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RECORD 1947/62

PRELIMINARY REPORT ON SAMPLES FROM THE NELSON BORE, PARISH OF
GLENELG, SOUTHWESTERN VICTORIA

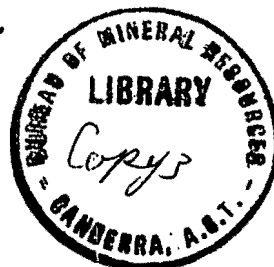
by

I. Crespin

PRELIMINARY REPORT ON SAMPLES FROM THE NELSON BORE,

PARISH OF GLENELG, SOUTHWESTERN VICTORIA.

Report No. 1947/62.



A. Description of Samples.

- 108 feet. Whitish bryozoal limestone, with numerous foraminifera.
- 112 feet. Hard, almost flinty limestone.
- 132 feet. Grey bryozoal marl, with foraminifera (Cyclammina).
- 152-172 feet. Hard to friable, grey bryozoal marl.
- 192 feet. Pale grey, bryozoal marl, with foraminifera.
- 198 feet. Greyish flint with bryozoa.
- 220 feet. Hard, bryozoal limestone.
- 230 feet. Fawn to grey flint, with bryozoa.
- 253 feet. Grey bryozoal marl, with foraminifera (Cyclammina).
- 293-328 feet. Whitish, bryozoal marl, with fossils partially replaced with calcite.
- 348 feet. Grey flint.
- 368-390 feet. Whitish bryozoal marl, with foraminifera (Victoriella).
- 410 feet. Hardened, grey marl with bryozoa.
- 432 feet. Cream coloured, bryozoal marl, with foraminifera.
- 453 feet. Cream coloured bryozoal marl with yellowish calcareous fragments, and fossils much altered, (Victoriella).
- 465 feet. Grey bryozoal marl, with foraminifera (Cyclammina, Victoriella).
- 474-494 feet. Cream to greyish, bryozoal marl, with foraminifera (Ammodiscus, Victoriella).
- 517 feet. Friable, whitish marl, with all organisms altered and indeterminate.
- 534-557 feet. Pinkish limestone with fossils indeterminate.
- 578 feet. Hard, cream coloured, bryozoal limestone.
- 582 feet. Hard, pinkish, dolomitic limestone.
- 587 feet. Cream coloured limestone, composed almost entirely of fine facets of calcite.
- 597 feet. Hard, greyish, bryozoal marl.
- 607 feet. Pale pinkish, dolomitic limestone.

- 625 feet. Similar to 587 feet.
- 635 feet. Hard, greenish grey, bryozoal marl.
- 646 feet. Whitish, bryozoal marl, with foraminifera (Ammodiscus, Glomospira).
- 666-689 feet. Hard, cream to greyish bryozoal marl.
- 700 feet. Pale grey, bryozoal marl, with foraminifera (Cyclamm-ina).
- 720 feet. Whitish, bryozoal marl, with foraminifera (Ammodis-cus, Glomospira).
- 730 feet. Light grey, bryozoal marl.
- 736 feet. Light grey, bryozoal marly limestone.
- 746 feet. Hard, cream coloured, bryozoal marl.
- 756 feet. Light grey, finely bedded marl, with bryozoal as white casts along bedding planes, with foraminifera (Cyclammina, Glomospira, Vaginulina gibbslandica).
- 770-790 feet. Hard greyish white bryozoal marl.
- 807 feet. Hard, light grey, bryozoal marly limestone, partly crystalline.
- 811 feet. Cream coloured bryozoal marl.
- 812 feet. Greyish white, crystalline limestone.
- 816 feet. Moderately coarse reddish grit, consisting of fine quartz grains and brown glauconite.
- 817-874 feet. Unconsolidated sandstone, consisting of moderate-ly coarse quartz grains, somewhat ironstained.
- 877 feet. Hard, moderately coarse calcareous grit.
- 874-902 feet. Coarse unconsolidated sandstone, with foraminifera (Cyclammina, Victoriella).
- 902 feet. Hard, moderately coarse, calcareous grit.
- 903-922 feet. Unconsolidated sandstone.
- 923 feet. Moderately coarse grit.
- 939 feet. Moderately fine, ochreous calcareous grit, with occasional small pebbles. Many quartz grains coated with limonitic material. Fish teeth and spines present.
- 947 feet. Fine ochreous calcareous grit with subangular quartz grains coated with limonite, grains of dark green glauconite and brown ovoid bodies, and foraminifera (Cyclammina) rare.
- 953 feet. Fine-grained, blackish sandstone, with abundant grains of green glauconite, ovoid pellets of glauconite, and numerous crystals of ? siderite, glauconitic re-placements of foraminifera Cyclammina thin shelled mollusca and fish fragments.

