neat Class A
Method: Balanced

Plug No. 2

Interval: 603 - 670m
Cement: Neat Class A
Method: Balanced, tagged at 603m

Plug No. 3

Interval: 231 - 290
Cement: Neat Class A
Method: Balanced, tagged at 231m

Plug No. 4

Interval: Surface
Cement: Neat Class A

2.4 Drilling Fluid Summary

A freshwater - gel mud system was used to drill from surface to 269m. From 269 to 960m (TD) a KCL/PAC-R drilling fluid was used. The drilling fluid recap is included as Appendix C.

2.5 Water Supply

Drilling water was obtained from a water bore drilled on location prior to rig arrival.

2.6 Formation Sampling and Testing

Cuttings

Cutting samples were collected at 10m intervals from surface to 269m (9⁵/₈" casing point) and at 5m intervals from 269m to the total depth. Washed samples were air dried and split into four polythene bags and one samplex tray. A suite of unwashed samples was collected at the same depth intervals and stored in labelled cloth bags.

The samples were distributed to the following:

- Minora Resources NL, stored at Corelab, Welshpool WA (3 sets washed and dried, samplex trays and unwashed samples).
- DMID Energy Division (1 set washed and dried samples).

Cores

No conventional cores or sidewall cores were obtained.

Tests

No drill stem tests or wireline tests were conducted.

2.7 Logging and Surveys

Mud logging

A standard skid mounted Exlog Australia mud logging

unit recorded and monitored penetration rate, continuous mud gas, intermittent mud and cuttings chromatographic gas analysis, pump rate and mud volume. The Mud Log is included as Enclosure 2.

Wireline Logging

Wireline logging was performed by BPB Wireline Services using a standard truck mounted logging unit. The following logs were recorded at total depth during a single logging run:

<u>Suite 1</u>	<u>Interval (m)</u>
Dual Laterolog - MLL - MRS -	955.0 - 263.2
Caliper-Compensated Sonic - GR-SP	(with GR to surface)

A composite log is included as Enclosure 1.

Deviation Surveys

Hole deviation surveys were conducted regularly with the following results:

<u>Depth (m)</u>	<u>Deviation (Deg)</u>
30	1
80	$\frac{1}{2}$
130	$\frac{1}{2}$
180	$\frac{1}{4}$
260	$\frac{1}{2}$
462	$\frac{1}{2}$
662	$\frac{1}{2}$
955	0

Velocity Survey

A velocity survey was not conducted due to main objectives being encountered close to prognosis and the well's proximity to modern wells with good velocity control.

2.8 Final Cost

\$280,000 (approximate).

3.0 GEOLOGY

3.1 Regional Geology

The Otway Basin formed as a rifted continental margin basin. The initial breakup stage rifting, during the Late Jurassic to Mid Cretaceous, was dominated by continental sedimentation. The Late Cretaceous to Tertiary sequence deposited, during the break up of the Australia-Antarctic continental plates, is comprised of four depositional sequences with widespread marine shales or marls intercalated with

carbonates or porous sandstones. The stratigraphy of the Otway Basin is summarised in Figure 5.

PEP 111 is located in the Tyrendarra Embayment on the Mussel Platform (Figure 6). The latter is a broad shelf area upthrown by the Mussel Fault from the deeper Voluta Trough. Two north-south trending ridges are superimposed on this platform, the Merino Uplift/Dartmoor ridge north of Portland and the Warrnambool High in the eastern part of the permit. These ridges separate three post-breakup, predominantly Late Cretaceous depocentres, the Gambier Embayment straddling the Victorian/South Australian border, the Tyrendarra Embayment in the central part of the basin, and the Port Campbell Embayment in the eastern area. These ridges had significantly less effect on Tertiary sediments which prograded as a wedge across the basin.

The majority of faults are aligned northwest-southeast sub-parallel to the coast and are represented by major and minor down to the south step faults as well as numerous antithetics. Wrench tectonics are believed to have affected the basin in the Early Cretaceous and again in the Miocene.

3.2 Regional Stratigraphy

Basement in the Otway Basin consists of a complex Palaeozoic Tasman Geosyncline sequence cratonised during the Kanimblan Orogeny. Lithologies comprise high and low grade metamorphics, granites, orthoquartzites, acid-intermediate volcanics with post-Kanimblan Permian glacial sediments also possibly forming economic basement. The structural history of the Palaeozoic sequence is complex, with deposition mainly aligned north-south in fault bounded lows and high areas.

Late Jurassic - Early Cretaceous

A Late Jurassic sequence of carbonaceous siltstones, claystones, sandstones, basaltic volcanics and tuffs, the Casterton Beds represents the oldest known sequence in the basin. The overlying Otway Group was deposited prior to separation of the Australia/Antarctic continental plates under dominantly non-marine conditions in a deep graben formed in an extensional wrench related setting.

The Crayfish Formation comprises several sequences of rift-fill sandstone and shales sub-divided into four units.

A major unconformity occurs at the base of the Eumeralla Formation which is the most widespread unit of the Otway Group. The Eumeralla Formation is comprised of a sequence of volcanoclastic coal measures. Sandstones occur throughout the unit with

the most persistent being at the base and in the middle of the sequence, these being the Windermere and Heathfield Members respectively.

Late Cretaceous

Volcanic activity paused near the end of the Early Cretaceous. A major unconformity (the breakup unconformity) represents a hiatus between the Otway Group and the overlying Sherbrook Group sediments. The Waarre Sandstone, a fluvio-deltaic unit, was the first to be deposited on the unconformity and was restricted to depressions in the Otway Group terrain to the west and to the east of PEP 111. This formation is conformably overlain by the shallow marine to paralic Flaxman Formation and the Nullawaare Greensand. This in turn is overlain by an extensive marine silty claystone, the Belfast Mudstone, partially time equivalent to an offlapping fluvio-deltaic wedge, the Paaratte Formation. The non-marine coarse sandstones, gravels and coals at the top of the Paaratte are referred to as the Timboon Sand Member.

Tertiary

The Cretaceous-Tertiary boundary is unconformable, with the Sherbrook Group being overlain by the Wangerrip Group. This younger group comprises a basal transgressive conglomeratic sandstone, the PebblePoint Formation overlain by a fine grained pro-delta marine facies unit, the Pember Mudstone. The latter interfingers with, and is overstepped by a deltaic sandstone, siltstone and shale sequence, the Dilwyn Formation. A regional unconformity separates the Wangerrip Group from the Nirranda and the Heytesbury Groups, each being extensive sequences of marls and limestone with minor sandstones deposited under open marine conditions on a subsidising shelf. The former group is absent at Shaw-1 and is usually comprised of a basal sandstone unit, the Mepunga Formation which passes up into the Narrawaturk Marl. The basal unit of the Heytesbury Group usually consists of a shallow water bioclastic limestone/sandstone unit, the Clifton Formation, which passes upwards into a deeper was facies, the Gellibrand Marl. The Port Campbell Limestone is the overlying formation and consists of an offlapping wedge of coarse bioclastic limestones.

3.3 Previous Exploration

Frome-Broken Hill was granted PEP 5 prior to 1958 and conducted reflection and refraction seismic surveys in the years 1958 to 1964. During this period Pretty Hill-1 and Eumeralla-1 were drilled. Shell farmed into the area in 1965 and conducted seismic surveys from 1966 to 1973. In addition, an aeromagnetic survey was conducted in 1970. North Eumeralla-1 was drilled in 1973 before Shell relinquished the area. Government water bores were drilled from 1959 to 1968.

PEP 5 expired in mid-1975 and the area was taken up by Beach Petroleum in 1976 under PEP 93, Beach did not conduct any exploration within the area, now known as PEP 111. This permit was granted on 4th September 1984 for an initial period of 2 years and has since been renewed annually. Shaw-1 was drilled during Permit Year 8.

Seismic:

Seismic Surveys carried out in or near PEP 111 are summarised as follows:

<u>DATE</u>	<u>NAME OF SURVEY</u>	<u>COMPANY</u>	<u>CONTRACTOR</u>
1958	Portland and Port Campbell-Timboon	Frome-Broken Hill	United Geophy.
1962	Yambuck-Portland	Frome-Broken Hill	Ray Service
1964	Koroit	Frome-Broken Hill	United Geophy.
1966	Port Fairy-Nelson	Shell	United Geophy.
1969	Hawkesdale	Shell	GSI
1970	Portland-McArthur	Shell	GSI
1971	Nelson-Koroit	Shell	Petty Geophy.
1973	Coastal Strip	Shell	Ray Geophy.
1985	Toolong	Pan Pacific	Geo Systems
1985	Windermere to Port Fairy	Pan Pacific	Seiscom Delta
1988	St. Helens	Minora	Geo Systems
1990	Orford	Minora	Geo Systems
1991	Moyne	Minora	Geo Systems

The permittees have reprocessed the 1971, 1973 and certain older data from the permit area together with extensive reprocessing of the 1985 seismic data.

Drilling:

Port Campbell Embayment

Port Campbell-1, drilled in 1959 encountered a small flow of petroliferous gas from the Waarre Formation and Port Campbell-4, drilled in 1964, recovered free oil from the Eumeralla Formation. North Paaratte-1, drilled by Beach in 1979, flowed gas at rates of up to 270,000 m³/d (9.6 mmcf/d) from the Waarre Formation. In 1981, Beach's Grumby-1 flowed gas at 200,000 m³/d (7.3 mmcf/d) with approximately 50% carbon dioxide and Wallaby Creek-1, also drilled in 1981, tested gas at 280,000 m³/d (9.8 mmcf/d).

North Paaratte and Wallaby Creek fields contain at least 425 million cubic metres (15 bcf) of gas, and a pipeline transports this gas to Warrnambool.

Tyrendarra Embayment

Few structurally valid wells have been drilled in this area. Modern exploration commenced in the late 1970's with Beach Petroleum acquiring extensive coverage of high resolution seismic. Drilled by Beach in 1983, the Lindon-1 well recovered a small amount of heavy, waxy oil from a drillstem test of the Pebble Point Formation over the interval 891 - 912m. The Fahley-1 well, drilled further west by Beach in 1985 encountered strong gas shows.

Several exploration wells have been drilled in or near PEP 111, but only three wells are located within the permit area, namely Eumeralla-1 and Windermere-1 and -2. Most of these petroleum wells have been drilled to objectives in the upper part of the Crayfish Formation. The remaining boreholes in PEP 111 were drilled by the Victorian Government to evaluate the groundwater of the area, or to supply water for local towns. Most of these bores were drilled to the top of the Eumeralla Formation where drilling was then terminated.

PEP 111

The only wells in the proximity of PEP 111 with recorded oil shows are Eumeralla-1, Windermere-1 and -2. Eumeralla-1 had fluorescence from several zones between 1448 - 2956m, mainly in the Eumeralla Formation. The well tested a rotated fault block and was on the downthrown side of the major antithetic fault until it entered the Middle Eumeralla Formation in the upthrown block.

Windermere-1 is a suspended Heathfield Member oil discovery well. Open hole DST's 1 and 2 recovered 0.5 and 31.9 barrels of oil respectively. Only traces of oil were recovered with formation water during subsequent swabbing operations. The swabbing results and associated steady inflow of formation water suggest that the well was damaged during completion or the zone has been depleted. The most likely interpretation is that the well penetrated 5 metres of oil pay from 1805 - 1810 metres, probably in an oil transition zone.

The Windermere-2 exploration well was drilled to appraise the Heathfield Member oil discovery updip from Windermere-1 and to explore deeper objectives. Although Windermere-2 intersected the Heathfield Member updip from Windermere-1, no potential reservoirs are developed at the well location. The well recovered a small volume of oil on test from the Windermere Sand Member. Excellent oil prone source rocks were intersected by Windermere-2 in the Lower Eumeralla Coal Measures zone.

Wells and boreholes drilled within, or close to, the permit are listed in the following table:

<u>YEAR</u>	<u>WELL NAME</u>	<u>COMPANY</u>	<u>T.D.</u> <u>(Subsea)</u>	<u>OLDEST FM</u> <u>PENETRATED</u>
1959	Belfast-4	Government	-1674m	Eumeralla
1967	Belfast-11	Government	-1464m	Eumeralla
1968	Boothpool-2	Government	-1343m	Eumeralla
1968	Codrington-1	Government	-1262m	Eumeralla
1962	Eumeralla-1	Frome-Broken Hill	-3091m	Crayfish
1985	Greenslopes-1	Phoenix	-2520m	Casterton
1991	Killara-1	Cultus	-2334m	Crayfish
1966	Koroit-10	Government	-1496m	Eumeralla
1966	Meerai-3	Government	- 690m	Eumeralla
1968	Nautilus-1	Esso	-1982m	Belfast Mudstone
1973	Nth Eumeralla-1	Shell	-2677m	Casterton Beds
1967	Pecten-1A	Shell	-2816m	Eumeralla
1962	Pretty Hill-1	Frome-Broken Hill	-2416m	Casterton Beds
1992	Shaw-1	Minora	- 909m	Eumeralla
1982	Triton-1	Esso	-3516m	Waarre
1968	Tyrendarra-13	Government	-1362m	Eumeralla
1967	Voluta-1	Shell	-3940m	Flaxman
1960	Wangoom-2	Government	-1036m	Eumeralla
1961	Wangoom-6	Government	-1186m	Eumeralla
1967	Warrong-5	Government	-1021m	Eumeralla
1987	Windermere-1	Minora	-1798m	Eumeralla
1989	Windermere-2	Minora	-3543m	Crayfish
1968	Woolsthorpe-1	Interstate Oil Ltd	-1846m	Casterton
1967	Yambuck-2	Government	-1530m	Eumeralla
1960	Yangery-1	Government	-1239m	Eumeralla

3.4 Rationale for Drilling

Geophysical Mapping and Structure

The Shaw-1 prospect was identified using data from the 1988 St. Helens, 1990 Orford and 1991 Moyne Seismic Surveys. Well control was provided by Windermere-1 and -2 together with Pretty Hill-1. None of these wells were valid structural tests of the primary objectives in Shaw-1 even though Windermere-1 had anomalous formation fluid pressure gradients in the top part of the Dilwyn Formation.

Prior to drilling the following seismic horizons were mapped:

- Near Top Dilwyn Formation
- Near Top Pebble Point Formation
- Top Windermere Member
- Base Eumeralla Unconformity
- Near Top Crayfish "A" Formation

The Shaw-1 location is crestally located at Near Top Dilwyn and Pebble Point horizon levels. While the closure at Dilwyn and Pebble Point levels is fault dependent, the well tested a small area of fairway dip closure at the latter level. No recent mapping was undertaken at Top Eumeralla Formation level. It is not clear if the well tested a valid closure at this level. The crestal drilling location at these shallow levels does not co-incide with the structural crest at the Base Eumeralla and Top Crayfish "A" seismic horizons.

Objectives

The Windermere-1 and -2 wells demonstrated oil generation from high quality source rocks in the Lower Eumeralla Formation.

Shaw-1 was drilled to appraise the hydrocarbon potential of the Tertiary and Cretaceous section directly overlying these source rocks.

The major objectives were stacked sandstones at two main levels, namely the Clifton/Dilwyn and the Pebble Point/Paaratte Formations. Sandstones of the Upper Eumeralla Formation formed a secondary objective.

3.5 Shaw-1 Stratigraphy (Figure 7)

No age datings were carried out on samples from the well due to adequate datings being carried out on the the Windermere wells. The basis for picking the tops is local and regional wireline log markers. In this respect the formation tops in Shaw-1 are considered more consistent with regional picks and some adjustment of formation tops may be required in the Windermere wells.

Heytesbury Group

Port Campbell Limestone (Miocene)

Surface - 86m CALCARENITE, off white to yellow becoming light grey to medium grey with depth, fine to medium grained, moderately well sorted, subrounded, rare calcareous cement, abundantly fossiliferous, trace glauconite at depth, friable to firm, good visual porosity.

Gellibrand Marl (Miocene)

86 - 290m FOSSILIFEROUS MARL, medium grey, becoming olive grey with depth, trace

to common glauconite, rare chlorite, vary rare calcite crystals, common to abundant forams, corals and fossil fragments, soft, occasionally firm, sticky in part, dispersive in part, becoming very dispersive with depth, grading into

Clifton Formation (Oligocene)

290 - 316m CALCARENITE, off to white to light grey to pale yellow, medium to coarse grained, moderately sorted, sub rounded, moderately strong calcareous cement, firm to hard, no visual porosity, minor dull orange brown mineral fluorescence.

CLAYSTONE, medium grey, becoming dominantly medium brownish grey, moderately to strongly calcareous, abundantly silty, common fine glauconite pellets, common forams and fossil fragments, rare lithics, trace to rare very fine sand grains, soft to firm, dispersive in part, rarely blocky.

Wangerrip Group

Dilwyn Formation (Eocene)

316 - 564m SILTY CLAYSTONE, medium brown grey, becoming dominantly medium to dark brown grey with depth, very silty, soft to firm, dispersive in part, grading into

SILTSTONE, interbedded with:

SANDSTONE, medium brown grey, becoming very light grey to brownish grey with depth, medium to coarse grained becoming dominantly coarse with depth, common light brown stained quartz grains, common quartz overgrowths, common pyrite nodules, friable to firm, good visual porosity, no shows.

Pember Mudstone (Paleocene)

564 - 622m CLAYSTONE, light to medium green and greenish grey, medium to occasionally dark brownish grey, moderately calcareous, commonly fossiliferous, slightly silty in part, rare glauconite, rare carbonaceous detritus and pyrite, very rarely arenaceous,

soft to firm, dispersive in part,
massive in part.

Pebble Point Formation (Paleocene)

- 622 - 678.5m SANDSTONE, light to medium brown, medium to coarse occasionally very coarse grained, moderately sorted, subangular to rounded dominantly subrounded, rare weak iron oxide cement, dominantly iron stained quartz, abundant dispersive medium to dark brown clay matrix, possibly chamositic clay, rare kaolinitic and chloritic clay matrix, rare iron oxide pellets, rare pyrite and mica, friable to firm, fair to occasionally good visual porosity, no shows, interbedded with:
- CLAYSTONE, dark brown grey, moderately silty, firm, hard in part, blocky in part.

Sherbrook Group

Paaratte Formation (Santonian - Maastrichtian)

- 678.5 - 857.5m SANDSTONE, very light grey, medium to very coarse, dominantly coarse grained, becoming dominantly medium with depth, poor to moderately sorted, sub angular to subrounded, quartzose, trace to common argillaceous matrix, rare coaly particles, pyrite and quartz overgrowths, friable with loose grains, good visual porosity, no shows, interbedded with:
- CLAYSTONE, medium to dark brown grey, moderately silty to arenaceous, trace coaly particles soft, dispersive.

Belfast Mudstone (Santonian)

- 857.5 - 922m SILTSTONE, medium to dark brownish grey, rarely carbonaceous, trace glauconite, rare micromica, soft to firm, hard in part, blocky in part, dispersive in part, grading into and interlaminated with
- GLAUCONITIC CLAYSTONE, medium to dark brown grey, dark greenish grey, common to abundant fine to medium grained dark green glauconite pellets, rarely silty, rare hard dolomite bands with glauconite pellets, soft, firm in part,

dispersive in part, blocky in part.
Otway Group

Upper Eumeralla Formation (Albian)

922 - 960m TD CLAYSTONE, light to medium greenish grey and bluish grey, light brownish grey with depth, rare multicoloured lithics, soft, dispersive interlaminated with:

SANDSTONE, light to medium greenish grey, speckled, very fine to fine grained, well sorted, subangular to subrounded, multicoloured volcanogenic lithics and minor quartz, trace chloritic clay matrix, rare weak calcareous cement, trace partially altered feldspar, rare micromica, rare carbonaceous detritus, friable to firm, very poor visual porosity, no shows.

3.6 Occurrence of Hydrocarbons

0 - 960m No significant gas or fluorescence was noted while drilling. Minor quantities of C1 were recorded from 810 - 960m TD.

Evaluation of electric logs confirmed all potential reservoirs water wet. The maximum background gas recorded was 1175ppm C1 at 955m in the Upper Eumeralla Formation.

3.7 Reservoir, Porosity and Permeability

Port Campbell Limestone

The bioclastic limestones and calcarenites of the Port Campbell Limestone crop out in the area. From visual examination these have good reservoir potential. A GR log through casing was obtained for correlation purposes and is the only wireline log over this unit.

Gelibrand Marl

This section was not logged extensively. From cuttings it is comprised almost entirely of marls with apparent good seal potential. No potential reservoir lithologies are developed in this section.

Clifton Formation

The Clifton Formation at Shaw-1 is predominantly a sequence of claystones and calcarenites. The calcarenites have no reservoir potential.

Dilwyn Formation

The sandstones of the Dilwyn Formation have excellent reservoir potential. Log derived porosities are in the range 20 - 30%. No indications of hydrocarbons were recorded while drilling and logs confirm this zone is water bearing.

Pember Mudstone

This unit consists of claystone and silty claystone with no recognised source potential.

Pebble Point Formation

The Pebble Point Formation comprises interbedded sandstone and claystone. The sandstones are medium to very coarse grained and have fair visual porosity. Logs indicate some permeability and 10 - 35% porosity. No shows were recorded while drilling this section. Logs show the zone to be water saturated.

Paaratte Formation

The Paaratte Formation sandstones intersected have excellent reservoir characteristics with average log derived porosity of approximately 30%. No indications of hydrocarbons were noted while drilling and logs confirm all sandstones water wet. Minor amounts of C1 were recorded while drilling below 810m.

Belfast Mudstone

This unit is composed of siltstone and glauconitic claystone with no recognised source potential. Minor amounts of C1 were recorded while drilling.

Upper Eumeralla Formation

The upper part of the Eumeralla Formation is comprised of interbedded claystone and lithic sandstones. These sandstones appear to have very poor reservoir potential with log derived porosities in the range 4 - 10%. Minor amounts of C1 were again recorded while drilling.

4.0 CONCLUSIONS AND CONTRIBUTIONS TO GEOLOGICAL KNOWLEDGE

Shaw-1 was drilled to test the hydrocarbon potential of the Tertiary to Upper Cretaceous sedimentary section in a regional closure, directly overlying an area with demonstrated oil prone source rocks. (Figure 8)

The stratigraphic sequence intersected was essentially as predicted. Variations in predicted versus actual depths were minor down to the Top Belfast Mudstone horizon (Figure 9). Some of the differences between the predicted and actual stratigraphy may be related to regionally inconsistent picks of formation tops in the Windermere wells. The stratigraphic boundaries are now considered to be more consistent with regional formation tops and consideration should be given to adjustment of a number of these picks in Windermere-1 and -2. A thicker than anticipated Paaratte Formation resulted in the Belfast Mudstone and Upper Eumeralla Formations being intersected 98.5 and 103m respectively low to prognosis. These seismic picks were wrong due to incorrect cross fault horizon correlations. As a consequence, planned total depth was extended to 960m to test the Upper Eumeralla sub-unit sandstones.

As no shows were encountered and comprehensive analyses were conducted on the Windermere wells no geochemical analyses were undertaken on cuttings from the well.

Shows whilst drilling were not significant with only minor amounts of C1 being recorded below 810m.

Evaluation of the structural closure after drilling confirms the Shaw Prospect is a valid closure at the level of the Dilwyn Formation. Cross fault seal at the Pebble Point level may not be effective if the fault throw exceeds the thickness of the Pember Mudstone. Good potential reservoirs with adequate vertical seal were intersected as prognosed. Previous drilling at Windermere-2 has demonstrated the existence of mature source rocks in the Lower Eumeralla Formation beneath the Shaw Prospect. This information appears to suggest that no effective migration has occurred along fault conduits into the Shaw Prospect.

Prior to drilling, vertical hydrocarbon migration was prognosed via two systems of faulting, namely the major east-west Windermere Fault active through much of the Cretaceous and NNW-trending faults associated with Miocene wrenching. The latter faults tend to sole out in the Eumeralla Formation. Even if hydrocarbons had not migrated vertically through the Windermere Fault it was expected that the large drainage area of the Shaw structure would have placed the prospect on a regional migration pathway leading from the southern part of the permit.

Another reason for the failure of Shaw-1 may be flushing of the Tertiary objectives by meteoric water. This is suggested by the petrophysical analysis which indicates salinities of 2000 - 6000 ppm.

A less likely but possible reason for the failure of the well could be the fact that the top 26m of the Dilwyn Formation is non-reservoir and that reservoir sand may be encountered higher on the structure.

Although the well tested a small area of four way dip closure at Pebble Point level, the throw on the bounding fault at this horizon is close to the thickness of the Pember Mudstone. Cross fault seal at this level may therefore be questionable.

While the well results downgrade the prospectivity of the Tertiary sequence, the play should not be completely discounted. In a different setting, where adequate vertical migration is effective, the Tertiary section may be legitimate play type. The other prospects in the permit with similar objectives, namely Windermere South and Tayfield, have less associated faulting than Shaw and should now be considered high risk.

