

68/68
(4)

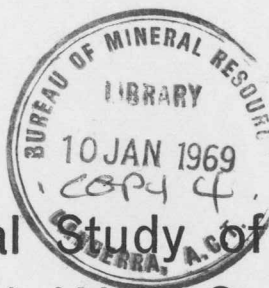
COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

Record No. 1968 / 68

08596⁵₅



Petrological Study of Belford
(A.O.G.) No. 1 Well, Sydney Basin,
New South Wales

by

S. Ozimic

The information contained in this report has been obtained by the Department of National Development as part of the policy of the Commonwealth Government to assist in the exploration and development of mineral resources. It may not be published in any form or use in a company prospectus or statement without the permission in writing of the Director, Bureau of Mineral Resources, Geology and Geophysics.

085966

Record No. 1968 / 68

**Petrological Study of Belford
(A.O.G.) No. 1 Well, Sydney Basin,
New South Wales**

by

S. Ozimic

The information contained in this report has been obtained by the Department of National Development as part of the policy of the Commonwealth Government to assist in the exploration and development of mineral resources. It may not be published in any form or use in a company prospectus or statement without the permission in writing of the Director, Bureau of Mineral Resources, Geology and Geophysics.

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

Records No. 1968/68

PETROLOGICAL STUDY OF BELFORD (A.O.G.) NO. I WELL, SYDNEY
BASIN, NEW SOUTH WALES.

by

S. OZIMIC

PETROLOGICAL STUDY OF BELFORD (A.O.G.) NO. I WELL,
SYDNEY BASIN, NEW SOUTH WALES

by

S. OZIMIC

B.M.R. Records 1968/68

TABLE OF CONTENTS

ABSTRACT

GENERAL INFORMATION

GEOLOGY

UNIT B1

UNITS B2 - B4

Unit B2

Unit B3

Unit B4

UNITS B5 - B7

Unit B5

Unit B6

Unit B7

CONCLUSIONS

REFERENCES

TEXT FIGURES

Figure 1: Summary of petrological results.

Figure 2: Comparison of B.M.R. units with Company interpretation

PLATES

Plate 1A: Petrographic Well Log, 0' - 1700', (End of Report)
scale 1" to 200'.

Plate 1B: Petrographic Well Log, 1700' - 3854', (" " ")
scale 1" to 200'.

Plate 2: Petrographic Well Log, coal measures (" " ")
section, 1230' - 1730', scale 1" to 50'.

Plate 3A: Petrographic Core Log, cores 1 - 5 (" " ")

Plate 3B: Petrographic Core Log, cores 6 - 14 (" " ")

This petrological study of Belford (A.O.G.) No. 1 was undertaken as part of a review of the Sydney Basin, currently being carried out by the Basin Study Group of the Petroleum Exploration Branch. The principal objective was to establish and define clearly recognizable rock units and to reassess the petroleum possibilities of this part of the basin.

Seven rock units were recognized in Belford (A.O.G.) No. 1 and are set out in summary form in Fig. 1. The section consisted of marine Permian down to 3725 feet, except for an interval of 370 feet represented by coal measures. Altered volcanics tentatively regarded as Permian occur at 3725 feet; the well bottomed in these volcanics at 3854 feet.

Despite numerous gas shows, the hydrogen potential of this sequence is low, due to the high matrix content and extensive cementation of the sands.



WELL DATA

Well Name No.: Belford (A.O.G.) No. 1.

Operating Co.: Australian Oil and Gas Corporation Limited.

Location: Latitude 32°39'23" South
 Longitude 151°17'05" East
 Sydney Basin, New South Wales. 1:250,000 sheet,
 SI 56/1.

Elevation: Ground Level 244' A.S.L.
 Collar Level 248' A.S.L.

Total Depth: 3854' (driller)

Wire Line Logs: Induction Electric 300' - 1544' Run 1
 " " 1630' - 2380' " 2
 " " 2294' - 3795' " 3
 Sonic - Gamma Ray 300' - 1537' Run 1
 " " 2294' - 3787' " 2
 " " 1630' - 2400' " 3
 Gamma Ray 1100' - 1536' Run 1
 " 0' - 3765' " 2
 " 300' - 496' " 3
 Caliper 2294' - 3792' Run 2
 " 1630' - 2400' " 3

Formation Testing: Attempts were made to test an inflammable gas
 show at 826'. Shut-offs could not be obtained,
 and the testing was abandoned.

