A more detailed report on these reactions will be published in the near future.

1. Sumner, J. B. *J. Am. Chem. Soc.* **45** (1923) 2378.
2. Walker, J. F. *Formaldehyde*, New York, 1953, p. 370.
3. Searles, S., and Gortatowski, M. J. *J. Am. Chem. Soc.* **75** (1953) 3031.

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Chemical Analysis of a New Mineral, Bøggildite, from Ivigtut, Greenland

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In 1950 the late Richard Bøgvad, chief geologist to "Kryolitselskabet Øresund A/S", discovered a hitherto unknown mineral in the cryolite mine at Ivigtut. Bøgvad published a provisional notice¹ of this mineral of which he had prepared a thorough investigation. His plans were brought to an end by his sudden death on August 7, 1952; but not before Bøgvad had named the new mineral "bøggildite" in honour of O. B. Bøggild, professor emer. of the University of Copenhagen.

In January 1951 Bøgvad handed over to me 4.4 g of pulverised bøggildite. Of this material a sample was sent to the Central Laboratory of "Bolidens Gruvaktiebolag", Sweden, for spectrographic estimations. The results of these were in reasonable agreement with the chemical-analytical data. — 0.5 g were reserved for X-ray and crystalloptic investigations. — The rest of the material I have used for quantitative analyses, the results of which are given below.

As regards the purity of the material Bøgvad stated that "the material for analysis only contains a very slight trace of quartz and "ivigtite". Further, traces were found of presumed sphalerite in particles about $1\ \mu$ large. Otherwise it is very pure".

Chlorine, zinc, and cerium were sought for by microanalytical methods, but were not detected. The alkalies were determined by the method of Wells and Stevens².

Formula for bøggildite: $\text{Na}_2\text{Sr}_2\text{Al}_2(\text{PO}_4)_2\text{F}_2$. Mol.wt. calculated from the analysis = 543.3.

On heating in a glass tube over a Bunsen burner the mineral melts and deposits a small quantity of white sublimate.

Chemical Analysis of Bøggildite from Ivigtut.

	Weight %	Ionic ratios	Number of ions	
Al	10.04	0.372	0.373	2.01
Fe	0.06	0.001		
Sr	31.89	0.364	0.379	2.04
Ba	0.35	0.003		
Mg	0.18	0.007		
Ca	0.20	0.005		
Mn	trace	—	0.378	2.03
Na	8.60	0.374		
K	0.15	0.004		
Li	trace	—	0.186	1.00
PO_4	17.63	0.186		
F	31.70	1.668	1.668	8.97
$\text{H}_2\text{O} \pm$	none	—		
Total	100.80			

1. Bøgvad, R. *Medd. Dansk Geol. Foren.* **12** (1951) 109; Bøggild, O. B. *The Mineralogy of Greenland. Medd. Grønland* **149** No. 3 (1953) 439.
2. Wells, R. C., and Stevens, R. E. *Ind. Eng. Chem. Anal. Ed.* **6** (1934) 439.

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