

in places show a fibrous structure. The green mineral appears to be an altered diallage. The evidence upon which this statement is based, has been derived from one of the sections, which shows the transition from a diallage to that of the green mineral under consideration.

*Diallage.*

This mineral occurs in grains of irregular outline having a well marked parallel structure due to prismatic intergrowth, which in the coarseness of its structure resembles that of bronzite rather than that of typical diallage. The colour by transmitted light is a pale yellowish-green. The granules show cleavage cracks and microscopic inclusions, and a well-marked parting parallel to the orthopinacoid. Cleavage flakes taken parallel to this parting have straight extinction, and exhibit the excentric emergence of an optic axis in convergent polarised light, a feature specially characteristic of diallage, and this admits of the determination of the optical sign of the mineral as positive. The double refraction is high, as indicated by the polarization colours, and the index of refraction is also high. The majority of the sections give oblique extinction up to angles of  $39^\circ$ .

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NOTE ON THE OCCURRENCE OF A CALCAREOUS SANDSTONE  
ALLIED TO FONTAINEBLEAU SANDSTONE AT  
ROCK LILY, NEAR NARRABEEN.

By Professor DAVID, B.A., F.G.S.

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[*Read before the Royal Society of N. S. Wales, August 2, 1893.*]

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CALCAREOUS Sandstone has previously been recorded as occurring in the Tomago Series of East Maitland, the calcite being crystallised out in the mass of the sandstone, and also in rocks of the

Narrabeen Series, as evidenced by the cores from the Holt Sutherland Diamond Drill Bore.

At Rock Lily at the first headland to the north of the sandy beach there are several beds of a very calcareous sandstone, in which the calcite is crystallised out in the mass of the sandstone in isolated crystals. These crystals exhibit the characteristic cleavage of calcite, and in freshly fractured specimens the cleavage surfaces reflect the light uniformly over areas an inch or so in diameter, showing that the optical orientation of the calcite is not interrupted by the large number of enclosed sand grains. The origin of the calcite in this rock has not yet been determined. Possibly it has been derived from dissolving up of the valves of ostracods.

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NOTE ON THE OCCURRENCE OF BARYTES AT FIVE-DOCK, AND  
ALSO AT THE PENNANT HILLS QUARRY NEAR  
PARRAMATTA, WITH A SUGGESTION AS TO THE  
POSSIBLE ORIGIN OF BARYTES IN THE  
HAWKESBURY SANDSTONE.

By Professor DAVID, B.A., F.G.S.

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[*Read before the Royal Society of N. S. Wales, August 2, 1893.*]

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THE first reference made to the occurrence of barytes in the Hawkesbury Sandstone is that made by Mr. H. G. Smith, F.C.S., the Mineralogist to the Technological Museum, who recorded its occurrence at Cook's River.

At a recent excursion to Five Dock held by myself for my second year geological students, some of the quarrymen presented to us specimens taken from the quarry, showing small crystals of barytes associated with quartzite, and in close proximity to the



David, Tannatt William Edgeworth. 1893. "Note on the occurrence of a calcareous sandstone allied to Fontainebleau Sandstone at Rock Lily, near Narrabeen." *Journal and proceedings of the Royal Society of New South Wales* 27, 406–407. <https://doi.org/10.5962/p.359169>.

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**DOI:** <https://doi.org/10.5962/p.359169>

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