Natural Resources and Environment

AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT

WELL SUMMARY

FROME LAKES - 2 (W447)

1 Folio No	2 Referred to	3 Date	4 Clearing Officer's Initials	1 Folio No.	2 Referred to	3 Date	4 Clearing Officer's Initials

FILE COVER INSTRUCTIONS FOR ACTION OFFICERS

(1) FOLIO NUMBERS: Each subject paper attached to a file is to be given a consecutive number by the attaching officer. Papers must not be removed from or attached to a file without approval.

(2) REFERRAL TO OTHER OFFICERS: When an Officer completes action on the file and further action is required by some other Officer, please initial Column (4) and on the next vacant line, enter the relevant folio number in Column (1), indicate to whom the file is to be forwarded in Column (2) and record the date in Column (3).

(3) BRING UP MARKINGS: When action on a file is required at a later date, the officer will initial Column (4) and, on the next vacant line, enter the relevant folio number in Column (1), then write "B/U" followed by the action officer's name in Column (2) and the date the file is required in Column (3).

(4) PUTAWAY MARKINGS: When ALL action on a file is completed the officer concerned will initial Column (4) and, on the next vacant line, write "P/A" in column (2).

REGISTRY MUST BE NOTIFIED OF ANY FILE MOVEMENTS BETWEEN OFFICERS

LOCATION

FROME LAKES-2 (W447)

Well Summary Report

Table of Contents

Enclosures

WELL SUMMARY

EXPLORATORY WELL SUMMARY

W447

Company	Frome-Lakes Pty. Ltd.
Well	GIPPSLAND No.2.
Location	Victoria. County Buln Buln Parish Tarra Tarra. 302' N; 30' W of S.W. corner allotment 12.
Elev.	G.L. 12'
Drilled.	3.11.56 to 15.12.56.
Casing.	6" O.D. at 1065' with 133 sacks cement.
T.D.	1552'

0' - 105'	Sand.
105' - 215'	Sandy marl.
215' - 995'	Sand gravel and brown coal.
995' -1551'	Limestone and marl.
1551' -1552'	Brown coal.

0'- 995'	Lower pleistocene.
995'-1030'	Mitchell river Formantion.
1030'-1551'	Gippsland limestone.
1551'	Eocene.

PLEASE NOTE

FROME-LAKES PROPRIETARY LIMITED

(Incorporated in Victoria)

TELEPHONE

95 COLLINS ST.,
MELBOURNE, C.1

November 7, 1956

Hon. W. J. Mibus, M.L.A.,
Minister for Mines,
Department of Mines,
Treasury Gardens,
Melbourne, C.2.

Dear Sir,

In conformity with the regulations under the Mines Petroleum Act, we submit the following particulars of our exploration well Gippsland No. 2:-

(a) Designation: Frome-Lakes Gippsland No. 2.

(b) Location: Parish of Tarra Tarra. Roadside, 302 feet north and 30 feet west of southwest corner of allotment 12.

(c) Distance from nearest boundary of licence: ½ mile.

(d) Height of derrick floor: 15 feet above sea level.

(e) Diameter of hole at surface: $7\frac{7}{8}$".

(f) Depth proposed: About 1500 feet.

(g) Drilling method: Rotary.

(h) Extent of Coring: Minimum of 40 feet.

Yours very truly,

N. Osborne

N. Osborne
General Manager

NO/jg

COMPLETION REPORT

4 CHARTS
5 LITHO LOGS
5 MAPS.

Frome Report No. 7100-G-59

EXPLORATION DRILLING IN THE TERTIARY BASIN OF SOUTHEAST GIPPSLAND, VICTORIA

by

Richard L. Wood

FROME-LAKES PROPRIETARY LTD.,
MELBOURNE, AUSTRALIA.

April, 1957.

Completion Report Frome Lakes Gippsland N°1
" " " N°1A
" " " N°2
" " " N°3
" " " N°4
" " " N°5

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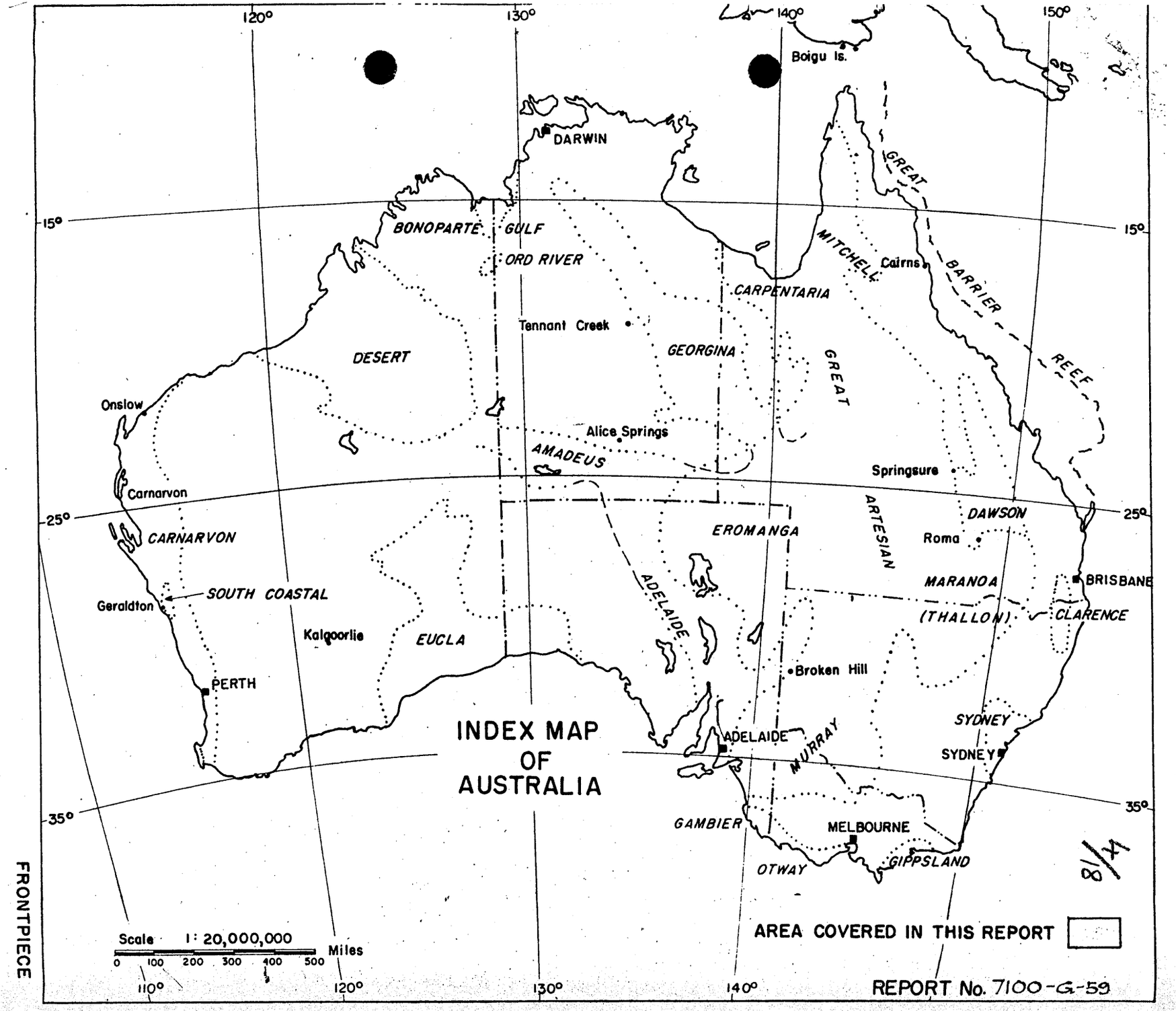

