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THE CAMBRIAN GEOLOGY OF
THE NEPABUNNA AREA
SOUTH AUSTRALIA.

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INTRODUCTION:

Cambrian strata in the Nepabunna area were studied with a view to elucidating the geological history of the area and to correlate the established sequence with Cambrian sediments in other regions of South Australia.

The Nepabunna Mission is situated in the heart of the northern Flinders Ranges, 40 miles east of Leigh Creek. The Cambrian sediments in this area were first observed by Sir Douglas Mawson in 1924 who subsequently discussed two measured sections, the Nepabunna and Italowie sections, in 1937, (Mawson, 1937). The western portion was subsequently mapped on a regional scale by Sprigg and Wilson, being consequently included in the Angepena sheet (1953) of the South Australian Department of Mines geological map series.

The area of outcrop studied is about 50 square miles being almost completely surrounded by rugged quartzite ranges which provide a convenient physiographic and stratigraphic boundary. The softer Cambrian sediments generally form a low topography which is in some areas deeply incised by water courses. A more rugged topography is found near the Italowie Gorge where the Cambrian limestones are thicker and more massive. A striking geographic feature is the occurrence of elevated flat areas which are found scattered throughout the region. These may be 100' above the adjacent creek beds that dissect them.

The average annual rainfall is only 10 inches which together with high average temperatures limits vegetation to isolated small trees and bushes. Consequently the soil is easily removed during the isolated periods of heavy precipitation. This results in generally good outcrops.

The mapping was carried out with the assistance of aerial photographs.