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MICROPALAEONTOLOGICAL EXAMINATION OF CORE SAMPLES
FROM BORES AT COLLIE, WESTERN AUSTRALIA

By

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Detailed description of core samples

Bore No. 1, Site C.K.L. 315

- GS/C1. 39-49 feet. Grey carbonaceous shale.
- GS/C2. 55-63 feet. Fine grained, grey sandstone with angular quartz grains, a little mica and some carbonaceous material.
- GS/C3. 78-93 feet. Black, finely bedded, sandy shale, with occasional large rounded to subangular grains of quartz and carbonaceous fragments.
- GS/C4. 169-181 feet. Grey sandy shale with thin bands of carbonaceous material, fine angular quartz grains and some mica.
- GS/C5. 280-289 feet. Hard, grey sandstone with fine angular quartz grains.
- GS/C6. 382-389 feet. Grey, coarse sandstone with angular quartz grains.
- GS/C7. 473-481 feet. Hard, finely bedded, dark grey carbonaceous shale with thin bands of light grey fine grained sandstone.
- GS/C8. 518-528 feet. Hard, dark grey and light grey finely bedded sandy shale.
- GS/C9. 588-594 feet. Coarse grey sandstone, with angular quartz grains and a little carbonaceous material.
- GS/C10. 655-660 feet. Similar to 588-594 feet.
- GS/C11. 729-739 feet. Hard, black, finely bedded, carbonaceous shale.
- GS/C12. 840-850 feet. Hard, grey, grit, with angular quartz pebbles.
- GS/C13. 930-940 feet. Hard, black carbonaceous shale.
- GS/C14. 1063-1073 feet. Hard, grey sandstone with angular quartz grains.
- GS/C15. 1138-1149 feet. Hard, grey, grit interbedded with grey sandstone with fine layers of carbonaceous material.
- GS/C16. 1204-1211 feet. Fine-grained grey micaceous shale with fine bands of carbonaceous material.
- GS/C17. 1262-1270 feet. Hard, interbedded, light and dark grey micaceous carbonaceous shale with fine bands of fine grained sandstone.
- GS/C18. 1357-1372 feet. Hard, light and dark grey sandstone with irregular bands of carbonaceous material and angular quartz grains.

- GS/C19. 1402-1417 feet. Similar to 1357-1372 feet.
- GS/C20. 1479-1493 feet. Hard grey grit.
- GS/C21. 1493-1508 feet. Hard, dark grey carbonaceous with alternating bands of fine carbonaceous and micaceous sandstone.
- GS/C22. 1545-1560 feet. Hard, light grey carbonaceous shale with a few irregular bands of fine-grained grey sandstone.
- GS/C23. 1607-1613 feet. Dark grey, carbonaceous shale with indeterminate plant remains.
- GS/C24. 1684-1692 feet. Hard, grey sandstone.
- GS/C25. 1769-1778 feet. Hard, grey sandstone.
- GS/C26. 1810-1818 feet. Hard, greenish grey, claystone.
- GS/C27. 1842-1851 feet. Greenish grey, fine-grained tillite with some rounded quartz grains.

Notes on the Samples

The samples from No. 1 Bore, Site C, Collie, came from between the depths of 39 feet and 1,851 feet. The sequence of rocks consisted of finely bedded carbonaceous sandstones and shales, coarse sandstones, grits, claystone and tillite.

No microfossils were present to indicate a definite age for the samples and the only fossil remains found were a few small fragments of indeterminate plant remains.

It is most probable that the whole sequence of rocks is of Permian age. The tillite at 1,842-1,851 feet is similar in lithology to that found in the Lyons formation in the Northwest Basin which is apparently low in the Permian.

Bore No. 2, Site L.M.L. 152.

- GS/L1. 83-91 feet. Cream siltstone containing fine angular quartz grains.
- GS/L2. 184-192 feet. Dark grey and light grey, banded shale, the dark grey rock containing a few carbonaceous material.
- GS/L3. 253-263 feet. Coarse white sandstone with angular quartz grains.
- GS/L4. 374-383 feet. Hard, coarse, sandstone with angular quartz grains.
- GS/L5. 449-459 feet. Alternating bands of dark grey and light grey sandstone with brown mica and carbonaceous fragments.

- GS/L6. 553-563 feet. Coarse sandstone, similar to 374-383 feet.
- GS/L7. 713-721 feet. Black and dark grey, finely bedded shale.
- GS/L8. 813-823 feet. Grey, pebbly sandstone, with the pebbles chiefly angular.
- GS/L9. 933-943 feet. Hard, dark grey, finely bedded carbonaceous shale.
- GS/L10. 1051-1061 feet Grey, gritty sandstone with angular quartz grains.
- GS/L11. 1170-1180 feet. Similar to 1051-1061 feet.
- GS/L12. 1249-1257 feet. Grey sandstone with angular quartz grains.
- GS/L13. 1310-1320 feet. Hard, dark grey, finely bedded, carbonaceous shale.
- GS/L14. 1320-1330 feet. Hard, grey sandstone with a thin band of black coal.

Notes on the Samples

The samples from No. 2 Bore, Site L, Collie came from between the depths of 83 feet and 1330 feet. They consist of coarse to fine sand, sandstone, grits, and finely bedded carbonaceous shale. No microfossils were present.

No age can be suggested for the top sample at 83-91 feet, but the samples below 91 feet down to 1330 feet are most probably Permian in age.

J. Cooper