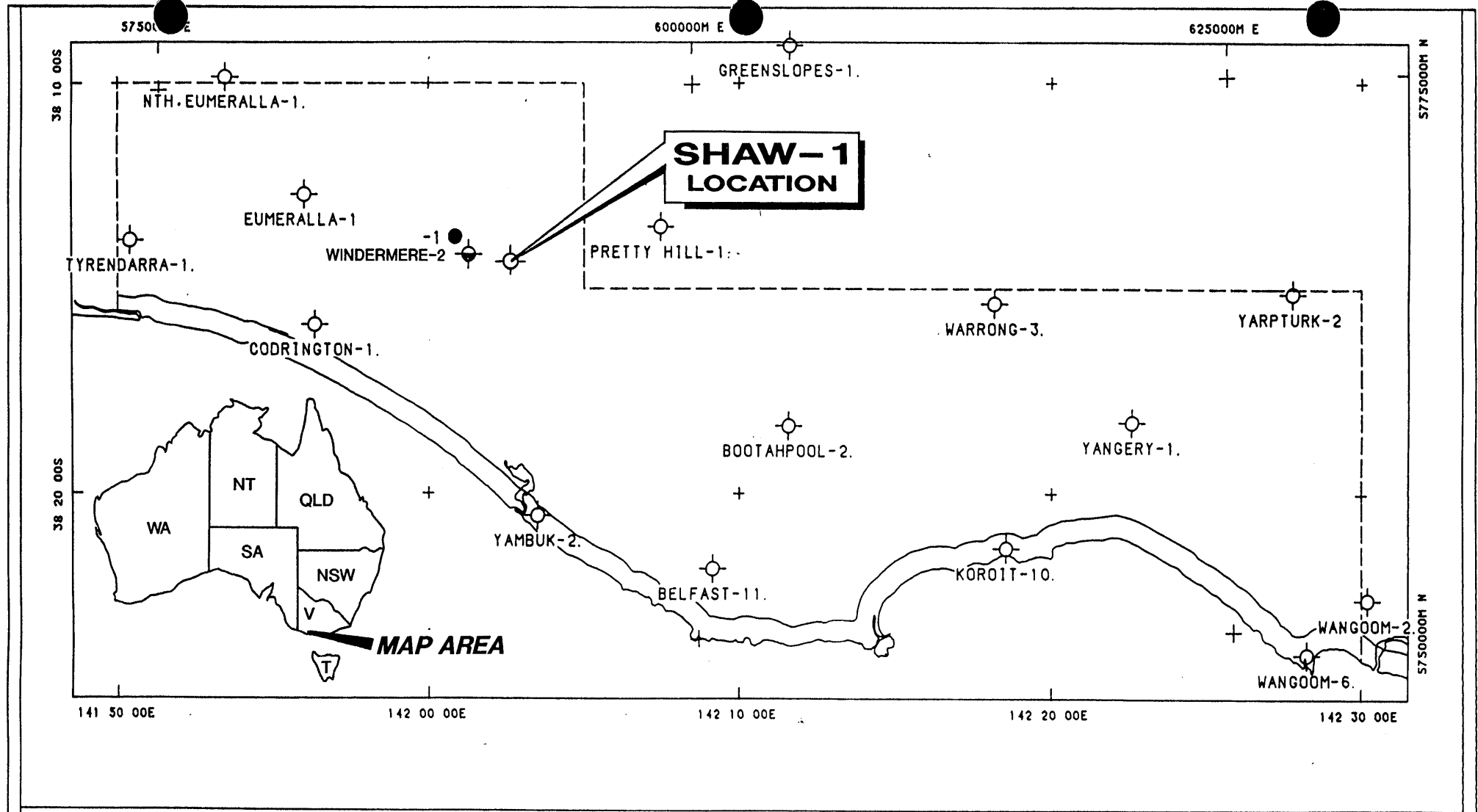
Subsequent drilling should focus on traditional objectives in the basin sealed beneath the Eumeralla and Belfast Formations.

5.0 REFERENCES

Kopsen, E and Scholefield T, 1990 - Prospectivity of the Otway Supergroup in the Central and Western Otway Basin, APEA Volume 30 page 263 - 278.

Minora Resources NL, 1987 - Windermere-1 Well Completion Report (unpublished).

Minora Resources NL, 1989 - Windermere-2 Well Completion Report (unpublished).



LEGEND

- OIL WELL
- ⊕ WELL WITH OIL SHOW
- DRY WELL



MINORA RESOURCES NL

PEP 111
OTWAY BASIN

**SHAW-1
LOCATION MAP**





Author: P.J.L	Date: JUNE 92
Drawn: B.McD	

FIGURE 1



SHAW-1 LOCALITY MAP

LEGEND

-  Sealed surface road
-  Unsealed or minor road
-  Vehicular track or Minor access road
-  Proposed drilling lease

0 1 2 km

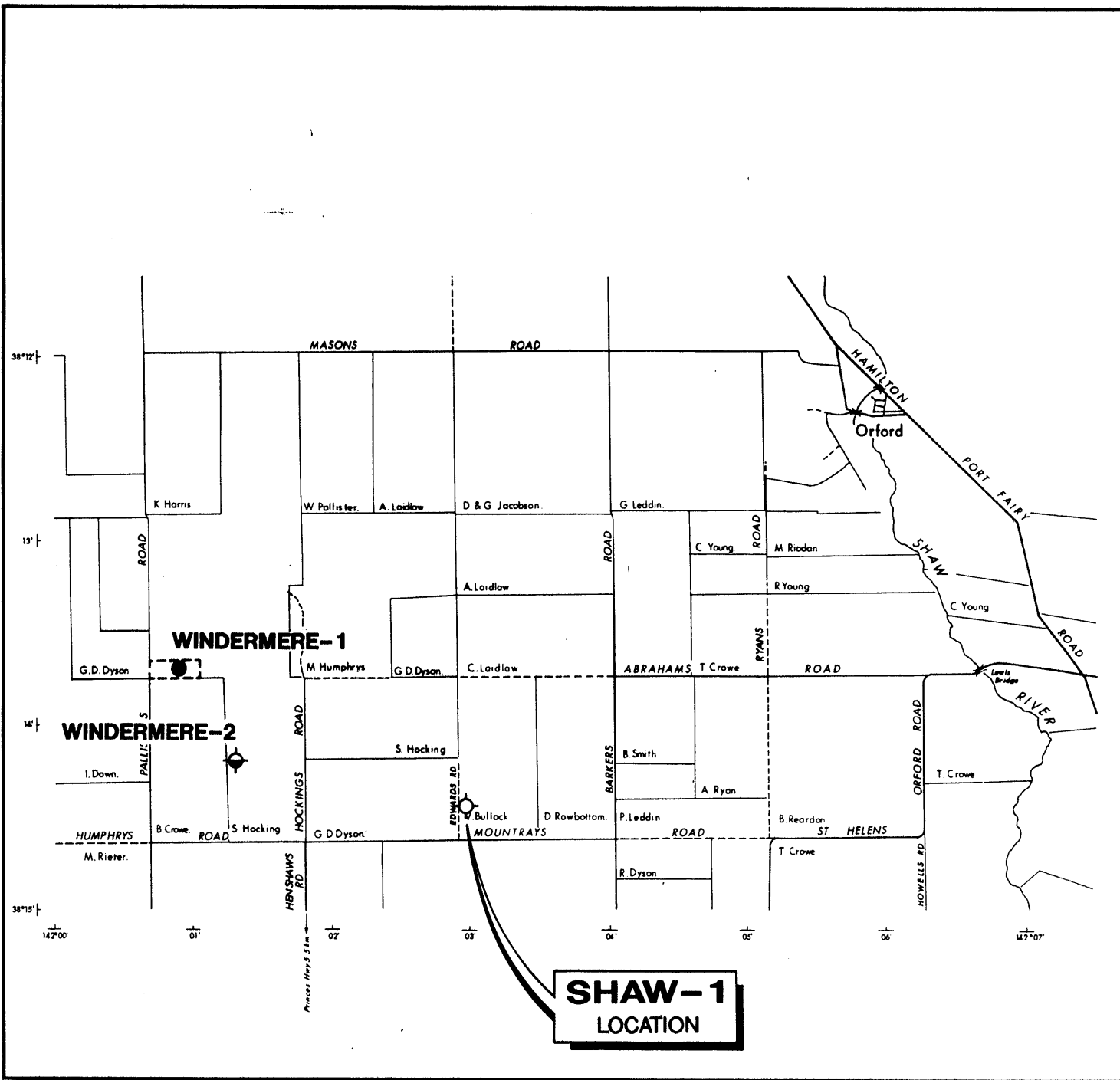


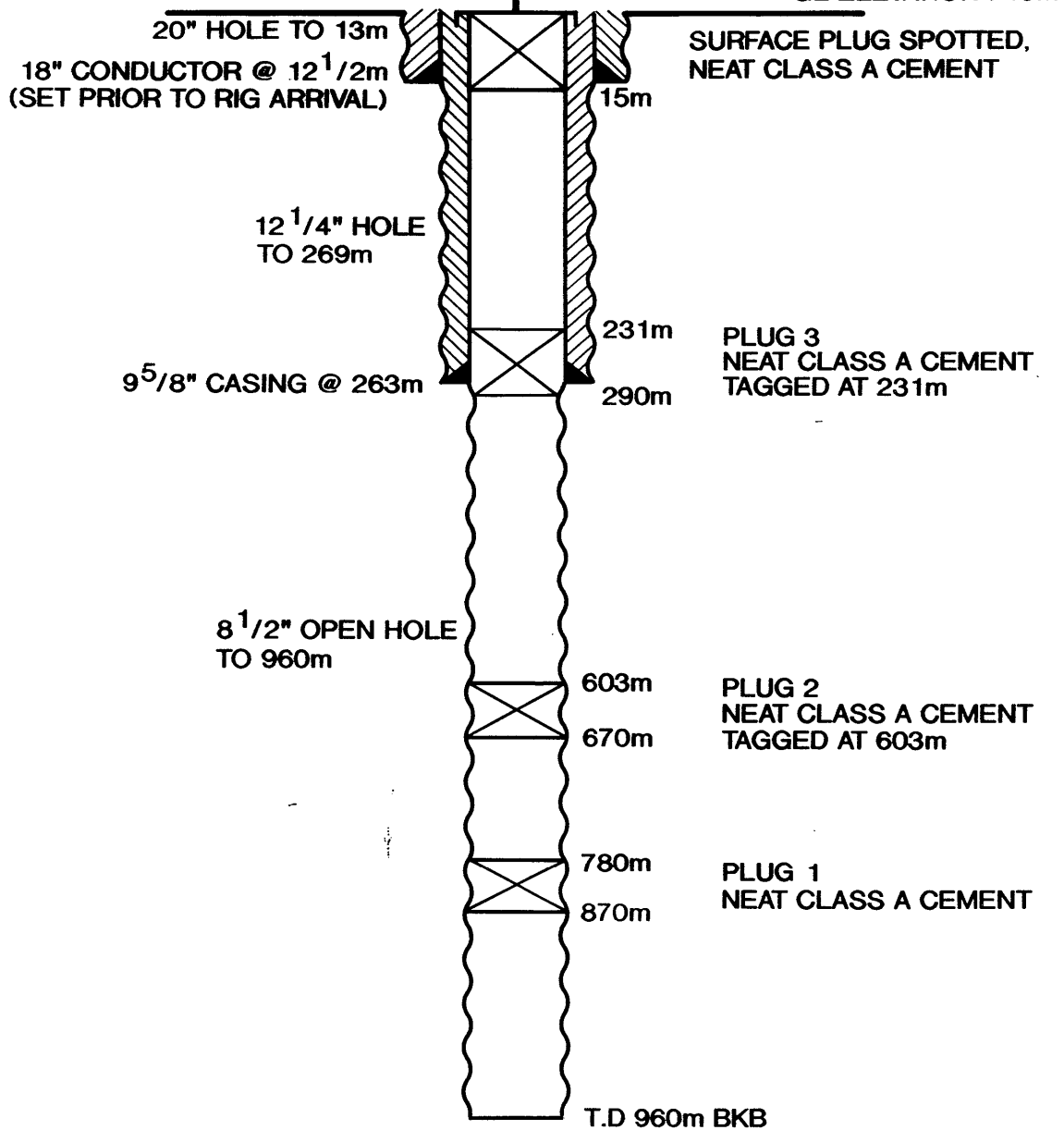
FIGURE 2

SHAW-1 WELL SCHEMATIC (AS ABANDONED)

COVER PLATE WELDED ONTO 9⁵/₈" CASING STUB

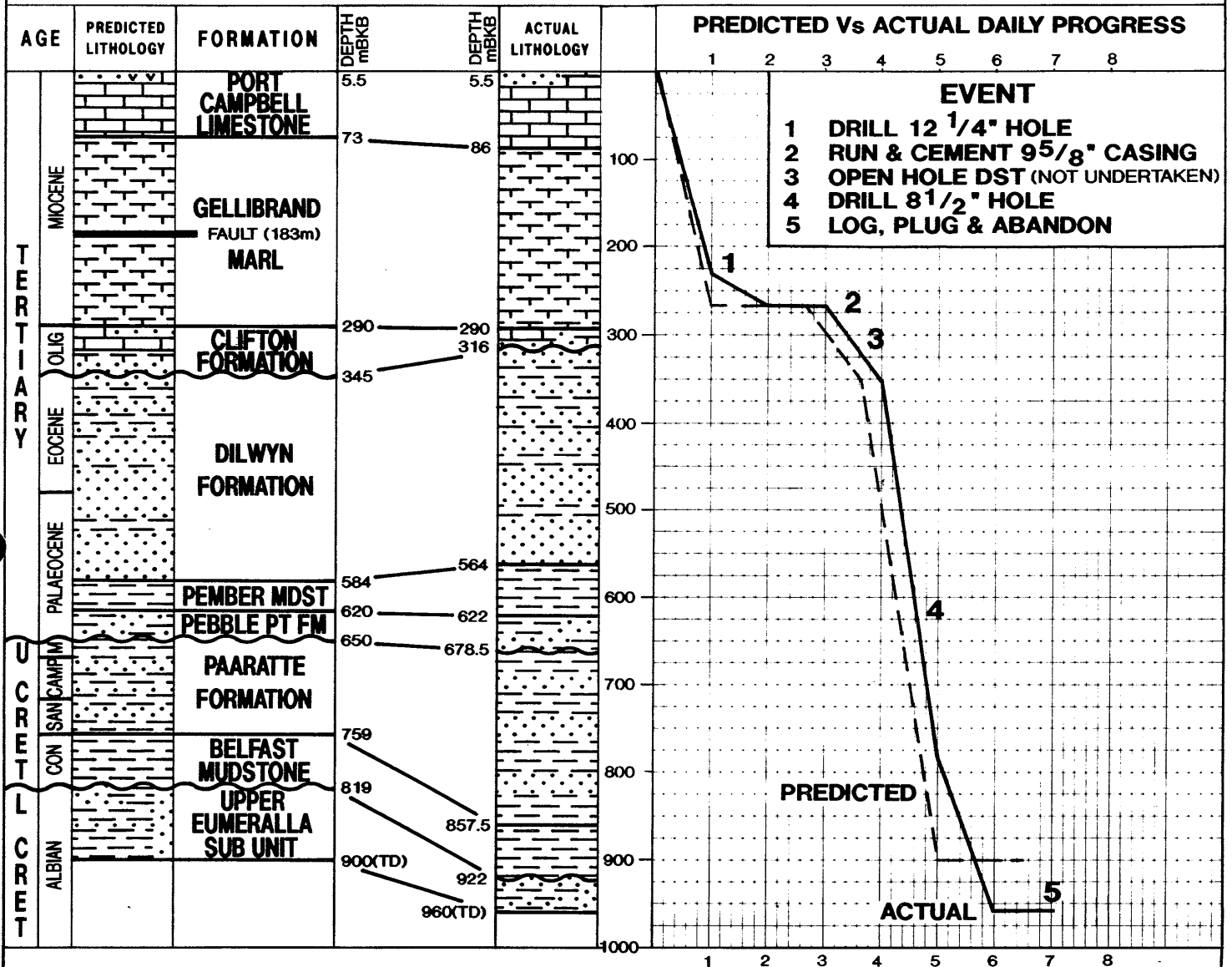
MINORA RESOURCES NL
SHAW-1
P&A
LOCATION : 591 799.5 E
5 766 914.0 N
SPUDED : 27 / 5 / 1992
RIG RELEASED : 3 / 6 / 1992

RT : 0m
GL : 5.5m
GL ELEVATION : 45m



LATITUDE : 38°14'27.47"S
 LONGITUDE : 142°02'56.43"E
 UTM : 591,799.5 E
 5,766,914.0 N
 SPUDDED : 1600 HRS 27/5/1992
 REACHED T.D. : 2200 HRS 1/6/1992
 RIG RELEASED : 1800 HRS 3/6/1992

GL : 45m
 KB : 50.5m
 SHOT POINT : 610
 LINE No. : OPP 85B-32
 PROPOSED T.D. : 900m BKB
 ACTUAL T.D. : 960m BKB



PEP 111
 OTWAY BASIN
 VICTORIA

SHAW-1 TIME / DEPTH CHART

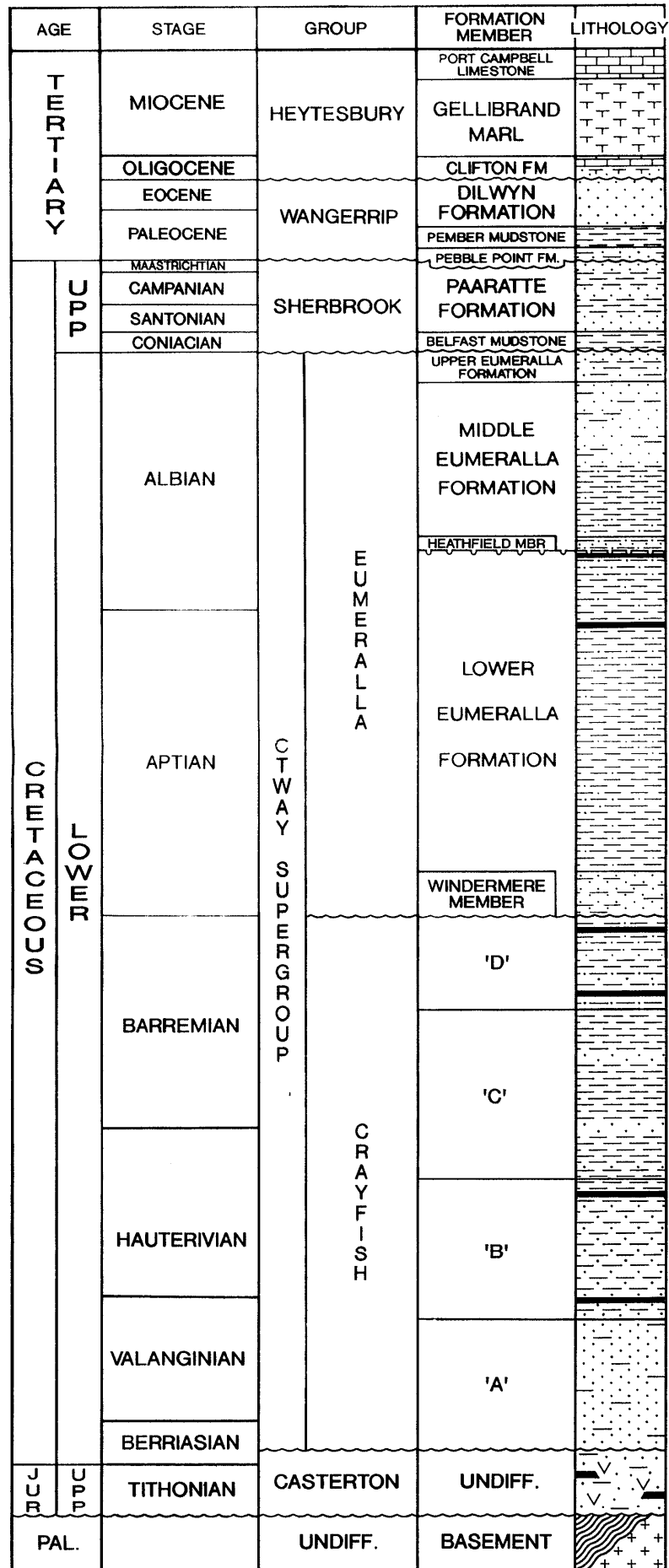


Author : P. LAWRY Date : JUNE 1992 Drawn : B. McDONALD

FIGURE 4



GENERALISED OTWAY BASIN STRATIGRAPHY



Author: T. SCHOLEFIELD

Date: NOVEMBER 1988

FIGURE 5

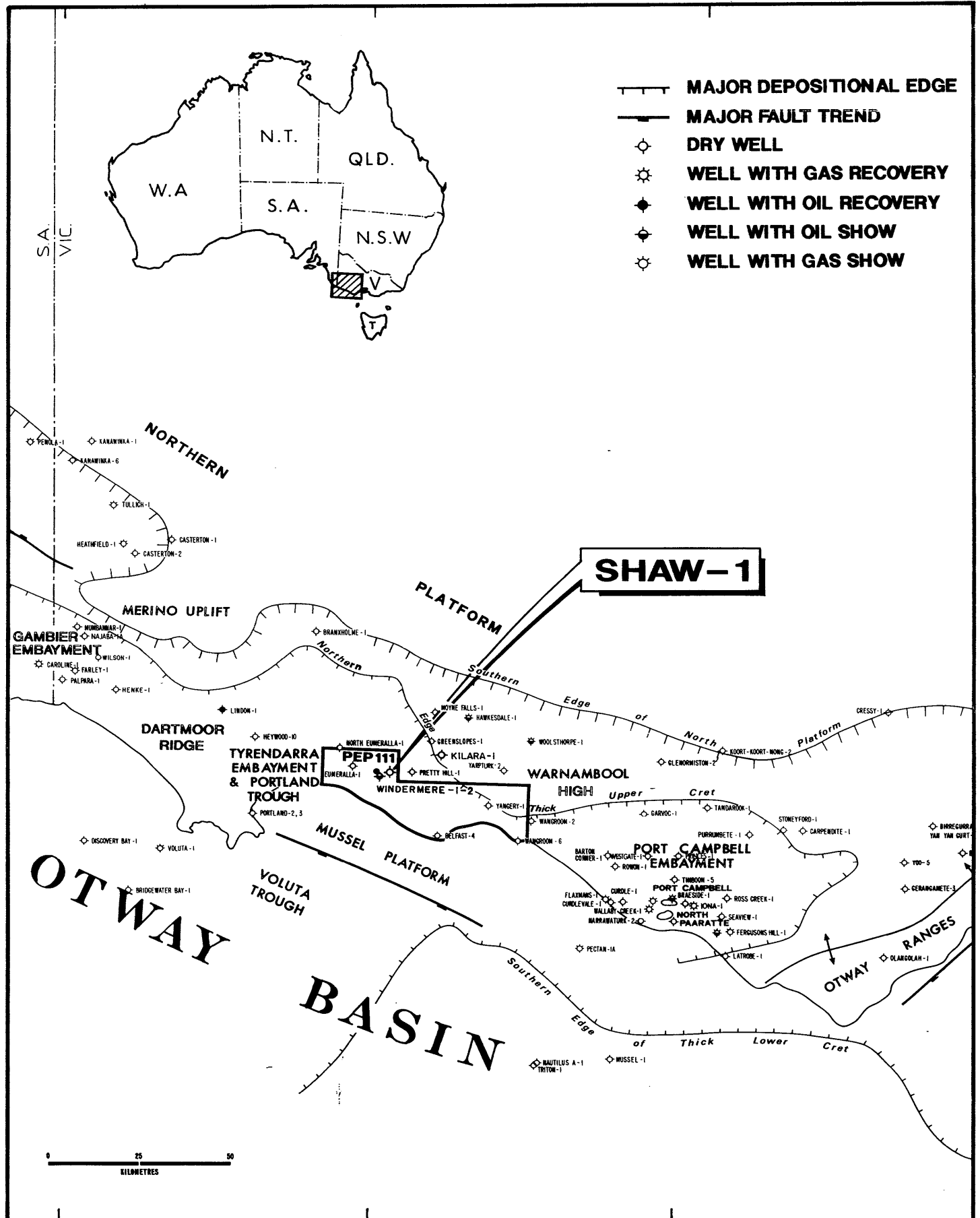


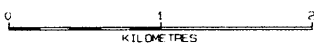
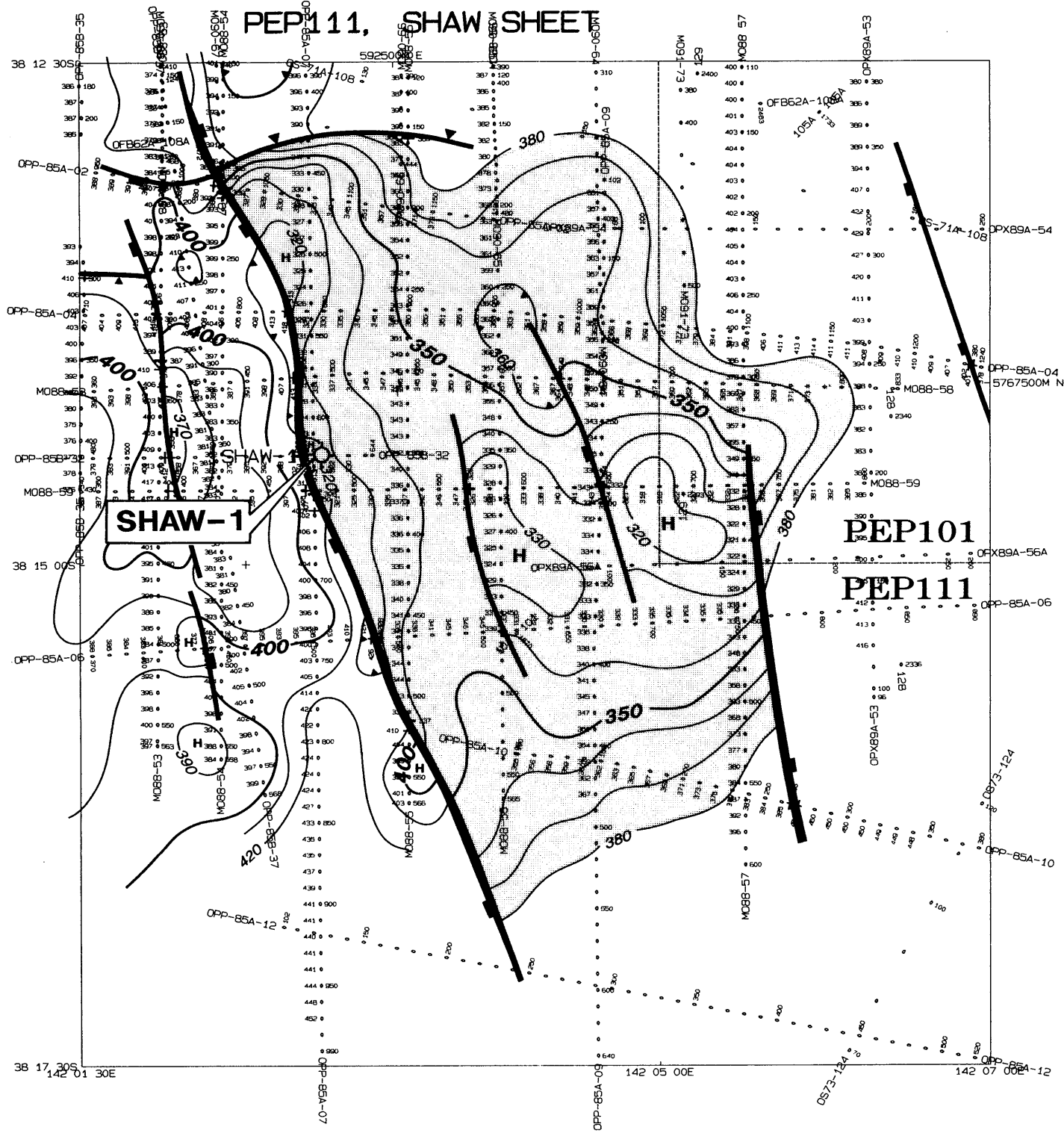
FIGURE 6