FRONTPIECE

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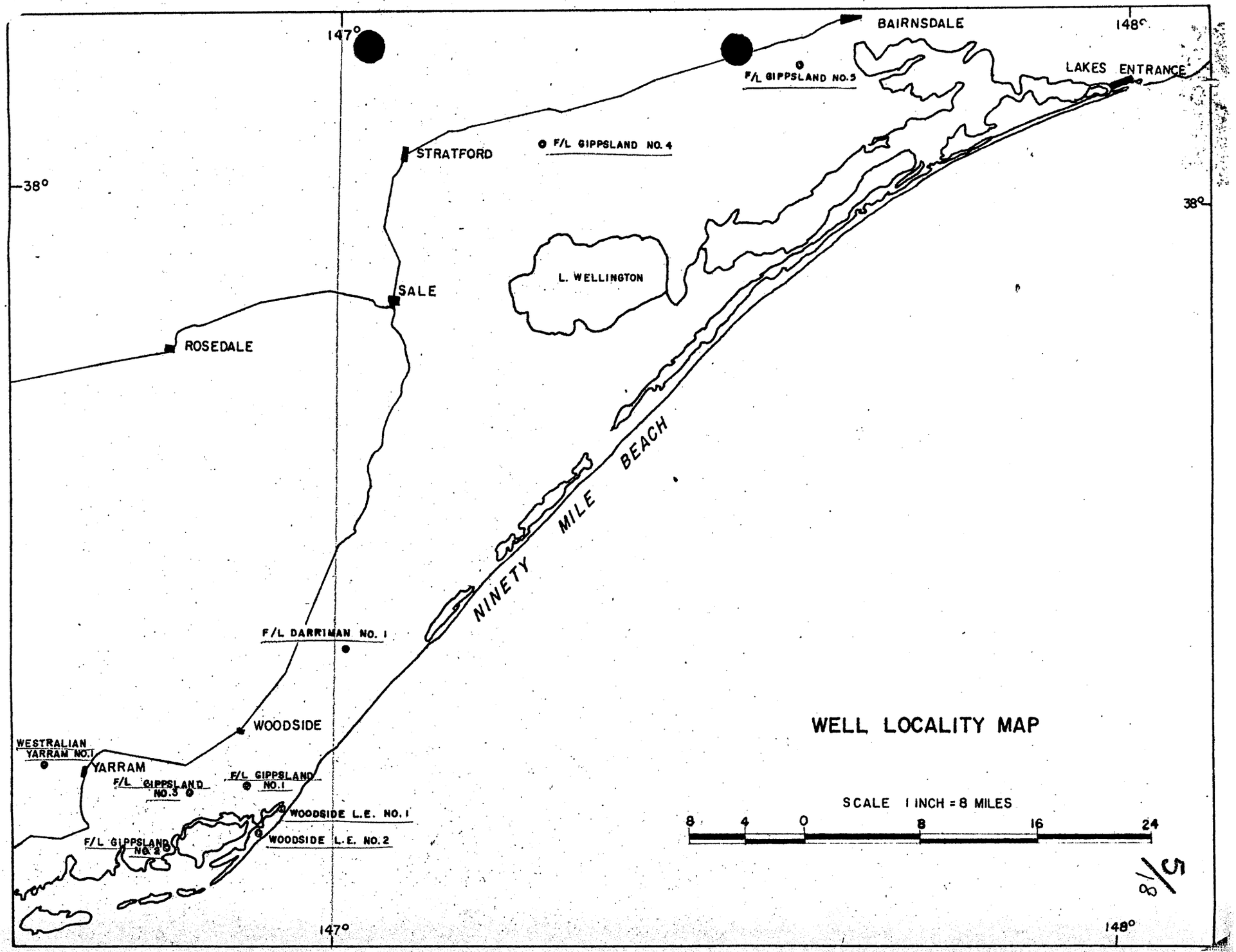
147°
148°
38°
BAIRNSDALE
LAKES ENTRANCE
F/L GIPPSLAND NO.5
F/L GIPPSLAND NO.4
STRATFORD
L. WELLINGTON
SALE
ROSEDALE
NINETY MILE BEACH
F/L DARRIMAN NO. 1
WOODSIDE
WESTRALIAN YARRAM NO.1
YARRAM
F/L GIPPSLAND NO.3
F/L GIPPSLAND NO.1
WOODSIDE L.E. NO.1
WOODSIDE L.E. NO.2
F/L GIPPSLAND NO.2
WELL LOCALITY MAP
SCALE 1 INCH = 8 MILES
8 4 0 8 16 24

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EXPLORATION DRILLING IN THE TERTIARY BASIN OF SOUTHEAST GIPPSLAND, VICTORIA

ABSTRACT

Frome-Lakes Gippsland wells were drilled through the base of the marine Tertiary on local gravity anomalies in southeast Gippsland. The wells were drilled to test the glauconitic sandstone, a shore line facies of the basal marine Tertiary formation. In some parts of the Gippsland basin this sandstone is known to contain small quantities of oil. All of the present wells penetrated the objective horizon with no indications of oil or gas.

Subsurface maps constructed from bore information do not indicate any features favouring Tertiary petroleum prospects. The Gippsland Tertiary oil appears to be unaffected by structure but to be preserved in small stratigraphic traps only. These traps are apparently the result of porosity and permeability variations within the glauconitic sandstone.

EXPLORATION DRILLING IN THE TERTIARY BASIN OF SOUTHEAST GIPPSLAND, VICTORIA

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Completion Report on Frome Lakes Gippsland 1 2 3 4 5

By Richard L. Wood

INTRODUCTION

In September 1956 Frome-Lakes Pty. Ltd. "spudded in" the first of a series of shallow exploratory wells in southeast Gippsland, Victoria. Five wells had been drilled by January 25, 1957 when the drilling program was suspended pending analysis of the results of the five wells drilled and a study of this data and that from other wells in the area. An exchange of information, well by well, was arranged between Frome-Lakes Pty. Ltd. and two other companies with adjacent areas, Woodside (Lakes Entrance) Oil Company and Westralian Oil Company.

In the light of the large amount of new information available as the result of the recent exploration wells in Gippsland, a revision of previous subsurface maps is necessary. This report will therefore be a completion report on the five Gippsland wells and will also include a set of revised subsurface maps similar to those in my report entitled "Subsurface Studies of East and South Gippsland, Victoria", May 1956.

Two new subsurface maps are included and discussed in this report. One of these maps the "Log Map of the Lakes Entrance Formation with Isopach Lines of the Glauconitic Sand" combines all of the present information directly relating to the Tertiary oil of Gippsland, and the major discussion will relate to this map.

OBJECTIVE

Frome-Lakes five shallow exploration wells were drilled for the purpose of testing the oil prospects of the marine Tertiary, mainly the basal member - the so-called glauconitic sandstone - from which small quantities of oil have been reported in several parts of Gippsland, chiefly the Lakes Entrance area.

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DRILLING LOCATIONS

Frome Lakes drilled their Darriman No. 1 well in the south-western part of their lease area hoping to find the glauconitic sandstone favourably developed in that area. No sign of oil was found in the Darriman well and the base of the marine Tertiary was not developed in a true sandstone facies.

When the Woodside (Lakes Entrance) Oil Company drilled a glauconitic sandstone facies with shows of oil in one of their wells southeast of Darriman and nearer to the granite outcrop at the south-western edge of the basin, it became apparent that the elusive glauconitic sandstone must be a shore line facies of the basal marine section. With this idea in mind, Frome-Lakes decided to test the basal marine Tertiary within its licence area on gravity anomalies in localities more favourable for shore line development. The Darriman well, located on a seismic and gravity high suggested that gravity is related to structure in this area and therefore gravity highs were selected in four of the five wells drilled. No. 3 was located on a gravity low re-entrant to ensure gravity representation and geographic distribution in the southern part of the basin. No. 5, west of Bairnsdale, was located on both a gravity and topographic high.

NOTES ON THE ACCOMPANYING PLATES

Plates 1-5 are the individual lithologic logs of the Gippsland wells. A drilling rate log is plotted against the detailed 10 foot descriptive log of the lithology.

Plate 6 is a well data sheet. This sheet shows generalized stratigraphic sections of the Gippsland wells, two Woodside (Lakes Entrance) Oil Company wells and one Westralian Oil Company well. A brief resumé of operational and testing data accompanies each section.

Plates 7-9 are revised subsurface maps which have been reviewed in detail in my previous report "Subsurface Studies of South and East Gippsland, Victoria" (May 1956). The addition of the results of the

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recent exploration drilling in Gippsland brings these maps up to date and fills in some detail especially in the south-western section of our licence area.

Plate 10 is a new subsurface map contoured on the base of the marine Tertiary in the Lakes Entrance/Sale/Woodside area. All depths have been computed from mean sea level. The base of the marine Tertiary is taken to be the base of the glauconitic sandstone where present, alternatively the top of the Yallourn formation.

The bore information for the construction of plates 7-10 is listed in Table 1 accompanying this report.

GEOLOGY

The stratigraphy and structure of the Gippsland Tertiary Basin have been reviewed in detail by Evans (1954) and Boutakoff (1955) and this will not be discussed in this report in any more detail than revealed in the individual wells.

The five Gippsland wells penetrated all of the known marine Tertiary formations present in Gippsland. The No. 5 well penetrated the entire Tertiary section and was abandoned below sands correlated with the Yallourn formation in metamorphic rocks of assumed Ordovician age.

Four of the wells penetrated the glauconitic sandstone with no indications of any oil or gas. One well penetrated a deeper-water limestone facies of the glauconitic sand and it also had no indications of any oil or gas.

The thickness of the formations encountered in the five wells are recorded in the following table - (See also Plate 6, Well Data Sheet).

