A NOTE ON SOME GREEN MICACEOUS MINERALS FROM TASMANIA

By

G. E. A. HALE
Hydro-Electric Commission, Hobart

(With 1 Text Figure)

A green translucent micaceous mineral of massive habit occurring at many mineralized zones in Tasmania has been examined in a preliminary fashion by the X-ray diffraction method. Specimens of this mineral are held at various institutions and have been called by different names. Those studied are listed below in Table 1.

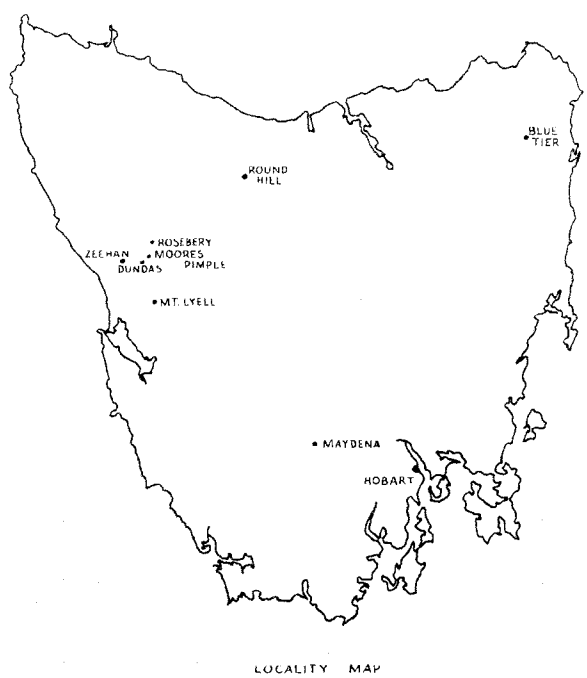
Some samples from the Swansea Mine, Zeehan and Round Hill were seen at the Mines Department, Hobart, but were not examined by X-rays. An occurrence of similar material is recorded by Petterd from Blue Tier, North-Eastern Tasmania.

For this work, powder specimens were rotated in a 3 cm radius Unicam camera using Cu Ka radiation and no correction has been made for film shrinkage. Darkening of the film made measurement of lines greater than 9kX difficult but this could be eliminated by a change in method.

The "d" spacings and intensities (strongest lines only) are shown in Table 2 and indicate that all these specimens have similar X-ray patterns. As might be expected they do not exactly match the pattern for muscovite but are close to it and are very similar to the pattern given by the chrome mica from Calaveras County, California (2). The specimen from Moore's Pimple called pyrophyllite gives a pattern unlike those published for genuine pyrophyllites.

The batchelorite spacings are so similar to the others that the validity of naming this as a separate mineral must be questioned, and also suspect is the identification of the agalmatolite from Mt. Lyell.

The known association of the chrome micas with mineralized zones (Whitemore *et al* 1946) makes the consideration of the distribution as well as the study of the mineralogy of these minerals of interest and this note is published to draw attention to this problem.



LOCALITY MAP

PETTERD, W. F., 1910.—The Minerals of Tasmania. *Pap. and Proc. Roy. Soc. Tasm.*, 1910.

KAUFFMAN, ET AL., 1950.—U.S. Bureau of Mines, Report of Investigation 4721.

WHITEMORE, D. R. E., BERRY, L. G. AND HAWLEY, J. E., 1946.—Chrome Micas. The American Mineralogist, Vol. 31, No. 1, p. 1.

