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GEOLOGICAL SURVEY OF WESTERN AUSTRALIA

BULLETIN 119

THE IRON FORMATIONS OF
THE PRECAMBRIAN
HAMERSLEY GROUP
WESTERN AUSTRALIA

WITH SPECIAL REFERENCE TO
THE ASSOCIATED CROCIDOLITE

by

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over-supplied and prices fell. In addition, a shortage of shipping, and the distance of the markets, caused long delays in payments, which the generally undercapitalised miners could not sustain. Mining at this time was limited to surface exposures, from which the fibre was won by benching (Figure 68). About 500 tons of crocidolite are estimated to have been produced. The deposits worked included those at Wittenoom Gorge, Yampire Gorge, Dales Gorge, and probably those at Bee and Range Gorges. Following the fall in prices, most of the leases passed into the hands of companies and subsequent mining was confined to the deposits at Yampire Gorge, Wittenoom Gorge, and Marra Mamba.

The leases at Yampire, which had first been worked by L. Snell, were taken over by the Asbestos, Molybdenum and Tungsten Co. Ltd. This company erected a small plant on the deposit in 1939, and produced asbestos intermittently from 1940 to 1942. After a period of idleness West Australian Blue Asbestos Fibres Limited bought the leases, improved the mill, and mined crocidolite in the period from 1944 to 1946. Most of the fibre was still being won from benches on the sides of the gorge, but the company did start some underground work. The company quickly ran into financial difficulties and eventually closed down the mine after a flood had wrecked the mine plant. No further asbestos has been won from Yampire Gorge, although the leases have been held almost continuously since 1946 by other parties.

The early 'Wittenoom Gorge' leases were worked by L. G. Hancock and W. McLarty and were located in the branch now known as Colonial Gorge. In 1938, Hancock and McLarty formed a company called Australian Blue Asbestos Mines No Liability which took over these leases. Meanwhile, Hancock had pegged a seam exposed in the main trunk of the gorge, then called Joffre Creek, which has since become known as Wittenoom Gorge. In partnership with E. A. Wright, he formed the L. G. Hancock Asbestos Company to work the new claims. By 1942 it was obvious that more capital was needed and the partners approached the Colonial Sugar Refining Limited company, which had previously expressed interest in obtaining blue asbestos for their Building Materials Division. C.S.R. bought a controlling interest in the L. G. Hancock Asbestos Company in 1943 and formed the company Australian Blue Asbestos Pty. Limited to develop the leases. This development resulted in the opening of the Wittenoom mine on the site of Hancock's original claim in Joffre Creek. The Wittenoom mine stayed in production until about 1956. In 1953, the company had started to develop the Colonial mine on the seams exposed in Colonial Gorge, and when the Wittenoom mine was closed, all the plant was transferred to the new site. The Colonial Mine (Figure 69) was worked until 1966, when it was closed down due to lack of ore reserves and high production costs.

From 1947 to 1966, the Australian Blue Asbestos Pty. Limited company was the sole crocidolite producer in the field. Apart from its leases at Wittenoom Gorge it held ground covering the deposits at Yampire Gorge, Calamina Gorge, Bee Gorge, Range Gorge, Junction Gorge, and Marra Mamba. Although it

worked none of these, it did carry out a programme of Government subsidised diamond drilling to test the Yampire, Junction, and Bee Gorge deposits.

The Marra Mamba deposits were reopened by Hancock in 1940-41. Hancock then sold them to the Lionel Chrysotile Asbestos Limited Company, a sister company to West Australian Blue Asbestos Fibres Limited, of Yampire Gorge. This company announced plans to build a plant at Marra Mamba, but these did not eventuate. No crocidolite has been won from Marra Mamba since 1941.

The sorry review of crocidolite mining in Western Australia since the late nineteen-thirties is that, although the value of the product has averaged over \$200 per ton, no company has been able to maintain profitable operations. It is clear that cheaper production methods will have to be found if the industry is to be restarted. At the time of writing, A.B.A. have sold their leases to Hancock and Wright, who have outlined a scheme to reopen the blue asbestos mines as part of a giant industrial complex involving, among other things, the construction of a railway to the coast. The wheel of progress has turned a full circle since Herbert Soanes departed from the scene.

Crocidolite production in the Hamersley Range to the end of 1966 was 152,466.74 tons valued at \$33,496,664.98, making blue asbestos the State's fourth most valuable mineral product after gold, coal, and iron ore. During its most flourishing years, the industry supported the largest inland town in the north of the State and the facilities provided for it have helped the tourist industry and greatly assisted the later search for iron ore in the Hamersley Range.

Table 20 lists the annual productions of crocidolite by the various operators engaged in the industry.

MINING METHODS

The various methods used to mine blue asbestos, from the crudest knapping of an exposed seam to complex stoping hundreds of feet underground, have all been governed by two principal characteristics of the seams, their typical

TABLE 20. ANNUAL PRODUCTION OF CROCIDOLITE IN WESTERN AUSTRALIA

Year	Mining Centre	Producer	Crocidolite
			long tons
1933	Marra Mamba	Mackay and party	4.90
1937	Yampire Gorge	Snell, L.	20.10
	Wittenoom Gorge	McLarty and party	14.00
1938	Mt. Lockyer ¹	Bright, C.	2.65
	Dales Gorge	Snell, L. and Mahlberg, A.	26.65
	Yampire Gorge	Snell, L.	29.45
	Yampire Gorge	Walker, E.	9.05
	Wittenoom Gorge	McLarty and party to 30/6/1938; Australian Blue Asbestos Company N.L. from 1/7/1938 ¹	54.45

¹Probably from the Dales Gorge deposit