Formation and Age (Crespin 1954)	Lithology	Thickness in feet No. 1	No. 2	No. 3	No. 4	No. 5
Jemmy's Point L. Pliocene	Clay and sands with shelly bands	578	370	657	360	394
Mitchell R. U. Miocene	Sandy marl, marl - glauconitic in places	628	625	493	390	256
Gippsland Limestone L. Miocene	Polyzoal limestones and marls	565	499	625	670	260
Lakes Entrance . Miocene	Fine-grained marls, some places micaceous becoming glauconitic and sandy towards the base	166	68	90	327	440
Yallourn M. Eocene	Lignitic sands and clays with intercalated brown coal seams	21+	.5+	11.5+	68+	135

Plates 7 and 10 illustrate structural conditions in the Tertiary, but it is emphasised that these maps, as well as Plates 8 and 9, represent regional trends rather than a detailed picture of conditions, as close bore control is lacking over a large part of the area under review.

The most prominent feature of Plate 10, "Contour Map of the Base of the Marine Tertiary" is the large synclinal trough developed through Lake Wellington and Seacombe to the southeast. This regional low is presumably the eastward extension of the Latrobe Valley syncline.

Three faults in the southern half of the area are suggested by the bore information, as plotted on the subsurface maps. It is felt they may have been pre-Tertiary faults that have been active during

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the deposition of the Tertiary. The large east-west fault known as the Rosedale fault has been substantiated by surface evidence.

Within the wedge formed by the two faults south of the Latrobe River the base of the marine Tertiary appears to form a nose pitching to the northeast. Detailed bore information is lacking in this area and the contours are incomplete.

A second synclinal trough is suggested in the Woodside area, plunging east-southeast. Information from several recent wells in that area suggest that the basin rises rapidly to the west with the marine Tertiary practically disappearing in the Westralian Yarram No. 1 Well about two miles west of Yarram.

As a result of the large number of bores drilled in the Lakes Entrance area, more precision is possible in contouring. A large inset of this area is shown on Plate 10 to include the detail. The main feature of this inset is a structural terrace dipping gently southward. The slope of the base of the marine Tertiary breaks and becomes more gentle between bores 95 and 96 and forms the structural terrace. Only the base of the marine Tertiary which is the glauconitic sandstone in this area is affected by this feature. Since the larger accumulation of oil from this sandstone is located on the southern slope of the structural terrace around Foster's bore (No. 104), it appears that this feature may have more control over the small accumulation of oil in that area.

Plate No. 11 entitled "Log Map of the Lakes Entrance Formation with Isopach Lines of the Glauconitic Sand" is the major plate in this report. Compiled on this plate is all of the presently known pertinent information relating to the main occurrence of Tertiary oil in Gippsland.

Its purpose is to depict by lithologic logs, electric logs where possible, the lithologic development of the Lakes Entrance formation. The map shows the areal distribution of this stratigraphic interval, each log being shown on the map at the location of the bore from which it was derived. The oil-bearing basal sandstone member is not present throughout the basin as glauconitic sand but Isopach lines of this sand or its equivalent have been superimposed upon the log map, and oil shows are indicated againt the pertinent logs.

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Only three electric logs were available when compiling the map. Most of the information is from drillers' logs from bores dating back as far as 1924. Except for a few bores from which cores were examined by the Commonwealth Palaeontologist, the bores were drilled without any geologic supervision. Therefore, there are no stratigraphic divisions for most bores and they must be interpreted from the lithologic descriptions which in practically all cases are anything but definite and provide no information as to porosity and permeability. Since most of the bores were drilled for oil, the depth and thickness of the potential reservoir rock, the glauconitic sand, is fairly accurate. Table I shows the information from which the map was constructed. Where the records appeared contradictory the figures that seemed more reliable were used.

The logs show the Lakes Entrance formation to consist mainly of marl which towards the base becomes glauconitic and either arenaceous or calcareous depending mainly on the distance from the old shore line. They also roughly indicate the shape of the Tertiary basin. In the southwest the formation thins rapidly from Woodside to Yarram as shown by the three Frome-Lakes bores. Two miles west of Yarram in the Westralian Yarram No. 1 there is present no marine formation recognisable as the Lakes Entrance. North of the Ninety Mile Beach the formation thins against Jurassic and Palaeozoic hills. East of Lakes Entrance, the Lakes Entrance formation might be abruptly cut out. At Lakes Entrance the thickness is fairly uniform with glauconitic sand at the base.

In Cobden's bore (No. 116) there is no glauconitic sand recorded and possibly no Lakes Entrance formation. The records are not very clear. Gravity and magnetic data for that area suggest the presence of a fault to the east of which crystalline basement and old Palaeozoic rocks are probably near the surface.

The isopach map of the glauconitic sand suggests three main areas of sand deposition separated by two marine embayments. Oil and gas have been reported from all three sand areas, with the best shows from the thicker sand deposits. The Lakes Entrance Field, with glauconitic sand thickness up to 85 feet, has actually produced small

quantities of oil. The large map does not show the sand at Lakes Entrance in detail. An inset showing all of the bores drilled in that area indicates which bores contained oil and where they are located in relation to the reservoir thickness.

Near Lake Wellington oil was reported in two bores. Oil and gas shows were reported from the glauconitic sand in the Amalgamated Oil Bore No. 1 (No. 48). In the Pelican Point bore (No. 50) which did not penetrate to the glauconitic sand, numerous shows of oil and gas were reported from the limestone above the Lakes Entrance formation. Frome-Lakes Gippsland No. 4 bore was drilled west of these bores and penetrated a thinner section of glauconitic sand with no shows. Frome-Lakes Gippsland No. 5 well was drilled to the north of the Amalgamated Oil bore, and although encountering a similar very sandy facies of the Lakes Entrance formation, did not contain any oil or gas in the glauconitic sand. A thin film of oil was noticed momentarily when the first sand sample was washed, but this film could not be reproduced or any other indication of oil observed.

CONCLUSIONS

Considering their favourable distribution for adequately testing the Woodside-Yarram area, the results of the exploration wells drilled by Frome-Lakes, Woodside Oil Co. and Westralian Oil Ltd. must be accepted as condemning the southern part of the Gippsland Basin as a potential source of commercial oil, whether structure or porosity variation is the controlling factor in accumulation. Further, the Frome-Lakes Stratford and Bairnsdale wells finally discourage the idea that the northern marginal zone might be favourable.

Analysis of the log map, Plate 11, suggests that the oil in the marine Tertiary of Gippsland does not follow any definite pattern of accumulation. No bores with shows of oil were drilled on definite structures, while all Frome-Lakes bores including the

Darriman No. 1 bore were drilled on either gravity or seismic structure and those that penetrated glauconitic sand had no shows of oil or gas. The Tertiary oil appears not to be controlled by structure but must accumulate in small stratigraphic traps associated with porosity variation in the glauconitic sandstone. A complicating and discouraging feature is the appearance of fresh water in the glauconitic sands throughout the region, denoting considerable flushing.

Isopach map, Plate 11, shows two areas where there appears to be a thickening of the glauconitic sandstone and near which some shows of oil have been reported in bores. No structural association is suggested by aeromagnetics or gravity however. These areas are about the same size as Lake Entrance, but the depth to the glauconitic sand is much deeper - greater than 2,600 feet at Lake Victoria and greater than 1,300 feet at Lake King.

The description of the glauconitic sandstone in the bore logs is not sufficiently detailed to allow a comparison of porosity and permeability between different areas. We are therefore unable to say whether the Lakes Victoria and King areas are mor or less favourable in this respect than the Lakes Entrance area. It is probable that they are more or less the same and that consequently no accumulation of oil large enough to justify the great expense of probing for stratigraphic traps can be expected.

APPENDIX

OPERATIONAL NOTES ON THE FROME-LAKES GIPPSLAND WELLS

The Gippsland wells were drilled for Frome-Lakes Pty. Ltd. by a local contractor, W. L. Sides and Son, with a Failing 1500 rotary plant. The standard Failing was supplemented by additional equipment such as shale shaker, weight indicator, and blowout preventor etc. This was the contractor's first oil drilling venture with rotary equipment and some difficulties were experienced while drilling the No. 1 well with both men and equipment. These difficulties were overcome once a pattern for drilling was set up and the balance of the wells were drilled quite smoothly and efficiently.

Plate No. 6 "Well Data Sheet" sets out the basic information for each of the Gippsland wells with a lithologic section. Recently drilled competitors' wells are included on this plate with as much information as is available at present.

Presented below in tabulated form are the operational details of the five Frome-Lakes wells for reference and comparison.

