

1711

GEOPHYSICAL REPORT ON PMLs 270, 271, 272, 273, 274, 275, 276, 277

BUGABOO CREEK, GOLDEN MINING DIVISION

By J. M. Black, P. Eng.

INTRODUCTION

Radioactive minerals such as pyroclore are known to occur in post-glacial creek gravels of Bugaboo Creek. These gravels come from granite at the head of the west fork of this creek.

METHOD & INSTRUMENT

The instrument used is a Model G15-2 Gamma Ray Spectrometer manufactured by Scintrex Ltd., Downsview, Ontario, Series No. 807148. This instrument is provided with two energy thresholds and can be used to determine number of counts per second from thorium only, or from thorium and uranium only, in addition to the overall count for these elements plus potassium.

A minimum of two men were required to run the survey. One man with compass and chain to locate station and the second to occupy station, take readings and hold the chain.

Readings were taken along lines, normal to the flow of the creek, near the creek where the brush was thin. The readings were taken at the station shown unless it happened to be covered with vegetation, and then the readings were taken within 15 feet of it where the vegetable cover was less or bare gravel was exposed.

The probe that picked up the radiation was held about 9 inches above the ground.

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EMPLOYMENT

Cost:

Sept. 24 - Woodsworth & Delgado	\$ 76
Sept. 30 - " "	76
Oct. 27 - Delgado	22
Board and camp cost	50
Nov. 25 - Delgado - office	22
Nov. 26 - Black - office	<u>110</u>
	<u>\$356</u>

Total Payments:

J.M. Black, Consulting Geologist - 1 day	\$110
G. Delgado, Mining Engineer - 3 days	\$ 66
B. Woodsworth, Geologist - 2 days	\$ 68
Spectrometer - 2 days	\$ 40

Declared before me at the *City* }  
of *Vancouver* , in the }  
Province of British Columbia, this *29<sup>th</sup>* }  
<sup>JMB: jh</sup> day of *November, 1968* , A.D. }  
<sub>Nov. 29/68</sub>

J. M. Black, P. Eng.

*J. Paul*  
SUB-MINING RECORDER  
A Commissioner for taking Affidavits within British Columbia or  
A Notary Public in and for the Province of British Columbia.

*J. M. Black*  
*Nov 26/68*

INTERPRETATION

The highest total readings (225) are up to eight times background indicating a considerable concentration of radioactive minerals locally.

The readings are erratic, indicating that the radioactive minerals are distributed erratically within the gravel, though some of the variation is due to the cover of vegetable matter which reduces the radioactivity measured.

Generally the counts for U+th combined is slightly less than 10% of the total count although at a few stations it is slightly greater. The general similarity of the ratio throughout the area indicates that the minerals causing the radioactivity are constant in relation to each other, although variable in amount.

The ratio of counts from Th to those for U+Th is less constant and ranges from about 1/2 to 1/5 indicating that some mineral containing thorium is distributed erratically relative to the uranium and potassium bearing minerals.

On Figure 1 it may be seen that the readings are high in and near the creek. This is because at these points bare gravel is exposed. The low readings at a distance from the creek must be attributed in part to the presence of enough vegetable matter to reduce radiation measurable.

NOTES: TOTAL COUNTS - Radiations from U, Th, and other radioactive minerals  
 U+Th COUNTS - Radiations from Uranium and Thorium alone  
 Th COUNTS - Radiations from Thorium alone  
 CENTER OF CREEK - STATIONS ALONG THIS LINE ARE ON THE CENTER OF BUGABOO CREEK