SHAW-1

ELEV. GL : 45m ASL
KB - GL : 5.5m

AGE	STAGE	GROUP	FM / MBR	PREDICTED		ACTUAL			THICKNESS (m)	
				BKB (m)	TWT (msec)	BKB (m)	BSL (m)	TWT (msec)		
T E R T I A R Y			PORT CAMPBELL LIMESTONE	5.5	—	5.5	+50.5	—	80.5	
				73	—	86	-35.5	—		
		MIOCENE	HEYTESBURY	GELLIBRAND MARL						204
		OLIGOCENE		CLIFTON FORMATION	290	0.260	290	-239.5	0.260	26
					345	0.317	316	-265.5	0.292	
		EOCENE	WANGERRIP	DILWYN FORMATION						248
		PALAEOCENE								
				PEMBER MUDSTONE	584	—	564	-513.5	0.530	58
				PEBBLE POINT FORMATION	620	0.560	622	-571.5	0.560	56.5
					650	0.583	678.5	-628	0.602	
U P P E R C R E T	MAASTRICHTIAN	SHERBROOK	PAARATTE FORMATION						179	
	CAMPANIAN									
	SANTONIAN									
	CONIACIAN		BELFAST MUDSTONE	759	—	857.5	-807	0.754	64.5	
L O W E R C R E T				819	0.733	922	-871.5	0.806		
	ALBIAN	EUMERALLA	UPPER EUMERALLA SUB UNIT	900	0.787	960	-909.5	0.820	38 +	

PEP111, SHAW SHEET



UNIVERSAL TRANSVERSE MERCATOR PROJECTION
SPHEROID
CENTRAL MERIDIAN 141 00 00E

MINORA RESOURCES NL		
PEP111 - OTWAY BASIN		
SHAW-1 PRE-DRILL INTERPRETATION NEAR TOP DILWYN FM TIME STRUCTURE MAP		
Author: WDP		Date: 1-10-92
C.I. = 10msec		

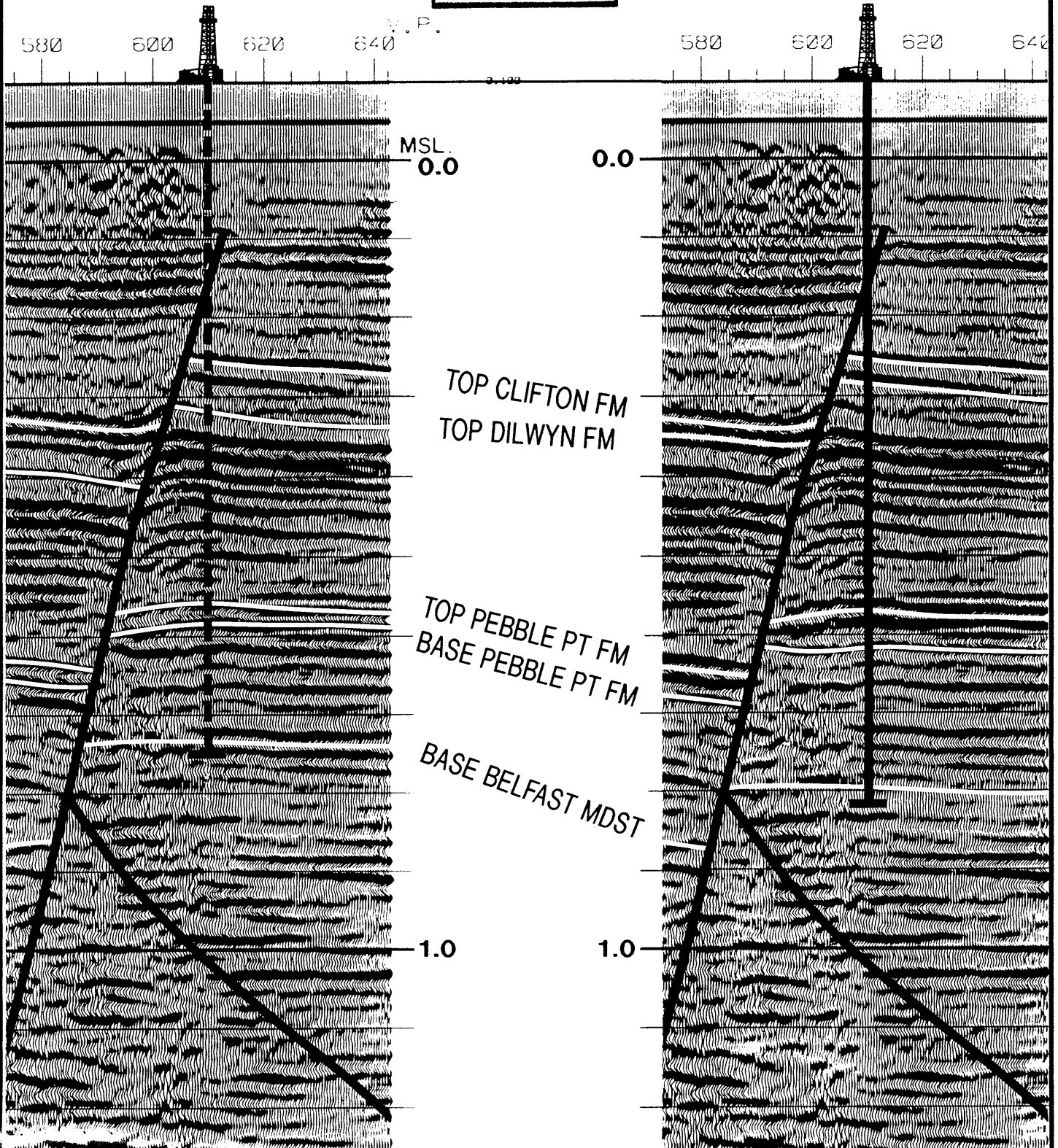
FIGURE 8

SEISMIC LINE No. OPP-85B-32

PROPOSED
SHAW-1
LOCATION

ACTUAL
SHAW-1
LOCATION

0 0.5km



PEP 111
OTWAY BASIN
VICTORIA



PREDICTED Vs ACTUAL

Author: P. LAWRY Date: JUNE 1992

FIGURE 9

Appendix A

Well Data Card

APPENDIX A

Well Data Card

MINORA RESOURCES NL

WELL : SHAW-1

LATITUDE: 38° 14' 27.47"S	STATUS: P&A, dry hole
LONGITUDE: 142°02' 56.43"E	RIG: DMID Rig 21
SHOT POINT: 610	TOTAL DEPTH DRILLER: 960m
SEISMIC LINE: OPP 85B-32 VP 610	LOGGER: 956.5
ELEVATION GL: 45m KB: 50.5m	COMPLETION DETAILS: none
SPUDED: 27/5/92 1600hrs	
TD REACHED: 1/6/92 2200hrs	
COMPLETED	
RIG RELEASE: 3/6/92 1800hrs	
PERMIT : PEP 111	
STRUCTURE TYPE : Fault dependent anticlinal closure	

CASING SIZE	SHOE DEPTH (m)
18"	12.5
9 5/8"	263
HOLE SIZE	DEPTH (m)
12 1/4"	269m
8 1/2"	960m

FORMATIONS PENETRATED (measurements in metres)

AGE	FORMATION	DEPTH	SUBSEA	THICKNESS
Miocene	Port Campbell Limestone	5.5	+50.5	80.5
Miocene	Gellibrand Marl	86	-35.5	240
Oligocene	Clifton Formation	290	-239.5	26
Eocene - Paleocene	Dilwyn Formation	316	-265.5	248
Paleocene	Pember Mudstone	564	-513.5	58
Paleocene	Pebble Pain Formation	622	-571.5	56.5
Maastrichtian - Santonian	Paaratte Formation	678.5	-628	179
Coniacian	Belfast Mudstone	857.5	-807	64.5
Albian	Upper Eumeralla Form.	922	-871.5	38+
	Total Depth (Driller)	960	-909.5	-
	Total Depth (Logger)	956.5	-906.5	-

WELL SUMMARY :

Shaw-1 tested the hydrocarbon potential of the Clifton/Dilwyn and Pebble Point/ Paaratte Formations in a major north south compressional faulted anticline. The structuring is associated with Cretaceous rift related faulting modified by Miocene tectonism. Although good reservoir potential sandstones were intersected, no shows were recorded while drilling and logs confirmed all reservoir units water wet. The well was plugged and abandoned and the rig released.

MINORA RESOURCES NL

WELL: SHAW-1

LOGS

Log Type	Run No	Interval (m)	BHT/ Time	Log Type	Run No	Interval (m)	BHT/ Time
DLL-MLL-Sonic -SP-GR-CAL	1	955.5 - 263.2 (GR to surface)	39/3.5				
Mudlog	1	960 - surface					
Lithological log	1	960 - surface					

FORMATION TESTS

Test No	Inter- val (m)	Forma- tion	Flow (min)	Shut in (min)	Bottom Gauge IP/FP	Shut in Press	Results
	none						

FULL HOLE CORES

PERFORATIONS

No	Interval (m)	Formation	Cut (m)	Rec%	Interval (m)	Formation	Shots/ Ft
	none				none		

Appendix B.....

Daily Drilling & Geological Reports

APPENDIX B

Daily Drilling and Geological Reports

MINORA RESOURCES NL

DAILY DRILLING REPORT NO. 1

PERMIT: PEP 111 WELL: SHAW-1 DATE: 27/5/92

DEPTH: 0 PROGRESS: NIL DSS: N/A

PTD: 900m ELEV KB: 50.5m

LAST CASING: SET AT: LAST BOP TEST:

INCLINATION: ° m; ° m; ° m

MUD: WT: ppg VIS: sec PV:

YP: WL: Ph:

OPERATION 0600 HOURS TO 0600 HOURS -

0600 - 0600 CONTINUED PREPARATIONS TO SPUD

OPERATION 0600 HOURS TO 0800 HOURS

0600 - 0800 CONTINUED PREPARATIONS TO SPUD.

PRESENT OPERATION:

CUMULATIVE COST A\$ 108,363 (prelim) DAILY COST A\$ 3,185

COMMENTS:

WELL SHOULD SPUD APPROXIMATELY 1200 HOURS EST TODAY.

MINORA RESOURCES NL

DAILY DRILLING REPORT NO. 2

PERMIT: PEP 111 WELL: SHAW-1 DATE: 28/5/92

DEPTH: 230m PROGRESS: 217.5m DSS: 1

PTD: 900m ELEV KB: 50.5m

LAST CASING: COND. SET AT: 12.5m LAST BOP TEST:

INCLINATION: 1°@30m; 0.5°@80m; 0.5°@130m; 0.25°@180m

MUD: WT: 8.8 ppg VIS: 40 sec PV: 8

YP: 24 WL: - Ph: 9

OPERATION 0800 HOURS TO 0800 HOURS

0800 - 1600 CONTINUED PREPARATIONS TO SPUD
1600 - 0700 SPUDED WELL, DRILLED FROM 12.5 TO 230m
0700 - 0800 RAN SURVEY

PRESENT OPERATION:

CIRCULATING RETURNS AT 269m, PRIOR TO WIPER TRIP AND POOH TO RUN CASING.

CUMULATIVE COST A\$ 118,102

DAILY COST A\$ 12,102

COMMENTS:

MINORA RESOURCES NL

DAILY DRILLING REPORT NO. 3

PERMIT: PEP 111 WELL: SHAW-1 DATE: 29/5/92

DEPTH: 269m PROGRESS: 39m DSS: 2

PTD: 900m ELEV KB: 50.5m

LAST CASING: 9⁵/₈" SET AT: 263m LAST BOP TEST:

INCLINATION: 1/2° @ 260m;

MUD: WT: 8.7 ppg VIS: 35 sec PV: 5

YP: 21 WL: - Ph: 9

OPERATION 0800 HOURS TO 0800 HOURS

0800 - 1000 DRILLED FROM 230 - 269m
1000 - 1030 CIRCULATED RETURNS
1030 - 1230 WIPER TRIP
1230 - 1400 CIRCULATE HOLE CLEAN, PREPARE CASING
1400 - 1500 POOH
1500 - 1600 RIG UP TO RUN 9⁵/₈" CASING
1600 - 2200 RUN CASING, SHOE AT 263m
2200 - 2230 RIG UP CEMENTING HEAD
2230 - 0030 PREPARE CEMENT
0030 - 0130 CEMENT CASING
0130 - 0800 WOC

PRESENT OPERATION:

LAYING DOWN LANDING JOINT.

CUMULATIVE COST A\$ 130,223

DAILY COST A\$ 12,131

COMMENTS:

NONE

MINORA RESOURCES NL

DAILY DRILLING REPORT NO. 4

PERMIT: PEP 111 WELL: SHAW-1 DATE: 30/5/92

DEPTH: 269m PROGRESS: nil DSS: 3

PTD: 900m ELEV KB: 50.5m

LAST CASING: 9⁵/₈" SET AT: 263m LAST BOP TEST: -

INCLINATION: _____ ° m; _____ m; ° _____ m;

MUD: WT: 8.8 ppg VIS: 36 sec PV: 6

YP: 21 WL: - Ph: 9.5

OPERATION 0800 HOURS TO 0800 HOURS

0800 - 2200 Laid down landing joint, screwed in braden head
and nipped up BOP's.
2200 - 0030 Pressure tested BOP's
0030 - 0800 Laid down cup tester, install bell nipple, connect
flow line.

PRESENT OPERATION:

Connecting flow line

CUMULATIVE COST A\$ 142,972

DAILY COST A\$ 12,749

COMMENTS:

Anticipate drilling out from casing this afternoon.

MINORA RESOURCES NL

DAILY DRILLING REPORT NO. 5

PERMIT: PEP 111 WELL: SHAW-1 DATE: 31/5/92

DEPTH: 352m PROGRESS: 83m DSS: 4

PTD: 900m ELEV KB: 50.5m

LAST CASING: 9⁵/₈" SET AT: 263m LAST BOP TEST: 30/5/92

INCLINATION: _____ ° m; _____ m; ° _____ m;

MUD: WT: 9.1 ppg VIS: 41 sec PV: 6

YP: 15 WL: 10 Ph: 10.5

OPERATION 0800 HOURS TO 0800 HOURS

0800 - 1130 Pressure test blind rams, failed
1130 - 1230 Made up 8¹/₂" bit, RIH while awaiting spare BOP part.
1230 - 1300 Pressure test lower kelly cock, kelly, stand pipe.
1300 - 1500 Drill out cement plug
1500 - 1900 POOH, repair and test blind rams
1900 - 2030 Rig maintenance
2030 - 2230 RIH
2230 - 0000 Drill out float collar, cement and float shoe
0000 - 0030 Drill 269 -274m
0030 - 0100 Performed PIT, 15.57 ppg leak off
0100 - 0800 Drilled and circulated from 274 - 352m

PRESENT OPERATION:

Drilling ahead at 370m

CUMULATIVE COST A\$ 162,213

DAILY COST A\$ 19,247

COMMENTS:

MINORA RESOURCES NL

DAILY DRILLING REPORT NO. 6

PERMIT: PEP 111 WELL: SHAW-1 DATE: 1/6/92

DEPTH: 783m PROGRESS: 431m DSS: 5

PTD: 900m ELEV KB: 50.5m

LAST CASING: 9⁵/₈" SET AT: 263m LAST BOP TEST: 30/5/92

INCLINATION: ½° @ 462m; ½° @ 662m

MUD: WT: 9.2 ppg VIS: 42 sec PV: 7

YP: 16 WL: 8 Ph: 8.5

OPERATION 0800 HOURS TO 0800 HOURS

0800 - 0800 Drilled, surveyed and circulated from 352 - 783m

PRESENT OPERATION:

Drilling ahead at 783m

CUMULATIVE COST A\$ 174,472

DAILY COST A\$ 12,259

COMMENTS:

MINORA RESOURCES NL

DAILY DRILLING REPORT NO. 7

PERMIT: PEP 111 WELL: SHAW-1 DATE: 2/6/92

DEPTH: 960m PROGRESS: 177m DSS: 6

PTD: 900m ELEV KB: 50.5m

LAST CASING: 9⁵/₈" SET AT: 263m LAST BOP TEST: 30/5/92

INCLINATION: 0° @ 955m

MUD: WT: 9.4 ppg VIS: 42 sec PV: 9

YP: 16 WL: 8.1 Ph: 9.5

OPERATION 0800 HOURS TO 0800 HOURS

0800 - 2200 Drilled, surveyed and circulated from 783 - 960m
2400 - 0100 Circulated bottom sample
0100 - 0430 Wiper trip to shoe
0430 - 0630 Circulated prior to logging
0630 - 0800 POOH to log

PRESENT OPERATION:

Logging

CUMULATIVE COST A\$ 190,465

DAILY COST A\$ 15,993

COMMENTS:

MINORA RESOURCES NL

DAILY DRILLING REPORT NO. 8

PERMIT: PEP 111

WELL: SHAW-1

DATE: 3/6/92

DEPTH: 960m

PROGRESS: nil

DSS: 7

PTD: 900m

ELEV KB: 50.5m

LAST CASING: 9⁵/₈" SET AT: 263m LAST BOP TEST: 30/5/92

INCLINATION: ___° @ ___m

MUD: WT: 9.2 ppg

VIS: 35 sec

PV: 6

YP: 14

WL: na

Ph: 8.5

OPERATION 0800 HOURS TO 0800 HOURS

0800 - 0830 POOH
8030 - 1300 Logged
1300 - 1500 Laid down BHA
1500 - 1830 RIH open ended
1830 - 1900 Conditioned mud
1900 - 2030 Set cement plug-1 870 - 780m and plug-2 670 - 610m
2030 - 2130 Lay down 22 singles
2130 - 0300 RIH to 550m and WOC
0300 - 0330 Tag plug-2 at 603m
0330 - 0400 Set cement plug-3
0400 - 0600 Lay down 45 singles
0600 - 0800 WOC

PRESENT OPERATION:

Waiting on cement

CUMULATIVE COST A\$ 202,465

DAILY COST A\$ 12,000

COMMENTS:

Anticipate rig release today.

MINORA RESOURCES NL
DAILY GEOLOGICAL REPORT

BASIC DETAILS:

Well: SHAW-1 Date: 28-5-92
 Report No: 1 DSS: 1 DOL: Time: 0830hrs (EST)
 Depth: (0800hrs EST) 230.0m Progress: 230.0m
 Present Operation and Depth: @ 233.0m Drilling Ahead

LITHOLOGY:

DEPTH INTERVAL	ROP range & average	DESCRIPTION
sur-85.0	10-120 (60)	CALCARENITE, off white to yellow at the top light grey with depth and medium grey at the base, friable to firm, fine-med, subrounded, mod. sorted, trace dispersive arg. matrix, rare calc. cement, abundantly fossiliferous, trace glauconite at depth, good visual porosity.
85.0-230.0m	15-60 (45)	MARL, medium grey, becoming olive grey with depth, soft, occasionally firm, sticky in part, dispersive in part, becoming very dispersive with depth, commonly to abundantly fossiliferous, trace to common glauconite, rare chlorite, very rare calcite crystal.

HYDROCARBON INDICATIONS:

DEPTH INTERVAL (M)	HOTWIRE			CHROMATOGRAPH					BLENDER FLOURESCENCE AND CUT		
	TG	PV	C1	C2	C3	IC4	NC4	C5	TG	PV	

NO SHOWS

COMMENTS: Spudded @ 1600hrs (EST) on 27th May, 1992

Conductor set at 12.5m

Elevation: KB 50.4m, GL 45.0m

REPORTED BY: AHMAD TABASSI

MINORA RESOURCES NL
DAILY GEOLOGICAL REPORT

BASIC DETAILS:

Well: SHAW-1 Date: 29-5-92
Report No: 2 DSS: 2 DOL: - Time: 0830hrs (EST)
Depth: (0800hrs EST) 269.2m Progress: 39.2m
Present Operation and Depth: Waiting on cement

LITHOLOGY:

DEPTH INTERVAL	ROP range & average	DESCRIPTION
230.0-269.2	30-60 (50)	MARL, as before becoming very sticky with depth, common-abundant forams, common corals and other fossil fragments.

HYDROCARBON INDICATIO

DEPTH INTERVAL (M)	HOTWIRE TG PV C1	CHROMATOGRAPH C2 C3 IC4 NC4 C5	BLENDER FLOURESCENCE AND CUT TG PV
--------------------------	---------------------	-----------------------------------	------------------------------------------

NO SHOWS

COMMENTS: The casing point of 269.2 was reached @ 1000hrs (EST) on 28th May, 1992

Ran 9 5/8" casing, casing shoe @ 263.38

Waiting on cement

REPORTED BY: AHMAD TABASSI

MINORA RESOURCES NL
DAILY GEOLOGICAL REPORT

BASIC DETAILS:

Well: SHAW-1 Date: 30-5-92 Time: 0830hrs (EST)
Report No: 3 DSS: 3 Progress: nil
Depth: (0800hrs EST) 269m
Present Operation and Depth: Connecting flow line

LITHOLOGY:

DEPTH INTERVAL	ROP range & average	DESCRIPTION
-	-	-

HYDROCARBON INDICATIONS:

DEPTH INTERVAL (M)	HOTWIRE TG PV C1	CHROMATOGRAPH C2 C3 IC4 NC4 C5	BLENDER FLUORESCENCE AND CUT TG PV
--------------------------	---------------------	-----------------------------------	------------------------------------------

NO SHOWS

COMMENTS:

Nippled up BOPs, Tested BOPs & choke Manifold, Nippled up Bell Nipple

Connecting Flow Line
Anticipate drilling out from casing this afternoon.

REPORTED BY: AHMAD TABASSI

5'

MINORA RESOURCES NL
DAILY GEOLOGICAL REPORT

BASIC DETAILS:

Well: SHAW-1 Date: 31-5-92
 Report No: 4 DSS: 4 Time: 0830 hrs (EST)
 Depth: (0800hrs EST) 352m Progress: 83m
 Present Operation and Depth: Drilling Ahead @ 370m

LITHOLOGY:

DEPTH INTERVAL	ROP range & average	DESCRIPTION
269-285	30-60 (45)	MARL, as before.
285-302	20-60 (35)	MARL, as before, grading into calcareous CLAYSTONE with depth, interbedded with minor: CALCARENITE, off-white to light grey to pale yellow, firm-hard, med-coarse, sub-rounded, moderately sorted, moderately strong calcareous cement, minor dull orange brown mineral fluorescence.
302-318	10-60 (35)	CLAYSTONE, medium grey, becoming dominantly medium brownish grey, soft-firm, dispersive in part, rarely blocky, moderately-strongly calcareous, abundantly silty, common fine glauconite pellets, common forams & fossil fragments, rare lithics, trace-rare very fine sand grains, with thin band of very hard, dark grey-black METASEDIMENTS(?), cryptocrystalline in part.
318-330	15-60 (50)	SILTY CLAYSTONE, medium brown grey, becoming dominantly medium-dark brown grey with depth soft-firm, dispersive in part, abundantly silty, grading into SILTSTONE in part, interbedded with: SANDSTONE, medium brown grey, friable-firm, subangular-subrounded, well sorted quartz, trace-common dispersive clay matrix, trace moderately weak calcareous cement, rare lithics, fossil fragments & glauconite, fair - good in part visual porosity, no shows.
330-350	45-90 (80)	SANDSTONE, generally as above, becoming medium to coarse, dominantly coarse with depth, also becoming very light grey to brownish grey with depth, common light brown stained quartz grains, common quartz overgrowth, common pyrite nodules, good visual porosity, no shows, interbedded with minor: CLAYSTONE & fine SANDSTONE as above.