Table 1

Name	No.	Locality	Storage	Collector
Batchelorite	1	Mt. Lyell	University of Tasmania	Mt .Lyell Mining Co.
Agalmatolite	2	Mt. Lyell	Tasmanian Museum	Mt .Lyell Mining Co.
Pyrophyllite	3	Moore's Pimple	Tasmanian Museum	....
Fuchsite	4	Rosebery	Tasmanian Museum	Taylor, Ford, Hale
Fuchsite	5	Mt. Lyell	....	W. Baker
Fuchsite	6	S. Comet Mine, Dundas	Tasmanian Museum	H. Bartlett
Fuchsite	7	Maydena	University of Tasmania	Banks and Hale

TABLE II

	(2) Agalmatolite		(5) Fuchsite (Mt. Lyell)		(4) Fuchsite		(1) Batchelorite		(6) Fuchsite		(7) Fuchsite		(3) Pyrophyllite		Chrome Mica	
	I	D	I	D	I	D	I	D	I	D	I	D	I	D	I	D
(1)*	S	9.30		..	S	9.8	VS	9.58	VS	9.84	VS	9.95	VS	10.06	VS	9.98
		..		5.03		7.02		..		..		..		7.56		..
(2)		4.93		..		4.94		4.58		4.65		4.98		4.96		4.94
(3)	VS	4.48	VS	4.48	VS	4.45	VS	4.39	VS	4.36	VS	4.45	VS	4.47	VS	4.44
		..		4.27		3.92		3.76		3.67		..		3.75		..
(4)		3.70		3.73		..		..		..		..		..		..
		..		3.51		..		..		..		..		..		..
(5)		3.49		..		3.46		..		..		..		..		3.63
(6)		3.30	VS	3.34		3.30		..	S	3.27	S	3.30	S	3.32	VS	3.30
		..		3.20		..		..		..		3.01		..		3.03
(7)		3.18		..		..	S	3.19		..		..		..		..
(8)	VS	3.05		3.00		..		..		..		..		..		..
(9)		2.95		..		..		2.94		2.94		..		..		..
		..		2.84		2.88		2.81		..		..		2.84		..
(10)		2.79		..		..		2.69		2.76		..		..		..
(11)	VS	2.55	VS	2.58	VS	2.56	VS	2.54		2.52	VS	2.56	VS	2.57	VS	2.55
		..		2.48		2.53		..		..		..		2.45		..
(12)		2.40		2.39		2.38		2.42		2.40		2.41		2.38		2.45
		..		2.22		2.21		2.21		2.33		2.21		2.22		2.37
(13)		2.14		2.15		2.13		2.12		2.10		2.12		2.12		2.13
(14)		2.05		2.08		..		..		..		..		..		..
		..		2.01		..		..		..		..		..		..
(15)		1.98		..		1.99		1.98		..		1.98		1.99		1.98
		..		..		..		1.91		1.95		1.89		..		1.94
(16)		1.83		1.74		1.80		..		..		..		..		..
(17)		1.69		1.66		1.65		1.69		..		1.69		1.65		1.65
(18)		1.63		1.61		..	VS	1.63		..		1.64		..		1.62
		..		1.57		1.55		1.56		..		..		..		..
(19)		1.52		1.53		..		..		..		..		..		..
(20)	S	1.48	S	1.51	S	1.50	S	1.49	S	1.48	S	1.50		1.50	S	1.49
(21)		1.46		1.46		..		1.44		1.42		..		..		..
		..		1.43		..		..		..		..		..		..
(22)		1.41		..		1.40		..		..		..		..		..
(23)		1.38		..		..		..		..		..		..		..
(24)		1.38		1.36		..		..		..		..		..		..
(25)		1.34		1.35		1.35		1.33		1.33		1.35		1.35		1.33
		..		1.31		1.30		..		..		1.30		..		..
(26)		1.28		1.28		..		1.29		1.28		..		1.28		1.29
(27)		1.26		1.26		..		..		..		..		..		..
(28)		1.23		1.23		..		1.24		1.23		1.25		1.24		1.24
(29)		1.21		..		..		..		..		..		..		..
(30)		1.15		..		1.18		1.18		..		..		..		..
(31)		1.11		..		..		1.11		..		..		..		..
(32)		1.09		..		..		..		..		..		..		..

* VS—Very strong
S—Strong