Hydrocarbon Shows: 700', 826', 846', 884', 1295', 1444', 1575',
 1697', 1790', 2078', 3180', 3410', 3775'.

Major Reference used in present study.

A.O.G. (1965) - Australian Oil and Gas Corporation
 Limited, Belford No. 1 Bore, Sydney
 Basin, N.S.W. Well Completion Report,

Summary of Major reference

The drilling operation was carried out from October 21st 1964 to June 24th 1965, as a test of the Belford Dome. The well passed through rocks of the Permian Maitland Group (Upper Marine Series), Greta Coal Measures (Lower Coal Measures) and Dalwood Group (Lower Marine Series). The well was abandoned at 3854' in non-prospective rocks.

Material available for study.

Cuttings:	0' - 3854' (T.D.) at 10' intervals.
Cores:	14 cores, but recoveries were consistently poor; material available ranged from 4" up to 12" per core.
Wire Line Logs:	see WELL DATA (Page 2)

Methods used.

All cuttings samples were washed and examined with a low power binocular microscope; thin sections were made from selected intervals and examined under a petrological microscope. The results were plotted on the Petrographic Well Log at a scale of 1":100'. This was subsequently reduced to 1":200' (See Plates 1A & 1B). The interval 1230' - 1730' covering the Coal Measures was plotted in detail at 1":20' and subsequently reduced to 1":50' (see Plate 2).

The cores were examined with the binocular microscope, and thin sections were made from each major lithology. The results were plotted on the Petrographic Core Log (see Plates 3A - C).

Seven units were distinguished on the basis of lithology and wire line log characteristics. These units were numbered from the surface downwards - being prefixed by the letter 'B', to identify the divisions of Belford No. 1. These units have been grouped into three major units on lithogenetic grounds and are shown in summary form in Fig. 1.

The sedimentary rock classification of Pettijohn (1957) was used for specific rock names. However, a modification was introduced to include those quartz rich rocks ($< 75\%$ quartz) in which detrital matrix is prominent ($> 15\%$). "Quartz greywacke" is the term used for rocks in this category. On the logs, the term "volcanic lithic, feldspathic greywacke" is used for greywackes where the proportions of feldspar and volcanic lithics are about equal.

GEOLOGY

UNIT B1

Characteristics: This unit extends from surface to 1290', and consists of a monotonous sequence of pale grey to brown quartz greywacke and lithic greywackes. Core 1 (1064' - 1071') shows laminations. Evenly scattered quartz and chert pebbles occur throughout the interval.

The constituents consist of quartz (20-50%), Chert (5-25%), feldspar (2-10%), volcanic lithics (rock fragments)(1-3%) and some rare sedimentary lithics (1-2%). There is a clayey matrix (15-30%) and sideritic and siliceous cement (3-15%).

No secondary overgrowths have developed on quartz grains - possibly due to the presence of clay coating. Both fresh and altered feldspars are present; the sodic plagioclase is partly or entirely

replaced by calcite. Volcanic rock fragments of basic to intermediate composition occur but are in part replaced by calcite, and rarely by chlorite. Rare (?) sedimentary lithics have been entirely replaced by chlorite.

Siderite occurs as clasts and as cement, and is uniformly distributed through the unit. Accessory minerals are micas and very finely disseminated pyrite. Traces of lignitic material occur in patches, but a significant amount is found at 1030' - where a lignite bed can be postulated on the basis of sonic and gamma ray logs.

Void filling is predominantly of (?) diagenetic chlorite, undifferentiated clays and silt. Small amounts of siderite and silica cement occur.

Fragments of Bryozoa are found at 290' - 310' and are apparently restricted to this interval.

The low porosity in Unit B1 is attributed to the presence of chlorite and to a much lesser extent to the siderite and silica cement. Numerous gas shows have been recorded from Unit B1 - at 700', 826', 846' and 884'; the two analyses carried out by the N.S.W. Mines Department show that the gas was predominantly nitrogen together with methane and oxygen. The flows were not sustained, and the gas may have been trapped in local porous zones.

