UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

ALASKAN GEOLOGY BRANCH

U.S. GEOLOGICAL SURVEY

P.O. BOX 20588

COLLEGE ALASKA 99701

A TABULATION OF K-Ar, Rb-Sr, AND Pb-Pb AGES

OBTAINED FOR MATERIALS WITHIN THE

UNITED STATES (INCLUDING ALASKA AND HAWAII)

DURING THE YEARS 1965 THROUGH 1968

By Richard F. Marvin

Open-file report

1974

This report is preliminary and has not been edited or reviewed for conformity with U.S. Geological Survey standards and nomenclature.

RECEIVED

MAR 15 1974

ALASKAN GEO. RES. BR
COLLEGE

Ages Published in 1965

Age and location Material Dated	K-Ar	Rb-Sr	Pb-α	Reference
<u>Alaska</u>				
Box 56°52'30"N, Norian age) Glass	126(too low)			Brew (1965)
Granite, Aleutian Range Box 59°42'05"N, 153°42'W				Detterman (1965)
biotite	160			
hornblende	168			
Granite, Aleutian Range Box 60°15'10"N, 152°53'10"W				Detterman (1965)
biotite	170			
hornblende	168			
Granite boulders, Ehisik Granite, Naknek Fm., 60°06' 152°35'05"W				Detterman (1965)
biotite	153			
hornblende	156			
Granite, Kosina Batholith				Detterman (1965)
biotite	166			
biotite	169			
biotite	157			
hornblende	159			
hornblende	159			
Granite, Kosina Batholith				Detterman (1965)
biotite	170			
hornblende	163			
Granite, Shumagin batholith, Sanborn Harbor, Nagai Island, 55°N, 160°W				Burk, 1965
muscovite	56			
Granite, Shumagin batholith, Granite Point, Sanborn Harbor, Nagai Island, 55°N, 160°W				Burk, 1965
muscovite	64			
biotite	57			

Ages Published in 1965

Rock type & Location. Material Dated	Age (m.y.)		Reference
	K-Ar	Rb-Sr	
Alaska (Cont'd)			
Granite, 63°49'N, 144°54'W Gerstle Quarry zircon		105±10	Holmes (1965)
Granite, 63°38'N, 144°46'W, Mt. Horn zircon		90±10	Holmes (1965)
Granodiorite, 63°40'N, 144° 03'W, Dot Lake zircon		110±10	Holmes (1965)
Syenite, north of Point Hayes, Tenakee Area, Chichagof Island biotite	119±5		Lanphere (1965)
hornblende	247±10		
Syenite, island in Tenakee Inlet, southern Chichagof Island hornblende	406±16		Lanphere (1965)
Quartz diorite boulder, South Passage Point, Tenakee Area, Chichagof Island hornblende	275±11		Lanphere (1965)
Volcanics and intrusive, Doonerak Mountain area, Brooks Range hornblende (volcanics)	475		Pecora (1965)
hornblende (intrusive)	373		
Tuff (Late Triassic), Keku Strait glass	126		Pecora (1965)
Diorite, 67°30'N, 145°45'W plagioclase	155±6		Reiser (1965)
Leucogabbro, 67°28'N, 145°31'W hornblende	168±8		Reiser (1965)

Ages Published in 1966

Rock type and location Material analyzed	K-Ar	Age (m.y.) Rb-Sr	Pb-α	Reference
<u>Alabama</u>				
artzose sand, Meridian Sand, (ene), north central Clarke				Wermund (1966)
muscovite	308±6			
artzose sand, Meridian Sand, (ene) northeast Clarke Co.				Wermund (1966)
muscovite	290±6			
lorite gneiss core, Capital #1 Sholston, sec. 18, T14N, R22E, Mallock Co.				Muehlberger (1966)
biotite	290			
<u>Alaska</u>				
Monzonite(?), Purcell Mountain Pluton, 66°15'30"N, 156°30'W				Miller (1966)
biotite	98.6±2.9			
Monzonite, Selawick Hills Pluton, 66°09'N, 150°09'W				Miller (1966)
hornblende	100±5			
Granodiorite, north shore of Passage Canal, 60°50'N, 148°29'W				Lanphere, 1966
biotite	36.6±1.0			
Granodiorite, east shore of Esther Lake, 60°50'N, 148°03'W				Lanphere, 1966
biotite	35.5±0.9			
Quartz diorite, east shore of Pahamy Lake, 60°27'N, 148°06'30"W				Lanphere, 1966
biotite	36.2±1.0			
hornblende	34.4±1.2			
Quartz monzonite, south shore of Loop Water Bay, 60°24'30"N, 148° 23'W				Lanphere, 1966
biotite	36.1±0.9			