- 963 feet. Dark brown, gritty, glauconitic, calcareous sandstone, with numerous quartz grains, some coated with ? limonite, abundant brown to green glauconite grains, ovoid pellets, ? siderite, and foraminifera (Cyclammina common).
- 976 feet. Glauconitic sandstone, with abundant brown and green glauconite, ovoid pellets of brown glauconite, quartz grains coated with ? limonite and foraminifera (Cyclammina).
- 989 feet. Hard, pebbly sandstone.
- 992 feet. Fine grained, dark grey micaceous sandstone, consisting almost entirely of fine quartz grains, with some pyrite, mica and glauconite, also foraminifera (Cyclammina).
- 1002-1042 feet. Fine, dark grey, micaceous sandstone, with ? algal markings, glauconite grains and foraminifera (Cyclammina).
- 1048 feet. Unconsolidated, moderately fine sandstone, with minute foraminifera.
- 1069-1119 feet. Light to dark grey, fine-grained, micaceous sandstone, with patches of pyrite, a little glauconite, carbonaceous material, mica and small foraminifera.
- 1129-1145 feet. Mottled dark to light grey, micaceous sandstone, with ? algal remains, and foraminifera (Cyclammina).
- 1155-1231 feet. Light grey, micaceous sandstone, with irregular bands of dark grey shale and containing numerous particles of carbonaceous material, also pyrite and green glauconite.
- 1241-1254 feet. Dark brownish grey, carbonaceous, micaceous sandstone with pyrite, glauconite and small foraminifera.
- 1260 feet. Mottled dark to light grey, micaceous sandstone.
- 1270-1280 feet. Fine, dark grey, micaceous sandstone with patches of glauconite and ? algal remains.
- 1290 feet. Friable, bedded, dark to light grey, carbonaceous, micaceous shale.
- 1300-1341 feet. Moderately fine grained, fawnish, micaceous sandstone.
- 1359-1362 feet. Mottled dark to light grey, micaceous shale.
- 1364 feet. Unconsolidated, light grey, micaceous sandstone.
- 1382 feet. Unconsolidated grit, with coarse to fine rounded quartz grains, pyrite and glauconite.
- 1403-1449 feet. Light to dark grey, micaceous shale interbedded with micaceous sandstone, and with numerous carbonaceous fragments and pyrite, and some worn foraminifera and bryozoa.
- 1510-1520 feet. Unconsolidated, dark grey, micaceous sandstone.

- 1533-1563 feet. Friable, dark grey, carbonaceous, micaceous sandstone with bryozoa.
- 1573 feet. Light grey sandstone interbedded with grey shale.
- 1583-1600 feet. Grey sandstone interbedded with carbonaceous shale; green glauconite and pyrite and a few small foraminifera.
- 1610 feet. Unconsolidated, moderately coarse, light grey sandstone.
- 1644 feet. Light grey, pebbly sandstone.
- 1669-1700 feet. Unconsolidated, light grey sandstone, with fine to coarse quartz grains, carbonaceous material, glauconite, foraminifera and bryozoa.
- 1733-1810 feet. Unconsolidated grey, micaceous sandstone.
- 1820-1830 feet. Grey micaceous sandstone with pyrite and worn bryozoa.
- 1835 feet. Dark grey, carbonaceous sandstone with pyrite and minute foraminifera.
- 1845-1855 feet. Dark grey micaceous shale interbedded with fine-grained micaceous sandstone.
- 1865 feet. Grey to dark grey, micaceous sandstone, consisting chiefly of angular to subangular quartz grains, some pyrite and minute foraminifera.
- 1868 feet. Coarse sandstone.
- 1878-1888 feet. Fine grained carbonaceous, micaceous sandstone interbedded with dark grey shale.
- 1901 feet. Fine grained, grey micaceous sandstone.
- 1903 feet. Dark grey shale and fine grained sandstone, consisting of fine angular quartz grains, rounded pebbles pyrite and bryozoa.
- 1913-1922 feet. Fine grained, grey micaceous sandstone.
- 1924-1943 feet. Unconsolidated sandstone with quartz grains coated with brownish material, brown glauconite ovoid pellets, foraminifera (*Victoriella*), bryozoa, molluscan shell fragments, ostracoda and fish teeth.
- 1953-1990 feet. Fine grained, grey micaceous sandstone, with minute foraminifera and bryozoa.
- 2008-2016 feet. Fine-grained, grey to dark grey, carbonaceous, micaceous sandstone with pyrite, foraminifera (*Cyclammina*) and bryozoa.
- 2017 feet. Hard, lignitiferous sandstone.
- 2027-2056 feet. Friable, micaceous, lignitiferous sandstone.
- 2066 feet. Moderately hard, dark grey, micaceous, lignitiferous sandstone with ? algal markings.

