DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

U.S. GEOLOGICAL SURVEY
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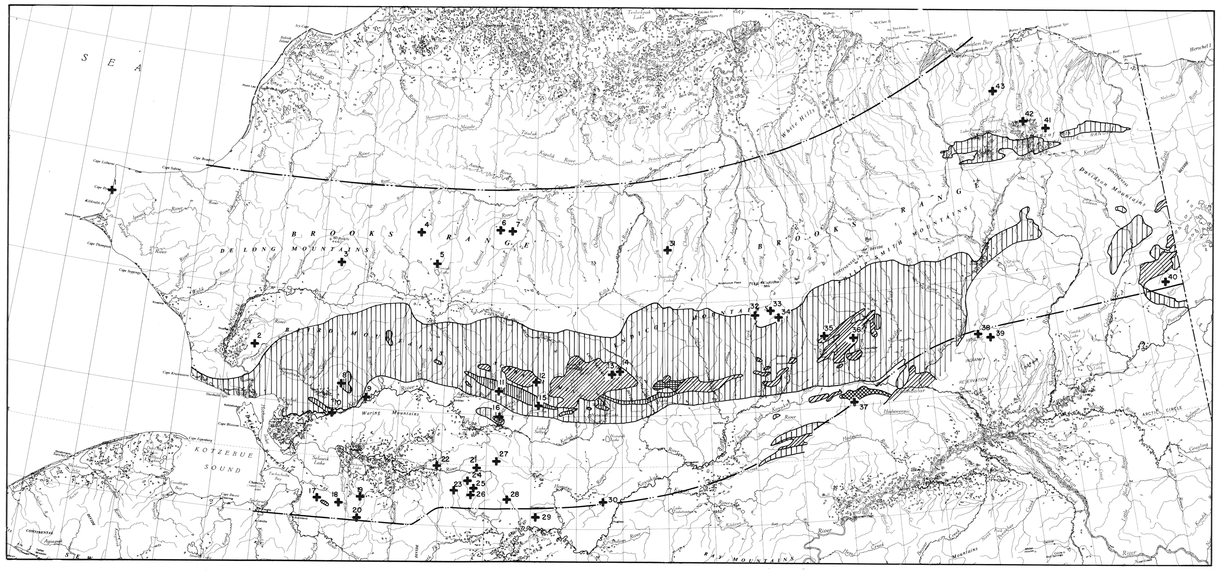
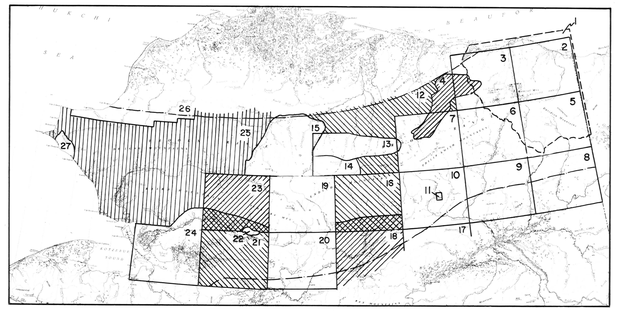
OF 77-166B
Sheet 2 of 2



Base map from the National Atlas of the United States of America, U. S. Geological Survey, 1970