Ages Published in 1966

Rock type and location Material analyzed	Age (m.y.)			Reference
	K-Ar	Rb-Sr	Pb-Cr	
Alaska (Cont'd)				
Andesite (?), 66°14'N, 154°25'W biotite	134±5			Patton (1966)
Granodiorite (?), 66°01'N, 154°05'W hornblende	81.5±3.0			Patton (1966)
Granodiorite (?), 66°07'N, 155°55'W hornblende	81.9±3.0			Patton (1966)
Gneiss, Rainbow Mtn-Gulkana Glacier area biotite	149 (dating a Mesozoic thermal event)			Ragan (1966)
Granodiorite clast in Kotsina Conglomerate, Valdez (C-1) quad., 61°44'00"N, 144°02'50"W biotite	157±5			Grantz (1966)
Microdiorite dike, Valdez (C-1) quad., 61°44'03"N, 144°03'02"W hornblende	142±5			Grantz (1966)
Granodiorite, McCarthy (C-8) quad., 61°32'45"N, 143°42'30"W hornblende	141±5			Grantz (1966)
Granodiorite, Gulkana (A-2) quad., 62°03'09"N, 144°34'40"W biotite	126±4			Grantz (1966)
Monzonite (?), Indian Mountain Pluton, 66°01'N, 154°06'W hornblende	81.5±3.0			Miller, (1966)
Monzonite(?), Zane Hills Pluton 66°07'30"N, 155°55'W hornblende	81.9±3.0			Miller (1966)
Monzonite(?), Wheeler Creek Pluton, 66°20'N, 157°37'30"W biotite	80.6±2.0			Miller (1966)
Monzonite(?), Skinnillaok Creek Pluton, 66°21'N, 157°16'W biotite	99.4±2.4			Miller (1966)

Ages Published in 1966

Rock type & Location Material Dated	Age (m.y.) K-Ar Rb-Sr	Pb-α	Reference
ALASKA (Cont'd)			
Basalt, St. George village, St. George Island, Pribilof Islands whole-rock	1.95±0.10		Cox, 1966
Basalt, cliffs W of St. George village, St. George Island, Pribilof Islands whole-rock	1.92±0.08 1.99±0.08		Cox, 1966
Basalt, cliffs W of St. George village, St. George Island, Pribilof Islands whole-rock	1.83±0.09 1.89±0.08		Cox, 1966
Basalt, near Tolstoi Point, St. George Island, Pribilof Islands whole-rock	2.13±0.06		Cox, 1966
Basalt, near Tolstoi Point, St. George Island, Pribilof Islands whole-rock	1.77±0.07 1.80±0.06		Cox, 1966
Basalt, Tolstoi Point, St. George Island, Pribilof Islands whole-rock	2.06±0.08		Cox, 1966
Basalt, Tolstoi Point, St. George Island, Pribilof Islands whole-rock	2.09±0.08		Cox, 1966
Basalt, near Tolstoi Point, St. George Island, Pribilof Islands whole-rock	2.14±0.08		Cox, 1966
Basalt, near Tolstoi Point, St. George Island, Pribilof Islands whole-rock	1.92±0.06		Cox, 1966
Basalt, near Tolstoi Point, St. George Island, Pribilof Islands whole-rock	1.81±0.07		Cox, 1966
Basalt, Gull Hill, St. George Island, Pribilof Islands whole-rock	1.59±0.06		Cox, 1966

Ages published in 1967

Rock type and location	Age (m.y.)			References
Material analyzed	K-Ar	Rb-Sr	Pb-α	
Alaska				
Granite, Hunter Creek, 65°40'06"N, 161°38'1.8"W				Patton, 1967
hornblende	102±10			
Adzeallite, Chichagof Island 57°55'30"N, 135°01'W				Loney, 1967
zircon		120±20		
Adzeallite, Chichagof Island 57°56'30"N, 135°06'30"W				Loney, 1967
zircon		150±20		
biotite	103±5			
Adzeallite, Chichagof Island 57°54'30"N, 135°13'W				Loney, 1967
zircon		180±20		
Adzeallite, Chichagof Island 57°54'30"N, 135°13'W				Loney, 1967
zircon		160±20		
hornblende	144±7			
Diorite, Chichagof Island 57°52'30"N, 135°33'W				Loney, 1967
zircon		210±50		
hornblende	111±6			
Diorite, Chichagof Island 57°50'N, 135°28'W				Loney, 1967
zircon		110±20		
hornblende	114±6			
Diorite, Chichagof Island, 57°20'30"N, 134°48'30"W				Loney, 1967
hornblende	109.7±1.6 105.8±1.6			
Diorite, Chichagof Island, 57°12'N, 135°40'W				Loney, 1967
hornblende	164±5			
Diorite, Baranof Island, 57°14'N, 135°36'W				Loney, 1967
biotite	152±4			
hornblende	151±5			
Gabbro, Baranof Island, 57°10'N, 135°49'30"W				Loney, 1967

