

FALCONBRIDGE NICKEL MINES LIMITED

INTER OFFICE MEMORANDUM

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MEMO TO: Dave Lefebvre
 FROM: G. Springer
 DATE: August 17th, 1984
 SUBJECT: Mount Sicker Muscovites
 COPIES TO: RAB, JBG, LES, LCK, RB, file
 KEYWORDS: Green mica, electron-probe

PROJECT No.
LR# 8424620

Polished thin sections prepared of pyritic felsic tuffs from the Mt. Sicker area, B.C. were analysed by electron-probe:

PTS 16 :	Mount Sicker	MTS3	113.4
PTS 17 :	" "	" "	113.2

The samples contain considerable amounts of green mica and information on the composition of these micas was requested.

Results

Both sections show massive muscovite interlayered with quartz and pyrite. Six to ten electron-probe measurements were made in each section. The results are summarized in Table I.

Table I: Electron-Probe Analysis of Green Muscovites

	PTS 16		PTS 17	
	<u>Wt %</u>	<u>Cations</u>	<u>Wt %</u>	<u>Cations</u>
K ₂ O	11.56	1.99	10.08	1.72
FeO	0.67 (0.51-0.80)	0.08	0.68 (0.22-0.02)	0.08
MgO	1.57 (1.11-3.06)	0.32	1.10 (0.82-1.33)	0.22
BaO	0.56 (0.51-0.68)	0.03	0.40 (0.30-0.48)	0.02
Cr ₂ O ₃	0.07 (0-0.13)	0.01	0.25 (0.13-0.32)	0.03
Al ₂ O ₃	32.34	5.16	33.64	5.29
TiO ₂	0.19 (0.15-0.26)	0.02	0.23 (0.06-0.31)	0.02
SiO ₂	47.17	6.38	47.96	6.40
H ₂ O	5.87		5.66	
	100.00	13.99	100.00	13.78

H₂O was calculated by difference to 100%. Cation numbers were obtained by normalisation to 22 non-hydrous oxygens according to K₂Al₄(Si₆Al₂)O₂₂·2H₂O. Ideally, the cation total should be 14.

The above minor element concentrations may be compared with values measured for Hemlo green mica:

Dave Lefebvre

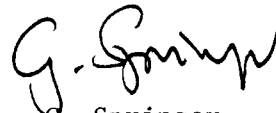
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	<u>Cr₂O₃</u>	<u>BaO</u>	<u>TiO₂</u>	<u>FeO</u>
Hemlo	0.17-0.28	0.84-1.53	1.04-1.22	1.43-2.53

A green mica from Lac Shortt contained 0.54% Cr₂O₃ and one from Slate Island (Lake Superior) 0.79% Cr₂O₃.

GS/kb


G. Springer