- 2078-2088 feet. Friable lignitiferous sandstone.
- 2092-2126 feet. Friable grey sandstone consisting of fine angular to large subangular quartz grains, some pyrite, and bryozoa.
- 2136-2146 feet. Compact, grey, micaceous sandstone, with numerous carbonaceous fragments, foraminifera (Cyclammina, Haplophragmoides) and bryozoa.
- 2156-2166 feet. Grey micaceous sandstone.
- 2176-2186 feet. Mottled, dark grey to grey, micaceous sandstone with carbonaceous remains, foraminifera (Ammodiscus, cf. Haplophragmoides) and pyritic cast of gasteropod.
- 2196-2206 feet. Hard, dark grey, micaceous, pyritic sandstone with ? algal markings.
- 2238-2278 feet. Friable, fine-grained, grey micaceous sandstone with pyrite.
- 2285-2290 feet. Grey to dark grey, micaceous sandstone with abundant carbonaceous fragments and foraminifera (Cyclammina common).
- 2295 feet. Grey, micaceous, lignitiferous sandstone.
- 2296 feet. Hard grey sandstone.
- 2299-2330 feet. Friable, dark to light grey, micaceous sandstone.
- 2340 feet. Moderately hard, finely bedded, light to dark grey sandstone, with carbonaceous material and foraminifera (Ammodiscus, Cyclammina).
- 2350 feet. Hard, dark grey, micaceous carbonaceous sandstone.
- 2363 feet. Friable grey, micaceous sandstone with pyrites and small foraminifera.
- 2366-2398 feet. Grey to dark grey, micaceous sandstone with carbonaceous material and pyrite.
- 2406-2408 feet. Dark grey, carbonaceous shale interbedded with fine-grained, grey, micaceous sandstone. Foraminifera (Cyclammina).
- 2418-2427 feet. Dark grey, micaceous, carbonaceous sandstone with foraminifera (Cyclammina).
- 2519-2554 feet. Grey to dark grey, micaceous, carbonaceous sandstone.
- 2563 feet. Dark grey, micaceous, carbonaceous shale.
- 2573-2574 feet. Dark grey to grey, micaceous sandstone.
- 2582 feet. Dark grey, micaceous, carbonaceous shale.
- 2590-2600 feet. Hard, dark grey, carbonaceous sandstone, with pyrite.
- 2617-2632 feet. Mottled light to dark grey, micaceous sandstone with bryozoa.