No petrophysical analyses have been made, due to insufficient core; very little porosity was seen in thin sections.

The uniform character of the wire line logs reflects the monotonous lithology of Unit B1. However, the gamma ray log shows a marked fall in values from 90' - 300', from which it could be inferred that this interval is more sandy than the remainder of Unit B1; but in thin sections, no lithological difference could be detected. The 16" resistivity log shows a small but steady decrease in values downwards throughout Unit B1. The sonic log is essentially regular, except for a deflection at 1030' due to a band of lignite.

Boundary criteria: The lower boundary of this unit is marked by the change from a very uniform quartz and lithic greywacke sequence to volcanic lithic, feldspathic greywacke rich in chert pebbles, carbonaceous siltstone and coal seams. The change to these varied lithologies is very apparent on the wire line logs (see Plate 2).

Environment and provenance: It is suggested that Unit B1 was deposited in agitated to quiet marine environment where some current action operated. Some laminations and (?) burrow markings are found in cores 1, 2, and 3. The composition of the sediments suggests a predominantly sedimentary provenance, with minor granitic and volcanic sources.

UNITS B2 - B4

This sequence is 370' thick and extends from 1290' to 1660' (see Plate 1A and Plate 2). It consists of interbedded volcanic lithic, feldspathic greywacke with abundant chert pebbles, carbonaceous siltstone and coal seams.

Unit B2.

Characteristics: This unit is 136' thick, extending from 1290' - 1426'. It consists of interbedded sandy carbonaceous siltstone, volcanic lithic feldspathic greywacke, abundant chert pebbles, and thin lignitic to bituminous coal seams.

The greywacke consists of grains of quartz, chert, potash feldspars, sodic plagioclase and intermediate to basic volcanic lithics. Muscovite and biotite occur as accessory minerals; calcite occurs as a replacement of the volcanic lithics.

Very finely disseminated pyrite is scattered throughout the unit. The void filling consists of chlorite, undifferentiated clay, and in places silt, together with minor amounts of silica, siderite and in places pyrite. The pebbles consist of aggregates of volcanic lithics and loose crystals embedded in a cherty cement, and showing differing degrees of alteration.

The following constituents are found in the pebbles:

- fine grained volcanic lithics of intermediate to basic composition.
- fresh unaltered, unzoned plagioclase and potash feldspars.
- plagioclase replaced by calcite.
- fresh books of strongly pleochroic biotite.
- partly chloritized (?) zoned plagioclase.
- rare corroded quartz.

The carbonaceous sandy siltstone consists of carbonaceous matter, micaceous flakes and rare shale lithics; siderite is common as patches and stringers and some very finely disseminated pyrite is also present. Laminae composed of very fine sand-sized quartz and feldspar occur regularly. The rocks are bonded by chloritic-sericitic clay, and to a lesser extent, siderite. The two coal horizons are dark brown to black and are associated with silt and very fine sand. A minor gas show was recorded at 1295'.

Boundary criteria: The lower boundary of this unit is placed at the top of the youngest semi-anthracitic coal, in Unit B3 - in contrast to the lower rank coals of the overlying Unit B2. This change is shown in the lower gamma ray counts and in the low counts on the conductivity log opposite the coal seams of B3. This combination of readings is indicative of non-porous coals free from impurities. These wire line changes are seen on Plate 2.

Environment and provenance: Unit B2 consists of a mixed lithology: pebbly greywacke, greywacke, siltstone and coal seams. The combination of these lithologies could occur in delta swamps where subsidence was not keeping pace with sedimentation. There are clear indications of a granitic provenance for the sandy siltstone but the source of the composite chert pebbles is not known.

Unit B3.

Characteristics: This unit is 79' thick, extending from 1426' - 1505'. The lithology is similar to that of unit B2, but is marked by a strong deflection of the gamma ray log, combined with low counts on the conductivity log, opposite the two major coal seams. These characteristics are diagnostic of non-porous, clean coal seams, and are likely to be valuable in correlation. A minor gas show of nitrogen and oxygen with some methane has been recorded at 1444'.

Boundary criteria: The lower boundary of this unit is characterized by the change from pebbly greywacke to a strongly carbonaceous silty sandstone, siltstones and impure coal seams in B4.

