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KRUEGER ENTERPRISES, INC.
GEOCHRON LABORATORIES DIVISION

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POTASSIUM–ARGON AGE DETERMINATION — REPORT OF ANALYTICAL WORK

Our Sample No. B-3616 — Date Received: 4 August 1976

Your Reference: Letter of 27 July 1976 — Date Reported: 13 September 1976

Submitted by: G. deMille
Imperial Oil Ltd., Minerals Section
500 6th Avenue SW
Calgary, Alberta
CANADA TSP 0S1

Sample Description & Locality: Biotite granodiorite sample.

Material Analyzed: Biotite concentrate, -60/+200 mesh. Estimated composition: Biotite, 80%; Pale green chlorite, 20%; Others, less than 1%.

Ar^{40*}/K^{40} = .004580 — AGE = 76.7 ± 2.9 M.Y.

Argon Analyses:

Ar^{40*}, ppm.	Ar^{40*}/ Total Ar^{40}	Ave. Ar^{40*}, ppm.
.02913	.580	.02989
.03064	.203	

Potassium Analyses:

% K	Ave. %K	K^{40}, ppm
5.441	5.348	6.525
5.256		

Constants Used:

$\lambda_\beta = 4.72 \times 10^{-10}$/ year

$\lambda_e = 0.585 \times 10^{-10}$/ year

$K^{40}/K = 1.22 \times 10^{-4}$ g./g.

$$AGE = \frac{1}{\lambda_e + \lambda_\beta} \ln\left[\frac{\lambda_\beta + \lambda_e}{\lambda_e} \times \frac{Ar^{40*}}{K^{40}} + 1\right]$$

Note: Ar^{40*} refers to radiogenic Ar^{40}.
M.Y. refers to millions of years.

Location of Sample Site: Pit at 9250'N, 0+80'E