	No. 1	No. 1A	No. 2	No. 3	No. 4	No. 5
Location (Refer: Well Locality Map)	Approx. 4 miles south of Woodside, Vic.		8 miles SE of Yarram	8 miles ESE of Yarram	9½ miles east of Stratford	3 miles SW of Bairnsdale
Elevation (1) Derrick Floor	36'	37'	15'	30'	126'	253'
(2) Ground Level	33.5'	33.5'	12'	27'	123'	250'
Date commenced	24.9.56	9.10.56	3.11.56*	15.11.56	18.12.56	10.1.57
Date abandoned	4.10.56	28.10.56	15.12.56	30.11.56	8. 1.57	25.1.57
Casing (1) Length	582'	615'	1065'	783'	488'	423'
(2) Size	6½" O.D.	6½" O.D.	6" O.D.	6½" O.D.	6½" O.D.	6" O.D.
(3) Cement	at bottom W/25 sks.	to surface W/95 sks	to surface W/133 sks.	to surface W/100 sks.	to surface W/60 sks.	to surface W/56 sks.
Total depth	790'	1962'	1552'	1876' 6"	1815'	1550'
Drilled	790'	1904'	1518'	1866' 6"	1745'	1495'
Cored	-	58'	34'	10'	70'	55'
Recovery	-	8'	25.5'	1'	28'	16.25'
	-	14%	75%	10%	40%	30%
Maximum deviation	-	0°	0°	2°	2°	5°
Depth of "	-	998'	1500'	1500'	1500'	1000'
Testing Program	-	Bailed glauconitic sand zone- no shows of oil or gas	Bailed as in No.1A No shows	Bailed as in No.1A No shows	Bailed as in No. 1A No shows	Bailed as in No.1A No shows
Hole troubles	Well abandoned with "frozen pipe" at 769' recovered later	Tight hole at 750' - changed mud - no further difficulty	Core barrel stuck 3 days at 621' - no further trouble	None	None	None
Test bailing						
+ Mud level	Not tested	No record	108'	122'	97'	114'
+ Lowered down level		No record	240'	148'	213'	333'
+ Equilibrium level on standing		45'	Flowing	35'	98'	258'
Gallons bailed		No record	2400	2700	2500	3600
Oil or Gas show		Nil	Nil	Nil	Nil	Nil

* Suspended 10-11 to 10-12.56

\+ Depth below well head

For completeness a few general and a few qualifying statements are necessary.

$7\frac{7}{8}$ inch hole was drilled from the surface in all wells into a solid marl where casing was set. At that point either $6\frac{1}{2}$ inch O.D. or 6 inch O.D. casing was cemented as indicated in Table I. The hole was then reduced to about $5\frac{3}{4}$ inch depending on the size of bits available and this reduced hole was carried down to total depth.

Hole trouble started in the No. 1 well after it had reached a depth of 790 feet in soft sand. While making a trip the pipe became frozen at 769 feet. The well finally had to be abandoned and the No. 1A well started 80 feet away. The reason for the pipe becoming "frozen" was thought to be poor mud. A local clay had been used with Bentonite on the No. 1 well. A pure Bentonite mud was used on the remaining wells with no further tight hole problems.

Loss of circulation while coring on the No. 2 well resulted in a 3 day fishing job - there was no repetition of this type of trouble either.

A coring program had been set up to obtain maximum information with minimum coring. It was intended, as a rule, to core only the prospective oil horizon, the "glauconitic sand" zone, but the program was flexible and the well site geologist was authorised to call for a core at any time considered necessary. A total of 227 feet were cored for all the wells with a 34.7% recovery of $78\frac{3}{4}$ feet.

All cores proved to be barren of oil or gas but as a final check before abandoning the wells each hole was bailed as quickly as possible until the fluid level could be lowered no further and then maintained at that state for about $\frac{1}{2}$ - 1 hour. The well was then allowed to rest approximately 30 minutes until equilibrium fluid level under normal conditions was reached. After resting a further sample was dipped from the top of the column to be checked for signs of oil or gas. No indications of oil or gas were observed throughout the bailing tests.

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: : : : : : : : :

LITHOLOGY

- WEEKLY REPORTS

FROME LAKES GIPPSLAND NO.2.

Copy of log submitted by Frome Lakes Pty.Ltd. on Weekly Record of Work Form.

800' - 995'	Light grey medium to coarse well rounded milky quartz sand in a soft brown ligneous clay matrix with occasional small bands of brown coal.
995' - 1030'	Sameligneous sand alternating with light grey glauconitic limestone bands starting at 995 ft.
1030' - 1070'	Light grey fine granular glauconitic fossiliferous hard limestone with forams and small buff gastropods.
1070' - 1160'	White granular slightly porous polyzoal limestone
1160' - 1220'	Light brown soft foraminiferal marl with hard limestone bands.
1220' - 1370'	White fine granular tight polyzoal limestone.
1370' - 1410'	Light brown soft fossiliferous carbonaceous and pyritic marl.
1410' - 1460'	Light grey to brown granular hard limestone.
1460' - 1494'	Light brown soft micaceous marl with white fossil casts.
1494' - 1500'	Core No.2. Rec.6' Light green velvety textured marl with white fossil casts.
1500' - 1532'	Same marl becoming slightly glauconitic and more pyritic with depth.
1532' - 1542'	Core No.3 Rec.9'. Above green marl but highly glauconitic and pyritic with many quartz granules.
1542' - 1552'	Core No.4 Recovered 10'. 2' Extremely glauconitic and pyritic fine angular slightly porous sandstone - no show 7½' Dark green marly glauconitic - highly pyritic with many very coarse well rounded granules of quartz scattered throughout ½' brown coal.

Artesian water flow developed by bailing - believed to come from glauconitic sandstone 1542 - 1552'.

T.D. 1552'.

MINES DEPARTMENT

VICTORIA

Mines (Petroleum) Act, 1935.
Section 45.

Record of Work at GIPPSLAND NO. 2 bore on

* Petroleum Prospecting Licence
* ~~Petroleum Mineral Lease~~ Number 157 during week

ending MIDNIGHT, DECEMBER 9, 1956.

DEPTH	DESCRIPTION OF STRATA
800' - 995'	Light grey medium to coarse well rounded milky quartz Sand in a soft brown ligneous clay matrix with occasional small bands of brown coal
995' - 1030'	Same ligneous sand alternating with light grey glauconitic limestone bands starting at 995'
1030' - 1070'	Light grey fine granular glauconitic fossiliferous hard limestone with forams and small buff gastropods

Notes by Driller in Charge (State in notes whether water, gas or petroleum has been met with, and, if so, give depth and nature of occurrence, also depth to which casing has been inserted and cemented.)

No indications of any oil, gas, or artesian water met with.

6" OD casing cemented to the surface and set at 1065 feet.

SIGNED .....
SECRETARY
~~LEGAL MANAGER~~ Frome Lakes Pty. Ltd. COY.

Date ...../...../..... .

N.B. - The Act also requires the Minister to be notified immediately water, gas or petroleum is encountered.

Analyses of water, gas and oil should be submitted if available.

MINES DEPARTMENT

VICTORIA

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Mines (Petroleum) Act, 1935.
Section 45.

Record of Work at ..GIPPSLAND NO. 2..... bore on

* Petroleum Prospecting Licence
* ~~Petroleum Mineral Lease~~ Number ..157..... during week

ending .MIDNIGHT, .DECEMBER 16, 19.56.

DEPTH	DESCRIPTION OF STRATA
1070' - 1160'	White granular slightly porous polyzoal limestone
1160' - 1220'	Light brown soft foraminiferal marl with hard limestone bands
1220' - 1370'	White fine granular tight polyzoal limestone
1370' - 1410'	Light brown soft fossiliferous carbonaceous and pyritic marl
1410' - 1460'	Light grey to brown granular hard limestone
1460' - 1494'	Light brown soft micaceous marl with white fossil casts
	core No. 2 cored 1494-1500 recovered 6'
1494' - 1500'	Light green velvety textured marl with white fossil casts
1500' - 1532'	Same marl becoming slightly glauconitic and more pyritic with depth core No. 3 cored 1532-42 recovered 9'

Contd:

Notes by Driller in Charge (State in notes whether water, gas or petroleum has been met with, and, if so, give depth and nature of occurrence, also depth to which casing has been inserted and cemented.)

SIGNED .....

LEGAL MANAGER ..... COY.

Date ...../...../..... .

N.B. - The Act also requires the Minister to be notified immediately water, gas or petroleum is encountered.

Analyses of water, gas and oil should be submitted if available.

MINES DEPARTMENT

VICTORIA

3/3

Mines (Petroleum) Act, 1935.
Section 45.