Environment and provenance: Unit B3 is similar to that of unit B2. The environment and provenance are essentially the same as for unit B2, but the coals of unit B3 are much purer than those occurring either above or below.

Unit B4.

Characteristics: Unit B4 is 155' thick, extending from 1505' - 1660'.

It consists of volcanic lithic, feldspathic greywacke, carbonaceous sandy siltstone, thin seams of coal and scattered chert and quartz pebbles.

These lithologies are essentially the same as in the overlying Units B2 and B3. The coals are again impure as in unit B2. There seems to be a random distribution of both lithologies and grain sizes throughout the sequence. A small gas show of nitrogen, oxygen and some methane has been recorded at 1575'.

Boundary criteria: The lower boundary of this unit is marked by a sharp decrease in grain size and outgoing of well sorted greywackes. Also below this point, "siderite rock" with plant fossils occurs, in contrast to the disseminated grains of siderite above. The uppermost foraminifera recognized from the Dalwood Group were recorded at 1681' (A.O.G. 1965). Wire line logs show a very uniform pattern, rather similar to the pattern in the unit B1.

Environment and provenance: The deposition of this unit would be transitional from marine conditions of the Dalwood Group into the terrestrial Greta Coal Measures. Components of the sediments in the unit suggest granitic, volcanic and sedimentary rock source.

UNITS B5 - B7.

This sequence is 2194' thick and extends from 1660' to 3854' (T.D.).

It consists of volcanic lithic greywacke, interbedded carbonaceous siltstone, some lenses of sandy to pure siderite, minor coals and some highly altered volcanics.

Unit B5.

Characteristics: This unit is 590' thick, extending from 1660' - 2250'.

It consists of volcanic lithic feldspathic greywacke, sideritic siltstone, sandy and pure siderite rock. Pyritic siltstone is also present. Minor gas shows - nitrogen with lesser oxygen - have been recorded at 1697', 1790' and at 2070'. Below 1681', arenaceous and calcareous foraminifera have been recorded by Crespin (A.O.G. 1965, Appendix A).

The volcanic lithic feldspathic greywacke consists of quartz (15-50), potash and plagioclase (5-20), chert (5-20%) and rhyolitic volcanics (5-15%). Feldspars are partly chloritized and calcified, but the volcanics are strongly silicified. Biotite, muscovite and chlorite occur as accessory minerals. Calcite and siderite occur as grains and as cement. Very finely disseminated pyrite is found in patches and tends to be associated with carbonaceous matter. The cement consists of chloritic clay (15-20%), together with silica and some siderite (5-15%).

Laminae of siderite and pyritic siltstones are irregularly distributed through the unit. Lenses of sandy siderite are common and also contain angular, medium to coarse grained quartz, feldspars and volcanic grains. Some partly carbonized plant fragments also occur within the siderite lenses.

Wire line logs show a uniform pattern, with no significant changes; this pattern is similar to that of unit B1.

Boundary criteria: The lower boundary of this unit has been based primarily on a change in lithology from volcanic lithic greywacke in unit B6 to volcanic lithic, feldspathic greywacke in Unit B5. There is an apparent increase in silt and possibly clay; this is reflected by increased intensity of the gamma ray log. At the actual boundary there is a decrease in grain size from B6 to B5, but this is only a local feature.

Environment and provenance: It is considered that this unit was deposited in intermittently quiet to agitated marine water. This is indicated by the presence of well sorted sandstone interbedded with laminated siltstone containing foraminifera. The composition of the sediments suggests granitic, volcanic and sedimentary sources.

Unit B6.

Characteristics: This unit is 1475' thick, and extends from 2250' to 3725'. It consists of a monotonous sequence of dark grey, micaceous, volcanic lithic greywacke, thin beds and laminae of siltstone, lenses of pure to sandy siderite, minor coal bands and horizons of quartz and chert pebbles.