HYDROCARBON INDICATIONS:

DEPTH INTERVAL (M)	HOTWIRE	CHROMATOGRAPH	BLENDER FLUORESCENCE AND CUT	
	TG PV	C1 C2 C3 IC4 NC4 C5	TG PV	
		NO SHOWS		

COMMENTS: Tested BOPs, drilled casing shoe & cement plug, Drilled new formation, performed FIT - 15.5 ppg leak off.
 Drilled to 352m, circulated returns @ 298m, 307m, 316m, 320m, 323m and 328m, no hydrocarbon indications.

REPORTED BY: AHMAD TABASSI

MINORA RESOURCES NL
DAILY GEOLOGICAL REPORT

BASIC DETAILS:

Well: SHAW-1 Date: 1-6-92
Report No: 5 DSS:5 Time: 0830hrs (EST)
Depth(0800hrs EST): 783m Progress: 431m
Present Operation and Depth: Drilling Ahead @ 792m

LITHOLOGY:

DEPTH INTERVAL	ROP range & average	DESCRIPTION
350-370	80-90 (85)	SANDSTONE, as before, very light grey and brownish grey, trace carbonaceous detritus and coally particles, good visual porosity, no shows.
370-390	10-60 (30)	CLAYSTONE, medium-dark brown and brownish grey, soft, dispersive, massive in part, slightly silty, rarely carbonaceous, interbedded with minor: SANDSTONE, as above, no shows.
390-575	20-120 (75)	SANDSTONE, generally as above, light-medium brownish grey, off-white to very light grey in part, medium-very coarse, dominantly coarse, rarely fine, subangular-rounded, dominantly subrounded, moderately sorted quartz, dominantly lightly iron-stained, trace to abundant medium grey and medium brownish grey dispersive argillaceous matrix, trace to occasionally common siliceous cement, rare calcareous and pyrite cement, rare pyrite nodules, trace glauconite, rare lithics and fossil fragments, fair to good visual porosity no shows, interbedded with minor: CLAYSTONE, as above, becoming light to medium green and greenish grey with depth, moderately calcareous, commonly fossiliferous.
575-622	15-30 (20)	CLAYSTONE, light-medium green and greenish grey, medium to occasionally dark brownish grey, soft-firm, dispersive in part, massive in part, moderately calcareous, commonly fossiliferous, slightly silty in part, rare glauconite, rare carbonaceous detritus and pyrite, very rarely arenaceous.
622-674	17-80 (60)	SANDSTONE, light to medium brown, friable (with loose grains) to firm, medium-coarse, occasionally very coarse, subangular-rounded, dominantly subrounded, moderately sorted, dominantly iron-stained quartz, abundant dispersive (washed away) medium-

dark brown clay matrix, possibly chamositic clay, rare kaolinitic and chloritic clay matrix, rare weak iron oxide cement, rare iron oxide pellets, rare pyrite and mica, fair to occasionally good visual porosity, no shows, interbedded with:
 CLAYSTONE, dark brown grey, firm, hard in part, blocky in part, moderately silty.

674-750	12-90 (60)	SANDSTONE, very light grey, friable with loose grains, medium-very coarse, dominantly coarse, becoming dominantly medium with depth, subangular to subrounded, poor-moderately sorted quartz, trace-common argillaceous matrix, rare coally particles, pyrite and quartz overgrowth good visual porosity, no shows, interbedded with: CLAYSTONE, medium-dark brown grey, soft, dispersive, moderately silty to arenaceous, trace coally particles.
750-780	20-66 (45)	SILTSTONE, medium-dark brownish grey, soft to firm, hard in part, blocky in part, rarely carbonaceous.

HYDROCARBON INDICATIONS:

DEPTH INTERVAL (M)	HOTWIRE		CHROMATOGRAPH					BLENDER FLUORESCENCE AND CUT	
	TG	PV	C1	C2	C3	IC4	NC4	C5	TG PV

NO SHOWS

COMMENTS: Circulated returns @ 622m, no hydrocarbon indications. Total gas detector shows a background gas of up to 4 units from 510m. The chromatograph shows only traces of C1. It is believed that the total gas detector reading gas other than hydrocarbon.

Preliminary Formation Tops (m bKB):

Port Campbell Limestone	Surface
Gellibrand Marl	86
Clifton Formation	285
Dilwyn Formation	318
Pember Mudstone	575
Pebble Point Formation	622
Paaratte Formation	
Belfast Mudstone	750

REPORTED BY: AHMAD TABASSI

MINORA RESOURCES NL
DAILY GEOLOGICAL REPORT

BASIC DETAILS:

Well: SHAW-1
 Report No: 6 DSS: 6
 Depth: (0800hrs EST): 960m (T.D.)
 Present Operation and Depth: Running Wireline Logs @ T.D.

Date: 2-6-92
 Time: 0830hrs (EST)
 Progress: 177m

LITHOLOGY:

DEPTH INTERVAL	ROP range & average	DESCRIPTION
780-815	13-80 (35)	SILTSTONE, generally as before, medium to dark grey and brownish grey, soft-firm, dispersive in part, trace glauconite, rare micromica, in part grading into/interlaminated with CLAYSTONE.
815-890	3-80 (45)	SILTSTONE/CLAYSTONE, as above, interbedded with: SANDSTONE, light to medium grey, occasionally light brownish grey, friable with loose grains, occasionally firm-hard fine-medium, subangular-subrounded, moderately sorted quartz, common dispersive argillaceous matrix, rare pyrite cement, rare hard dolomite cement, fair to occasionally good visual porosity, no shows.
890-924	15-30 (20)	SILTSTONE, as above, interbedded with: GLAUCONITIC CLAYSTONE, medium-dark brown grey, dark greenish grey, soft, firm in part, dispersive in part, blocky in part, common-abundant fine-medium grained dark green glauconite pellets, rarely silty, rare hard dolomite band with glauconite pellets.
924-960	10-100 (50)	CLAYSTONE, light-medium greenish grey & blue grey, light brownish grey with depth, soft, dispersive, rare multi-coloured lithics, interlaminated with: SANDSTONE, light-medium greenish grey, speckled, friable-firm, very fine-fine, subangular to subrounded, well sorted multi-coloured volcanogenic lithics and minor quartz, trace chloritic clay matrix, rare weak calcareous cement, trace partially altered feldspar, rare micromica, rare carbonaceous detritus, very poor visual porosity, no shows.

HYDROCARBON INDICATIONS:

DEPTH INTERVAL (M)	HOTWIRE		CHROMATOGRAPH					BLENDER		FLUORESCENCE AND CUT	
	TG	PV	C1ppm	C2	C3	IC4	NC4	C5	TG		PV
815-890	*	-	260	tr	-	-	-	-	-	-	nil
890-924	*	-	980	-	-	-	-	-	-	-	nil
924-960	*	-	1150	-	-	-	-	-	-	-	nil

* Not recorded (Total Gas Detector measuring gas other than hydrocarbons)

COMMENTS: Circulated returns @ 808m, 825m & 925m no hydrocarbon indications.

Planned total depth revised from 900 to 960m, in consultation with Joint Venture, after intersection of intra Belfast or Waarre Sandstone equivalent between 815 - 890m.

FORMATION TOPS: (preliminary m KB)

Waarre Sandstone equivalent	
/ intra Belfast Sandstone	815
Belfast Mudstone	890
Upper Eumeralla Formation	924
Total Depth	960

REPORTED BY: AHMAD TABASSI

MINORA RESOURCES NL

DAILY GEOLOGICAL REPORT

BASIC DETAILS:

Well: SHAW-1
Report No: 7 DSS: 7
Depth: (0800hrs EST): 960m(TD)
Present Operation: Waiting on cement for plug No.3

Date: 3-6-1992
Time:0830hrs(EST)
Progress:nil

COMMENTS: Ran Wireline Log

Set Cement Plugs: No.1 @ 870m-780m
No.2 @ 670m-610m, tagged
No.3 @ 290m-230m, to be tagged

Will set surface plug prior to rig release.

PRELIMINARY FORMATION TOPS:

Port Campbell Limestone surface	
Gellibrand Marl	86
Casing shoe	263
Clifton Formation	290
Dilwyn Formation	316
Pember Mudstone	564
Pebble Point Formation	622
Paaratte Formation	662
Belfast Mudstone	861
Upper Eumeralla Fm	922
TD	960

PRELIMINARY PETROPHYSICAL EVALUATION:

A quick look preliminary petrophysical evaluation has been undertaken using the faxed logs. While the faxed logs are unsatisfactory for detailed analysis they confirm all potential reservoir zones are water wet. A detailed petrophysical analysis will be undertaken in due course.

The preliminary evaluation is attached.

PLUG AND ABANDONMENT:

The Joint Venture agreed to P&A the well yesterday. We anticipate rig release today.

REPORTED BY: AHMAD TABASSI

1	COMPANY	MINORA RESOURCES NL
2	WELL	SHAW-1
3	FIELD	WILDCAT
4	COUNTRY	AUSTRALIA
5	STATE	VICTORIA
6	LOCATION	ONSHORE OTWAY BASIN
7		
8		CLIFTON DILWYN INTER

1	DEPTH UNITS	M	12	RHO	1.000	23	a	0.620
2	TEMP UNITS	C	13	RHOH	0.800	24	m	2.150
3	LDT	1.000	14	tMA	55.500	25	n	2.000
4	BHT	39.000	15	tF	189.000	26	RHOB(sd)	2.650
5	SSP	47.000	16	Compac -1=RH	1.500	27	RHOB(1s)	2.710
6	mf	0.140	17	GRclean	28.000	28	RHOB(dol)	2.850
7	Trmf	14.000	18	GRclay	100.000	29	UMA(sd)	4.800
8	Rmf(BHT)	0.082	19	Rcl	6.000	30	UMA(1s)	13.760
9	Rw	1.500	20	RHOBcl	2.400	31	UMA(dol)	8.970
10	KPPM(Rw)	2.690	21	PHINcl	0.300	32	UMA(f)	0.400
11	RHOMA	2.650	22	tc1	170.000	33	UMA(c1)	8.000

#	DEPT	GR	RXO	RT	RHOB	NPHI	PEF	DT	RWA
1.	290.00	70.000	0.5000	2.5000				175.00	0.2287
2.	291.00	40.000	2.0000	9.0000				125.00	0.7482
3.	292.00	70.000	1.0000	3.0000				177.00	0.2973
4.	293.00	77.000	1.2000	3.0000				188.00	0.2957
5.	294.00	76.000	1.0000	3.0000				170.00	0.1371
6.	295.00	61.000	1.6000	4.0000				184.00	0.8041
7.	302.00	50.000	5.0000	9.0000				126.00	0.3522
8.	304.00	47.000	1.3000	3.5000				195.00	1.5353
9.	306.00	50.000	1.7000	3.0000				177.00	0.7963
10.	308.00	52.000	2.0000	4.0000				166.00	0.7662
11.	310.00	70.000	1.0000	3.5000				184.00	0.4493
12.	316.00	70.000	2.0000	7.0000				145.00	0.1047
13.	318.00	70.000	2.0000	5.0000				170.00	0.3691
14.	320.00	70.000	1.2000	5.0000				140.00	0.0438
15.	322.00	60.000	1.0000	7.0000				140.00	0.2434
16.	324.00	60.000	0.8000	5.0000				152.00	0.3351
17.	326.00	70.000	1.7000	4.0000				160.00	0.1781
18.	328.00	67.000	3.0000	6.0000				150.00	0.1938
19.	330.00	65.000	1.4000	6.0000				152.00	0.2664
20.	332.00	65.000	1.8000	6.0000				140.00	0.1168
21.	334.00	74.000	2.5000	6.5000				160.00	0.1945
22.	336.00	75.000	4.0000	6.0000				160.00	0.1605
23.	347.00	50.000	0.7000	10.000				160.00	1.6584
24.	353.00	50.000	0.6000	10.000				164.00	1.8703
25.	367.00	45.000	0.6000	20.000				130.00	1.4604

#	DEPTH	RT	RHOB	PHIN	PHIE	SW	VCL	SXO	RMAU	RMAA	SWU	SD	LS	DOL
1.	290.00	2.5000			.263	1.00	0.58	1.00	2.65	2.76	1.20	1.00	0.00	0.00
2.	291.00	9.0000			.252	1.00	0.17	1.00	2.65	2.68	1.06	1.00	0.00	0.00
3.	292.00	3.0000			.273	1.00	0.58	1.00	2.65	2.76	1.08	1.00	0.00	0.00
4.	293.00	3.0000			.273	1.00	0.68	1.00	2.65	2.78	1.01	1.00	0.00	0.00
5.	294.00	3.0000			.191	1.00	0.67	1.00	2.65	2.78	1.19	1.00	0.00	0.00
6.	295.00	4.0000			.380	0.85	0.46	0.97	2.65	2.74	0.85	1.00	0.00	0.00
7.	302.00	9.0000			.177	1.00	0.31	1.00	2.65	2.71	1.07	1.00	0.00	0.00
8.	304.00	3.5000			.546	0.80	0.26	0.96	2.65	2.70	0.80	1.00	0.00	0.00
9.	306.00	3.0000			.432	1.00	0.31	1.00	2.65	2.71	1.01	1.00	0.00	0.00
10.	308.00	4.0000			.371	0.96	0.33	0.99	2.65	2.71	0.96	1.00	0.00	0.00
11.	310.00	3.5000			.308	0.94	0.58	0.99	2.65	2.76	0.94	1.00	0.00	0.00
12.	316.00	7.0000			.113	1.00	0.58	1.00	2.65	2.76	1.00	1.00	0.00	0.00
13.	318.00	5.0000			.238	0.89	0.58	0.98	2.65	2.76	0.89	1.00	0.00	0.00
14.	320.00	5.0000			.088	1.00	0.58	1.00	2.65	2.76	1.26	1.00	0.00	0.00
15.	322.00	7.0000			.168	1.00	0.44	1.00	2.65	2.74	1.02	1.00	0.00	0.00
16.	324.00	5.0000			.228	1.00	0.44	1.00	2.65	2.74	1.04	1.00	0.00	0.00
17.	326.00	4.0000			.188	1.00	0.58	1.00	2.65	2.76	1.11	1.00	0.00	0.00
18.	328.00	6.0000			.162	1.00	0.54	1.00	2.65	2.75	1.00	1.00	0.00	0.00
19.	330.00	6.0000			.188	0.97	0.51	0.99	2.65	2.75	0.97	1.00	0.00	0.00
20.	332.00	6.0000			.128	1.00	0.51	1.00	2.65	2.75	1.13	1.00	0.00	0.00
21.	334.00	6.5000			.157	0.89	0.64	0.98	2.65	2.77	0.89	1.00	0.00	0.00
22.	336.00	6.0000			.149	0.93	0.65	0.99	2.65	2.78	0.93	1.00	0.00	0.00
23.	347.00	10.000			.347	0.66	0.31	0.92	2.65	2.71	0.66	1.00	0.00	0.00
24.	353.00	10.000			.367	0.63	0.31	0.91	2.65	2.71	0.63	1.00	0.00	0.00
25.	367.00	20.000			.237	0.67	0.24	0.92	2.65	2.70	0.67	1.00	0.00	0.00

1 COMPANY MINORA RESOURCES NL
 2 WELL SHAW-1
 3 FIELD WILDCAT
 4 COUNTRY AUSTRALIA
 5 STATE VICTORIA
 6 LOCATION ONSHORE OTWAY BASIN
 7
 8 P'PT PAARATTE INTERP

1 DEPTH UNITS	M	12 RHO	1.000	23 a	0.620
2 TEMP UNITS	C	13 RHOH	0.800	24 m	2.150
3 LDT	1.000	14 tMA	55.500	25 n	2.000
4 BHT	39.000	15 tF	189.000	26 RHOB(sd)	2.650
5 SSP	45.000	16 Compas -I=RH	1.500	27 RHOB(1s)	2.710
6 Rmf	0.140	17 GRclean	30.000	28 RHOB(dol)	2.850
7 Trmf	14.000	18 GRclay	150.000	29 UMA(sd)	4.800
8 Rmf(BHT)	0.082	19 Rcl	10.000	30 UMA(1s)	13.760
9 Rw	0.700	20 RHOCl	2.400	31 UMA(dol)	8.970
10 KPPM(Rw)	6.032	21 PHINcl	0.300	32 UMA(f)	0.400
11 RHOMA	2.650	22 tel	120.000	33 UMA(c1)	8.000

#	EPT	GR	RXO	RT	RHOB	NPHI	PEF	DT	RWA
1.	623.00	90.000	1.9000	8.0000				120.00	0.2545
2.	625.00	76.000	2.6000	10.500				93.000	0.0456
3.	635.00	75.000	1.5000	10.400				100.00	0.1224
4.	643.00	65.000	0.9000	10.100				112.00	0.4491
5.	645.00	60.000	0.8000	10.000				112.00	0.5157
6.	650.00	70.000	0.9000	9.0000				115.00	0.4074
7.	679.00	50.000	0.6000	7.0000				122.00	0.7224
8.	680.00	52.000	0.6000	6.0000				121.00	0.5707
9.	681.00	45.000	0.7000	7.0000				115.00	0.6075
10.	682.00	37.000	0.8000	7.0000				122.00	0.9311
11.	697.00	34.000	0.7000	5.0000				127.00	0.8250
12.	712.00	52.000	0.7000	5.0000				148.00	1.1421
13.	716.00	45.000	0.8000	3.5000				135.00	0.6155
14.	726.00	45.000	1.0000	5.0000				122.00	0.5709
15.	793.00	62.000	0.7000	2.5000				113.00	0.1284
16.	801.00	77.000	1.0000	2.5000				115.00	0.0904
17.	804.00	65.000	0.5000	1.7000				122.00	0.1254
18.	824.00	68.000	0.7000	2.0000				120.00	0.1245
19.	826.00	58.000	0.7000	2.0000				110.00	0.0951
20.	850.00	55.000	50.000	50.000				68.000	
21.	851.00	50.000	0.6000	2.0000				120.00	0.1908
22.	852.00	80.000	0.8000	2.0000				117.00	0.0741

#	DEPTH	RT	RHOB	PHIN	PHIE	SW	VCL	SXO	RMAU	RMAA	SWU	SD	LS	DOL
1.	623.00	8.0000			.161	0.88	0.50	0.98	2.65	2.75	0.88	1.00	0.00	0.00
2.	625.00	10.500			.064	1.00	0.38	1.00	2.65	2.72	1.37	1.00	0.00	0.00
3.	635.00	10.400			.101	1.00	0.37	1.00	2.65	2.72	1.14	1.00	0.00	0.00
4.	643.00	10.100			.138	0.87	0.29	0.97	2.65	2.71	0.87	1.00	0.00	0.00
5.	645.00	10.000			.202	0.87	0.25	0.97	2.65	2.70	0.87	1.00	0.00	0.00
6.	650.00	9.0000			.190	0.88	0.33	0.97	2.65	2.71	0.88	1.00	0.00	0.00
7.	679.00	7.0000			.278	0.85	0.17	0.97	2.65	2.68	0.85	1.00	0.00	0.00
8.	680.00	6.0000			.268	0.94	0.18	0.99	2.65	2.69	0.94	1.00	0.00	0.00
9.	681.00	7.0000			.257	0.95	0.12	0.99	2.65	2.67	0.95	1.00	0.00	0.00
10.	682.00	7.0000			.313	0.83	0.06	0.96	2.65	2.66	0.83	1.00	0.00	0.00
11.	697.00	5.0000			.346	0.90	0.03	0.98	2.65	2.66	0.90	1.00	0.00	0.00
12.	712.00	5.0000			.403	0.70	0.18	0.93	2.65	2.69	0.70	1.00	0.00	0.00
13.	716.00	3.5000			.357	0.98	0.12	1.00	2.65	2.67	0.98	1.00	0.00	0.00
14.	726.00	5.0000			.292	1.00	0.12	1.00	2.65	2.67	1.00	1.00	0.00	0.00
15.	793.00	2.5000			.201	1.00	0.27	1.00	2.65	2.70	1.70	1.00	0.00	0.00
16.	801.00	2.5000			.171	1.00	0.39	1.00	2.65	2.73	1.68	1.00	0.00	0.00
17.	804.00	1.7000			.238	1.00	0.29	1.00	2.65	2.71	1.76	1.00	0.00	0.00
18.	824.00	2.0000			.220	1.00	0.32	1.00	2.65	2.71	1.69	1.00	0.00	0.00
19.	826.00	2.0000			.197	1.00	0.23	1.00	2.65	2.70	2.01	1.00	0.00	0.00
20.	850.00	50.000			.000	1.00	0.21	1.00	2.65	2.69	1.00	1.00	0.00	0.00
21.	851.00	2.0000			.268	1.00	0.17	1.00	2.65	2.68	1.64	1.00	0.00	0.00
22.	852.00	2.0000			.173	1.00	0.42	1.00	2.65	2.73	1.82	1.00	0.00	0.00

1 COMPANY MINORA RESOURCES NL
 2 WELL SHAW-1
 3 FIELD WILDCAT
 4 COUNTRY AUSTRALA
 5 STATE VICTORIA
 6 LOCATION ONSHORE OTWAY BASIN
 7
 8

UPPER EUMERALLA FM

1 DEPTH UNITS	M	12 RHOF	1.000	23 a	0.620
2 TEMP UNITS	C	13 RHOH	0.800	24 m	2.150
3 LDT	1.000	14 tMA	55.500	25 n	2.000
4 BHT	39.000	15 tF	189.000	26 RHOB(sd)	2.650
5 SSP	30.000	16 Compac -1=RH	1.000	27 RHOB(1s)	2.710
6 Rmf	0.140	17 GRclean	30.000	28 RHOB(do1)	2.850
7 Trmf	14.000	18 GRclay	150.000	29 UMA(sd)	4.800
8 Rmf(BHT)	0.082	19 Rc1	1.600	30 UMA(1s)	8.970
9 Rw	0.176	20 RHOBc1	2.400	31 UMA(do1)	8.970
10 KPPM(Rw)	26.758	21 PHINc1	0.300	32 UMA(f)	0.400
11 RHOMA	2.650	22 tc1	140.000	33 UMA(c1)	8.000

#	DEPT	GR	RXO	RT	RHOB	NPHI	PEF	DT	RWA
1.	923.00	103.00	1.0000	1.3000				117.00	0.0081
2.	925.00	90.000	1.0000	1.6000				112.00	0.0210
3.	926.00	90.000	1.0000	1.5000				110.00	0.0142
4.	931.50	75.000	2.0000	10.000				70.000	

#	DEPTH	RT	RHOB	PHIN	PHIE	SW	VCL	SXO	RMAU	RMAA	SWU	SD	LS	DOL
1.	923.00	1.3000			.076	1.00	0.61	1.00	2.65	2.77	1.17	1.00	0.00	0.00
2.	925.00	1.6000			.107	1.00	0.50	1.00	2.65	2.75	1.06	1.00	0.00	0.00
3.	926.00	1.5000			.092	1.00	0.50	1.00	2.65	2.75	1.16	1.00	0.00	0.00
4.	931.50	10.000			.000	1.00	0.37	1.00	2.65	2.72	1.00	1.00	0.00	0.00

Appendix C

Drilling Fluid Recap

APPENDIX C

Drilling Fluid Recap

MINORA RESOURCES NL
DRILLING FLUIDS RECAP
SHAW-1,
PEP 111, OTWAY BASIN, VICTORIA

Prepared by: J.McLaughlin
Date : June 1992

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5. MUD REPORTS

WELL SUMMARY

Operator : Minora Resources NL
 Well Name : Shaw # 1
 Location : PEP 111, Otway Basin, Victoria
 (Block, Basin & State)
 Contractor/Rig : DMID/Rig 21
 Rig on Location : 26th May, 1992
 Spud Date : 27th May, 1992
 RKB Elevation : 4 m
 (or Water Depth/RKB Sea Level)
 Total Depth : 960 m
 Date Reached TD : 2nd June
 Total Days Drilling : 5
 Rig Off Location : 3rd June
 Total Days on Well : 9

<u>Drilling Fluid Type</u>	<u>Interval</u>	<u>Hole Size</u>	<u>Cost(A\$)</u>
Freshwater-Gel	12.5 - 269	12 1/4"	\$ 902.18
KCl/PAC-R	269 - 960	8 1/2"	\$ 6,758.89

Mud Materials Charged to Drilling			\$ 7,661.07

Engineer on Location from 27th June 1992 to 3rd June 19926
 Drilling Fluid Engineering: 9 days @ \$495 \$ 4,455.00
 Total Cost Drilling Materials & Engineering \$ 12,116.07
 Mud materials not charged to drilling \$ 106.48

Casing Programme : 9 5/8" @ 264 m

Drilling Supervisors : G. Nicot
 Baroid Drilling Fluid Engineers : J. McLaughlin

MINORA RESOURCES NL
SHAW #1, PEP 111,
OTWAY BASIN, VICTORIA

DISCUSSION BY INTERVAL

12 1/4" Hole (Surface to 269m) - 2 Days

9 5/8" Casing Set at 264m

Shaw No. 1 was spudded at 1600 hours on June 27th, 1992, using DMID Rig No. 21.

The local borewater was tested at 400 mg/l Chlorides, 140 mg/l Total Hardness and 120 mg/l Calcium.

