

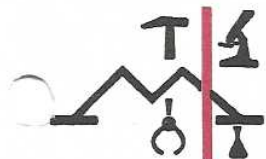
Topaz , Brazil.

	1	2
SiO ₂	31.08	31.08
TiO ₂	0.14	0.14
Al ₂ O ₃	56.12	56.12
Fe ₂ O ₃	0.08	0.08
MnO	0.02	0.02
MgO	0.05	0.05
Na ₂ O	0.30	0.30
F	17.68	17.68
H ₂ O	(0.30)	(1.335)
total	105.77	106.80
-O = F	7.44	7.44
total.	98.33	99.36

Number of cations on the basis of 6(O,F,OH)

Si	0.976	0.959
Al	0.024	0.041
	<u>1.000</u>	<u>1.000</u>
Al	2.053	1.999
Ti	0.003	0.003
Fe ³⁺	0.002	0.002
Mn	0.001	0.001
Mg	0.002	0.002
Na	0.018	0.018
	<u>2.080</u>	<u>2.025</u>
F	1.756	1.725
OH	0.063	0.275
	<u>1.819</u>	<u>2.000</u>

1 using reported water which is inaccurate.
2 stoichiometric water



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April 1, 1980

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Gentlemen:

The sample of Topaz received from you on March 12, 1980, marked:
Brazil, contained dried at 105°C:

Silicon	14.53	per cent
Titanium	0.082	" "
Aluminum	29.71	" "
Total Iron	0.054	" "
Manganese	0.012	" "
Magnesium	0.032	" "
Sodium	0.22	" "
Fluorine	17.68	" "
*Combined Water	0.3	" "

*insufficient sample for accurate determination

Yours very truly,

ANDREW S. McCREATH & SON, INC.

Norman B. Berlin Jr.

METHOD OUTLINE

Si	-	Fusion with Sodium Carbonate - Dehydration in Presence of AlCl_3
Ti	-	Peroxide Color Method
Al	-	Titration of Released OH^- Ion After Complexing with F^- Ion.
Fe, Mn, Mg	-	Atomic Absorption
Na	-	Flame Emission
F	-	Titration with Thorium Nitrate Following Distillation
Combined H_2O	-	Release of H_2O at Approx. 850°C - Collection on Magnesium Perchlorate.