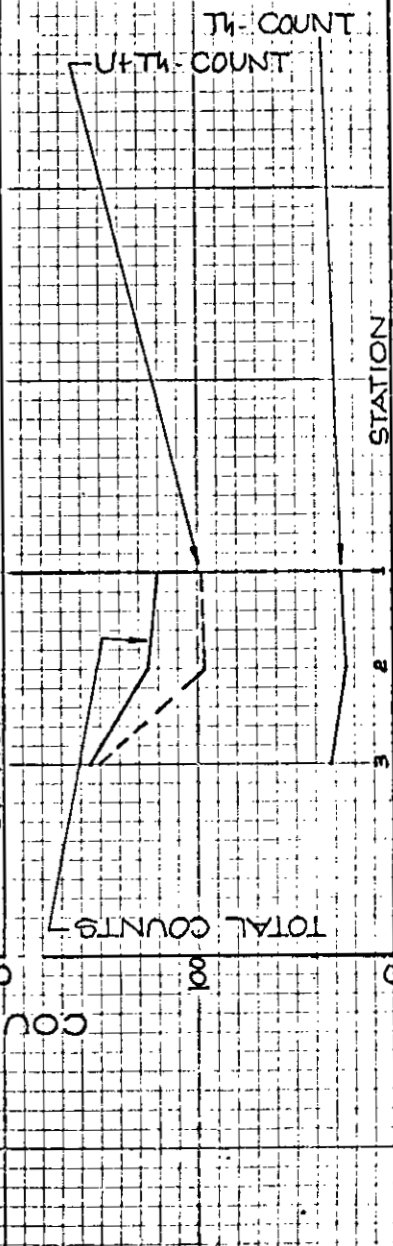
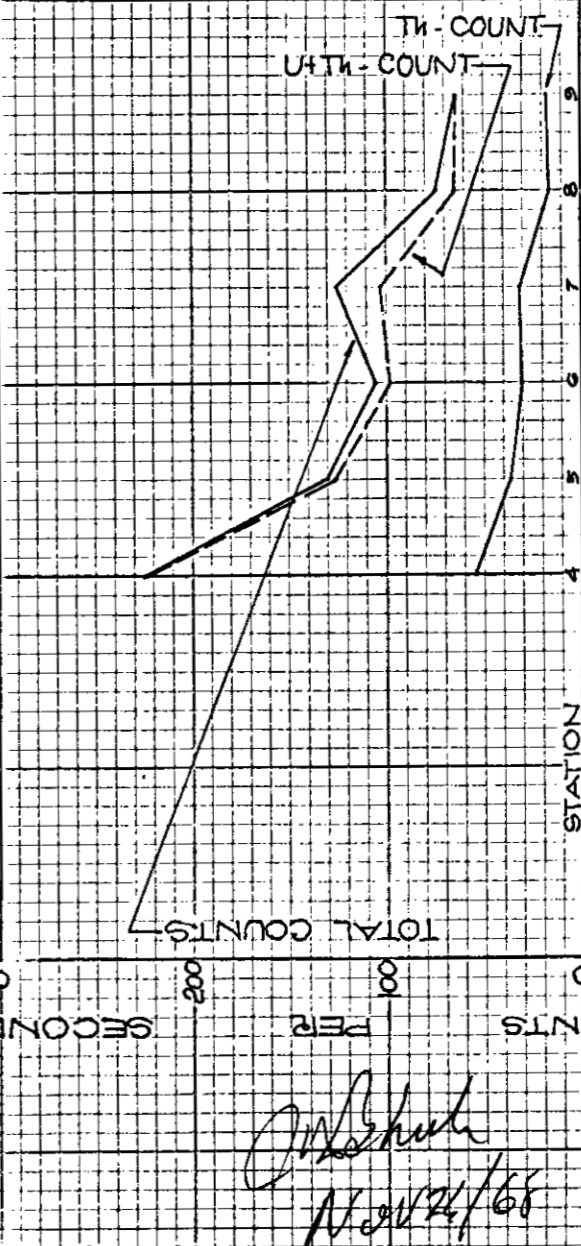
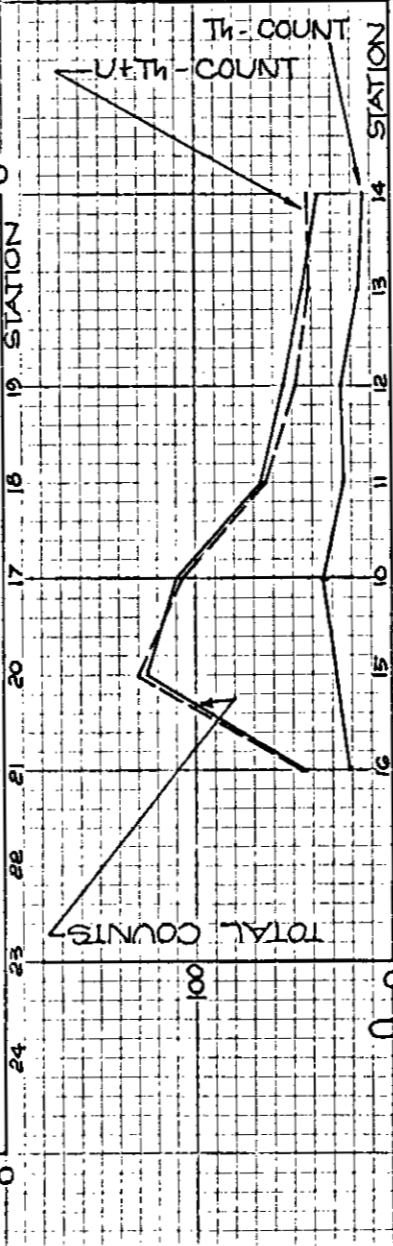
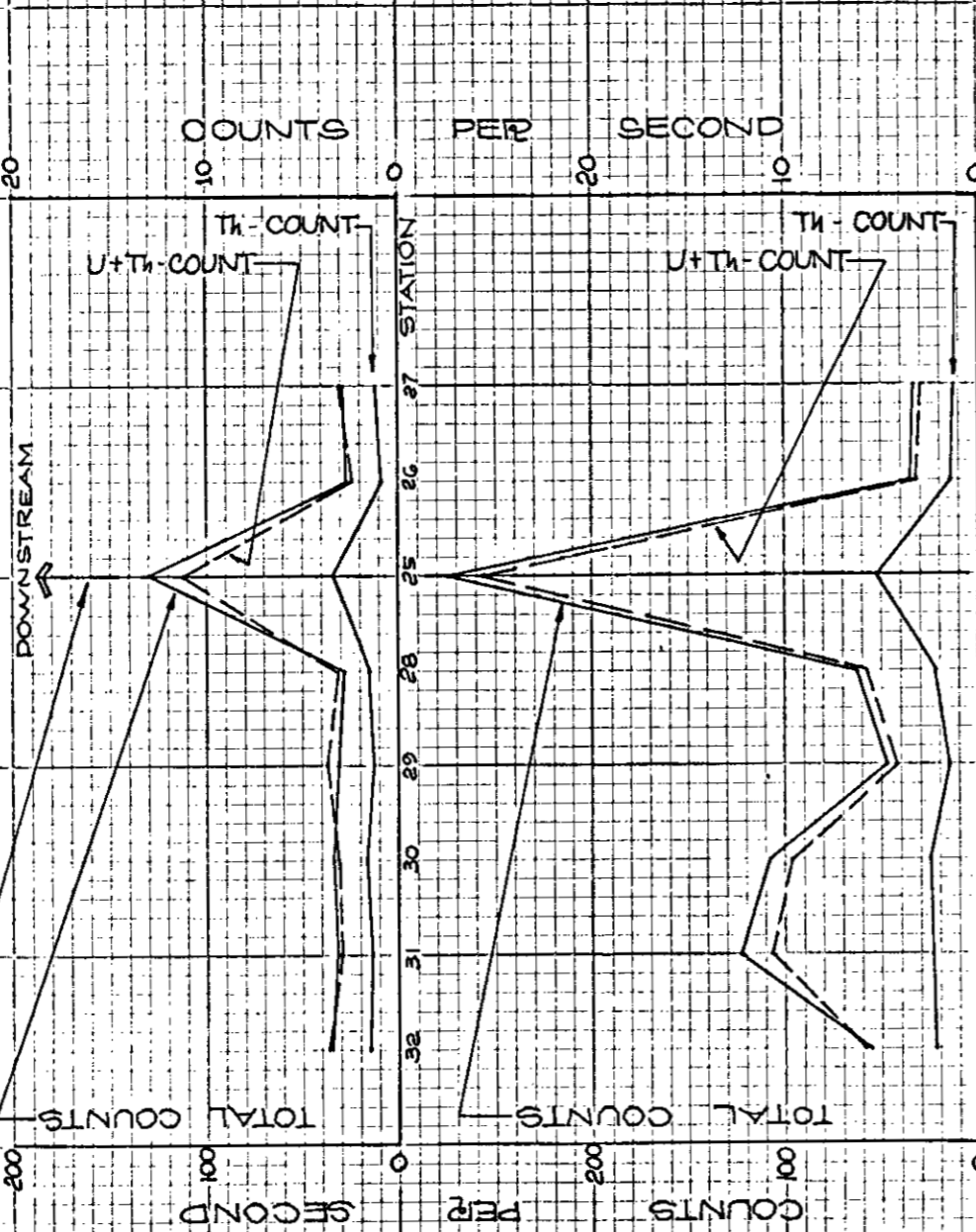


FIGURE 1 TO ACCOMPANY GEOPHYSICAL REPORT  
 BY: J. M. BLACK, P. Eng.

GROUND SPECTROMETER SURVEY  
 on PML's 270 to 277 inclusive  
 BUGABOO CREEK

*J. M. Black*  
 11/24/68