The volcanic lithic greywacke is made up of angular to sub-rounded, well sorted, very fine grained quartz (15-35%), feldspars (3-15%) and chert (5-20%). Feldspars are mainly microcline and anorthoclase. Plagioclase is rare, and consists of albite and oligoclase. Chlorite and calcite are the common replacements of the plagioclase. Silica occurs as chert and chalcedony. Volcanic lithics (16-35%) are common and consist

mainly of elongated plagioclase laths in a chloritized groundmass. Biotite and muscovite are found as accessory minerals. Siderite and calcite are present as grains and as cement. Shale clasts are rare, and are almost entirely replaced by chlorite. Traces of pyrite and carbonaceous matter are found consistently throughout the interval. The void fillers are chlorite (15-25%), undifferentiated clays and in places silt. Siderite and calcite (2-5%) are subordinate, and silica is rare.

The light grey carbonaceous siltstone occurs as thin beds and as laminae within the volcanic lithic greywacke. Lenses of pure and sandy siderite range from rare to common, and contain angular quartz, feldspars and volcanic lithics.

Rare tests of foraminifera are found together with traces of carbonized plants.

Boundary criteria: The lower boundary of this unit was placed at 3725' where the change from porphyritic volcanics to volcanic lithic greywacke occurs.

Environment and provenance: It is thought that deposition of Unit B6 took place in a marginal marine environment subject to sharp changes in energy conditions. This is indicated by the preservation of coal, the occurrence of siderite and the presence of two major pebble bands. Interlaminations of siltstone and medium grained volcanic lithic greywacke support this conclusion.

A granitic and volcanic provenance is envisaged for this unit, with a subordinate sedimentary influence.

Unit B7.

Characteristics: This unit extends from 3725' to 3854' (T.D.) It consists of highly altered porphyritic volcanic rock, possibly of intermediate (andesitic) composition. Some flow structures can be seen. Due to extensive alteration only plagioclase phenocrysts are recognizable, but many of these have also been wholly replaced by calcite. Traces of pyrite are concentrated on the borders of some of the plagioclase phenocrysts.

Environment and provenance: In this well there is no way of determining whether this +129' of volcanics was emplaced as a flow or as an intrusion. However, a study of the adjacent Loder No. 1 Well (E. Nicholas 1968) suggests that the equivalent unit there is made up of lava flows and tuffs.

CONCLUSIONSAgreement with Well Completion Report.

Figure 2 gives a comparison between unit boundaries chosen in this study and stratigraphic subdivisions set out in the Well Completion Report (A.O.G. 1965). Most of the boundaries closely match the formation picks of the Company - except for the upper and lower boundaries of the Greta Coal Measures. The reasons for these differences are discussed below.

The Company picked the upper boundary of the coal measure sequence - between the Maitland Group and Greta Coal Measures - at the first major coal seam, occurring at 1426 feet. The lower boundary - between the Greta Coal Measures and the Dalwood Group was picked at the base of the lowest major coal seam, at 1606 feet.

BELFORD (A.O.G.) No.1

COMPARISON OF B.M.R. UNITS WITH COMPANY INTERPRETATION

B.M.R. UNITS		BOUNDARY DEPTHS (Ft)		COMPANY (A.O.G.) 1965		
MAJOR	MINOR			FORMATION	GROUP	AGE
B1	B1	1290'		ELDERSLIE FORMATION	MAITLAND GROUP	P E R M I A N
B2 - B4	B2	1426'	1426'			
	B3	1505'			GRETA COAL MEASURES	
	B4	1660'	1606'			
B5 - B7	B5	2250'	2250'	FARLEY FORMATION	DALWOOD GROUP	
	B6	3725'	3725'	RUTHERFORD FORMATION		
	B7	3854'	T.D.	ALLANDALE FORMATION		

In the present study, a group of three closely related units was recognized over the interval 1190' - 1660' feet. These units (B2 - B4) contain very similar lithologies, and all contain coal of differing purity; however they represent three distinct phases of sedimentation. The upper two units (B2 and B3) represent "fining upward" sequences, but no regular pattern of grain size variation could be seen in the lowest unit. Also the quality of coals in the middle unit (B3) is far higher than in either adjacent units.

The main effect of the new divisions is to expand the coal measure sequence, both below and above the limits picked by the Company for the Greta Coal Measures.

Summary of New Data.

The 3725' sequence of sediments in Belford (A.O.G.) No. 1 appears to have formed under two sets of very uniform conditions. For the most part the sediments consist of marine greywackes with high component of feldspar and volcanic clasts - that taper off gradually and finally disappear in the lower part of the Unit B1. There has been only one major regression, marked by the development of the coal measure sequence (Units B2, B3 and B4). However, even under these quite different conditions, a very similar provenance operated.