Ages Published in 1967

Rock type and location Material analyzed	Age (m.y.)			References
	K-Ar	Rb-Sr	Pb-α	
Alaska (Cont'd)				
Granodiorite, Baranof Island, 57°11'N, 134°52'30"W				Loney, 1967
biotite	42.6±1.1			
muscovite	44.3±1.2			
Pegmatite, Baranof Island, 57°06'N, 134°54'30"W				Loney, 1967
muscovite.	42.2±0.8			
	41.1±0.8			
Granodiorite, Baranof Island, 57°04'30"N, 134°47'30"W				Loney, 1967
biotite	28.1±1.3			
Tonalite, Baranof Island, 57°03'N, 134°51'W				Loney, 1967
biotite	38.7±0.9			
Tonalite, Baranof Island, 57°01'N, 135°02'30"W				Loney, 1967
biotite	47.2±1.3			
Andalusite-garnet-biotite schist, Baranof Island, 56°55'30"N, 134°44'30"W				Loney, 1967,
biotite	33.8±0.3			
Pegmatite, Baranof Island, 56°55'N, 134°43'30"W				Loney, 1967
muscovite	36.2±0.4			
Tonalite, Baranof Island, 56°44'N, 134°43'W				Loney, 1967
biotite	24.3±1.6			
Tonalite, Baranof Island, 56°44'N, 134°38'W				Loney, 1967
biotite	24.9±0.5			
hornblende	31.5±0.5			
Trondhjemite, Baranof Island, 56°42'30"N, 134°44'30"W				Loney, 1967
biotite	25.8±0.6			

Ages Published in 1967

Sample and location Material analyzed	Age (m.y.)			References
	K-Ar	Rb-Sr	Pb-α	
<u>Alaska (Cont'd)</u>				
Chert, Baranof Island 56°10'N, 135°10'W chert	46.9±0.5			Loney, 1967
Basalt, Baranof Island 56°10'N, 134°56'30"W ite	44.2±1.1			Loney, 1967
Basalt, Baranof Island 56°10'N, 134°57'W ite	44.4±0.4			Loney, 1967
Gabbro, Baranof Island, 56°10'N, 134°53'W ite	42.0±0.6			Loney, 1967
Basalt dike, Baranof Island, 56°10'N, 134°53'W amblende	46.8±3.0			Loney, 1967
Basalt, Baranof Island, 56°10'N, 134°59'30"W biotite	45.7±1.4			Loney, 1967
Basalt, Baranof Island, 56°10'N, 135°01'W whole rock	45.2±0.7			Loney, 1967
Schist (?), Baranof Island, 56°10'N, 134°55'W biotite	43.1±0.9			Loney, 1967
Schist, Baranof Island, 56°10'N, 134°42'30"W whole rock	34.7±1.2			Loney, 1967
Amphibolite, Admiralty Island, 57°42'30"N, 134°24'30"W zircon biotite	117±6		260±30	Loney, 1967
Amphibolite, Admiralty Island, 57°42'30"N, 134°31'W zircon			110±20	Loney, 1967

Rock type & Location Material Dated	Age (m.y.)		Pb- α	Reference
	K-Ar	Rb-Sr		
<u>ALASKA (Cont'd)</u>				
Basalt, Nunivak Island, 66°N, 166°30'W anorthoclase	0.03±0.02			Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W anorthoclase	0.06±0.02			Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W whole rock	0.11±0.03			Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W anorthoclase	0.14±0.02			Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W whole rock	0.22±0.09			Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W whole rock	0.27±0.06			Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W whole rock	0.28±0.05			Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W whole rock	0.29±0.07			Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W whole rock	0.33±0.12			Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W whole rock	0.34±0.05			Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W whole rock	0.35±0.09			Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W whole rock	0.48±0.06			Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W whole rock	-0.62±0.09			Cox, 1967