Record of Work at .....GIPPSLAND NO. 2..... bore on

* Petroleum Prospecting Licence
* ~~Petroleum Mineral Lease~~ Number ....157..... during week

ending MIDNIGHT, DECEMBER 16, 1956:

DEPTH	DESCRIPTION OF STRATA
1532' - 1542'	Above green marl but highly glauconitic and pyritic with many quartz granules core No. 4 cored 1542-52' recovered 10'
1542' - 52'	2' extremely glauconitic and pyritic fine angular slightly porous sandstone - no show
	7½' dark green marly glauconite - highly pyritic with many very coarse well rounded granules of quartz scattered throughout ½' brown coal
1552'	Total depth

Notes by Driller in Charge (State in notes whether water, gas or petroleum has been met with, and, if so, give depth and nature of occurrence, also depth to which casing has been inserted and cemented.)

No indications of any oil or gas met with in this well.

After bailing the well down upon completion a flow of artesian water was observed. It is believed that the artesian water is flowing from the glauconitic sandstone between 1542' - 1552'.

SIGNED .....
SECRETARY
~~LEGAL MANAGER~~ .Frome Lakes Pty. Ltd..... COY.

Date ...../...../..... .

N.B. - The Act also requires the Minister to be notified immediately water, gas or petroleum is encountered.

Analyses of water, gas and oil should be submitted if available.

LITHOLOGY

– HOCKING AND OTHERS

FROME LAKES' GIPPSLAND NO. 2 BORE

Year: Sept. 1956

Location: 38°38'30"S, 146°46'00"E, Parish of Tarra Tarra.

Elevation: 12 ft.

Total Depth: 1,552 ft.

Lithologic Log:

0-100: lt. grey poorly sorted coarse quartz sand.

100-185: grey grit and sand with worn shell fragments.

185-205: lt. grey sandy marl, bands of coarse shell fragments (F/L's log).

205-220: grey grit and sand.

220-300: grey and brown sand, micaceous, fine worn shell fragments at 250ft.

300-320: coarse micaceous sand.

320-370: loose grey sand, partially micaceous.

370-460: grey to brown well-sorted med. sand

460-500: dark brown well-sorted med. sand, coal fragments at odd intervals.

500-520: coal seams, presumably thin, some interbedded sand (Upper Rosedale etc)

520-595: dark brown coarse sand, well-sorted & well-rounded.

595-630: dark brown coal, some interbedded sand and grit.

630-730: poorly sorted sand and gravel, odd coal fragments.

730-800: gravel, lignitic and pyritic, brown coal at 800ft.

800-995: brown ligneous clay and sand, traces of bn. coal.

995-1040: bands of lt. grey glauconitic and shelly limestone in lt. gy. med. to coarse shelly sand. (F/L's log).

1040-1070: lt. grey sandy limestone, glauconitic, polyzoa & mollusca, also Ditrupa tubes. ....sli. sandy at top (1160 at base)

1070-1494: cream to grey polyzoal limestone and marly limestone, more marly towards the base.

1494-1542: tight lt. brownish grey foraminiferal sandy marl, becoming glauconitic pyritic towards base.

1542-1551: lt. grey glauconitic sandy marl, mollusca occur in parts (see 'Description of Cores').

1551-1552: brown coal

Check this 8-8/11

Description of Cores.

Core 2, 1494-1500ft.: compact grey puggy foraminiferal marl. Some small molluscan casts & v. fine whitish polyzoa traces. Others are lt. brownish grey & more dense.

Core 3, 1532-42 ft.: lt. grey marly limestone, speckled with glauc. grains, sometimes concentrated in elongate ?burrows approx. ½ in. wide.

Core 4, 1542-52 ft: TOP: glauconite becomes more common, at least in parts where sp. grit-sized quartz grains appear.
MIDDLE: sediment darker, & have appearance of brown lignous clay. Glauconite content increases. Shell material usually corroded.
BOTTOM: Very glauconitic. Small fragments of brown coal, disseminated pyrite grains, yellow & grey sulphurous material are all typical of basal one-foot of recovered core. Shells often complete, eg. Turritella aldingae. Flattened Turr. filled with lt. brown mud has 1:2 reduction in vert. dimension, indicating compaction.

Core 1, 613-21 ft.: Refer F/L's log.

Stratigraphic Interpretation.

0-995 feet:

The majority of this sandy sequence is non-marine, & is represented in parts by bands of brown coal. Between 100 and 250 ft., however, the occurrence of shell fragments and common 'Rotalia' beccarii (a shallow-water foram.) indicate marine influence during the Upper Pliocene or later. The report of sandy glauconitic marl at 185 ft, together with shelly sand, suggests Kalimnan age (unfortunately this sample is not available and the age cannot be verified).

The age of the coal measures between approx. 370 ft. and 995 ft. presumably ranges from lower Batesfordian to Mitchellian, although unconformities may exist within this sequence.

995 ~~ft~~ - 1040 feet:

The first appearance of limestone is at 995 ft. In this interval it is interbedded with sands. These are thus transition beds between the Gippsland Limestone and the overlying coal measures.

1040 - 1494 feet:

These limestones and marls are predominantly of Longfordian age, at least those below 1110 feet. Those up to 1040 ft. are tentatively taken as being of uppermost Longfordian age. Apart from a few specimens of Globigerina apertura, pelagic species are virtually absent. Benthonics are typified by abundant Triloculina spp. indicating shallow-water deposition.

1494 - 1547 (approx.) feet:

These marly limestones & marls, glauconitic at the base correspond to Carter's F.U.5. The occurrence of Almaena gippslandica at the top of the 1542-52 ft. core is of particular significance.

1547 (approx) - 1551 feet:

This thin bed of highly glauconitic clayey sand contains species referable to F.U. 4 - these include Globigerina ampliapertura ampliapertura, G. ampliapertura euapertura, Bulimina truncanella, Cibicides sp., ~~Cyproidea~~ and Trifarina bradyi.

The basal gritty material was barren.

Sediments within the depth range 1494 to 1551 ft. have hitherto been regarded as belonging to the Lakes Entrance Formation.

1551 - 52 feet:

Brown coal, of the Latrobe Valley Coal Measures.

* Abell

FROME LAKES GIPPSLAND 2

100 - 110 coarse gravelly sand, sub angular - round, worn shells fragments, opaque - translucent, sl, tce grey sand.

110 - 120 fairly well sorted brown - grey sand ± 0.1 mm sub angular, worn shell fragments present.

140 - 150 poorly sorted 0.5 - 2mm brown Sand. sub angular, some worn shell fragments present, tce red mudstone

170 - 180 poorly sorted 0.5 - 6mm 50% shelly. slightly greyer sands.

200 - 230 moderately well sorted light brown sand 0.5 - 1mm some grains up to 2mm sub angular, some worn shell fragments present.

240 - 250 well sorted sand 0.5 - 1mm tce mica flakes & shell fragments 50% iron stained

300 - 310 Coarse grained 1 - 2mm sub angular white to translucent sand tce shelly material, 2% grey sand.

310 - 320 poorly sorted 0.2 - 2mm sub angular sand tce mica, shell fragments, & grey sands.

330 - 340 poorly sorted 0.2 - 1mm sand, rest as above

340 - 370 As above but no shell fragments

370 - 420 As above but an increase in iron staining with depth.

420 - 430 well sorted ± 1mm translucent - grey sand.

430 - 440 * SANDY LIMESTONE WITH SHELL FRAGMENTS.

440 - 450 bimodal sand 0.2mm + 1mm sub round, iron stained no evidence of shells or limestone.

460 - 480 dark brown sand 0.2 + 1.5mm sub round. Chips of brown coal present.

480 - 490 Slightly more well sorted, sub angular - sub round, more coal.

490 - 500 V. Fine Dark brown sand 0.5 - 1mm some coarser grains, tc coal.

500 - 520 * Brown coal 20% 2mm sub angular sand.

520 - 530 very well sorted brown sand 1.5 - 2mm tce coal + shells.

530 - 540 * light brown bimodal sand sl tce coal + shells

Frome Lakes No. 2 CHECKING FOR LEPS.

1030 - 40 : contains occ. marine fossils
1040 - 50 : marly limestone with fossils : bryozoa, miliolids
1050 - 60 : sand & clay, partially sulphurous.
1060 - 70 : contains : clay, sand + rare miliolids, etc.
1070 - 80 : "
1080 - 90 : unfossiliferous white calcareous material (? cement) creamy looking
1090 - 1100 : —
1100 - 10 : } as for 1080-90, 'stick-like' bryozoa, Op. vict. + Amphist. less.
1110 - 20 : highly organic limestone, v. common Opercs. rare. + Amphist. bassanii, also Ditrupa, tho' not abundant.
1120 - 30 : * inc. some rounded quartz gravel. (?)
1130 - 40 : yellowish & grits sandy, Ditrupa 'tho' not common
1140 - 50 : white chalky again, grit also. Amph. & Op. still common
1150 - 60 : rather hard limestone, sli. glauconitic; occ. molluscs (eg. Turritella)
— both Opercs. + Amphist. tend to fade out to a certain extent.

