



Age assignments of plutonic rocks in the Alaska-Aleutian Range batholith are based on potassium-argon measurements of 115 biotite separates, 69 hornblende separates, and 4 muscovite separates from 130 rock samples. Sample locations are shown on the map; potassium-argon ages, analytical data, location, and rock type are given in table 1. Age measurements for 33 of these samples (nos. 1-33, Plate 1) have been reported previously (Reed and Lanphere, 1969). Age measurements for samples 34 to 130 are new data.

Argon measurements were made by isotope dilution using equipment and techniques described previously (Dalrymple and Lanphere, 1969). The potassium-argon value assigned to each age measurement (Table 1) is an estimate of the standard deviation of analytical precision using the method of Cox and Dalrymple (1967) together with an estimate of accuracy based on evaluation of the uncertainties in the isotopic composition and concentration of the ^{40}Ar tracer and concentrations of the flame photometer standards.

The established ages of plutonic units are based on concordant ages of coexisting hornblende and biotite. A decision on whether ages are concordant was made using an objective criterion, the critical value (C. V.) test (see Dalrymple and Lanphere, 1969, p. 100). Some rock units have been affected by younger plutonism and yield discordant ages. The age of plutonic units that yield discordant ages is inferred on the basis of petrology, rock chemistry, and structural setting to be the same as the age of similar units that yield concordant ages.

References cited
Cox, Allan, and Dalrymple, G. B., 1967, Statistical analysis of geochronological data and the precision of potassium-argon dating: *Jour. Geophys. Research*, v. 72, p. 2603-2616.
Dalrymple, G. B., and Lanphere, M. A., 1969, Potassium-argon dating: Principles, techniques, and applications to geochronology: W. H. Freeman and Co., San Francisco, 238 p.
Reed, B. L., and Lanphere, M. A., 1969, Age and chemistry of Mesozoic and Tertiary plutonic rocks in south-central Alaska: *Geol. Soc. America Bull.*, v. 80, p. 23-44.

EXPLANATION

<p>Unassigned plutonic rocks</p> <p>Merrill Pass sequence Quartz monzonite and granite</p> <p>McKinley sequence Quartz monzonite and granite</p> <p>Harman sequence Quartz diorite</p> <p>Rocks of Summit Lake Quartz diorite and granodiorite</p> <p>Quartz diorite and granodiorite northwest of Cook Inlet</p> <p>Selkirk and volcanic rocks of Paleocene to Tertiary age in the Alaska and Aleutian mountain ranges</p>	<p>Grandiorite of Mount Foraker</p> <p>Quartz monzonite of Tied Top</p> <p>Grandiorite of Mount Katalla</p> <p>Quartz diorite and granodiorite northwest of Cook Inlet</p> <p>Quartz diorite and granodiorite northwest of Cook Inlet</p>	<p>Snowy sequence Granodiorite</p> <p>Crystal Creek sequence Quartz monzonite and granite</p> <p>Summit sequence Quartz diorite and granodiorite</p>	<p>Undivided plutonic rocks</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------

Fault
 Quoted where inferred; dotted where concealed
 Dashed where approximately located; dotted where inferred; dotted where concealed
SAMPLE LOCATIONS
 Late Cretaceous and early Tertiary
 Quoted symbols denote established ages; open symbols denote inferred ages; numbers refer to samples given in Table 1
 Middle Tertiary

Base from Alaska map E, 1954.

0 100 MILES

Geology mapped by J. C. Reed, 1961; R. L. Datterman and B. L. Reed 1962-1966; B. L. Reed and R. L. Elliot, 1969; and B. L. Reed and Marvin Lanphere 1966, 1968, 1970-1971.