Following the transgression at the end of the coal measure sequence conditions very similar to those operating during the initial transgression again dominated. It is most unlikely that any major breaks in sedimentation occurred in the sequence of sediments in Belford No. 1.

REFERENCES

- | | | |
|---|------|---|
| AUSTRALIAN OIL AND GAS CORPORATION
LIMITED | 1965 | Belford No. 1 Bore,
Sydney Basin, N.S.W.
<u>Well Completion Report</u> by
Boyd, B.R. (Unpubl.) |
| AUSTRALIAN OIL AND GAS CORPORATION
LIMITED | 1963 | Loder No. 1 Bore,
Sydney Basin, N.S.W.
<u>Well Completion Report</u> by
Perry, R.G. and Stuntz, J. |
| CRESPIN, I. | 1958 | Permian Foraminifera of
Australia. <u>Bur. Min. Resour.</u>
<u>Aust. Bulletin 48.</u> |
| FOLK, R.L. | 1965 | Petrology of Sedimentary Rocks.
Hemphills, Austin, Texas. |
| NICHOLAS, E. | 1968 | Petrological Study of Loder
(A.O.G.) No. 1 Well, Sydney
Basin, N.S.W. <u>Bur. Min. Resour.</u>
<u>Aust. Rec. 1968/130.</u> (Unpubl.) |
| PETTIJOHN, F.J. | 1957 | Sedimentary Rocks, <u>Harper</u> ,
New York. |