A fresh-water AQUAGEL spud mud was used to drill the 12 1/4" hole section. 350 bbls of 14ppb AQUAGEL was prehydrated prior to spud. The green cement in the conductor was drilled out, flocculating the mud system and resulted in mud properties of:

Mud weight	:	8.6 ppg
Viscosity	:	48 secs/quart
PV	:	8 cP
YP	:	30 lb/100ft ²
Gel Strength	:	10/15 lb/100ft ²
Cl	:	500 mg/l
pH	:	9.5
Snd	:	3%
Sol	:	2%
TH(Ca)	:	40 mg/l
MBC	:	15 ppb
Pf/Mf	:	0.2/0.4

MINORA RESOURCES NL
SHAW #1, PEP 111,
OTWAY BASIN, VICTORIA

DISCUSSION BY INTERVAL

12 1/4" Hole (Cont'd)

As drilling proceeded through the Port Campbell Limestone the initial pump rate was kept low to avoid washing out the conductor but was increased to 400 gpm after the 6 1/2" drill collars were in the hole. Initially the Gellibrand Formation dispersed rapidly into the mud system and the viscosity rose, this was reduced by adding 100 bbls of freshwater to the active. In the bottom 60m of the Gellibrand a "gumbo" claystone was encountered which completely blinded the B60 shaker screen and required the flow rate to be reduced to less than half the normal flow rate to prevent excessive loss of mud.

At 269m the hole was circulated clean for 2 hours and a wiper trip run prior to pulling out to run 9 5/8" casing. The casing was run and cemented with ~20 bbls of cement returns being observed at the surface.

MINORA RESOURCES NL
SHAW #1, PEP 111,
OTWAY BASIN, VICTORIA

DISCUSSION BY INTERVAL

8 1/2" hole 269m - 960m - 3 days

While the BOP's were being nipped up, the flocculated mud system was pretreated with 0.75 ppb Sodium bicarbonate and 5% KCl. The 9 5/8" shoe was drilled out with the very little increase in viscosity and a formation integrity test was run at 274m giving a equivalent mud weight of 15.6ppg.

Drilling then continued rapidly (45-60 m/hr) through the Gellibrand Marl and Clifton Formation with KCl/PAC-R premix additions maintaining the rheology. There was little change in the mud properties whilst drilling these formations.

On entering the Dilwyn Sandstone it was anticipated that a thinning of the mud would occur, thus the yield point and filter cake of the mud would decrease, however the opposite occurred as the Dilwyn Formation was relatively argillaceous. KCl/PAC-R premixes were added to maintain volume and to reduce the water loss.

While drilling the 8 1/2" hole the water in the sump was used, as the sump had been built far too small and was full after drilling the 12 1/4" hole. This water was tested initially at: Chlorides 1600 mg/l, Total Hardness 400, Calcium 360 and pH 12. The sumpwater was pretreated with 0.75ppb Sodium Bicarbonate to reduce the calcium content and lower the pH before adding the PAC-R polymer. A test of the sumpwater when drilling was completed showed: Chlorides 10000 mg/l, Total hardness 140 mg/l, Calcium 140 mg/l and pH 8.

MINORA RESOURCES NL
SHAW #1, PEP 111,
OTWAY BASIN, VICTORIA

DISCUSSION BY INTERVAL

8 1/2" hole (Cont'd)

The Pember Mudstone and Pebble Point Sandstone drilled rapidly. At 673m due to rig mechanical problems an 11 stand wiper trip was run with only slight overpull occurring.

From the top of the Paaratte Sandstone the clay content of the mud began to decline; however, as there had initially been an excess of clay in the mud and the Belfast Mudstone was not too far it was decided not to add any gel but to maintain rheology with PAC-R premix additions.

Drilling then continued slowly through the Belfast Mudstone, with the mud weight and solids content slowly increasing. The MBT and sand content tests indicated that most of these solids were sand and inert non-swelling clays. The basal section of this formation was more arenaceous than the typical Belfast Formation.

At 960m drilling was stopped after penetrating the top of the Eumeralla Formation at 922m. After circulating the hole for a couple of hours and running a wiper trip to the 9 5/8" casing shoe, with minor overpull to 15000klb, the hole was circulated clean and BPB logs run.

No problems were encountered whilst running the wireline logs. The caliper log showed the hole to be gauge or undergauge from the 9 5/8" casing shoe to TD. The well was then plugged and abandoned on 3rd June 1992.

MINORA RESOURCES NL
SHAW #1, PEP 111,
OTWAY BASIN, VICTORIA

Conclusions and Recommendations

The solids control equipment consisted of a single shaker screen with a surface area of 1 m² and a desander with three 5" cones. The sandtrap was partially dumped on connections to reduce the sand content present in the mud. The desander had to be run continuously in order to prevent its suction line being blocked as this was located in the settling tank under the shakers. A screen equivalent to a B60 was run throughout both sections of the hole as this was the smallest size the shaker could handle. During tophole a roughneck was required to shovel the cuttings off the shaker as the cuttings came onto the shaker quicker than it could remove them resulting in a layer 1-2" thick of cuttings on the shaker over which the mud would flow.

This meant that the proposed plan to use EZ MUD had to be discarded as there were no facilities to shear the EZ MUD on the surface and the shakers would have been unable to handle it. A test premix was made of ~ 2.5 lbs EZ MUD per 100 bbl of mud and pumped downhole, when the premix returned to the surface ~20 bbls was lost over the shakers even at a drastically slowed flow rate. Therefore it was decided to use a 5% KCl/PAC-R mud system. DMID have plans to improve the solids control by adding another shaker, getting a large single or dual cone desander and modifying the pipework of the present desander so it works more effectively.

MINORA RESOURCES NL
SHAW #1, PEP 111,
OTWAY BASIN, VICTORIA

Conclusions and Recommendations (Cont'd)

In the 8 1/2" hole the combination of the 4-5% KCl/PAC-R system, and low bit hydraulics was successful in achieving a gauge stable hole with only some minor tight hole problems developing. The key to the lack of washout in this hole was the extremely low bit hydraulics used throughout the well, the result of the small rig pumps present on the rig, the nozzle velocity whilst drilling the 8 1/2" hole was less than 175 ft/min and impact force was less than 175lbs.

Although this mud system was relatively successful in terms of cost and lack of hole problems, it should be noted that had the TD been much deeper problems with the mud system would have developed as a result of the solids control equipment and the lack of a reasonable sized sump. The mud check taken at 960m shows a high drill solids and sand content which would have continued to rise with further drilling and the reuse of sump water which contained fine solids. The lack of room to dump large volumes of mud in order to dilute the mud system with freshwater KCL/PAC-R premixes would have become a major hinderance to running this mud system.

Baroid Australia Pty. Ltd.

MATERIAL RECAP

COMPANY Minora Resouces NL
 WELL Shaw No. 1
 LOCATION PEP 111, Otway Basin, Vic

HOLE SIZE 12.25"
 CONTRACTOR/RIG DMID Rig 21
 MUD TYPE Flocculated Gel

INTERVAL TO (m)	269	DRILLING DAYS	2	COST/DAY	\$463.68
FROM (m)	12	ROTATING HRS.	17	COST/M	\$3.61
DRILLED (m)	257			COST/BBL	\$2.60
DATE	May 1992	MUD CONSUMPTION FACTOR (bbl/m)			1.39

MATERIAL	UNIT	UNIT COST	QUANTITY		CONC (ppb)		TOTAL COST (A\$)	
			EST	ACT	EST	ACT	ESTIMATE	ACTUAL
AQUAGEL	25 kg	9.68	151	88	12.1	13.6	1,461.68	851.84
Caustic Soda	25 kg	25.17	3	3	0.2	0.5	75.51	75.51
Lime	25 kg	5.85	6		0.5		35.10	
DIESEL								
CHEMICAL VOLUME								
FRESH WATER								
SEA WATER								
TOTAL MUD MADE								
COST LESS BARYTES							\$1,572.29	\$927.35
COST WITH BARYTES							<u>\$1,572.29</u>	<u>\$927.35</u>

COMMENTS

BAROID AUSTRALIA PTY LTD

Baroid Australia Pty. Ltd.

MATERIAL RECAP

COMPANY Minora Resouces NL
 WELL Shaw No. 1
 LOCATION PEP 111, Otway Basin, Vic

HOLE SIZE 8.5"
 CONTRACTOR/RIG DMID Rig 21
 MUD TYPE KCl/Polymer

INTERVAL TO (m)	960	DRILLING DAYS	3	COST/DAY	\$2,244.57
FROM (m)	269	ROTATING HRS.	40	COST/M	\$9.74
DRILLED (m)	691			COST/BBL	\$7.90
DATE	June 1992	MUD CONSUMPTION FACTOR (bbl/m)			1.23

MATERIAL	UNIT	UNIT COST	QUANTITY		CONC (ppb)		TOTAL COST (A\$)		
			EST	ACT	EST	ACT	ESTIMATE	ACTUAL	
Caustic Soda	25 kg	25.17	7	1		0.1	176.19	25.17	
PAC-R	50 lb	147.73	49	25		1.5	7238.77	3,693.25	
Potassium Chloride	50 kg	17.75	348	160	24.0	20.7	6177.00	2,840.00	
Sodium Bicarbonate	25 kg	17.53		10		0.6		175.30	
DIESEL									
CHEMICAL VOLUME									
FRESH WATER									
SALVAGED MUD									
TOTAL MUD MADE									
COST LESS BARYTES								\$13,591.96	\$6,733.72
COST WITH BARYTES								\$13,591.96	\$6,733.72

COMMENTS

Mud from previous section was pretreated with 1.5 ppb sodium bicarbonate and used to drill out cement. This mud was then converted to a KCl/PAC-R mud system.

BAROID AUSTRALIA PTY LTD

Baroid Australia Pty. Ltd.

MATERIAL RECAP

COMPANY Minora Resouces NL
 WELL Shaw No. 1
 LOCATION PEP 111, Otway Basin, Vic

CONTRACTOR/RIG DMID Rig 21

MATERIAL	UNIT	UNIT COST	QUANTITY		CONC (ppb)		TOTAL COST (A\$)	
			EST	ACT	EST	ACT	ESTIMATE	ACTUAL
Materials not used for Drilling, Testing or Completion .								
1) 9 5/8" Casing								
AQUAGEL	25 kg	9.68		11				106.48
								<u>\$106.48</u>

COMMENTS

BAROID AUSTRALIA PTY LTD

Baroid Australia Pty. Ltd.

MATERIAL SUMMARY

COMPANY Minora Resouces NL
 WELL Shaw No. 1 CONTRACTOR/RIG DMID Rig 21
 LOCATION PEP 111, Otway Basin, Vic

INTERVAL	DRILLED	DAYS	HOURS	MUD TYPES
12.25"	257	2	17.0	Flocculated Gel
8.5"	691	3	40.0	KCl/Polymer

TOTALS	948	5	57.0	COST/DAY	\$1,553.51
				COST/M	\$8.19
				COST/BBL	\$6.42
RECAP BY J. McLaughlin				MUD CONSUMPTION FACTOR (bbl/m)	1.28
DATE June 1992					

MATERIAL	UNIT	UNIT COST	QUANTITY		TOTAL COST (A\$)	
			ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
Barite	25 kg					
AQUAGEL	25 kg	9.7	151	99	1,461.68	958.32
Caustic Soda	25 kg	25.2	10	4	251.70	100.68
PAC-R	50 lb	147.7	49	25	7,238.77	3,693.25
Potassium Chloride	50 kg	17.8	348	160	6,177.00	2,840.00
Sodium Bicarbonate	25 kg	17.5		10		175.30
Lime	25 kg	5.9	6		35.10	

DIESEL	Bbls					
CHEMICAL VOLUME	Bbls		57	29		
FRESH WATER	Bbls		2130	1180		
SEA WATER	Bbls					
TOTAL MUD MADE	Bbls		2187	1209		
COST LESS BARYTES					\$15,164.25	\$7,767.55
COST WITH BARYTES					<u>\$15,164.25</u>	<u>\$7,767.55</u>

COMMENTS

BAROID AUSTRALIA PTY LTD

Baroid Australia Pty. Ltd.

PROPERTY RECAP

COMPANY Minora Resouces NL
 WELL Shaw No. 1
 LOCATION PEP 111, Otway Basin, Vic

CONTRACTOR/RIG: DMID Rig 21

DATE: May/June 1992

DATE	DEPTH	HOLE SIZE	RET TMP	MUD WT	VIS sec	PV	YP	GELS		FILTRATE		RETORT		SD	MBC	pH	PM	PI	MI	Cl	KCl	TH	SO3	REMARKS/TREATMENT					
								10	10	API	CK	SOL	H2O												PPb	mg/l	%	/l	/l
								sec	min	ml	1/32"	%	%																
1991	m	in	C	PPG																									
27/05	72	12.25		8.6	48	8	30	10	15	N/C	N/C	2	98	3.0	15.0	9.5			0.2	0.4	500	-	40	-	Spudded 1600 hrs 27th May				
																			0.15	0.3	500	-	60	-	with Spud Mud				
28/05	190	12.25	22	8.7	40	8	24	8	12	N/C	N/C	2	98	1.25	12	9			0.1	0.25	500	-	40	-	9 5/8" csg point				
	269	12.25	25	8.7	35	5	21	7	11	N/C	N/C	2	98	1.25	10	9			0.3	0.9	24500	5	40	-	Waiting on cement				
29/05	269	8.5	-	8.8	36	6	21	4	6	N/C	N/C	6	94	0.5	7	9.5			0.5	0.9	19500	4	40	-	Drill out w/- thin KCl Mud				
30/05	269	8.5	22	8.8	36	4	10	2	3	16	2	4	96	0.5	7	9.5			1.05	1.4	19500	4	40	-	Added Sumpwater/KCl/PAC-R				
31/05	320	8.5	21	9.1	41	6	15	3	4	10	2	4	96	0.1	7.5	10.5			0.28	0.45	17000	3.5	80	-	to maintain YP, filt and				
	518	8.5	24	9.3	42	6	18	3	4	8	1	7	93	1	11.25	9.5			0.05	0.15	23000	4.7	160	-	volume.				
01/06	710	8.5	22	9.2	42	7	16	2	4	8.0	2	6	94	1.25	10.5	8.5			0.2		19500	4	120	-	Wiper trip v sl overpull				
	838	8.5	23	9.3	40	7	17	2	4	8.4	2	7	93	0.2	9.4	9.5			0.25	0.45	25000	5.2	160	-	POOH for logging				
02/06	960	8.5	22	9.4	42	9	16	2	4	8.1	2	8	92	1.8	9	9.5													

Baroid Australia Pty Ltd

SOLIDS CONTROL EQUIPMENT and MUD VOLUME ANALYSIS

COMPANY Minora Resources
WELL Shaw No. 1
LOCATION PEP 111, Otway Basin, Vic

CONTRACTOR/RIG: DMID RIG 21
DATE: May 1992

Date:		1991	27-May	28-May	29-May	30-May	31-May	01-Jun	TOTALS
SOLIDS CONTROL									
Shaker 1	Screen		60	60	60	60	60	60	94
	Hrs		14	24		8	24	24	
Shaker 2	Screen								
	Hrs								
Desilter 1	U/F PPG								
	BBL/Hr								
	Hrs								
Desilter 2	U/F SG								
	M3/Hr								
Desander	U/F PPG		8.9			10.3	9.9	9.9	
	BBL/Hr		5			5	5.0	5	
Baroid	Hrs		8			8	24	16	56
	Vol		40			40	120	80	
Centrifuge	Hrs								
	Feed SG O/F SG								
Depth(metres)	12.5		197	269	269	323	743	960	947.5
Daily drilled			184.5	72		54	420	217	
Hole Size(In)			12.25	12.25	8.835	8.5	8.5	8.5	
MUD VOLUMES (BBL)									
Initial Active:				185	264	294	236	333	270
Added: Drillwater				200	70				
Sumpwater									970
From Reserve		320			60	70	320	200	
Losses: DFE		40				40	120	80	280
Dumped/Lost		10	66			88	36	69	
New Hole		85	55				67	54	261
Total Losses		135	121			128	223	203	
To Reserve				100					100
Final Active		185	264	294	236	333	330		
Reserve - Initial			30	30	70	100	80		450
Added: Drillwater		350				100	100	120	
Sumpwater							200	200	100
From Active				100					
To Active		320		60	70	320	200		970
Final Reserve		30	30	70	100	80			
Total Final Volume		215	294	364	336	413	330		
Daily Dilution Rate, (bbl/m)		0.73	1.68			2.37	0.53	0.94	1.20
Daily Consumption Rate, (bbl/m)		1.90	2.78			1.85	0.71	0.55	1.20

BAROID AUSTRALIA PTY LTD

Baroid Australia Pty. Ltd.

BIT RECORD

COMPANY
WELL
LOCATION

Minora Resources NL
Shaw No. 1
PEP 111, Otway Basin, Vic.

CONTRACTOR/RIG:DMID Rig 21

DATE: June 1992

BIT NO.	BIT SIZE in	MAKE	TYPE	JETS	DEPTH OUT m	MTRS DRLD	HRS ON BIT	RATE m/hr	ACC DRLG HRS	BIT WT tonnes	RPM	VERT DEV. deg.	PUMP PRESS psi	PUMP RATE gpm	MUD WT ppg	MUD VIS sec	CONDITION (in 1/8")			REMARKS
																	T	B	G	
1	12.25	SEC	S33S	3x20	269	256.5	17	15.1	17	8/12	140		580	240	8.7	40	1	1	In	Run 9 5/8" Csg TD, Log, P & A
2	8.5	SEC	S33F	3x13	960	691	40	17.3	57	8/20	120		700	225	9.3	40	4	2	1	

BAROID AUSTRALIA PTY LTD

WEEKLY INVENTORY

COMPANY
WELL

Minora Resources NL
Shaw No. 1

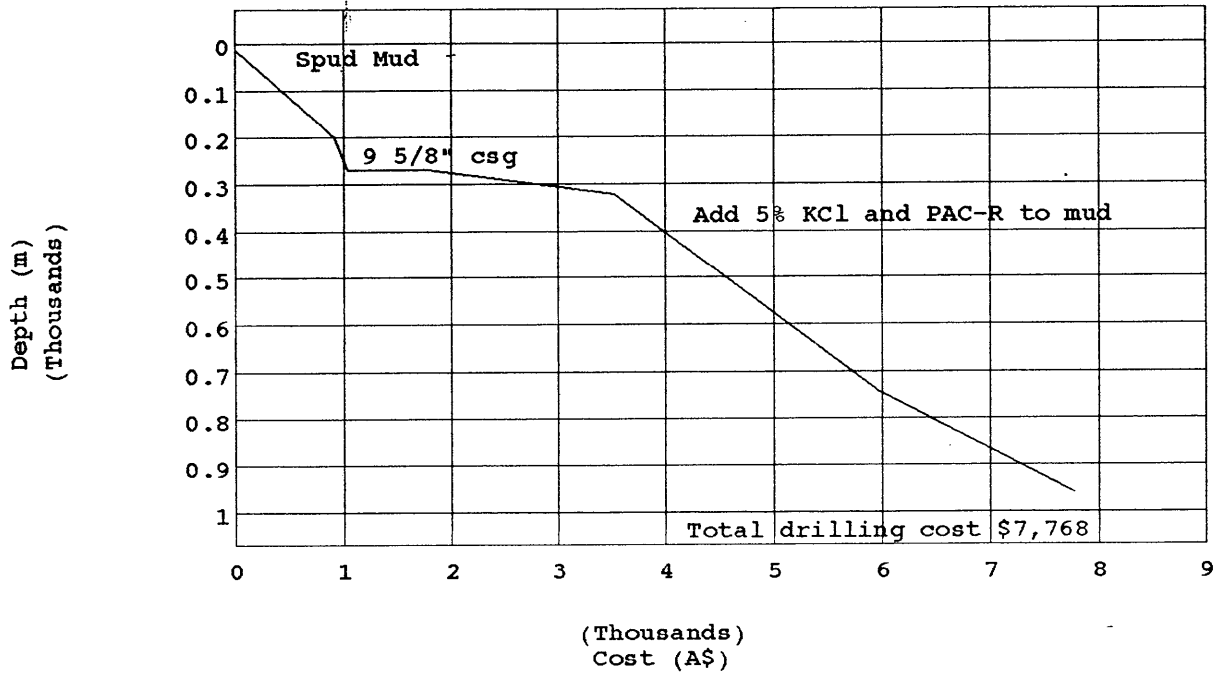
MATERIAL	Date: Unit Size	27/05		28/05		29/05		30/05		31/05		01/06		02/06		Totals		
		Beg	Recd	Used	Recd	Used	Recd	Used	Recd	Used	Recd	Used	Recd	Used	Recd	Used	Bal	
Barite,	50kg		240													240		240
ACTICIDE AZ	30kg																	
AQUAGEL	25kg		288	88		11										288	99	189
BARADEFOM	25lt		2													2		2
Calcium Chloride	25kg																	
Caustic Potash	25kg																	
Caustic Soda	25kg		20	2		1						1				20	4	16
CONDET	200lt		1													1		1
ENVIROSPOT	200lt		2													2		2
EZ MUD	25lt		64													64		64
KWIKSEAL	40lb		24													24		24
Lime	25kg		20													20		20
Mica	25kg		24													24		24
PAC-R	50lb		80				4	5	10	6						80	25	55
Potassium Chloride	50kg		240				40	18	55	47						240	160	80
Soda Ash	25kg		10													10		10
Sodium Bicarbonate	25kg		10				5	5								10	10	
Sodium Sulphite	25kg		5													5		5
XCD Polymer	25kg																	
Sodium Chloride	25kg																	
BARACOR-A	205lt																	
DAILY COST				902		132		1389		1146		2454		1746				7768

Baroid Australia Pty. Ltd.

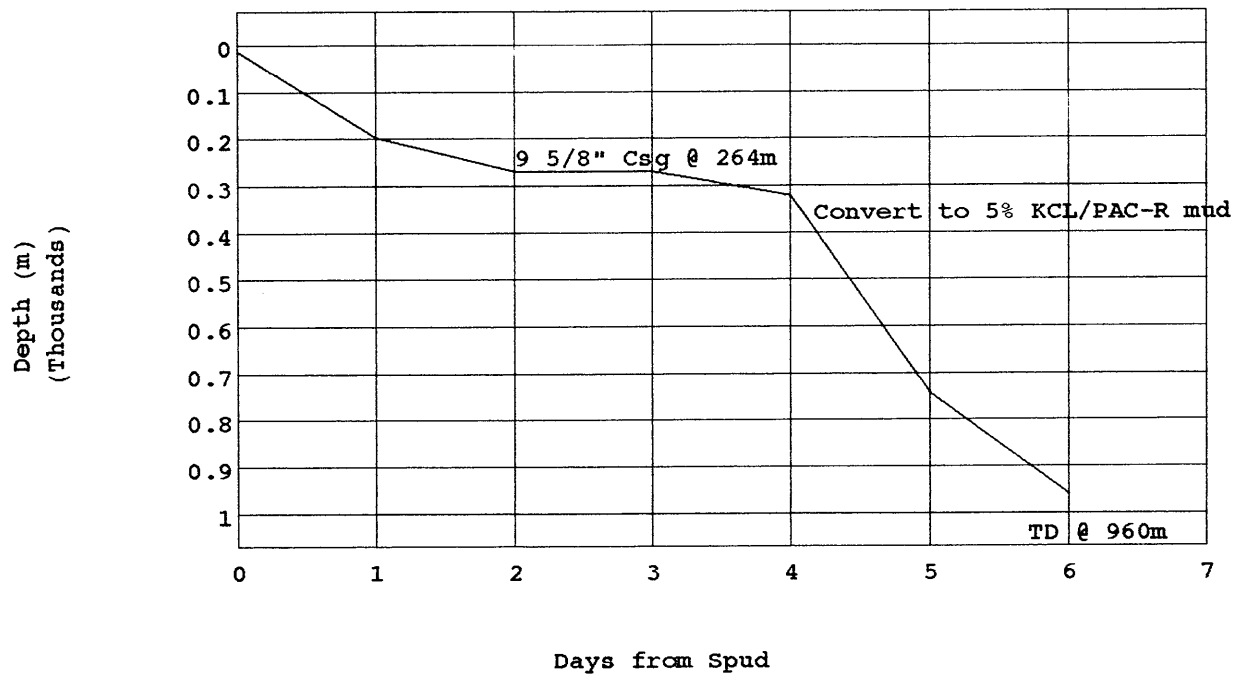
COST & DAYS GRAPHS

COMPANY Minora Resouces NL
WELL Shaw No. 1
LOCATION PEP 111, Otway Basin, Vic

DEPTH vs COST



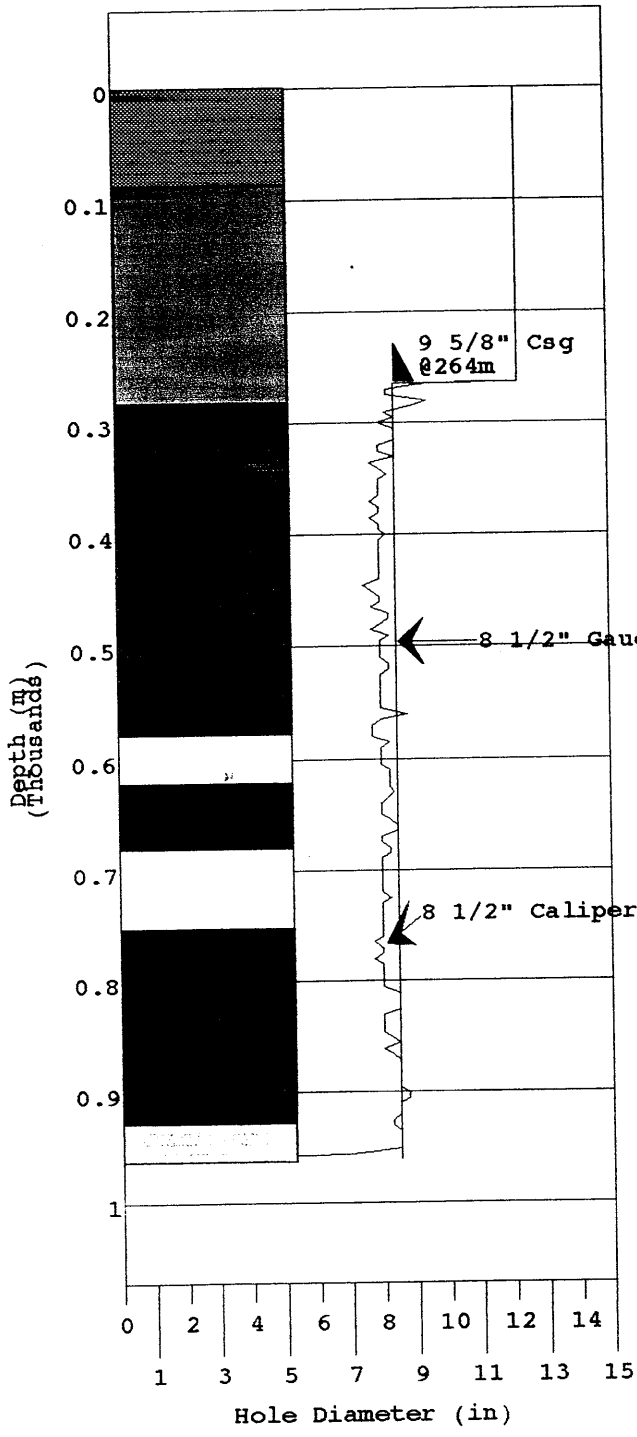
DEPTH vs DAYS



Baroid Australia Pty. Ltd.