— Elph. pari at 1360-70.
1370-80.

— 1420

1420 - darker grey colour.

NO LEPS. OBSERVED.

PALYNOLOGY

W447

GIPPSLAND. FROME LAKES-2.

TERTIARY PALYNOLOGY OF WELLS AND BORES IN CORNER INLET SECTOR, ONSHORE GIPPSLAND BASIN.

by

A. D. Partridge

Esso Australia Ltd

Palaeontology Report: 1978/8

March 31, 1978

INTRODUCTION:

Twenty-one samples were examined from five coal bores and two petroleum wells in the south-west corner of the onshore Gippsland Basin. The results from the analysis of the samples is presented on the Summary Table, while the spore-pollen species identified in the samples are plotted on the two accompanying Distribution Charts. Discussion of geologically significant conclusions that can be drawn from this data is presented below:

GEOLOGICAL COMMENTS:

1. The coals referred to the Triporopollenites bellus Zone of Stover and Partridge (1973) and sampled in the bores Alberton East-1 at 308 feet, Alberton West-167 at 421 feet, Gippsland-2 at 600-610 feet, and Sunday Island-1 at 625 to 645 feet correlate with the Yallourn Seam in the Latrobe Valley.

2. The Upper subdivision of the Triporopollenites bellus Zone overlying these coals is distinguished by the presence of Haloragacidites amolosus, Stephanocolpites oblatus Martin, common occurrence of Monosulcites waitakiensis and conspicuous occurrence of Cyperaceae and grass pollen. This unit correlates with the Lower Boisdale Beds in Wurruk Wurruk-1 (see Partridge 1971) and probably with the post-Yallourn Seam Clays. It is stressed that this unit is older than the Jemmy's Point Formation. None of the samples examined can be correlated with the Jemmy's Point Formation. They are all older. It is pointed out that referring the unit above the youngest coals to the Boisdale Beds and saying it is older than the Jemmy's Point Formation reverses the stratigraphic order given by Jenkin (1968).

3. The coals referred to the Lower T.bellus Zone all have rather low diversity assemblages. However, the species composition and species abundances are all very similar. This is the reason they can be confidently assigned to the same zone.

4. The coal at the top of core-3 (1370-85 feet) in Sunday Island-1 contained a T. bellus Zone assemblage and is virtually indistinguishable from the sample from core-1. Since core-3 had very low recovery (20%) and the coal at the top of the core is described as having numerous fracture planes, it is suggested that this coal has caved from higher in the hole. The sample from the bottom of core-3 gave a Middle N. asperus Zone age which is more consistent with the known geology.

.../2

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5. The SWC-14 at 1025 feet in Sunday Island-1 was potentially contaminated with drilling mud which could not be cleaned from the sample. A Middle N. asperus Zone age is given to the sample based on presence of Triorites magnificus, Santalumidites cainozoicus, Proteacidites adenanthoides, Tricolpites phillipsii and Agloreidia qualumis. If these species are discounted as contamination, which seems unlikely, the next most likely age assignment is to the Upper N. asperus Zone based on frequent occurrence of Proteacidites stipplatus. If the sample is contaminated it is difficult to explain absence of key indicator species form the T. bellus Zone which occurs higher in the hole.

4/4

REFERENCES

JENKIN, J. J., 1968, The Geomorphology and Upper Cainozoic Geology of south-east Gippsland, Victoria: Geol. Surv. Vict. Memoir 27, p. 1-147.

PARTRIDGE, A.D. 1971, Stratigraphic palynology of onshore Tertiary sediments of the Gippsland Basin, Victoria: Univ. N.S.W. MSc. Thesis.

STOVER, L. E. and PARTRIDGE, A.D., 1973, Tertiary and Late Cretaceous spores and pollen from the Gippsland Basin, southeastern Australia: Proc. Roy. Soc. Vict., Vol. 85, pt2, p. 237-286.

SUMMARY TABLE

WELL OR BORE	SAMPLE	DEPTH (in feet)	LITHOLOGY	ZONE	CONFIDENCE RATING	AGE	COMMENTS
ALBERTON EAST-1	CORE	211	CARB. SILTST.	UPPER T. BELLUS	1	MIDDLE-LATE MIOCENE	-
	CORE	240	SHALE	UPPER T. BELLUS	0	MIDDLE-LATE MIOCENE	RARE DINOFLAGELLATES PRESENT
	CORE	308	COAL	LOWER T. BELLUS	2	MIDDLE-MIOCENE	-
	CORE	534	CLAYSTONE	P. TUBERCULATUS	1	OLIGOCENE-EARLY MIOCENE	-
ALBERTON EAST-2	CORE	380-85	SILTSTONE	UPPER T. BELLUS	0	MIDDLE-LATE MIOCENE	RARE DINOFLAGELLATES PRESENT
	CORE	440-45	SILTSTONE	T. BELLUS	1	MIDDLE-LATE MIOCENE	RARE DINOFLAGELLATES PRESENT
ALBERTON WEST-142	CORE	58	SILTSTONE	T. BELLUS	1	MIDDLE-LATE MIOCENE	RARE DINOFLAGELLATES PRESENT
ALBERTON WEST-167	CORE-1	381	CARB. SILTST.	UPPER T. BELLUS	0	MIDDLE-LATE MIOCENE	
	CORE-2	421	COAL	LOWER T. BELLUS	2	MIDDLE MIOCENE	
	CORE-8	703	CARB. SILTST.	P. TUBERCULATUS	2	OLIGOCENE-EARLY MIOCENE	
ALBERTON WEST-168	CORE-1	133	COAL	P. TUBERCULATUS	2	OLIGOCENE-EARLY MIOCENE	
	CORE-7	442	COAL	UPPER N.ASPERUS	0	EARLY OLIGOCENE	COMMON PROTEACIDITES STIPPLATUS
	CORE-8	508	COAL	MIDDLE N.ASPERUS	0	LATE EOCENE	COMMON TRIORITES MAGNIFICUS
FROME LAKES							
GIPPSLAND-2	CUTTINGS	500-10	COAL	INDETERMINANT			VIRTUALLY BARREN
	CUTTINGS	600-10	COAL	LOWER T. BELLUS	1	MIDDLE MIOCENE	-
SUNDAY ISLAND-1	CORE-1	625-45	COAL	LOWER T. BELLUS	1	MIDDLE MIOCENE	-
	SWC-14	1025	-	MIDDLE N. ASPERUS	2	LATE EOCENE	POSSIBLY CONTAMINATED
	CORE-3	1370-85(TOP)	COAL	LOWER T. BELLUS	1	MIDDLE MIOCENE	CAVED FROM ABOVE
	CORE-3	1370-85(BOTTOM)	-	MIDDLE N. ASPERUS	2	LATE EOCENE	-
	SWC-7	1460	COAL	MIDDLE N. ASPERUS	0	LATE EOCENE	COMMON T. MAGNIFICUS
	SWC-2	1610	WHITE CLAY	MIDDLE N. ASPERUS	2	LATE EOCENE	

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Well Name _____ Basin ONSHORE GIPPSLAND Sheet No. 1 of 2