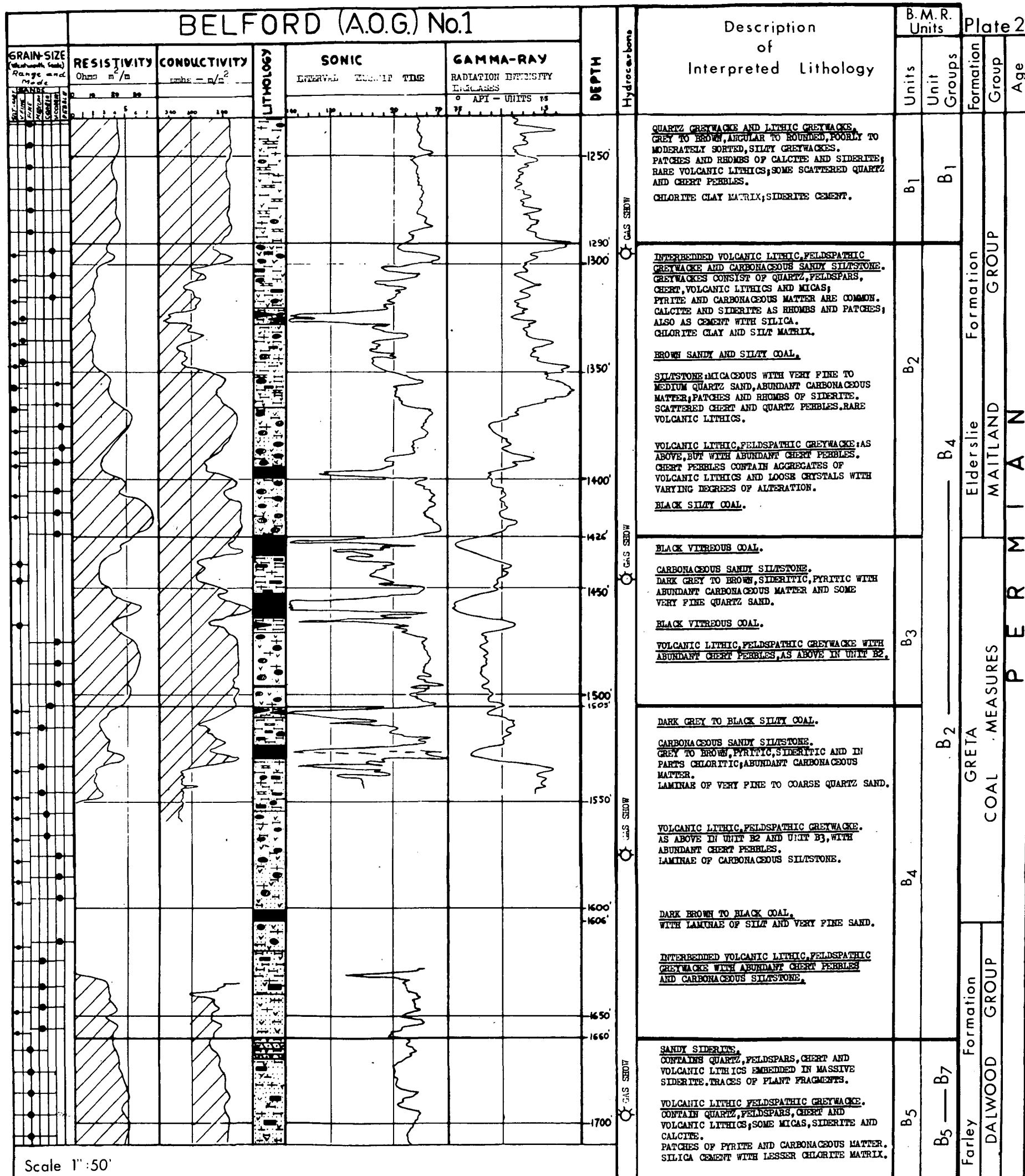
Plate 1A

MINERAL ABBREVIATIONS

Sil	Silica
Fld	Feldspar
Sid	Siderite
Ch	Chlorite
Cal	Calcite
Daw	Dawsonite
Py	Pyrite
Mic	Micas
To	Tourmaline
Bi	Biotite



TO ACCOMPANY B.M.R. RECORD 1968/69



Scale 1" = 50'

To accompany B.M.R. Record 1968/68

WELL NAME, No. BELFORD (A.O.G.) No.1
OPERATING Co. Australian Oil & Gas
WELL LOCATION
Lat 32°39'29" S. Long 151°17'5" E.
Basin Sydney
State N.S.W.
Tenement No. Patrol. Expl. Licence No.103
1:250,000 Sheet No.

ELEVATION (A.S.L.)
Ground Level 244 ft.
Collar Datum 248 ft.

SAMPLE STORAGE
B.M.R., Canberra

PETROGRAPHIC CORE LOG

BELFORD (A.O.G.) No.1

Geology by S. Ozimic

Sedimentary structure

Bedding > 5cm
" " < 0.1cm
Burrow structure

Interval
-3inch
Core not recovered
Position of lost core not known

Porosity (estimated)
S - Slight < 6%
P - Poor 6-12%
M - Medium 12-12%
G - Good > 20%
Abundance (estimated)
R - Rare < 1%
C - Common 1-3%
A - Abundant > 3%

Legend for Petrographic Core Log symbols:
Breccia to conglomerate
Quartz sand, sandstone
Siltstone
Claystone
Limestone
Siderite
Feldspar
Pyrite
Volcanics altered and lithified
Micas
Silt
Coal
Shale and mudstone

Plate 3A

CORRELATION				GENERALIZED DESCRIPTION				DETAILED DESCRIPTION														NOTES					
AGE	GROUP	FORM	B.M.R. UNITS	CORE NO. RECOVERY FOOTAGES	LITHOLOGY	DESCRIPTION	COLOUR	SEDIMENTARY STRUCTURE	DEPTH OF SAMPLE SECTIONED, ANALYZED	SPECIFIC ROCK NAME	POROSITY		PERMEABILITY	ROUNDNESS	SORTING	GRAIN - SIZE		THIN - SECTION ANALYSIS		ACCESSORY MINERALS				NOTES			
											Estim size Range 8 Made	% of Essential Components				Matrix and/or Cement	Estim % of Total Rock	Dark Minerals	Light Mnrl	Dark Minerals	Light Mnrl						
										SANDS		CLAY - UNDIFF		KAOLIN Gp		Cement Symbols		TOTAL DARK				TOTAL LIGHT					
										CROSS HATCHED IF MATERIAL CLEARLY PRESENT AS CEMENT AND / OR MATRIX		POROSITY SHOWN AS BLANK															
										20 40 60 80 100 0		10 20 30 40 50 60 70 80 90															
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10																	
										1 2 3 4 5 6 7 8 9 10												</					