CALIPER & FORMATION TOPS (Provisional)

COMPANY Minora Resources NL
WELL Shaw No. 1
LOCATION PEP 111, Otway Basin, Vic



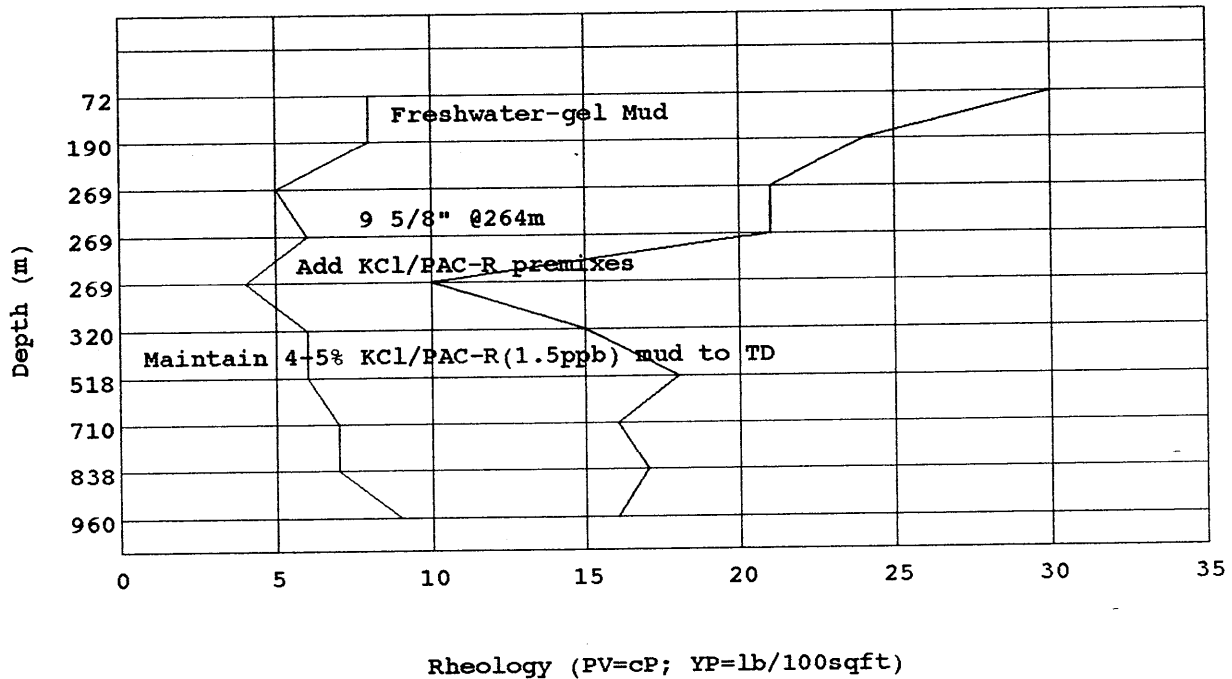
FORMATION	TOP (RKB) m
Port Campbell Limestone	Surface
Gellibrand Marl	85m
Clifton Formation	287m
Dilwyn Formation	318m
Pember Mudstone	575m
Pebble Point Formation	622m
Paaratte Formation	675m
Belfast Mudstone	753m
Eumeralla Formation	922m
TD	960m

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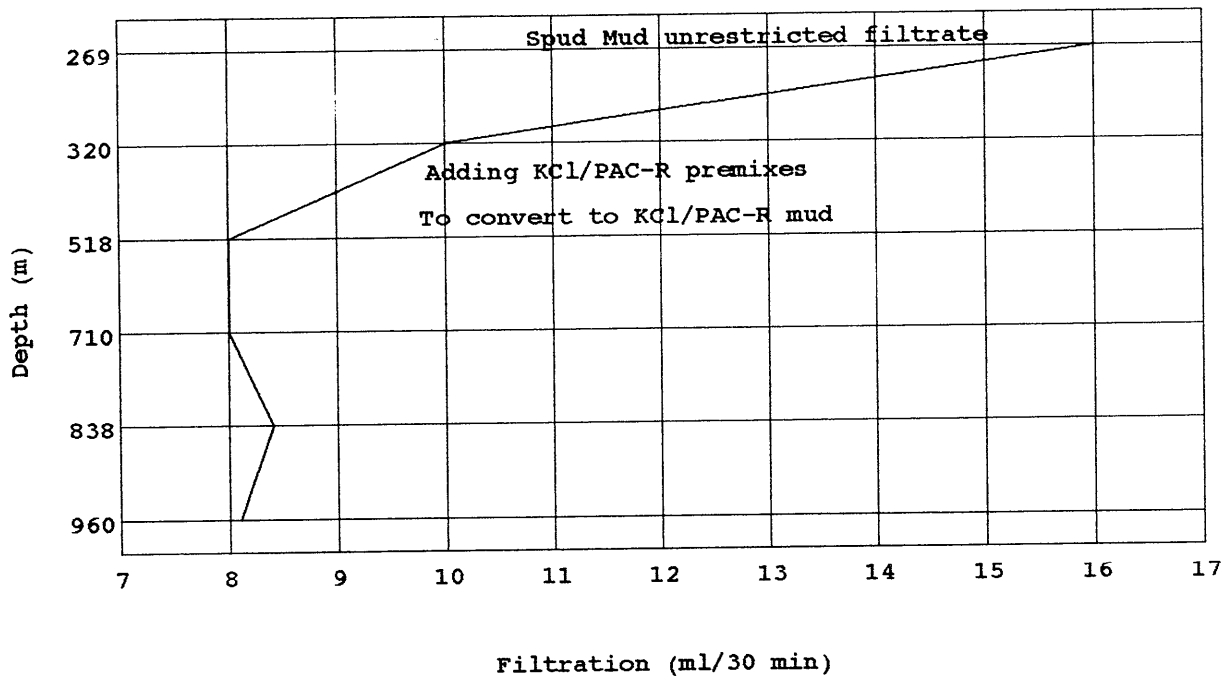
RHEOLOGY & FILTRATION GRAPHS

COMPANY Minora Resouces NL
 WELL Shaw No. 1
 LOCATION PEP 111, Otway Basin, Vic

DEPTH vs RHEOLOGY



DEPTH vs FILTRATION

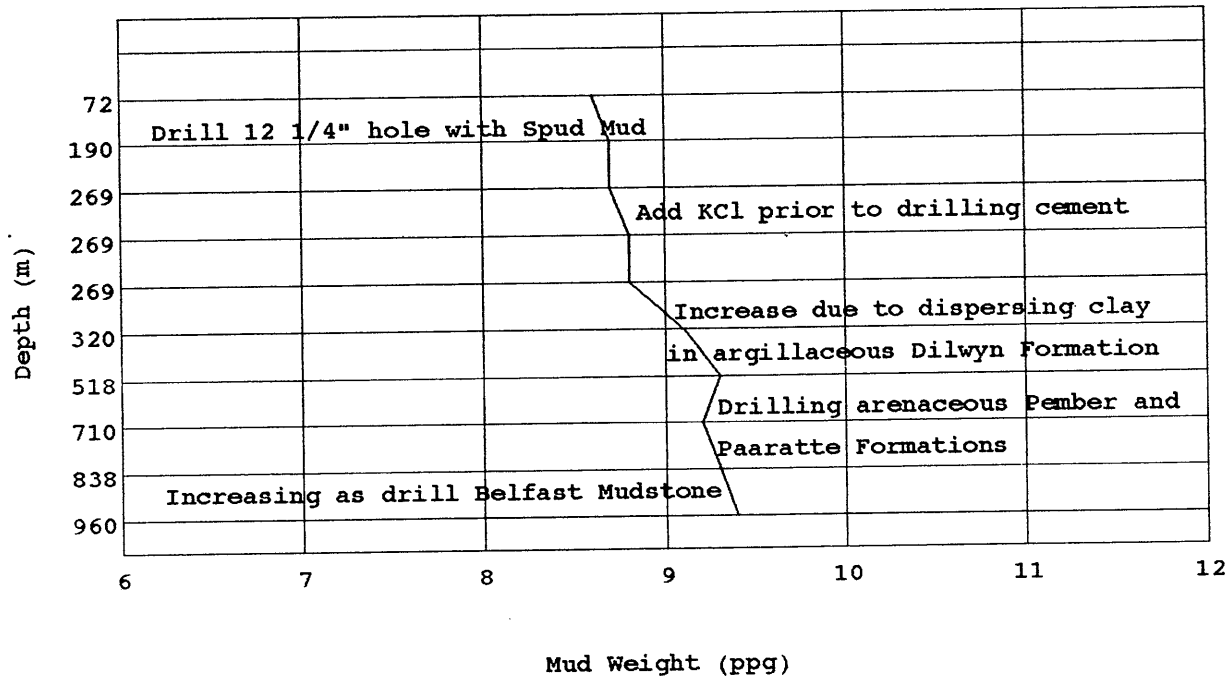


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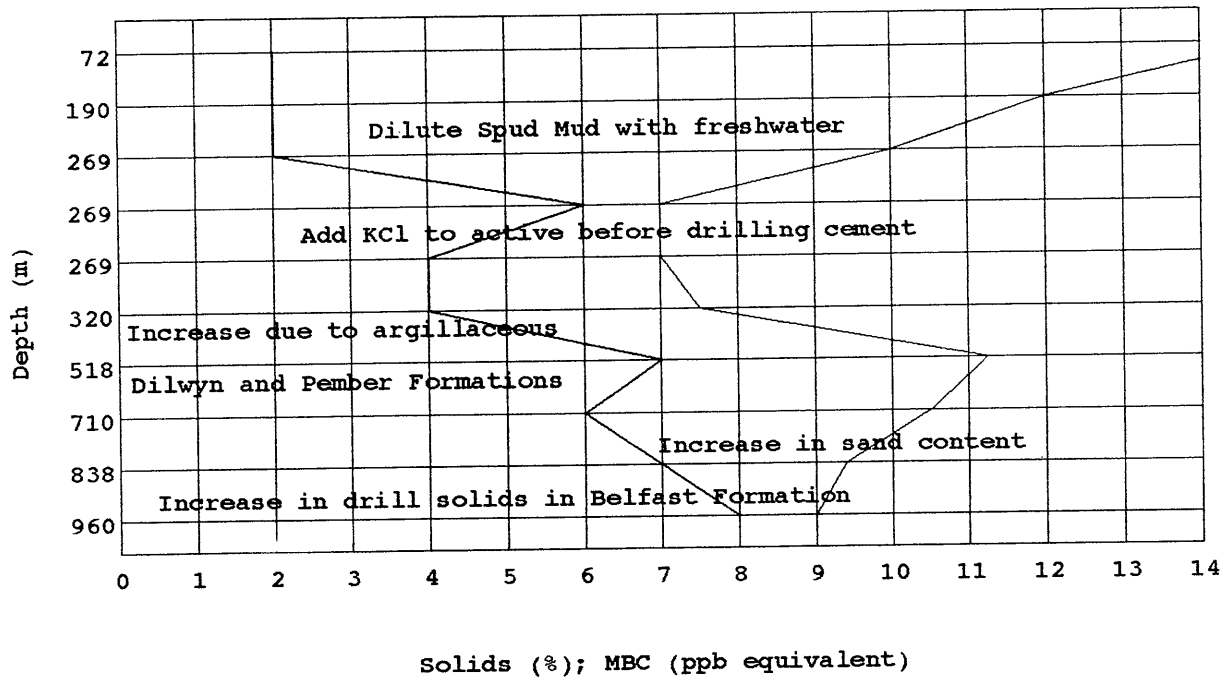
MUD WEIGHT, SOLIDS & MBC GRAPHS

COMPANY Minora Resources NL
 WELL Shaw No. 1
 LOCATION PEP 111, Otway Basin, Vic

DEPTH vs MUD WEIGHT



DEPTH vs SOLIDS & MBC



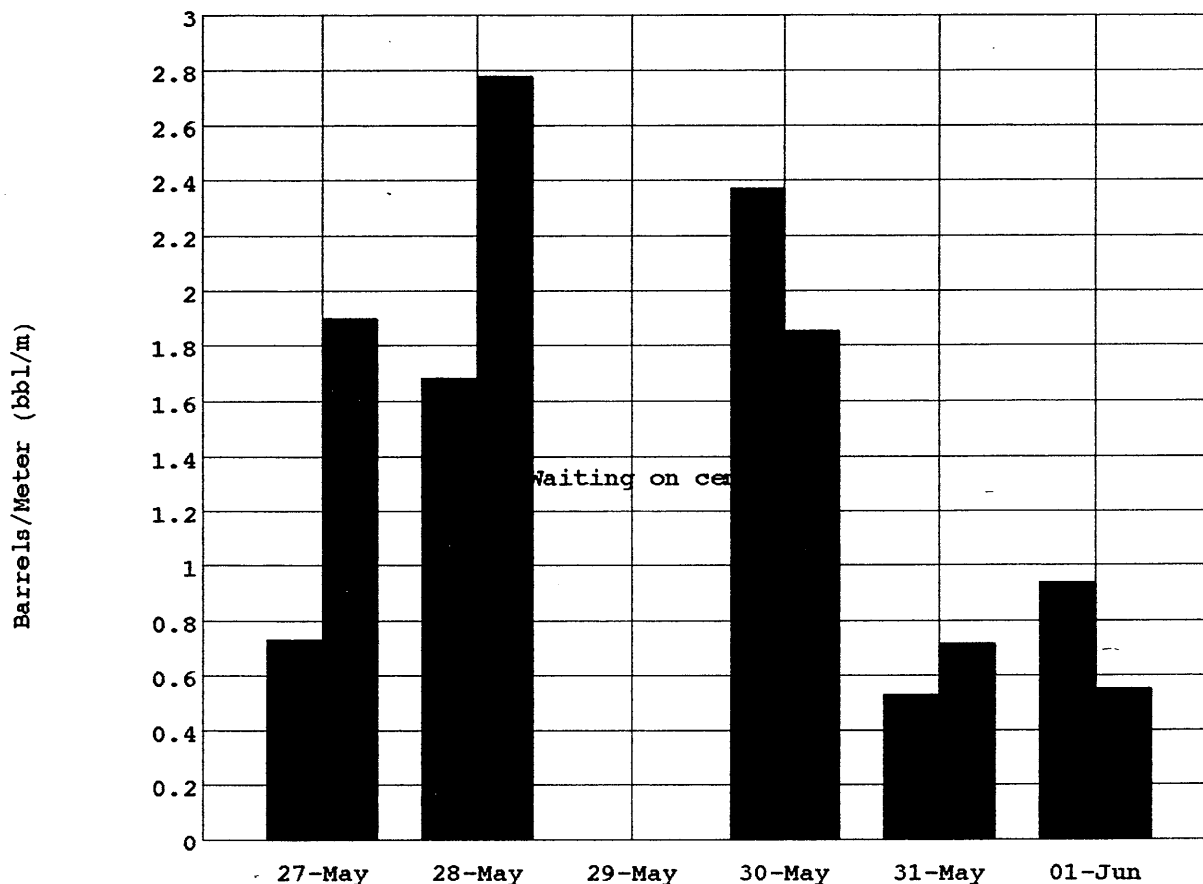
Baroid Australia Pty. Ltd.

MUD DILUTION & CONSUMPTION RATES

COMPANY Minora Resources
 WELL Shaw No. 1
 LOCATION PEP 111, Otway Basin, Vic

CONTRACTOR/RIG: DMID 21
 DATE: June 1992

DAILY DILUTION AND CONSUMPTION RATES



Date: 1992

■ Dilution ■ Consumption

FORMULAE USED:

$$\text{Daily Dilution Rate} = \frac{\text{Initial Active} - \text{Final Active} + \text{Additions} - \text{Transfers}}{\text{Metres Drilled}}$$

$$\text{Daily Consumption Rate} = \frac{\text{Mud Made}}{\text{Metres Drilled}}$$



Baroid Drilling Fluids, Inc.

DRILLING MUD REPORT NO. **1****0600 HAI**

DATE 28TH MAY 1992	DEPTH 197 <input type="checkbox"/> ft <input checked="" type="checkbox"/> m
SPUD DATE 27TH MA/92	PRESENT ACTIVITY DRILLING AHEAD

OPERATOR MINORA RESOURCES N.L.	CONTRACTOR DM ID	RIG NO. 21
REPORT FOR GERARD NICOT	REPORT FOR JANE WHITHEAD	SECTION, TOWNSHIP, RANGE
WELL NAME AND NO. SHAW #1	FIELD OR BLOCK NO. PEP III	COUNTY, PARISH OR OFFSHORE AREA OTWAY BASIN VICTORIA

DRILLING ASSEMBLY			CASING		MUD VOLUME		CIRCULATION DATA		
BIT SIZE 12 1/4	TYPE S338	JET SIZE 3x70	SET @	SURFACE	HOLE 85	PITS 180	PUMP SIZE 6x12 1/2	ANNULAR VEL DP	<input checked="" type="checkbox"/> ft/min <input type="checkbox"/> m/min
DRILL PIPE SIZE 4 1/2	TYPE	LENGTH	SET @	INTERMEDIATE	TOTAL CIRCULATING VOLUME 265	IN STORAGE	PUMP MAKE, MODEL SEC 1800	CIRCULATION PRESSURE 580	<input type="checkbox"/> psi <input type="checkbox"/> kPa
DRILL PIPE SIZE 6	TYPE DC	LENGTH 52.41	SET @	INTERMEDIATE	WEIGHT 8.5	vol/slk 4.1	ASSUMED EFF 70%	BOTTOMS UP (min) 10	
DRILL COLLAR SIZE 6 1/2 DC	LENGTH 57.33	PRODUCTION OR LINER SET @	MUD TYPE SPUD MUD			407 GPM	vol/min	TOTAL CIRC. TIME (min) 27 min	

Sample From	MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS		
	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	WEIGHT	VISCOSITY	FILTRATE
Time Sample Taken	2100	0500				
Flowline Temperature <input type="checkbox"/> °F <input checked="" type="checkbox"/> °C		22°				
Depth <input type="checkbox"/> ft <input checked="" type="checkbox"/> m	72	190				
Weight <input checked="" type="checkbox"/> lb/gal <input type="checkbox"/> lb/cu. ft. <input type="checkbox"/> Sp.G. <input type="checkbox"/> kg/m³	8.6	8.7				
Funnel Viscosity <input type="checkbox"/> sec/qt API @ ___ °F <input type="checkbox"/> sec/L @ ___ °C	481	70	1			
Plastic Viscosity cP @ ___ °F ___ °C	8	8				
Yield Point <input checked="" type="checkbox"/> lb/100 ft² <input type="checkbox"/> Pa	30	24				
Gel Strength (10 sec/10 min) <input checked="" type="checkbox"/> lb/100 ft² <input type="checkbox"/> Pa	10 / 15	8 / 12	1			
Filtrate API cm³/30 min	N/A	N/A				
API/HTHP Filtrate cm³/30 min @ ___ °F @ ___ °C						
Cake Thickness API/HTHP <input checked="" type="checkbox"/> 32nd in. <input type="checkbox"/> mm	2	2	1			
Solids Content (% by Vol.) <input type="checkbox"/> calculated <input checked="" type="checkbox"/> retort	-198	-198	1			
Liquid Content (% by Vol.) Oil/Water	3.0	1.25				
Sand Content (% by Vol.)	15	12				
Methylene Blue Capacity <input checked="" type="checkbox"/> lb/bbl equiv. <input type="checkbox"/> cm³/cm³ mud	9.5	9.0				
pH <input checked="" type="checkbox"/> Strip <input type="checkbox"/> Meter @ ___ °F ___ °C						
Alkalinity Mud (P _m) ml	0.2	10.4	1			
Alkalinity Filtrate (P _f /M _f) ml/ml						
Alternate Alkalinity Filtrate (P ₁ /P ₂) ml/ml	500	500				
Chloride, mg/L	40	60				
Total Hardness as Calcium, mg/L						

REC. TOUR TREATMENT

plw up 350 bbls - 12 ppb spud mud.

Drill from 12.5m to 197m

through limestone

100 bbls water to clean system on drill through start

of hole.

REMARKS

PRODUCT UNIT COST	BAROID (BULK)	BAROID (REG)	AQUAGEL 25KG	CAUSTIC 25KG	SOLIDS CONTROL EQUIPMENT															
					MAKE/BRAND	SIZE/SCREENS	HRS													
STARTING INVENTORY			288	20																
RECEIVED D.T. #																				
USED LAST 24 HR.			88	2																
COST LAST 24 HR.			851	50																
CUMULATIVE RECEIVED																				
CUMULATIVE USED			85	2																
CLOSING INVENTORY			200	18																
PRODUCT <input checked="" type="checkbox"/> lb/bbl Est CONC. <input type="checkbox"/> kg/m³			12																	
BAROID REPRESENTATIVE JOE McLAUGHNIN	OFFICE/HOME PERTH	TELEPHONE	DAILY COST \$ 902 '8	CUMULATIVE COST \$ 902 '8																
WAREHOUSE GILLMAN	TELEPHONE																			

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Baroid Drilling Fluids, Inc.