SAMPLE TYPE * / DEPTHS / PALYNOMORPHS	Alb. East 1 210 C	Alb. East 1 240 C	Alb. East 1 308 C	Alb. East 1 534 C	Alb. East 2 380 - 385 C	Alb. East 2 440 - 445 C	Alb. W. 144 58 C	Alb. W. 167 381 C	Alb. W. 167 421 C	Alb. W. 167 783 C	Alb. W. 168 133 C	Alb. W. 169 442 C	Alb. W. 169 505 C	Gippsland 2 500 - 510 T	Gippsland 2 600 - 610 T	Sunday Is. 1 625 - 645 C	Sunday Is. 1 1025 S	Sunday Is. 1 1370 - 1365 C	Sunday Is. 1 1370 - 1355 C (bottom)	Sunday Is. 1 1480 S	Sunday Is. 1 1610 S
A. myriosporites						/															
A. qualumis																					
A. sectus																	/				
A. australis					/	/	/	/					/								
A. genialis			/									/					/	/	/		/
B. disconformis	/					/	/							/		/					
B. arcuatus												/									
B. elongatus			/							/	/	/	/								
B. minimus					/						/	/	/			/		/			
B. elegansiformis			/			/	/			/	/	/	/			/		/			
B. trigonalis																/	/				
B. verrucosus			/														/				
B. emarciatus																				/	
C. heskermensis													/								
C. chenopodiaceoides		/			/		/										/				
C. orthoteichus	/		/			/															
C. paleospora		/	/		/	/	/														
C. porospora			/			/	/												/		
C. annulata			/		/	/	/	/													
C. splendens																					
C. subtilis			/		/														/		
Cyperaceae sp.					/	/		/													
D. australiensis	/	/	/			/	/	/			/	/		/		/	/	/	/		
D. simplex							/	/													
D. granulatus						/											/				
D. tuberculatus			/			/											/				
D. barrellus			/		/	/															
D. tholus																		/			
E. notensis																					
E. crassiexinus	/	/	/	/	/	/	/		/		/		/								
E. scabratus			/						/		/					/	/		/		
F. balteus				/			/														
F. crater				/		/										/	/				
F. lucunosus							/														
F. palaequetrus																			/		
G. calathus	/	/			/	/	/	/													
G. major						/	✓				/					/		/			
G. bassensis												/									
G. nebulosus						/															
Guettardidites sp.				/		/															
H. amolosus	/				/	/		/													
H. haloragoides	/	/			/	/	/	/													
H. harrisii	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
H. elliottii																	/	/	/	/	/
I. anguloclavatus	/				/	/	/				/	/					/	/	/		
I. irregularis			/			/	/				/	/							/	/	
K. waterbolkii																			/		
L. crassus											/	/				/	/	/	/		
L. florinii		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
M. grandis								/													
M. subtilis		/	/	/	/	/	/		/	/	/	/	/	/		/	/	/	/	/	/
M. robustus					/							/					/				
M. spinysporis		/																			
M. antarticus			/	/	/	/					/	/	/			/					
M. homeopunctatus		/					/				/										
M. hypolaenoides		/	/		/	/	/	/	/		/			/		/	/	/			
Monoporites sp.		/			/	/		/													
M. uvatus																					
M. waitakiensis	/	/	/		/	/															
M. eucalyptoides convexus		/			/	/	/														
M. eucalyptoides orthus					/																
M. parvus/mesonesus	/	/	/		/		/	/	/	/	/	/	/								
M. verrucosus			/					/													
N. asperus		/	/		/	/	/	/			/			/		/	/	/			
N. brachyspinulosus											/	/		/							
N. deminutus		/	/		/	/	/	/	/	/	/	/	/	/		/	/	/	/	/	/
N. emarcidus/heterus	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
N. falcatus	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
N. flemingii											/	/					/	/	/		
N. goniatus					/												/	/	/		

*C= core; S= sidewall core; T= cuttings.

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Well Name _____ Basin ONSHORE GIPPSLAND Sheet No. 2 of 2

SAMPLE TYPE *	C	C	C	C		C	C		C		C	C	C		C	C	C		T	T		C	S	C	C	S	S	
DEPTHS / PALYNOMORPHS	Alb. East 1 211	Alb. East 1 240	Alb. East 1 308	Alb. East 1 534		Alb. East 2 380 - 385	Alb. East 2 440 - 445		Alb. W. 142 58		Alb. W. 162 381	Alb. W. 167 421	Alb. W. 167 703		Alb. W. 163 133	Alb. W. 163 442	Alb. W. 163 508		Gippsland 2 500 - 510	Gippsland 2 600 - 610		Sunday Is. 1 625 - 645	Sunday Is. 1 1025	Sunday Is. 1 1355	BOTTOM Sunday Is. 1 1398	Sunday Is. 1 1460	Sunday Is. 1 1610	
N. vansteenisii		/																										
P. ochesis		/	/						/			/				/	/											
P. catastus				/												/	/											
P. polyoratus																/	/											
P. vesicus																	/											
P. densus																	/											
P. velosus			/	/		/			/																			
P. mawsonii		/	/	/					/		/	/	/		/	/	/											
P. palaeogenicus		/																										
P. nanus	/	/	/			/	/		/		/				/	/	/			/		/						
P. ostentatus		/							/			/			/	/	/						/	/	/	/	/	
P. microsaccatus															/								/			/		
P. esobalteus							/										/											
P. simplex									/								/						/				/	
P. tumulatus							/																/					
P. adenanthoides (Prot.)																	/						/					
P. annularis			/	/					/			/			/	/	/						/	/				
P. crassus																												
P. obscurus																/	/											
P. plemmelus																				/				/				
P. pseudomoides																							/					
P. recavus																/	/											
P. rectomarginis				/																								
P. reflexus																	/											
P. stipplatus																/	/						/					
P. tenuiexinus							/																/					
P. truncatus		/	/			/	/																					
P. tuberculatus			/	/			/		/		/		/		/	/						/		/				
P. micus	/														/	/						/		/				
R. escharus																												
R. minisporos						/			/														/					
R. mallatus			/																									
R. micraulaxus	/					/	/		/		/												/					
S. cainozoicus																							/			/	/	
S. rotundus		/	/	/		/	/		/			/			/								/	/				
S. oblatus	/	/				/					/																	
S. (Tripunct.) punctatus																												
S. austellus	/	/					/		/		/																/	
P. palyinus																							/					
P. phillipsii (C3)																							/					
T. simatus																/											/	
T. thomasii																												
T. adelaidensis		/	/	/		/	/					/	/		/	/	/					/	/	/	/	/		
T. geraniodes			/				/																					
T. leuros			/	/		/	/		/				/		/	/						/	/	/	/	/		
T. paenestriatus																/												
T. retequetrus																									/			
T. scabratus			/																						/			
T. sphaerica				/								/	/		/										/			
T. magnificus (P3)																/						/				/		
T. canacomuricodes																						/			/			
T. ambiguus																										/		
T. bellus		/							/																			
T. chnosus																												
T. scabratus				/		/																						
T. antipodica						/	/		/																			
V. alienus	/	/	/	/		/	/		/						/	/						/	/		/			
V. attinatus						/																						
V. cristatus									/																			
V. kopukuensis													/			/						/	/					
M. ornamentalis			/			/	/		/																/			
P. demarcatus									/																			

*C = core; S = sidewall core; T = cuttings.

WELL DATA AND WATER PRODUCTION

FROME-LAKES PROPRIETARY LIMITED
(Incorporated in Victoria)

TELEPHONE MF 5641

95 COLLINS ST., MELBOURNE, C.1

PET. PROS. LICENCE

RECEIVED 18 DEC 1956 MINES DEPT.

December 17, 1956

Hon. W. J. Mibus, M.L.A,
Minister for Mines,
Department of Mines,
Treasury Gardens,
Melbourne, C.2.

Dear Sir,

Frome-Lakes Exploration Well Gippsland No. 2 has been deepened to 1552 feet, passing through limestone, marl and glauconitic sandstone of the Tertiary marine section from 1050 feet and finishing in brown coal of the Yallourn formation. No evidence of oil or gas was discovered during the drilling or in subsequent bailing tests, but these tests disclosed fresh artesian water on Friday evening, December 14, coming, we believe, from the glauconitic sandstone between 1542 and 1551 feet.

The artesian water was brought under control by re-introducing mud to the hole which was then plugged for abandonment in accordance with the requirements of the Mines Department Drilling Superintendent. The drilling outfit is now being transferred to location No. 4 on an unmade road alignment about eleven miles east of Stratford, close to the northwest corner of Allotment 18A, Parish of Yeerung. Details of this site will be submitted when the outfit is in position for drilling.

Yours very truly,

N. Osborne

N. Osborne
General Manager

NO/jg

Drill Supt satisfied with eps taken to plug well

A.D. 28/12/56

MEMORANDUM:

FOR : Director of Geological Survey

DATE : 13.12.67

SUBJECT : Conversion of Frome-Lakes Gippsland No. 2 Well for Water Production

It is not known precisely what plugs were constructed in this well but it seems likely that a conventional plugging program would have been followed. Such a program in this well would normally have involved:-

(1) A plug of about 100 ft. straddling the casing shoe at 1065 ft. (say 1015-115 ft).

(2) A plug of 50-100 ft. at or near the surface plug (say 70-120 or 70-170 ft.).

If in fact these two plugs were set it would be necessary to employ a drilling plant capable of drilling out cement plugs at these depths and restoring the well as a water producer, i.e. a plant capable (if ~~it should prove~~ necessary) of drilling to 1500 ft.

In drilling out the plugs it is desirable that precautions be taken to ensure that the new hole be drilled almost to full casing diameter or else, if it is to be of smaller diameter, that it is centralised to ensure that the new hole is concentric with the previous hole, at least in the cased portion of the well.

For these reasons it would be preferable to use a rotary rather than a cable ~~foot~~ tool drilling rig although the latter might be acceptable if special care were taken.

