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Canadian Certified Reference Materials Project

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PCMRC  
Projet canadien de matériaux de référence certifiés

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# Certificate of Analysis

December 1994

## *DH-1a*

### Uranium-Thorium Ore Reference Material

#### RECOMMENDED VALUES $\pm$ 95% CONFIDENCE INTERVAL

<b>U</b>	0.2629	$\pm$ 0.0003%
<b>Th</b>	0.091	$\pm$ 0.003%
<b>Ra-226</b>	31.5	$\pm$ 1.1 Bq/g
<b>Pb-210</b>	30.8	$\pm$ 0.9 Bq/g

#### DESCRIPTION

DH-1a is intended as a replacement for DH-1 of which the stock is exhausted. It is ore typical of the property of Denison Mines Limited in Elliot Lake, Ontario, and is a sericitic feldspathic quartzite containing approximately 10% pyrite. The radioactive minerals are uraninite and brannerite and possibly traces of monazite and uranothorite.

The bulk material was dry-ground to minus 74  $\mu$ m, blended and bottled in 200-g units. The homogeneity of DH-1a was confirmed using the volumetric-umpire method for uranium.

#### CERTIFICATION

The certified value of uranium is the mean of 45 determinations by the volumetric-umpire method performed at CANMET to confirm the homogeneity of DH-1a. In addition, a sufficient number of results for uranium were submitted by nine laboratories to give a consensus value of 0.260% and 95% confidence intervals of  $\pm$  0.003%. Herein, instrumental techniques, X-ray fluorescence and neutron activation analysis, were predominant.

The consensus value for thorium is the unweighted mean of 66 accepted analytical determinations by 12 laboratories. Methods included colorimetry, X-ray fluorescence, neutron activation analysis and radiometry.



## **INSTRUCTION FOR USE**

The recommended values for DH-1a pertain to an "as is" basis.

### **LEGAL NOTICE**

The Canadian Certified Reference Materials Project has prepared this reference material and statistically evaluated the analytical data to the best of its ability. The Purchaser by receipt hereof releases and indemnifies the Canadian Certified Reference Materials Project from and against all liability and costs arising out of the use of this material and information.

## **REFERENCE**

The preparation and certification procedures used for DH-1a are given in CANMET Reports 81-11E "DH-1a: A Certified Uranium-Thorium Reference Ore", 83-9E "Radium-226 in Certified Uranium Reference Ores DL-1a, BL-4a, DH-1a and BL-5" and 84-11E "Lead-210 in Certified Uranium Reference Ores DL-1a, BL-4a, DH-1a and BL-5" which are available free of charge on application to:

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*Pour obtenir la version française du présent certificat d'analyse, prière de s'adresser au Coordinateur, PCMRC.*