

# KRUEGER ENTERPRISES, INC. GEOCHRON LABORATORIES DIVISION

24 BLACKSTONE STREET • CAMBRIDGE, MA 02139 • (617) 876 3691

## POTASSIUM-ARGON AGE DETERMINATION

## REPORT OF ANALYTICAL WORK

Our Sample No. R-6760

Date Received: 1/17/84

Your Reference: Letter of 1/9/84

Date Reported: 2/28/84

Submitted by: Kent W. Smith  
 PHILLIPS Petroleum Company  
 655 East 4500 South  
 Salt Lake City, UT 84107

Sample Description & Locality: Sample #36-28-1, fine grained igneous core.

Material Analyzed: whole rock, -100/+200 mesh. Treated with dilute HF and HNO<sub>3</sub> to remove alterations.

Ar<sup>40</sup>\*/K<sup>40</sup> = .000162

AGE = 2.8 +/- 0.3 M.Y.

### Argon Analyses:

Ar <sup>40</sup> *, ppm.	Ar <sup>40</sup> * / Total Ar <sup>40</sup>	Ave. Ar <sup>40</sup> *, ppm.
.000239	.128	.000240
.000240	.070	

### Potassium Analyses:

% K	Ave. %K	K <sup>40</sup> , ppm
1.193	1.214	1.481
1.235		

### Constants Used:

$\lambda_\beta = 4.72 \times 10^{-10} / \text{year}$   
 $\lambda_e = 0.585 \times 10^{-10} / \text{year}$   
 $K^{40}/K = 1.22 \times 10^{-4} \text{ g./g.}$

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

Note: Ar<sup>40</sup>\* refers to radiogenic Ar<sup>40</sup>.  
 M.Y. refers to millions of years.

WELL SAMPLE LOCATIONS  
WELL 36-28

<u>Sample #</u>	<u>Depth (ft)</u>	<u>Analysis</u>
36-28-1	440	WRX-TS-AGE
36-28-2	866	WRX-TS
36-28-3	1053-1054	WRX-TS
36-28-4	1501-1502	WRX-TS
36-28-5	1576-1577	TS
36-28-6	1770-1771	TS
36-28-7	1959-1960	WRX-TS
36-28-8	2120-2121	WRX-TS
36-28-9	2144-2145	WRX-TS