To ensure that the well may be kept under control at all times during redevelopment it is recommended that a flange be welded onto the top of the 6" casing and a gate valve permanently attached above it. Drilling out of the cement plugs and restoration of water production should then be carried out by working through the valve.

Apart from the above considerations and the need to prevent unnecessary wasteage of water there do not appear to be any special problems associated with conversion of the well to water production for use by the Mann's Beach Progress Association.

It is recommended that conversion of the well for water production be made subject to the following conditions :-

1. Installation of a suitable gate valve above the casing (as described) to control water flow.

2. A drilling contractor and rig capable of drilling out the plug or plugs as indicated above, and redeveloping the well for water production be employed.

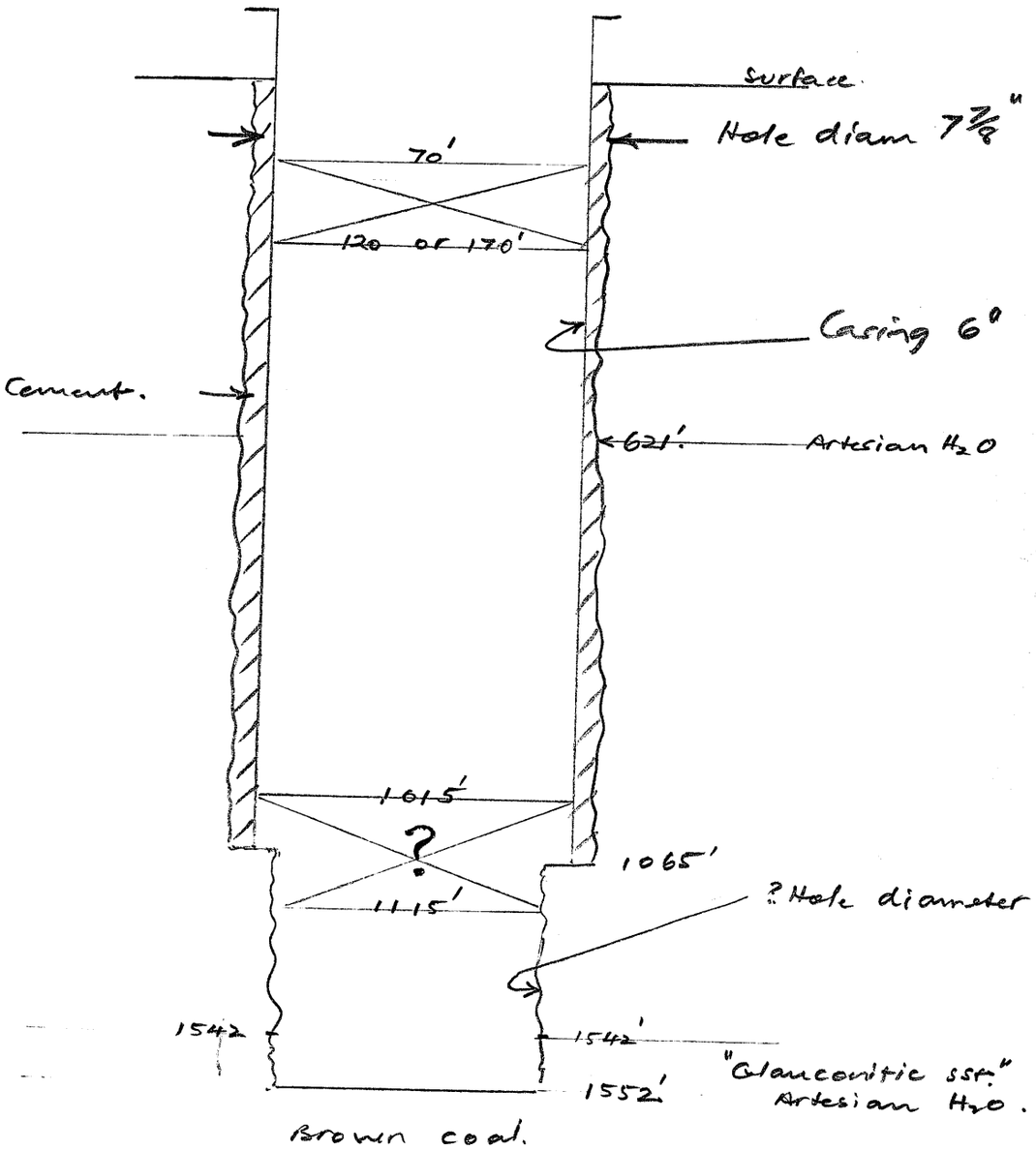
P.R. Kenley

P.R. Kenley

Assistant Director, Geological Survey (Tech).

FROME - LAKES GIPPSLAND No. 2.

Probable Well Construction



O.R.K.

13.12.67

PE603436

This is an enclosure indicator page.
The enclosure PE603436 is enclosed within the container PE906110 at this location in this document.

The enclosure PE603436 has the following characteristics:

ITEM_BARCODE	= PE603436
CONTAINER_BARCODE	= PE906110
NAME	= Lithological Log
BASIN	= GIPPSLAND
PERMIT	= PPL 157
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Lithological Log of Frome Lakes-2
REMARKS	= has lithological descriptions alongside
DATE_CREATED	= 10/12/1956
DATE_RECEIVED	=
W_NO	= W447
WELL_NAME	= FROME LAKES-2
CONTRACTOR	=
CLIENT_OP_CO	= FROME-LAKES PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906111

This is an enclosure indicator page.
The enclosure PE906111 is enclosed within the container PE906110 at this location in this document.

The enclosure PE906111 has the following characteristics:

ITEM_BARCODE	= PE906111
CONTAINER_BARCODE	= PE906110
NAME	= Table of Gippsland Bores 1 of 4
BASIN	= GIPPSLAND
ON_OFF	= ONSHORE
PERMIT	= PPL 157
TYPE	= WELL
SUBTYPE	= CHART
DESCRIPTION	= Data Table of Gippsland bores containing data on location and stratigraphic depths 1 of 4.
REMARKS	=
DATE_CREATED	= 30/04/1957
DATE_RECEIVED	=
W_NO	= W447
WELL_NAME	= FROME LAKES-2
CONTRACTOR	=
CLIENT_OP_CO	= FROME-LAKES PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906112

This is an enclosure indicator page.
The enclosure PE906112 is enclosed within the container PE906110 at this location in this document.

The enclosure PE906112 has the following characteristics:

ITEM_BARCODE	= PE906112
CONTAINER_BARCODE	= PE906110
NAME	= Table of Gippsland Bores 2 of 4
BASIN	= GIPPSLAND
ON_OFF	= ONSHORE
PERMIT	= PPL 157
TYPE	= WELL
SUBTYPE	= CHART
DESCRIPTION	= Data Table of Gippsland bores containing data on location and stratigraphic depths 2 of 4.
REMARKS	=
DATE_CREATED	= 30/04/1957
DATE_RECEIVED	=
W_NO	= W447
WELL_NAME	= FROME LAKES-2
CONTRACTOR	=
CLIENT_OP_CO	= FROME-LAKES PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906113

This is an enclosure indicator page.
The enclosure PE906113 is enclosed within the container PE906110 at this location in this document.

The enclosure PE906113 has the following characteristics:

ITEM_BARCODE	= PE906113
CONTAINER_BARCODE	= PE906110
NAME	= Table of Gippsland Bores 3 of 4
BASIN	= GIPPSLAND
ON_OFF	= ONSHORE
PERMIT	= PPL 157
TYPE	= WELL
SUBTYPE	= CHART
DESCRIPTION	= Data Table of Gippsland bores containing data on location and stratigraphic depths 3 of 4.
REMARKS	=
DATE_CREATED	= 30/04/1957
DATE_RECEIVED	=
W_NO	= W447
WELL_NAME	= FROME LAKES-2
CONTRACTOR	=
CLIENT_OP_CO	= FROME-LAKES PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906114

This is an enclosure indicator page.
The enclosure PE906114 is enclosed within the container PE906110 at this location in this document.

The enclosure PE906114 has the following characteristics:

ITEM_BARCODE	= PE906114
CONTAINER_BARCODE	= PE906110
NAME	= Table of Gippsland Bores 4 of 4
BASIN	= GIPPSLAND
ON_OFF	= ONSHORE
PERMIT	= PPL 157
TYPE	= WELL
SUBTYPE	= CHART
DESCRIPTION	= Data Table of Gippsland bores containing data on location and stratigraphic depths 4 of 4.
REMARKS	=
DATE_CREATED	= 30/04/1957
DATE_RECEIVED	=
W_NO	= W447
WELL_NAME	= FROME LAKES-2
CONTRACTOR	=
CLIENT_OP_CO	= FROME-LAKES PTY LTD

(Inserted by DNRE - Vic Govt Mines Dept)