DRILLING MUD REPORT NO. **2**

0600 WJ

DATE 29TH MAY 19 92	DEPTH 264	<input checked="" type="checkbox"/> m
SPUD DATE 27TH MAY 92	PRESENT ACTIVITY WOC	

OPERATOR MINORA RESOURCES N.L.	CONTRACTOR JMID	RIG NO. 21
REPORT FOR GERARD NICOT	REPORT FOR DAVE WHITEHEAD	SECTION, TOWNSHIP, RANGE
WELL NAME AND NO. SHAW # 1	FIELD OR BLOCK NO. AP III	COUNTY, PARISH OR OFFSHORE AREA OTWAY STATE/PROVINCE VICTORIA

DRILLING ASSEMBLY			CASING		MUD VOLUME		CIRCULATION DATA				
BIT SIZE 2 1/4	TYPE S33S	JET SIZE 3 x 2 1/2	SET @ 9 3/8 (2) 264m	SURFACE	HOLE 6 1/2	PITS 230	PUMP SIZE (1) 6 x 12 90	ANNULAR VEL. <input checked="" type="checkbox"/> ft/min <input type="checkbox"/> m/min	DC 42		
DRILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE SET @	TOTAL CIRCULATING VOLUME 274	PUMP MAKE, MODEL SET ABOVE	ASSUMED EFFICIENCY %	CIRCULATION PRESSURE 580	<input type="checkbox"/> psi <input type="checkbox"/> kPa			
DRILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE SET @	IN STORAGE	WEIGHT	vol/stk (1) 2 1/2	STK/MIN	BOTTOMS UP (min)			
DRILL COLLAR SIZE 6 1/2	LENGTH 57.03	PRODUCTION OR LINER SET @	MUD TYPE SPUD MUD			2 2/3	vol/min	TOTAL CIRC. TIME (min)			

MUD PROPERTIES				MUD PROPERTY SPECIFICATIONS		
Sample From	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	WEIGHT	VISCOSITY	FILTRATE
Time Sample Taken	1300			BY AUTHORITY <input type="checkbox"/> OPERATOR'S WRITTEN <input type="checkbox"/> OPERATOR'S REPRESENTATIVE <input type="checkbox"/> OTHER	RECOMMENDED TREATMENT	
Flowline Temperature <input type="checkbox"/> °F <input checked="" type="checkbox"/> °C	25			<p>Drilled from 197m to 269m. Circulate well clean. Run for wash trip. Run. Circulate well clean. Run Run using cement. Wash in cement.</p>		
Depth <input type="checkbox"/> ft <input checked="" type="checkbox"/> m	269					
Weight <input checked="" type="checkbox"/> lb/gal <input type="checkbox"/> lb/cu. ft. <input type="checkbox"/> Sp.G. <input type="checkbox"/> kg/m ³	8.7	1	1			
Funnel Viscosity <input checked="" type="checkbox"/> sec/qt API @ ___ °F <input type="checkbox"/> sec/L @ ___ °C	36					
Plastic Viscosity cP @ ___ °F ___ °C	5					
Yield Point <input checked="" type="checkbox"/> lb/100 ft ² <input type="checkbox"/> Pa	21					
Gel Strength (10 sec/10 min) <input checked="" type="checkbox"/> lb/100 ft ² <input type="checkbox"/> Pa	7.111	1	1			
Filtrate API cm ³ /30 min	N/C					
API/HTHP Filtrate cm ³ /30 min @ ___ °F @ ___ °C	N/C	1	1			
Cake Thickness API/HTHP <input checked="" type="checkbox"/> 32nd in. <input type="checkbox"/> mm	N/C					
Solids Content (% by Vol.) <input type="checkbox"/> calculated <input checked="" type="checkbox"/> retort	2					
Liquid Content (% by Vol.) Oil/Water	1.25	1	1			
Sand Content (% by Vol.)	10					
Line Blue Capacity <input type="checkbox"/> lb/bbl equiv. <input type="checkbox"/> cm ³ /cm ³ mud	9					
pH <input checked="" type="checkbox"/> Strip <input type="checkbox"/> Meter @ ___ °F ___ °C	—					
Alkalinity Mud (P _m) ml	1.25	1	1			
Alkalinity Filtrate (P _f /M _f) ml/ml	—	1	1			
Alternate Alkalinity Filtrate (P ₁ /P ₂) ml/ml	500					
Chloride, mg/L	40					
Total Hardness as Calcium, mg/L						

PRODUCT UNIT COST	BAROID (BUK)	BAROID (REG)	AQUAGEL	Chemical	Quantity	SOLIDS CONTROL EQUIPMENT														
						MAKE/BRAND	SIZE/SCREENS	HRS												
STARTING INVENTORY			200	18																
RECEIVED D.T. #																				
USED LAST 24 HR.			117	1																
COST LAST 24 HR.			106.40	25.17																
CUMULATIVE RECEIVED																				
CUMULATIVE USED				3																
CLOSING INVENTORY			189	17																
PRODUCT <input type="checkbox"/> lb/bbl Est CONC. <input type="checkbox"/> kg/m ³																				
BAROID REPRESENTATIVE JOE McLAUGHLIN	OFFICE/HOME PERTH	TELEPHONE	WAREHOUSE GILLMAN	TELEPHONE	DAILY COST \$ 131.65	CUMULATIVE COST \$ 1033.83														

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Baroid Drilling Fluids, Inc.

DRILLING MUD REPORT NO. **3****0600**

DATE **30th May 1992** DEPTH **264** ft
 SPUD DATE **27th May 92** PRESENT ACTIVITY

OPERATOR **MINORA RESOURCES** CONTRACTOR **DMID** RIG NO. **21**
 REPORT FOR **GERARD NICOT** SECTION, TOWNSHIP, RANGE

WELL NAME AND NO. **SHAW # 1** FIELD OR BLOCK NO. **REP III** COUNTY, PARISH OR OFFSHORE AREA **OTWAY BASIN** STATE/PROVINCE **VICTORIA**

DRILLING ASSEMBLY			CASING	MUD VOLUME	CIRCULATION DATA	
BIT SIZE 8 1/2	TYPE	JET SIZE 75/8	<input checked="" type="checkbox"/> SURFACE SET @ 264m	HOLE 64 PITS 230	PUMP SIZE 6x12 G0	ANNULAR VEL. <input type="checkbox"/> ft/min <input type="checkbox"/> m/min
DRILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE SET @	TOTAL CIRCULATING VOLUME 216	PUMP MAKE, MODEL 216	DC <input type="checkbox"/>
DRILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE SET @	IN STORAGE 70 WEIGHT 8.6	ASSUMED EFF %	CIRCULATION PRESSURE <input type="checkbox"/> psi <input type="checkbox"/> kPa
DRILL COLLAR SIZE	LENGTH	PRODUCTION OR LINER SET @	MUD TYPE KCC GEL		vol/sik	BOTTOMS UP (min)
					stk/min	TOTAL CIRC. TIME (min)

MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS			
Sample From	<input type="checkbox"/> F.L. <input checked="" type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	WEIGHT	VISCOSITY	FILTRATE
Time Sample Taken	1900			BY AUTHORITY <input type="checkbox"/> OPERATOR'S WRITTEN <input type="checkbox"/> DRILLING CONTRACTOR <input type="checkbox"/> OPERATOR'S REPRESENTATIVE <input type="checkbox"/> OTHER	RECOMMENDED TREATMENT	
Flowline Temperature <input type="checkbox"/> °F <input checked="" type="checkbox"/> °C	—			<p>WAIT ON CEMENT. NIPPLE UP STACK.</p> <p>Dump + clean settling tank. Dilute spud mud back to ~ 7ppb gel.</p> <p>REMARKS</p> <p>Added 5% KCC + pre-treat mud system with 1ppb sodium bicarb prior to chiling out cement. Added 0.75 ppb PAC R</p>		
Depth <input type="checkbox"/> ft <input checked="" type="checkbox"/> m	264					
Weight <input checked="" type="checkbox"/> lb/gal <input type="checkbox"/> lb/cu. ft. <input type="checkbox"/> Sp.G. <input type="checkbox"/> kg/m³	8.8					
Funnel Viscosity <input checked="" type="checkbox"/> sec/qt API @ <input type="checkbox"/> °F <input type="checkbox"/> sec/L @ <input type="checkbox"/> °C	36	1	1			
Plastic Viscosity cP @ <input type="checkbox"/> °F <input type="checkbox"/> °C	6					
Yield Point <input checked="" type="checkbox"/> lb/100 ft² <input type="checkbox"/> Pa	21					
Gel Strength (10 sec/10 min) <input checked="" type="checkbox"/> lb/100 ft² <input type="checkbox"/> Pa	4 1/6	1	1			
Filtrate API cm³/30 min	NIC					
API/HTHP Filtrate cm³/30 min @ <input type="checkbox"/> °F @ <input type="checkbox"/> °C	—					
Cake Thickness API/HTHP <input checked="" type="checkbox"/> 32nd in. <input type="checkbox"/> mm	7	1	1			
Solids Content (% by Vol.) <input type="checkbox"/> calculated <input checked="" type="checkbox"/> retort	6					
Liquid Content (% by Vol.) Oil/Water	— 194	1	1			
Sand Content (% by Vol.)	0.5					
Water Blue Capacity <input checked="" type="checkbox"/> lb/bbl equiv. <input type="checkbox"/> cm³/cm³ mud	7					
pH <input checked="" type="checkbox"/> Strip <input type="checkbox"/> Meter @ <input type="checkbox"/> °F <input type="checkbox"/> °C	9.5					
Alkalinity Mud (P _m) ml	0.3 10.9	1	1			
Alkalinity Filtrate (P _f /M _f) ml/ml	1	1	1			
Alternate Alkalinity Filtrate (P ₁ /P ₂) ml/ml	26 500					
Chloride, mg/L	40					
Total Hardness as Calcium, mg/L	40					
KCC (wt %)	5%					
Solids wt % (0% by vol)	3.2					

PRODUCT UNIT COST	BAROID (BULK)	BAROID (REG)	AQUAGEL	KCC	SODIUM	SODIUM BICARB	PAC R	SODIUM	SOLIDS CONTROL EQUIPMENT			
									MAKE/ BRAND	SIZE/ SCREENS	HRS	
STARTING INVENTORY				240	10	80			SHKR 1	860	—	
RECEIVED D.T. #									SHKR 2	—	—	
USED LAST 24 HR.				40	5	4			SHKR 3	—	—	
COST LAST 24 HR.				715 ³⁰	87 ⁶⁵	540 ⁷²			SHKR 4	—	—	
CUMULATIVE RECEIVED									DESAND	3x8	—	
CUMULATIVE USED				40	5	4			DESILT	—	—	
CLOSING INVENTORY				200	5	76			M CLNR	—	—	
PRODUCT <input type="checkbox"/> lb/bbl Est CONC. <input type="checkbox"/> kg/m³									CENT 1	—	—	
									CENT 2	—	—	

BAROID REPRESENTATIVE **Joe McLaughlin** OFFICE/HOME **Perth** TELEPHONE **\$ 74957** DAILY COST **\$ 74957** CUMULATIVE COST **\$ 1783.40**
 WAREHOUSE **GILLMAN** TELEPHONE

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Baroid Drilling Fluids, Inc.

DRILLING MUD REPORT NO. 4

0000



DATE 31st MAY 19 92	DEPTH 323	<input type="checkbox"/> ft <input type="checkbox"/> m
SPUD DATE 21st MAY 92	PRESENT ACTIVITY Circulating sample	

OPERATOR MINDA RESOURCES NL	CONTRACTOR DAVID	RIG NO. 21
REPORT FOR GERARD NAST	REPORT FOR DAVE WHITEHEAD	SECTION, TOWNSHIP, RANGE

WELL NAME AND NO. SHAW I	FIELD OR BLOCK NO. REP 111	COUNTY, PARISH OR OFFSHORE AREA OTWAY BASIN	STATE/PROVINCE VICTORIA
DRILLING ASSEMBLY B.H. SIZE 8 1/2 TYPE S35F JET SIZE 3 X 1/32 CASING 95/8 SURFACE SET @ 264 m DRILL PIPE SIZE 4 1/2 TYPE TYPE LENGTH 53.6 INTERMEDIATE SET @ DRILL PIPE SIZE 6 TYPE TYPE LENGTH 57.6 INTERMEDIATE SET @ DRILL COLLAR SIZE 6 1/2 TYPE TYPE LENGTH 57.6 PRODUCTION OR LINER SET @		MUD VOLUME <input checked="" type="checkbox"/> bbl <input type="checkbox"/> m ³ HOLE 56 PITS 170 TOTAL CIRCULATING VOLUME 236 IN STORAGE 100 WEIGHT 8.8 MUD TYPE KCE powder	
CIRCULATION DATA PUMP SIZE 10 5/8 x 12 1/2 (2) 5 1/2 x 12 MA' m ANNULAR VEL DP <input checked="" type="checkbox"/> ft/min <input type="checkbox"/> m/min PUMP MAKE, MODEL SCS 2500R ASSUMED EFFICIENCY % CIRCULATION PRESSURE 360 <input checked="" type="checkbox"/> psi <input type="checkbox"/> kPa vol/stk (1) 2812 (2) 45 slk/min BOTTOMS UP (min) 12 TOTAL CIRC. TIME (min) 5.2			

Sample From	MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS		
	<input type="checkbox"/> F.L. <input checked="" type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input checked="" type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	WEIGHT	VISCOSITY	FILTRATE
Time Sample Taken	1800	0430				
Flowline Temperature <input type="checkbox"/> °F <input checked="" type="checkbox"/> °C		21				
Depth <input type="checkbox"/> ft <input checked="" type="checkbox"/> m	264	320				
Weight <input checked="" type="checkbox"/> lb/gal <input type="checkbox"/> lb/cu. ft. <input type="checkbox"/> Sp.G. <input type="checkbox"/> kg/m ³	8.8	9.1				
Funnel Viscosity <input checked="" type="checkbox"/> sec/qt API @ ___ °F <input type="checkbox"/> sec/L @ 15 °C	36	41	1			
Plastic Viscosity cP @ 1 ___ °F 15 °C	4	6				
Yield Point <input checked="" type="checkbox"/> lb/100 ft ² <input type="checkbox"/> Pa	10	15				
Gel Strength (10 sec/10 min) <input checked="" type="checkbox"/> lb/100 ft ² <input type="checkbox"/> Pa	2 1/3	3 1/4	1			
Filtrate API cm ³ /30 min	26	10				
API/HTHP Filtrate cm ³ /30 min @ ___ °F @ ___ °C						
Cake Thickness API/HTHP <input checked="" type="checkbox"/> 32nd in. <input type="checkbox"/> mm	4	4	1			
Solids Content (% by Vol.) <input type="checkbox"/> calculated <input checked="" type="checkbox"/> retort						
Liquid Content (% by Vol.) Oil/Water	-196	-196	1			
Sand Content (% by Vol.)	0.5	0.1				
Blue Capacity <input checked="" type="checkbox"/> lb/bbl equiv. <input type="checkbox"/> cm ³ /cm ³ mud	7	7.5				
pH <input checked="" type="checkbox"/> Strip <input type="checkbox"/> Meter @ ___ °F ___ °C	9.5	10.5				
Alkalinity Mud (P _m) ml						
Alkalinity Filtrate (P _f /M _f) ml/ml	0.5/10.9	1.05/11.4	1			
Alternate Alkalinity Filtrate (P ₁ /P ₂) ml/ml			1			
Chloride, mg/L	19500	17500				
Total Hardness as Calcium, mg/L	40	40				
KCE (wt %)	4	4				
Corrected Sols (0.10 by vol)	2.8	2.8				

RECOMMENDED TREATMENT

Test SUP.
 Drill out shoe.
 Drill to 320m circ sample
 Drill to 323m circ sample

From 316m to 323m lost
 40 bbls at rate of 80 bbls/hr.

REMARKS

LOT 15-57 PPG
 Make up 100 bbls KCE/powder
 15-57 PPG

PRODUCT UNIT COST	BAROID (BULK)	BAROID (REG)	AQUAGEL	SODIUM BITUMENS	PAC R	SOS	222	BROS	SOLIDS CONTROL EQUIPMENT													
									MAKE/ BRAND	SIZE/ SCREENS	HRS											
STARTING INVENTORY				5	76	200												SHKR 1		B60	8	
RECEIVED D.T. #																			SHKR 2			
USED LAST 24 HR.				5	5	18													SHKR 3			
COST LAST 24 HR.				8765	738	319													SHKR 4			
CUMULATIVE RECEIVED																			DESAND	Baroid	328	8
CUMULATIVE USED				10	9	58													DESILT			
CLOSING INVENTORY				zero	71	182													M CLNR			
PRODUCT <input type="checkbox"/> lb/bbl Est CONC. <input type="checkbox"/> kg/m ³																			CENT 1			
BAROID REPRESENTATIVE	OFFICE/HOME		PERTH		TELEPHONE		DAILY COST		\$ 1145.80 +		CUMULATIVE COST		\$ 3520.12									
WAREHOUSE	CULLMAN		TELEPHONE																			

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Baroid Drilling Fluids, Inc.



DRILLING MUD REPORT NO. 5 0600

DATE 1st June 1992 DEPTH 743

SPUD DATE 27th May 92 PRESENT ACTIVITY Drilling ahead

OPERATOR Minor Resources NL CONTRACTOR DMID RIG NO. 21

REPORT FOR Gerard Nicot Dave Whithead SECTION, TOWNSHIP, RANGE

WELL NAME AND NO. SHAW #1 FIELD OR BLOCK NO. PGP 111 COUNTY, PARISH OR OFFSHORE AREA GUYANA STATE/PROVINCE SURINAM VICTORIA

DRILLING ASSEMBLY			CASING		MUD VOLUME		CIRCULATION DATA				
BIT SIZE 8 1/2	TYPE S21	JET SIZE 3x13	95/8 SURFACE SET @ 264 m	HOLE 133	PITS 200	PUMP SIZE 6x12 90	ANNULAR VEL DP 81	4/6 20/154	ft/min	m/min	
LL PIPE 4 1/2	TYPE	LENGTH	INTERMEDIATE SET @	TOTAL CIRCULATING VOLUME 333		PUMP MAKE, MODEL SET ARBON	ASSUMED EFF 90 %	CIRCULATION PRESSURE 550	psi	kPa	
LL PIPE 6	TYPE DC	LENGTH 53.61	INTERMEDIATE SET @	IN STORAGE 85	WEIGHT 8.7	vol/stk 0.1117	0.0218	stk/min	BOTTOMS UP (min) 24		
LL COLLAR SIZE 6 1/2		LENGTH 51.6	PRODUCTION OR LINER SET @	MUD TYPE KCE Polymer		210 gal/min	vol/min	TOTAL CIRC. TIME (min) 67			

Sample From	MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS		
	F.L. PIT	F.L. PIT	F.L. PIT	WEIGHT	VISCOSITY	FILTRATE
1st Sample Taken	1500	0400				
Temperature °F °C	24	22				
Depth ft m	518	710				
Weight lb/gal lb/cu. ft. Sp.G. kg/m³	9.3	9.2				
Annular Viscosity sec/qt API @ °F °C	142	42	1			
Plastic Viscosity cP @ °F °C	6	7				
Gel Point lb/100 ft² Pa	18	16				
1 Strength (10 sec/10 min) lb/100 ft² Pa	3 14	2 14	1			
Rate API cm³/30 min	8	8				
PI/HTHP Filtrate cm³/30 min @ °F °C						
Thickness API/HTHP 32nd in. mm	1 1	2 1	1			
Solids Content (% by Vol.) Calculated Retort	7	6				
Liquid Content (% by Vol.) Oil/Water	-193	-190	1			
Water Content (% by Vol.)	1.0	1.25				
ethylene Blue Capacity lb/bbl equiv. cm³/cm³ mud	11.25	10.5				
PH Strip Meter @ °F °C	9.5	8.5				
Alkalinity Mud (P _m) ml						
Alkalinity Filtrate (P _f /M _f) ml/ml	28 145	05 115	1			
Permanganate Alkalinity Filtrate (P ₁ /P ₂) ml/ml	T	T	1			
Chloride, mg/L	17000	23,000				
Total Hardness as Calcium, mg/L	80	160				
Ca (wt %)	3.5	4.7				
Solids Content (% by Vol)	6.0	4.63				

RECOMMENDED TREATMENT

Drilling ahead from 323m to 626m. Circ sample. Drill ahead to 673 m. Make 1" std wiper trip. Continue drilling to 743m

REMARKS

Made up 300 bbls KCE/Polymer

PRODUCT UNIT COST	BAROID (BULK)	BAROID (REG)	AQUAGEL	KCE	SDX4	PAC R	SO16	SOLIDS CONTROL EQUIPMENT			
								MAKE/ BRAND	SIZE/ SCREENS	HRS	
STARTING INVENTORY RECEIVED				182	71			SHKR 1		3	24
USED LAST 24 HR.				55	10			SHKR 2			
COST LAST 24 HR.				78 25	47 3			SHKR 3			
CUMULATIVE RECEIVED								SHKR 4			
CUMULATIVE USED				113	19			DESAND		3.8	24
PRODUCT CONCENTRATION				27	61			DESILT			
								M CLNR			
								CENT 1			
								CENT 2			

BAROID REPRESENTATIVE Joe McLaughlin OFFICE/HOME 2111 TELEPHONE DAILY COST \$2453.55 CUMULATIVE COST \$5973.67

WAREHOUSE Callman TELEPHONE

THE RECOMMENDATIONS MADE HEREON SHALL NOT BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND ARE MADE WITHOUT ASSUMPTION OF ANY LIABILITY BY BAROID DRILLING FLUIDS, INC. OR ITS AGENTS, AND ARE STATEMENTS OF OPINION ONLY.

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Baroid Drilling Fluids, Inc.



DRILLING MUD REPORT NO. 6

DATE <u>20 June 1992</u>	DEPTH <u>960</u> <input type="checkbox"/> ft <input checked="" type="checkbox"/> m
SPUD DATE <u>27th May 92</u>	PRESENT ACTIVITY <u>100% For Logging</u>

OPERATOR <u>Minora Resources NL</u>	CONTRACTOR <u>DMID</u>	RIG NO. <u>21</u>
PORT FOR <u>CREAD NICK</u>	REPORT FOR <u>DAVE WHITEHEAD</u>	SECTION, TOWNSHIP, RANGE

WELL NAME AND NO. <u>SHAW NO 1</u>	FIELD OR BLOCK NO.	COUNTY, PARISH OR OFFSHORE AREA <u>OTWAY BASIN</u>	STATE/PROVINCE <u>VICTORIA</u>
------------------------------------	--------------------	----------------------------------------------------	--------------------------------

DRILLING ASSEMBLY			CASING		MUD VOLUME <input checked="" type="checkbox"/> bbl <input type="checkbox"/> m ³		CIRCULATION DATA		
BIT SIZE <u>8 1/2</u>	TYPE <u>S33F</u>	SET SIZE <u>3x13</u>	9 5/8 SURFACE SET @ <u>26m</u>	HOLE <u>187</u>	PITS <u>193</u>	PUMP SIZE <u>6x12"</u>	ANNULAR VEL. DP <input checked="" type="checkbox"/> ft/min <input type="checkbox"/> m/min		
PIPE TYPE <u>4 1/2</u>	TYPE	LENGTH	INTERMEDIATE SET @	TOTAL CIRCULATING VOLUME <u>380</u>		PUMP MAKE, MODEL <u>CD</u>	ASSUMED EFFICIENCY %	CIRCULATION PRESSURE <u>700</u> <input type="checkbox"/> psi <input type="checkbox"/> kPa	
WELL PIPE SIZE <u>6</u>	TYPE <u>X</u>	LENGTH <u>53.61</u>	INTERMEDIATE SET @	IN STORAGE	WEIGHT	vol/stk <u>0.119 bbls/stk</u>	STK/min	BOTTOMS UP (min) <u>30</u>	
COLLAR SIZE <u>6 1/2</u>	LENGTH <u>57.61</u>	PRODUCTION OR LINER SET @	MUD TYPE <u>KCE Polymer</u>		<u>208</u>		vol/min	TOTAL CIRC. TIME (min) <u>76</u>	

MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS			
Sample From	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	WEIGHT	VISCOSITY	FILTRATE

Sample Taken	<u>1430</u>	<u>0600</u>		BY AUTHORITY <input type="checkbox"/> OPERATOR'S WRITTEN <input type="checkbox"/> DRILLING CONTRACTOR <input type="checkbox"/> OPERATOR'S REPRESENTATIVE <input type="checkbox"/> OTHER		
Mudline Temperature	<input type="checkbox"/> °F <input checked="" type="checkbox"/> °C <u>23</u>	<u>22</u>		RECOMMENDED TREATMENT		
Depth	<input type="checkbox"/> ft <input checked="" type="checkbox"/> m <u>838</u>	<u>960</u>		<p><i>Drill ahead circulating up drill bits + flow check drill breaks. Drill to 960m. W per trip. Circulate hole clean prior to Post for logging.</i></p> <p>REMARKS</p> <p><i>Made up 120 bbls KCE/Polymer + added to active.</i></p>		
Weight	<input type="checkbox"/> lb/gal <input type="checkbox"/> lb/cu. ft. <input type="checkbox"/> Sp.G. <input type="checkbox"/> kg/m ³ <u>9.3</u>	<u>9.4</u>				
Lineal Viscosity	<input type="checkbox"/> sec/qt API @ <u>30</u> °F <input type="checkbox"/> sec/L @ <u>30</u> °C <u>40</u>	<u>47</u>				
Elastic Viscosity	cP @ <u>30</u> °F <input type="checkbox"/> °C <u>7</u>	<u>9</u>				
Yield Point	<input type="checkbox"/> lb/100 ft ² <input type="checkbox"/> Pa <u>17</u>	<u>16</u>				
Strength (10 sec/10 min)	<input type="checkbox"/> lb/100 ft ² <input type="checkbox"/> Pa <u>214</u>	<u>214</u>	<u>1</u>			
Filtrate API cm ³ /30 min	<u>8.4</u>	<u>8.1</u>				
API/HTHP Filtrate cm ³ /30 min @ <u>30</u> °F @ <u>30</u> °C	<u>2.1</u>	<u>2.1</u>	<u>1</u>			
Thickness API/HTHP <input checked="" type="checkbox"/> 32nd in. <input type="checkbox"/> mm	<u>7</u>	<u>8</u>				
Solids Content (% by Vol.) <input type="checkbox"/> calculated <input checked="" type="checkbox"/> retort	<u>-193</u>	<u>-192</u>	<u>1</u>			
Liquid Content (% by Vol.) Oil/Water	<u>0.2</u>	<u>1.8</u>				
Water Content (% by Vol.)	<u>9.4</u>	<u>9.0</u>				
Hydrometry Capacity <input checked="" type="checkbox"/> bbl equiv. <input type="checkbox"/> cm ³ /cm ³ mud	<u>9.5</u>	<u>9.5</u>				
API <input checked="" type="checkbox"/> Strip <input type="checkbox"/> Meter @ <u>30</u> °F <u>30</u> °C						
Alkalinity Mud (P _m) ml						
Alkalinity Filtrate (P _f /M _f) ml/ml	<u>0.2145</u>	<u>0.25145</u>	<u>1</u>			
Alternate Alkalinity Filtrate (P _f /P ₂) ml/ml	<u>+</u>	<u>7</u>	<u>1</u>			
Chloride, mg/L	<u>19500</u>	<u>25000</u>				
Total Hardness as Calcium, mg/L	<u>120</u>	<u>160</u>				
Ca (wt %)	<u>4</u>	<u>5.2</u>				
Filtered Solids (vol %)	<u>5.8</u>	<u>6.5</u>				

PRODUCT UNIT COST	BAROID (BULK)	BAROID (REG)	AQUAGEL	KCL	SOLs	PAC A	SOLs	CAUSTIC	SOLs	SOLIDS CONTROL EQUIPMENT		
										MAKE/ BRAND	SIZE/ SCREENS	HRS
STARTING INVENTORY				<u>127</u>	<u>61</u>	<u>17</u>				SHKR 1	<u>860</u>	<u>24</u>
RECEIVED										SHKR 2		
RECEIVED										SHKR 3		
RECEIVED LAST 24 HR.				<u>47</u>	<u>6</u>	<u>1</u>				SHKR 4		
COST LAST 24 HR.				<u>834²⁵</u>	<u>806³⁶</u>	<u>25¹¹</u>				DESAND	<u>3x8"</u>	<u>16</u>
CUMULATIVE RECEIVED										DESILT		
CUMULATIVE RECEIVED				<u>160</u>	<u>25</u>	<u>4</u>				M CLNR		
CUMULATIVE RECEIVED				<u>80</u>	<u>55</u>	<u>16</u>				CENT 1		
CUMULATIVE RECEIVED										CENT 2		

BAROID REPRESENTATIVE <u>Joe McLaughlin</u>	OFFICE/HOME <u>PETE</u>	TELEPHONE	DAILY COST <u>\$1745.80</u>	CUMULATIVE COST <u>\$7767.55</u>
WAREHOUSE <u>Gillman</u>	TELEPHONE		<u>+(48-08)</u>	

THE RECOMMENDATIONS MADE HEREON SHALL NOT BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND ARE MADE WITHOUT ASSUMPTION OF ANY LIABILITY BY BAROID DRILLING FLUIDS, INC. OR ITS AGENTS, AND ARE STATEMENTS OF OPINION ONLY.