- 2642-2652 feet. Mottled light to dark grey, micaceous sandstone with foraminifera (Ammodiscus, Hyperammina, Cyclammina).
- 2662-2672 feet. Mottled light to dark grey, micaceous sandstone.
- 2681 feet. Dark grey carbonaceous sandstone with foraminifera (Ammodiscus, Hyperammina, Rhizammina, Cyclammina common).
- 2712 feet. Grey micaceous sandstone.
- 2720-2732 feet. Finely bedded, dark grey, carbonaceous shale and micaceous sandstone.
- 2735 feet. Grey micaceous sandstone and grey shale with ostracoda (Bythocypris).
- 2737-2756 feet. Grey micaceous sandstone interbedded with fine dark grey shale.
- 2758 feet. Massive pyrite.
- 2766 feet. Grey, micaceous sandstone with carbonaceous fragments.
- 2781 feet. Moderately hard, dark grey shale, interbedded with grey sandstone.
- 2787 feet. Unconsolidated quartz grains, pyrite and carbonaceous fragments.
- 2798-2810 feet. Carbonaceous shale interbedded with grey sandstone.
- 2818 feet. Grey, micaceous sandstone.
- 2820 feet. Hard, grey, slightly carbonaceous, micaceous sandstone.
- 2828 feet. Hard, carbonaceous sandstone with plant remains cf. Cinnamomum and cf. Banksia and patches of resinous substance.
- 2830 feet. Dark grey, carbonaceous, micaceous shale.
- 2837-2865 feet. Moderately hard, finely bedded, dark grey shale and micaceous sandstone.
- 2868 feet. Fine grained sandstone, with carbonaceous remains.
- 2874 feet. Fawnish grey shale with pyrite: plant remains indeterminate, pyritic replacement of pelecypoda and other organisms indeterminate and ? phosphatic remains.
- 2876 feet. Grey, micaceous shale with carbonaceous fragments.
- 2886-2894 feet. Moderately hard to friable, finely bedded, dark grey shale and micaceous sandstone.
- 2906-2918 feet. Grey carbonaceous shale.
- 2919-2925 feet. Grey, micaceous shale and sandstone with carbonaceous fragments.
- 2929 feet. Dark brownish grey, carbonaceous shale with bands of micaceous sandstone.
- 2931 feet. Hard, grey, micaceous sandstone.

- 2954 feet. Dark grey shale with plant remains indeterminate.
- 2963-2979 feet. Dark grey and light grey shale with foraminifera (Hyperammina).
- 2997 feet. Unconsolidated micaceous sandstone.
- 3003 feet. Hard to friable, grey micaceous, sandstone with foraminifera (Cyclammina).
- 3024-3059 feet. Hard to friable, dark grey to black, micaceous carbonaceous sandstone with foraminifera (Cyclammina).
- 3069-3123 feet. Grey, micaceous sandstone and dark grey shale.
- 3136 feet. Unconsolidated, fine-grained sandstone.
- 3146-3154 feet. Friable, grey to dark grey, micaceous sandstone with carbonaceous fragments and foraminifera (small tests of Cyclammina common).
- 3205 feet. Unconsolidated, fawnish sandstone.
- 3236 feet. Friable fawnish, micaceous sandstone.
- 3244 feet. Grey, micaceous sandstone with fine carbonaceous bands and foraminifera (Cyclammina).
- 3274-3293 feet. Grey, carbonaceous sandstone.
- 3321 feet. Greyish, micaceous sandstone.
- 3360-3390 feet. Unconsolidated, micaceous and carbonaceous sandstone.
- 3566 feet. Hard brownish shale.
- 3612 feet. Hard, dark grey, fine-grained, micaceous sandstone with foraminifera (Cyclammina) and pelecypoda (Nuculana cf. chaomani).
- 3617-3618 feet. Hard, dark grey, fine-grained, micaceous sandstone.
- 3625-3634 feet. Hard, grey shale with pyrite, indeterminate plant remains and pelecypoda (Nuculana cf. chaomani).
- 3635 feet. Hard, fawnish shale with indeterminate plant and ? fish remains.
- 3636-3655 feet. Hard, grey shale with pyrite and indeterminate plant remains.
- 3690 feet. Grey grit carbonaceous fragments.
- 3712-3718 feet. Hard, grey, fine-grained, micaceous, carbonaceous sandstone with ? algal remains.
- 3723-3740 feet. Hard, grey to dark grey, fine-grained, micaceous sandstone.
- 3746-3795 feet. Friable, dark grey, carbonaceous shale interbedded with sandstone and containing massive pyrite.
- 3805-3874 feet. Alternating bands of hard and friable, grey to dark grey, micaceous and carbonaceous sandstone.