Ages Published in 1967

Rock type & Location Material Dated	Age (m.y.)		Reference
	K-Ar	Rb-Sr	
<u>ALASKA</u> (Cont'd)			
Basalt, Nunivak Island, 66° N, 166° 30' W whole rock	0.65±0.07		Cox, 1967
Basalt, Nunivak Island, 66° N, 166° 30' W whole rock	0.67±0.09		Cox, 1967
Basalt, Nunivak Island, 66° N, 166° 30' W whole rock	0.72±0.09		Cox, 1967
Basalt, Nunivak Island, 66° N, 166° 30' W whole rock	0.73±0.10		Cox, 1967
Basalt, Nunivak Island, 66° N, 166° 30' W whole rock	0.79±0.10		Cox, 1967
Basalt, Nunivak Island, 66° N, 166° 30' W whole rock	0.84±0.08		Cox, 1967
Basalt, Nunivak Island, 66° N, 166° 30' W whole rock	0.85±0.07		Cox, 1967
Basalt, Nunivak Island, 66° N, 166° 30' W whole rock	0.85±0.03		Cox, 1967
Basalt, Nunivak Island, 66° N, 166° 30' W whole rock	0.91±0.07		Cox, 1967
Basalt, Nunivak Island, 66° N, 166° 30' W whole rock	0.93±0.08		Cpx, 1967
Basalt, Nunivak Island, 66° N, 166° 30' W whole rock	1.51±0.15		Cox, 1967
Basalt, Nunivak Island, 66° N, 166° 30' W whole rock	1.54±0.09		Cox, 1967

Ages Published in 1967

Rock type and location Material analyzed	Age (m.y.)			References
	K-Ar	Rb-Sr	Pb-Cr	
<u>Alaska (Cont'd)</u>				
Leucogranodiorite, Admiralty Island, 57°39'30"N, 134°24'30"W zircon hornblende	107±5		130±20	Loney, 1967
Granodiorite, Chilkat Range, 58°25'N, 135°12'30"W zircon			180±20	Loney, 1967

Basalt, Ikook Point, Nunivak Island whole rock (lower flow) whole rock (upper flow)	6.12±0.18 4.14±0.12			Dalrymple, 1967
Basalt, Ikooksmiut, Nunivak Island whole rock	4.04±0.12			Dalrymple, 1967
Basalt, Koweelik Bluff, Nunivak Island whole rock	4.84±0.15			Dalrymple, 1967
Basalt, Cape Algonquin, Nunivak Island whole rock (lower flow) whole rock (upper flow)	4.88±0.15 4.83±0.14			Dalrymple, 1967
Basalt on Nash Harbor, Nunivak Island whole rock	5.06±0.15			Dalrymple, 1967
Basalt on Nash Harbor, Nunivak Island whole rock	4.88±0.15			Dalrymple, 1967
Basalt, Nunivak Island, 66°W, 166°30'W whole rock	3.31±0.12			Cox, 1967
Gabbro, Duke Island, approx. 55°55'N, 131°20'W biotite	173			Irvine, 1967
Pegmatite, ultramafic complex, Duke Island, approx. 55°55'N, 131°20'W hornblende	108			Irvine, 1967

Rock type & Location Material Dated	Age (m.y.)			Reference
	<u>K-Ar</u>	<u>Rb-Sr</u>	<u>Pb-Cr</u>	
<u>ALASKA</u> (Cont'd)				
Basalt, Nunivak Island, 66°N, 166°30'W whole rock		1.65±0.09		Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W whole rock		3.16±0.10		Cox, 1967
Basalt, Nunivak Island, 66°N, 166°30'W whole rock		3.27±0.10		Cox, 1967

Ages Published in 1968

Rock type & Location Material Dated	Age (m.y.)			Reference
	<u>K-Ar</u>	<u>Rb-Sr</u>	<u>Pb-α</u>	
<u>Alaska</u>				
Granite (Romanzof Granite), Brooks Range, 69°21.8'N, 144°01.8'W				Reed (1968)
Biotite	128 ₊₆			
Zircon			310 ₊₃₅	
Granite (Romanzof Granite), Brooks Range, 69°21.1'N, 144°04.6'W				Reed (1968)
Biotite	125 ₊₆			
Zircon			405 ₊₄₅	
Basalt?, Nunivak Island				Hoare, 1968
Anorthoclase	0.09±0.02			

37 other ages were listed by Hoare and others, 1968, but these ages have been already listed under Alaska for the year 1967, Dalrymple (1967) and Cox (1967); therefore, they are not again listed here.