EXTRA COPY



Baroid Drilling Fluids, Inc.

DRILLING MUD REPORT NO. **7**

DATE 3rd Jun 92	DEPTH — <input type="checkbox"/> ft <input type="checkbox"/> m
SPUD DATE 27th May 92	PRESENT ACTIVITY Waiting on Cement

RATOR Minora Resources	CONTRACTOR DMID	RIG NO. 21
PORT FOR Grand Nicor	REPORT FOR DAVE WHITEHEAD	SECTION, TOWNSHIP, RANGE
NAME AND NO. SHAW 1	FIELD OR BLOCK NO. PEP 111	COUNTY, PARISH OR OFFSHORE AREA ONTARIO
		STATE/PROVINCE ONTARIO U.C. CAN

DRILLING ASSEMBLY			CASING		MUD VOLUME		CIRCULATION DATA				
HOLE SIZE	TYPE	JET SIZE	SET @'	SURFACE	HOLE	PITS	PUMP SIZE	ANNULAR VEL. DP	ft/min	m/min	DC
PIPE	TYPE	LENGTH	SET @'	INTERMEDIATE	TOTAL CIRCULATING VOLUME		PUMP MAKE, MODEL	ASSUMED EFF %	CIRCULATION PRESSURE		psi
WELL PIPE	TYPE	LENGTH	SET @'	INTERMEDIATE	IN STORAGE	WEIGHT	vol/stk	stk/min	BOTTOMS UP (min)		kPa
COLLAR SIZE	LENGTH	PRODUCTION OR LINER SET @'			MUD TYPE KCC Polymer			vol/min	TOTAL CIRC. TIME (min)		

MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS			
Sample From	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	WEIGHT	VISCOSITY	FILTRATE
Sample Taken	2000			BY AUTHORITY <input type="checkbox"/> OPERATOR'S WRITTEN <input type="checkbox"/> DRILLING CONTRACTOR <input type="checkbox"/> OPERATOR'S REPRESENTATIVE <input type="checkbox"/> OTHER	RECOMMENDED TOUR TREATMENT	
Flowline Temperature <input type="checkbox"/> °F <input type="checkbox"/> °C				<p>Poor Run E-logs. BAN DOWN DRILL COLLARS. Run recommended to 870' 2 hours before cementing plug at 870-780' + 670-610'. New plug. R. by plug.</p>		
Depth <input type="checkbox"/> ft <input checked="" type="checkbox"/> m						
Weight <input checked="" type="checkbox"/> lb/gal <input type="checkbox"/> lb/cu. ft. <input type="checkbox"/> Sp.G. <input type="checkbox"/> kg/m³	9.2	1	1			
Relative Viscosity <input type="checkbox"/> sec/qt API @ <input type="checkbox"/> °F <input type="checkbox"/> sec/L @ <input type="checkbox"/> °C	38					
Plastic Viscosity cP @ <input type="checkbox"/> °F <input type="checkbox"/> °C	6					
Yield Point <input checked="" type="checkbox"/> lb/100 ft² <input type="checkbox"/> Pa	14					
Strength (10 sec/10 min) <input checked="" type="checkbox"/> lb/100 ft² <input type="checkbox"/> Pa	1 / 2	1	1			
Filtrate API cm³/30 min						
PIVHTHP Filtrate cm³/30 min @ <input type="checkbox"/> °F @ <input type="checkbox"/> °C						
Thickness API/HTHP <input type="checkbox"/> 32nd in. <input type="checkbox"/> mm	1	1	1			
Solids Content (% by Vol.) <input type="checkbox"/> calculated <input checked="" type="checkbox"/> retort	6					
Liquid Content (% by Vol.) Oil/Water	-194	1	1			
Water Content (% by Vol.)	0.75					
Methylene Blue Capacity <input checked="" type="checkbox"/> lb/bbl equiv. <input type="checkbox"/> cm³/cm³ mud	9.2					
Hardness <input checked="" type="checkbox"/> Strip <input type="checkbox"/> Meter @ <input type="checkbox"/> °F <input type="checkbox"/> °C	8.5					
Fluidity Mud (P _m) ml	—	1	1			
Fluidity Filtrate (P _f /M _f) ml/ml	—	1	1			
Alternate Alkalinity Filtrate (P ₁ /P ₂) ml/ml	0.15 / 0.3	1	1			
Chloride, mg/L	22000					
Hardness as Calcium, mg/L	100					
VCC	4.5					
Corrected solids	5					

PRODUCT UNIT COST	BAROID (BULK)	BAROID (REG)	AQUAGEL	SOLIDS CONTROL EQUIPMENT														
				SHKR 1	SHKR 2	SHKR 3	SHKR 4	DESAND	DESILT	M CLNR	CENT 1	CENT 2	MAKE/ BRAND	SIZE/ SCREENS	HRS			
STARTING INVENTORY																		
REMOVED																		
USED LAST 24 HR.																		
COST LAST 24 HR.																		
CUMULATIVE REMOVED																		
CUMULATIVE INVENTORY																		
PRODUCT <input type="checkbox"/> lb/bbl <input type="checkbox"/> kg/m³																		

BAROID REPRESENTATIVE JOE McLAUGHLIN	OFFICE/HOME TELEPHONE	DAILY COST Zero	CUMULATIVE COST \$7767.55
WAREHOUSE TELEPHONE			

THE RECOMMENDATIONS MADE HEREON SHALL NOT BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND ARE MADE WITHOUT ASSUMPTION OF ANY LIABILITY BY BAROID DRILLING FLUIDS, INC. OR ITS AGENTS, AND ARE STATEMENTS OF OPINION ONLY.

Appendix D

Location Survey

APPENDIX D

Location Survey

DIAGRAM OF SURVEY

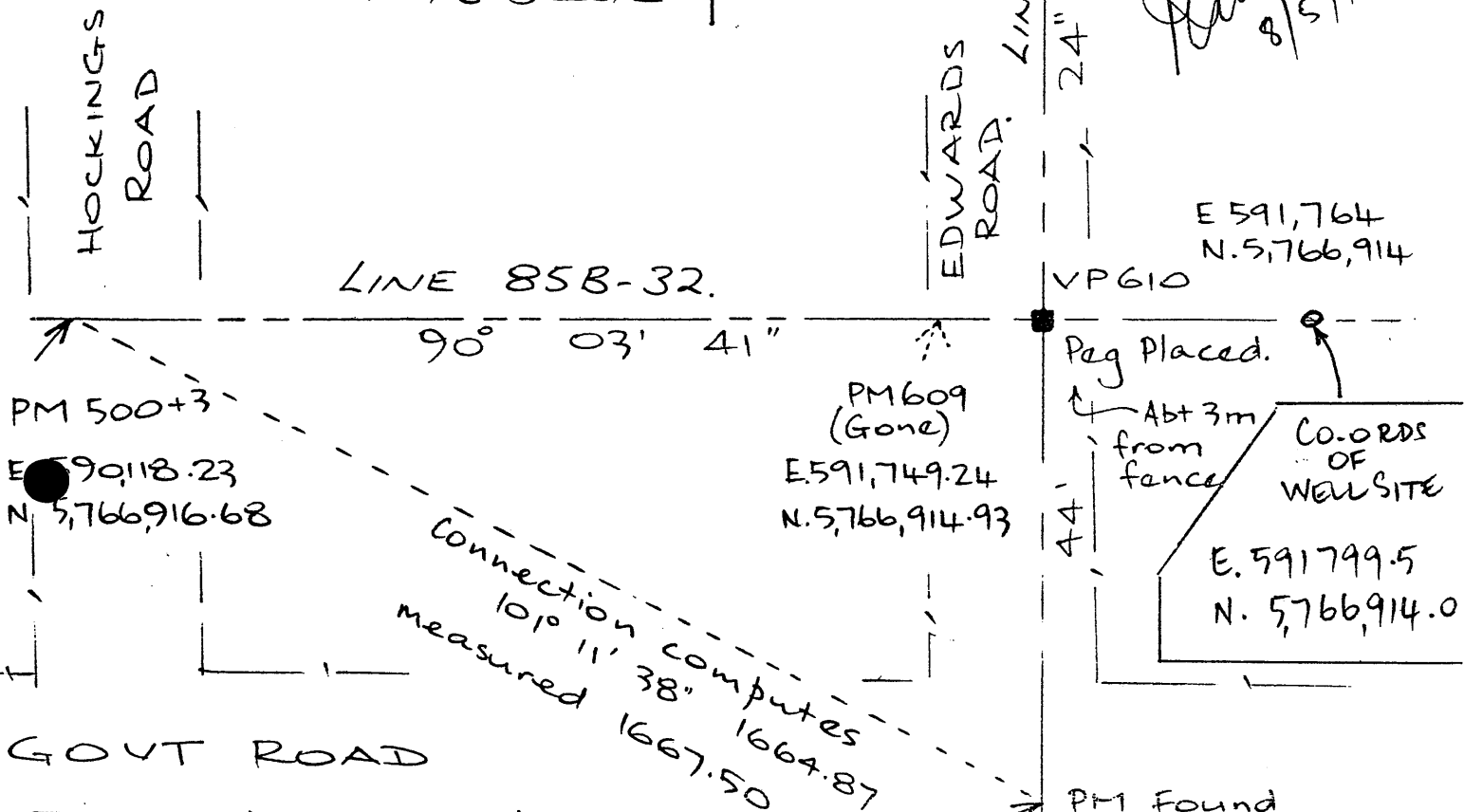
WORK TO ESTABLISH

● PROPOSED SITE

FOR SHAW # 1

WELL.

Not to Scale



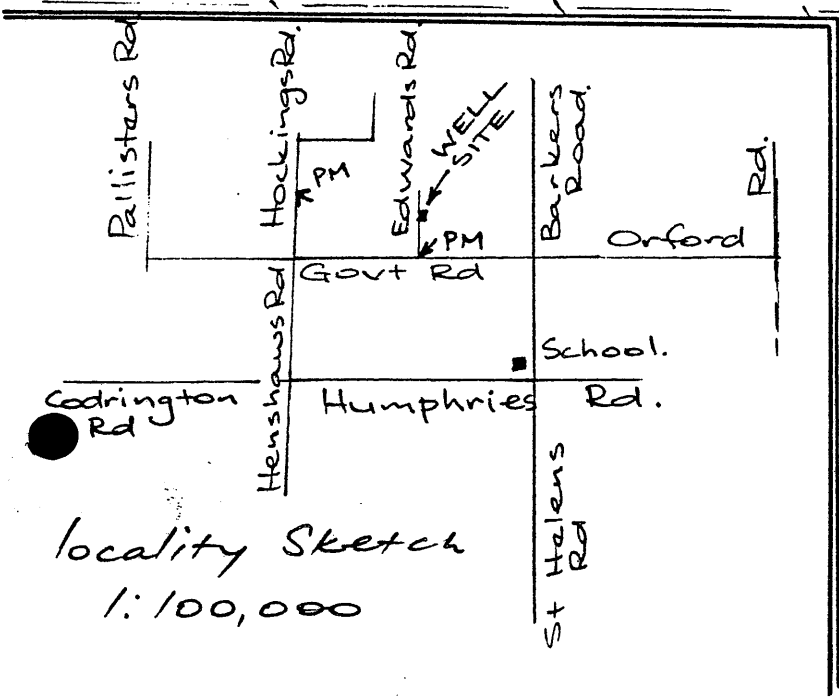
PM 316+12
E. 591,729.11
N. 5,771,509.46

Paul Dore
8/5/92.

E 591,764
N. 5,766,914

PM Found at V.P. 645
(not recorded on PM listing)
Computed co-ords
E. 591,751.43
N. 5,766,593.48

PM 752+13
E. 591,758.76
N. 5,764,978.20



Locality Sketch
1:100,000

Appendix E

Wireline Log Interpretation

APPENDIX E

Wireline Log Interpretation

APPENDIX E

WIRELINE LOG INTERPRETATION - SHAW-1

A suite of electric logs were run at TD by BPB Wireline Services.

The following logs were run:

DLL-MLL-SP-SONIC-GR-CALIPER

Log quality is generally very good.

A Crocker Data Processing Petrophysical Interpretation was undertaken. The log interpretation assumed different salinities for each of the main reservoir units and confirmed all potential reservoir zones are water bearing. These salinities are in general keeping with regional trends.

The computer processed log is presented as Enclosure 5.

Appendix F.....

Rig Specifications

APPENDIX F

Rig Specifications

RIG 21

SPECIFICATIONS

SUMMARY

RIG 21 - SPECIFICATIONS

1 1/8" Wire rope max allowable load is 578 kilonewtons which i.e. 59 metric tonnes.

Travelling block is Emsco type R-30-3-H100 hydra - hook. Total capacity rated at 100 tons. Weight of block is 4677 lbs. 3-30" dia sheaves grooved for 1 1/8" wire line.

Kelly 4 1/4" x 40" overall length 6 5/8" API Left hand box and 3 1/2" API full hole pin bottom.
Total weight of Kelly 1850 lbs.

Static hook load capacity 180 000 lbs.

Emsco type L-40 ton swivel. Weight 1240 lbs.
Mast rating 300 000 lbs.

Set back capacity of 7200 feet of 4 1/2" drill pipe 16.6 lbs/ft

Grade E

8 of 6" x 30 feet drill collars, bore 2 1/4". 4 1/2" API Reg Integral double box. 83 lb/ft.

8 of 4 1/2" x 30 feet drill collars, bore 2". 3 1/2" API Reg Integral double box 43 lb/ft.

6000 feet - 3 1/2" OD 13.3 lbs/ft. Grade E, Range 2. Internal upset API seamless steel drill pipe with 3 1/2" API full hole tool joint attached.

B.O.P to suit job requirements

CAMP FACILITIES:

Air conditioned 26 man camp complete with kitchen, dining area, laundry, ablution block, recreation facilities, and an office for operator's representative.

NOTE: Any of the above-mentioned items may be replaced at Contractor's option by equipment of equivalent or greater capacity.

RIG 21

SPECIFICATIONS

EMSCO GB-250-THB TRAILER MOUNTED
DRILLING RIG AS DESCRIBED BELOW,
COMPLETE WITH EMSCO GB CATHEADS,
CATHEAD CONTROLS AND FLOOR MOUNT-
ING TYPE ROPE ROLLER, HYDROMATIC
BRAKE PACKAGE POWERED. BY -

ONE GENERAL MOTORS TWIN - 6-71 MODEL
12103 TORQUE CONVERTER DIESEL
ENGINE
AND WITH 97 FT. L.C. MOORE DUAL
TRAILER MOUNTED CANTILEVER DRILLING
MAST.

DRAWWORKS

WINCH DRUM: 16" dia. x 40" long, plain

BRAKE RIMS: 7-3/4" face x 38" diameter
Enclosed water cooling system

BRAKE: Type "J" with 350 degree arc of contact

SHAFTS: Drummshaft max. dia. 6-1/4"
Cathead shaft max. dia. 4-13/16"
Rotary Countershaft max. dia. 4-1/4"

CLUTCHES: Drum disc type Emsco C-227
Rotary, disc type Emsco C-314
Transmission low, Spline, air
controlled
Transmission high, Spline, air
controlled
Transmission reverse, Spline, air
controlled

CHAIN: Drum drive 1-1/2" double
Cathead Shaft Drive 1-1/2" double
Engine, 1" quadruple
Reverse 1-1/2" double
Rotary 2" or No. 3 single
Hydrotarder 1-1/2" double

CONTROLS: Driller's control console includes
all operating control except engine
power take-off clutch.

Combination Air Clutch, Throttles and Speed Selector Controls, main Drum Brake is manual. Air actuated neutral brake.

TORQUE CONVERTER:

Twin Disc left hand series
11,500 mounted in Rigs.

CATHEADS:

LEFT Emsco GB air operated friction
Spinning Cathead with rope
separator and guard.

RIGHT Emsco GB air operated friction
breakout Cathead with rope
separator and guard.

SANDREEL:

GB-250, 5-11/16" max diameter
shaft 12-3/4" x 40" long free
spooling drum,
7 1/2" wide 34" dia. brake rims
capacity for 11,870' 1/2" or
9,520' 9/16" Wireline, Emsco
C218 disc type clutch

Hydrotarder No. 19635-X
Parkersburg 22" type "BC" Single
Rotor Hydromatic Brake with shaft
extension, chain driven from drum
shaft. Jaw type disconnect clutch
on drum shaft.

General Motors Twin 6-71 Model 12103
Engine with Heavy Duty Power Transfer,
Gear Ratio 1:1 and Standard Equipment
Consisting of the following:

Heavy Duty Radiators
Lubricating Oil Coolers
Lubricating Oil Filters
Fuel Filters (Primary and Secondary)
Water Outlet Manifold and Thermostat
Assemblies
Fuel Oil Circulating Pumps
Exhaust Manifold and Companion Flanges
Engine Water Circulating Pumps
Engine Disengaging Clutches

Battery Charging Generator
I Beam Front Supports and Base
Governor, includes Throttle
Control set at 1600 RPM full
load.
Fan.

Air Cleaner and Air Inlet Housing
without Shutdown
Wisconsin Gasoline starting Engine
600MM Injector

MAST

97' Lee C. Moore Dual Trailer
Mounted Cantilever Drilling Mast
No. 27217, static hook load
capacity 180,000lbs. (equivalent
to standard Derrick Capacity of
300,000 lbs.), 2'7-1/2" wide x 4'0"
top 8'5" clear width at base
between front legs, horizontally
retracting top section, reversible
crown block consisting of five
30" OD Manganese steel roller
bearing working sheaves grooved
for 1-1/8" diameter line and one 30"
OD Manganese steel roller bearing
sandline sheave grooved for 5/8"
diameter line, all on 5-1/2" diameter
shafts, and equipped with line
guards, racking finger capacity of
7200' of 4-1/2" diameter drill pipe;
15" diameter swinging catline sheave;
welded ladder; crown safety
platform; tong counterweights complete;
fifth wheel hoist and inverted fifth
wheel for adjusting mast elevation to enable
making connections; semi-trailer
mast base complete with two supporting
screw jacks.

ROTARY TABLE

Emsco Type P-17-1/2" -44" Rotary
Machine with completely enclosed
rectangular fabriform case,
manual locks, sealed rotary
mechanism, split table bushing
and hook for 6" conventional type
drill stem bushing. (LESS: Drive
sprocket and Drill Stem Bushing)

SWIVEL

Emsco type L-140 Swivel complete with female Thread gooseneck, cartridge type washpipe packing, sleeve or coupling thread protectors and bail bumper, including 2 1/4" ID Washpipe and 96387-C sleeve couplings, 6-5/8" API L.H.Pin 19".

KELLY

Emsco 4-1/4" x 40' overall length 37' working length 6-5/8" API Reg. L.H. box top and 3-1/2" API Reg. Pin bottom connection, steel kelly.

TRAVELLING BLOCK

Emsco type R-30-3-H100 Hydra-hook Travelling block with 3-30" dia. Roller Bearing Forged Sheaves. Sheaves grooved for 1-1/8" wire line. Sheaves Rolled Forged Steel, mounted on Double Race Tapered Bearings; Rope Grooves Flame-hardened; Roller Steel Side Plates; Reversible Sheave Bearing Lubrication Cartridge Oil-Bath Lubrication for Main Bearings, Main Springs and Plunger, Locking Mechanism (8 equally spaced positions). (Total rated capacity 100 tons).

MUD PUMP UNIT

Unitized Gardner Denver 7-1/4" x 12 Model FZ-FXZ Power Slush Pump driven by General Motors 6-71 Model 12107 Torque converter-Diesel Engine complete with standard accessories. Unit to be Trailer Mounted complete with necessary sprockets, chains, chain guards, 3 member light steel skid, and manifold fittings, including 0-3000lbs. pressure gauge, shear relief valve, 3" Cameron valves on mud lines, wing unions, suction hose. Trailer, Hobbsmodel 74105.

B.O.P. EQUIPMENT

- 1 MSP Hydril 2000 LB
- 1 Model SS double ram C/W 3 1/2" pipe ram and blind ram
- 1 Koomey 5 station accumulator
- 1 Choke manifold with 2 hand adjustable chokes

MUD PUMPS

- 1 G D PAH-8 Triplex 4 1/2" x 8"
- 1 G D FZFXZ Duplex 7 1/4" x 12"

PE600823

This is an enclosure indicator page.
The enclosure PE600823 is enclosed within the
container PE900988 at this location in this
document.

The enclosure PE600823 has the following characteristics:

ITEM_BARCODE = PE600823
CONTAINER_BARCODE = PE900988
 NAME = Composite Well log
 BASIN = OTWAY
 PERMIT = PEP/111
 TYPE = WELL
 SUBTYPE = COMPOSITE_LOG
 DESCRIPTION = Composite Well log (enclosure from WCR)
 for Shaw-1
 REMARKS =
 DATE_CREATED = 3/06/92
 DATE_RECEIVED = 9/10/92
 W_NO = W1066
 WELL_NAME = Shaw-1
 CONTRACTOR = Minora Resources NL
 CLIENT_OP_CO = Minora Resources NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE600812

This is an enclosure indicator page.
The enclosure PE600812 is enclosed within the
container PE900988 at this location in this
document.

The enclosure PE600812 has the following characteristics:

ITEM_BARCODE = PE600812
CONTAINER_BARCODE = PE900988
NAME = EXLOG Mud Log
BASIN = OTWAY
PERMIT = PEP/111
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = EXLOG Mud Log (enclosure from WCR) for
Shaw-1
REMARKS =
DATE_CREATED = 1/06/92
DATE_RECEIVED = 9/10/92
W_NO = W1066
WELL_NAME = Shaw-1
CONTRACTOR = Exlog
CLIENT_OP_CO = Minora Resources NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE600813

This is an enclosure indicator page.
The enclosure PE600813 is enclosed within the
container PE900988 at this location in this
document.

The enclosure PE600813 has the following characteristics:

- ITEM_BARCODE = PE600813
- CONTAINER_BARCODE = PE900988
 - NAME = Wellsite Lithology Log
 - BASIN = OTWAY
 - PERMIT = PEP/111
 - TYPE = WELL
 - SUBTYPE = WELL_LOG
- DESCRIPTION = Wellsite Lithology Log (enclosure from
WCR) for Shaw-1
- REMARKS = no production date given, took latest
date could find
- DATE_CREATED = 28/05/92
- DATE_RECEIVED = 9/10/92
 - W_NO = W1066
 - WELL_NAME = Shaw-1
 - CONTRACTOR = Minora Resources NL
 - CLIENT_OP_CO = Minora Resources NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE900989

This is an enclosure indicator page.
The enclosure PE900989 is enclosed within the
container PE900988 at this location in this
document.

The enclosure PE900989 has the following characteristics:

ITEM_BARCODE = PE900989
CONTAINER_BARCODE = PE900988
NAME = Seismic Survey Line OPP - 85B - 32
BASIN = OTWAY
PERMIT = PEP/111
TYPE = SEISMIC
SUBTYPE = SECTION
DESCRIPTION = Seismic Survey Line Opp - 85B - 32,
Post Drill Interpretation (enclosure
from WCR) for Shaw-1
REMARKS =
DATE_CREATED = 28/02/92
DATE_RECEIVED = 9/10/92
W_NO = W1066
WELL_NAME = Shaw-1
CONTRACTOR = Minora Resources NL
CLIENT_OP_CO = Minora Resources NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE600814

This is an enclosure indicator page.
The enclosure PE600814 is enclosed within the
container PE900988 at this location in this
document.

The enclosure PE600814 has the following characteristics:

ITEM_BARCODE = PE600814
CONTAINER_BARCODE = PE900988
 NAME = Complex Lithology Model (CPI)
 BASIN = OTWAY
 PERMIT = PEP/111
 TYPE = WELL
 SUBTYPE = WELL_LOG
 DESCRIPTION = Complex Lithology Model (CPI),
 enclosure from WCR, for Shaw-1
 REMARKS =
 DATE_CREATED = 30/09/92
 DATE_RECEIVED = 9/10/92
 W_NO = W1066
 WELL_NAME = Shaw-1
 CONTRACTOR =
 CLIENT_OP_CO = Minora Resources NL

(Inserted by DNRE - Vic Govt Mines Dept)