- 3875 feet. Unconsolidated sandstone.
- 3887 feet. Hard, dark to light grey, micaceous sandstone.
- 3920-4220 feet. Unconsolidated sandstone.
- 4221 feet. Finely bedded grey shale.
- 4259 feet. Grey sandstone.
- 4302 feet. Grey shale.
- 4366 feet. Moderately hard, dark grey, carbonaceous and micaceous shale with patches of sandstone, indeterminate plant remains and resin.
- 4506 feet. Grey, micaceous sandstone with carbonaceous fragments.
- 4681 feet. Grey sandstone with pyrite.
- 4742-4743 feet. Hard, grey, micaceous sandstone with indeterminate plant remains and thin bands of carbonaceous shale.
- 4746-4790 feet. Grey to dark grey carbonaceous shale.
- 4792 feet. Hard, grey, fine-grained, micaceous sandstone with carbonaceous markings.
- 4807-4811 feet. Coarse to fine-grained sandstone.
- 4876 feet. Coarse to fine-grained sandstone with thin bands of carbonaceous material.
- 4868-4969 feet. Grey sandstone.
- 4920 feet. Hard, fine-grained, micaceous sandstone, with fine bands of carbonaceous material.
- 5112 feet. Grey sandstone, with fine bands of dark grey shale and pyrite.
- 5191 feet. Grey, micaceous sandstone.
- 5304 feet. Hard to friable, grey, micaceous sandstone, interbedded with thin bands of carbonaceous shale, and containing foraminifera (Cyclammina) and small fragments of bryozoa.
- 5391 feet. ~~Friable, grey, micaceous sandstone~~ interbedded with thin bands of carbonaceous shale.
- 5391-5427 feet. Unconsolidated sandstone with pyrite and pyritic replacement of woody fragments.
- 5458 feet. Grey sandstone.
- 5536 feet. Hard, grey, pyritic sandstone.
- 5597 feet. Grey, micaceous sandstone, with carbonaceous remains and aggregates of pyrite.
- 5708 feet. Grey sandstone, with bands of micaceous, carbonaceous shale at bottom of core. The friable portion of the sandstone consisted of fine grains of angular to rounded quartz grains.

- 5782-5784 feet. Grey, carbonaceous, micaceous shale passing down to a hard, grey sandstone with a little glauconite.
- 5835-5861 feet. Dark grey, bedded micaceous, carbonaceous sandstone with indeterminate plant remains, passing down to brownish grey sandstone, with numerous glauconite grains.
- 5914-5915 feet. Grey micaceous sandstone with fine bands of carbonaceous shale and patches of glauconite.
- 5973-6236 feet. Dark grey to grey carbonaceous sandstone with fine bands of carbonaceous material.
- 6292-6298 feet. Hard, finely bedded, carbonaceous shale and sandstone with patches of glauconite, small quartz pebbles and pyrite.
- 6328 feet. Massive pyrite.
- 6336 feet. Pale grey to whitish sandstone with pyrite.
- 6418 feet. Dark grey, micaceous sandstone.
- 6485 feet. Grey sandstone with numerous glauconite grains.
- 6576-6578 feet. Dark grey, carbonaceous, micaceous sandstone, passing into mottled, light to dark grey sandstone.
- 6676-6682 feet. Light grey, carbonaceous sandstone with bands of carbonaceous material.
- 6751-6754 feet. Carbonaceous, micaceous sandstone, with irregular patches of carbonaceous material and pyrites.
- 6843-6844 feet. Carbonaceous sandstone passing down to coarser sandstone with some pyrite.
- 7077-7299 feet. Sandstone and carbonaceous sandstone with pyrite.

B. Notes on the Stratigraphic Sequence in the Nelson Bore.

When drilling operations ceased, the Nelson Bore had proved 7,299 feet of Tertiary sediments in the southwestern corner of Victoria and palaeontological evidence points to the bore being still sediments of Middle Miocene age. The stratigraphic sequence in the Tertiary deposits in the Nelson Bore is similar to that shown in the deep bores in the Ninety Mile Beach Sector in Gippsland (Crespin, 1943).

Three stages of the Middle Miocene are represented :

(c) Balcombian Stage (basal portion) at 108 feet, which is the depth of the topmost sample received for examination.

(b) Janjukian Stage, represented by 884 feet of fossiliferous limestones, marls and calcareous grits, from 112 feet down to 976 feet.

(a) Anglosean Stage, represented by 6,310 feet of carbonaceous sandstones and shales from 989 feet down to 7,299 feet.

(a) Anglosean Stage. It is probable that the entire series of carbonaceous sandstones and shales from the depth of 7,299 feet up to 989 feet is referable to the Anglosean Stage, the thickness

of 6,310 feet representing the greatest yet proved for the stage in southeastern South Australia and southwestern Victoria. Prior to the drilling of the Nelson Bore, the greatest recorded thickness was in No.2 Bore Knight's Dome, Mt. Gambier, South Australia, 15 miles northwest of Nelson Bore, where 1,933 feet were proved before drilling operations ceased at 2,103 feet. In Gippsland, 1,463 feet of Anglesean sandstones were recorded in No.2 Bore, Tanjil-Pt. Addis, Parish of Glencoe.

