

UNITED STATES DEPARTMENT OF COMMERCE
WASHINGTON

National Bureau of Standards

Certificate

FOR

Radium Content of Standard Rock Sample

DUNITE

Standard Sample No. 785

The average of several determinations made cooperatively at Massachusetts Institute of Technology, at the Geophysical Laboratory of the Carnegie Institution of Washington and at the National Bureau of Standards yields the following value for the radium content of the rock sample described below:

$$0.009 \pm 0.004 \times 10^{-12} \text{ g Ra per gram of rock}$$

These figures are based on measurements of 5-gram portions. The probable error given includes the variations which arise from inhomogeneity of the sample and means that one-half the 5-gram portions taken from any sample at random should fall within the indicated limits.

For the Director,
by

Radioactivity Section

Petrographic data:- From near Balsam Gap, North Carolina, a part of the Webster dunite body. Composed dominantly of high magnesium olivine. A few percent of chlorite, vermiculite and chromite are present. The age of the rock is in question, some holding that it is pre-Cambrian, but others that it is probably Ordovician. Grinding:- The rock was crushed and pulverized in a steel rod mill. It was then screened to pass 60 mesh and be retained on 100 mesh screen.

We are informed that analysis of a sample of dunite showed the following percentages of the oxides listed:

SiO ₂	42.64	CaO	.06	CO ₂	.09
Al ₂ O ₃	.38	Na ₂ O	.01	TiO ₂	trace
Fe ₂ O ₃	.77	K ₂ O	0.00	P ₂ O ₅	trace
FeO	6.84	H ₂ O ⁺	.78	Cr ₂ O ₃	.27
MgO	48.35	H ₂ O ⁻	.03	MnO	.11
			TOTAL		<u>99.73</u>

This analysis is given here only for general information and is not a certified analysis of this standard sample.