Both the lithological and palaeontological features of the Anglesean stage as found at the type locality at Anglesea, Victoria, are present in the Nelson Bore. The lithology varies from dark and light grey micaceous and carbonaceous sandstones with foraminifera to moderately hard, dark grey shales and sandstones with plant remains. The greatest depth at which there is evidence of marine conditions is 5,304 feet where the typical Anglesean foraminifer, Cyclammina, is present. It is common in samples from 3,154 feet up to 3,146 feet. At 2,681 feet it is associated with other arcaceous forms, Ammodiscus, Hyperammina and Rhizammina. Ammodiscus and Hyperammina were recorded under similar lithological conditions in Holland's Landing Bore, Parish of Bengworden South, in Gippsland between the depths of 2,938 feet and 2898 feet. Small shallow-water foraminifera, such as occur in similar deposits in the Gippsland bores and small fragments of bryozoa occur in many of the bore cores.

An interesting assemblage of foraminifera, bryozoa, fragments of mollusca, ostracoda and fish teeth is present in an unconsolidated sandstone at 1,924-1,943 feet. A similar assemblage was met with in No.2 Bore Knight's Dome, Mt. Gambier at the depth of 1,980-1,995 feet in similar unconsolidated sandstone, and at 2,110 feet in the Associated Oil Company's Bore, Section 301, Hundred of Blanche, South Australia, near Mt. Gambier.

Fragmentary plant remains are numerous in the Anglesean beds in the Nelson Bore but only two specimens are complete enough to be determined generically. cf. Banksia and cf. Cinnamomum occur in a hard carbonaceous sandstone at the depth of 2,828 feet. Banksia has been recorded from similar beds at Moorlands, about 150 miles north of Mt. Gambier.

Another feature of the carbonaceous sandstones in the bore is the branch-like markings, probably of algal origin, which are prominent in the sediments at the type locality for the Anglesean stage.

(b) Janjukian Stage. Beds belonging to this stage extend from 976 feet up to 112 feet, and include calcareous and fossiliferous grits, white to grey, bryozoal marls, bryozoal limestones, dolomitic limestones and flints.

Three lithological and palaeontological zones have been recognised:

(iii). The topmost zone extends from 625 feet up to 112 feet and contains friable, bryozoal marls and limestones, and hard, pink, dolomitic limestones and grey flints. Typical Janjukian foraminifera such as Cyclammina incisa, Ammodiscus sp.1, and Victoriella plecte are present.

The most important lithological types in this zone are the dolomitic limestones and flints. Similar rock types are well known in surface deposits in southeastern South Australia and their exact age has been uncertain. In the Nelson Bore the pink dolomitic limestones occur interbedded with cream coloured bryozoal marls at 607, 582 and 536 feet. The flints are recorded at 348, 230, 198 and 112 feet and are interbedded with bryozoal marls and limestones. The sample at 112 feet is regarded as the topmost bed of the Janjukian in the bore.

(ii). The middle zone which occurs from 812 feet up to 635 feet is comprised of grey to white bryozoal marls. These rocks contain a typical Janjukian foraminiferal assemblage, including Cyclammina incisa, Glomospira charoides, Ammodiscus sp.1, Vaginulina gippslandica, and Victoriella plecto. The bryozoa are worn and encrusted.

(i). The lowest zone extends from 976 feet up to 816 feet and is represented by calcareous sandstones and fossiliferous grits. From 976 feet up to 939 feet these grits and sandstones contain abundant brown glauconite grains ovoid pellets, foraminifera (chiefly Cyclammina) and fish teeth. These glauconitic sandstones, though different in hand specimen from those at the base of the Janjukian in bores in the Lakes Entrance area in Gippsland, are apparently of similar composition and are referable to the same stratigraphic horizon.

(c) Balcombian Stage. The sample at 108 feet, which is the topmost sample received for examination, is regarded as representing the base of the Balcombian. Typical zonal foraminifera, Clavulinoides szabo var. victoriensis, Cibicides victoriensis, C. sp.2, and Carpenteria proteiformis are recorded in a bryozoal limestone.

CANBERRA, A.C.T.
15th August, 1947.

I. Crespín,
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