LOCATION OF RADIOMETRIC DATES AND DISTRIBUTION OF METAMORPHIC ROCKS



INDEX MAP SHOWING PRINCIPAL SOURCES OF GEOLOGIC DATA

TABLE OF RADIOMETRIC DATES

Map No.	Location Lat. and Long.	Rock Type	Dating Method	Age	References
1	68°39'N, 166°16'W	pre-Mississippian Hotham(?) Complex	K-Ar (muscovite)	435±13.0 m.y.	Tailleur (1972)
2	67°54'N, 162°33'W	Hornblendite	K-Ar (hornblende)	315.4±10.4 m.y.	Tailleur (1973)
3	68°13'N, 160°35'W	Hornblende gabbro	K-Ar (hornblende)	159.8±14.4 m.y.	Tailleur (1973) Tailleur and Brosgé (1970)
4	68°36.37'N, 158°40.5'W	Rhyolite porphyry	K-Ar (biotite)	39.0±10.0 m.y.	Tailleur and Brosgé (1970)
5	68°01'N, 158°15'W	Hornblende pegmatite	K-Ar (hornblende)	147.8±29.6 m.y.	Tailleur (1973) Tailleur and Brosgé (1970)
6	68°38.5'N, 156°51.0'W	Diabase sill into upper Triassic rocks	K-Ar (biotite)	195±6 m.y.	Tailleur and Brosgé (1970)
7	68°36.91'N, 156°36.0'W	Diabase sill	K-Ar (biotite) K-Ar (hornblende)	197±6.0 m.y. 187±6.0 m.y.	Tailleur and Brosgé (1970) Tailleur and Brosgé (1970)
8	67°12'N, 160°20'W	Schist	K-Ar (muscovite)	122.0±3.7 m.y.	Tailleur, written comm. (1977)
9	67°07'N, 159°45'W	Ash-fall tuff	K-Ar (biotite)	83.4±2.2 m.y.	Patton and Miller (1968)
10	66°58'N, 160°28'W	Schist	K-Ar (muscovite)	108.5±3.3 m.y.	Tailleur, written comm. (1977)
11	67°12.2'N, 156°46.5'W	Schist	K-Ar (glaucophane) K-Ar (paragonite)	1220±38 m.y. 213±6.4 m.y.	Hartman (1976)
			K-Ar (glaucophane) K-Ar (glaucophane) K-Ar isochron (glaucophane) K-Ar isochron (paragonite)	1290 m.y. 213 m.y.	
		Schist	K-Ar (glaucophane) K-Ar (paragonite) K-Ar isochron (glaucophane) K-Ar isochron (paragonite)	2542±60 m.y. 2569±76 m.y. 2571±77 m.y. 239.9±7.0 m.y.	
			K-Ar (glaucophane) K-Ar isochron (glaucophane) K-Ar (paragonite)	1200 m.y. 213 m.y.	
		Schist	K-Ar (glaucophane) K-Ar (paragonite) K-Ar isochron (glaucophane) K-Ar isochron (paragonite)	1420±43 m.y. 216.8±6.5 m.y. 1290 m.y. 213 m.y.	
		Schist	K-Ar (glaucophane) K-Ar isochron (glaucophane) K-Ar isochron (paragonite)	1333±40 m.y. 1250 m.y. 213 m.y.	
12	67°17.7'N, 155°58.5'W	Schist in contact zone, Shishaksh(nook) pluton	K-Ar (biotite)	96.4±29 m.y.	Hartman (1976)
13	67°22'N, 154°51'W	Quartz monzonite, Arrigetch Peaks pluton	K-Ar (biotite)	86±4 m.y.	Brosgé and Reiser (1971)
14	67°23.1'N, 154°31'W	Granite, Arrigetch Peaks pluton	K-Ar (biotite) K-Ar (muscovite)	88±4 m.y. 101.5 m.y.	Brosgé and Reiser (1971)
15	67°05'N, 155°55'W	Schist	K-Ar (actinolite)	282.1±45.9 m.y. 289.1±46.2 m.y.	Patton, Miller and Tailleur (1968)
			K-Ar isochron	213 m.y.	
16	66°59'N, 156°42'W	Granite in Coonen Hills	K-Ar (hornblende)	121±3.8 m.y.	Patton, Miller and Tailleur (1968)
17	66°11'N, 160°58'W	Metagabbro in Selawik Hills pluton	K-Ar (biotite)	110±3.0 m.y.	Patton and Miller (1968)
18	66°08'N, 160°05'W	Syenite from Selawik Hills pluton	K-Ar (hornblende)	100±5 m.y.	Miller, Patton, and Tailleur (1970)
19	66°13'N, 159°42'W	Mafigabbro from Hunt Creek complex	K-Ar (biotite)	107±3 m.y.	Miller (1970, 1972)
		Nephelline syenite	K-Ar (biotite)	107±2.8 m.y.	Patton and Miller (1968)
20	66°02'N, 159°05'W	Quartz monzonite from Selawik Hills pluton	K-Ar (biotite)	97±3.0 m.y.	Miller (1970)
21	66°31'N, 157°15'W	Andesite	K-Ar (hornblende)	125±3.3 m.y.	Patton, Miller and Tailleur (1968)
22	66°32'N, 158°06'W	Latite	K-Ar (hornblende)	122±3.0 m.y.	Patton, Miller and Tailleur (1968)
23	66°20'N, 157°37.5'W	Quartz monzonite, Wheeler Creek pluton	K-Ar (biotite)	80.6±20 m.y.	Miller, Patton and Langhere (1966) Miller (1970)
24	66°24'N, 157°21'W	Tuff	K-Ar (biotite)	85.2±2.2 m.y.	Patton, Miller and Tailleur (1968)
25	66°21'N, 157°16'W	Syenodiorite from Shlnitlaak Creek pluton	K-Ar (biotite)	99.4±2.4 m.y.	Patton, Miller and Tailleur (1968) Miller (1970)
26	66°18'N, 157°16'W	Alaskite from Wheeler Creek pluton	K-Ar (biotite)	77.5±2.3 m.y.	Miller (1970) Miller (1970)
27	66°25'N, 156°43'W	Quartz latite	K-Ar (hornblende)	117±4.3 m.y.	Patton, Miller, and Tailleur (1968)
28	66°15.5'N, 156°20'W	Quartz monzonite, Purcell Mtn. pluton	K-Ar (biotite)	98.6±2.5 m.y.	Miller, Patton, and Langhere (1966) Miller (1970)
29	66°02.5'N, 155°55'W	Quartz monzonite Zane Hills pluton	K-Ar (hornblende)	81.9±3.0 m.y.	Miller, Patton, and Langhere (1966) Patton and Miller (1966)
30	66°14'N, 154°25'W	Andesite	K-Ar (biotite)	134±5 m.y.	Patton and Miller (1966)
31	68°08.2'N, 152°45.0'W	Diabase	K-Ar (plagioclase)	182±24.0 m.y.	Tailleur, written comm. (1977)
32	67°51'N, 150°59'W	Dike rock	K-Ar (hornblende)	373±15 m.y.	Brosgé and Reiser (1971)
33	67°54.3'N, 150°32.6'W	Mafic dike rock	K-Ar (hornblende)	373±17 m.y.	Dutro and others (1976)
		Mafic dike rock	(a) K-Ar (whole rock) $^{40}Ar/^{39}Ar$ (whole rock)	470±47 m.y.	Dutro and others (1976)
			(b) K-Ar (whole rock) $^{40}Ar/^{39}Ar$ (whole rock)	520±17 m.y. 380±11 m.y.	
				384±12 m.y.	
		Mafic dike rock	K-Ar (whole rock) $^{40}Ar/^{39}Ar$ (whole rock)	420±24 m.y. 428±20 m.y. 465±19 m.y.	Dutro and others (1976)
34	67°50.3'N, 150°12.6'W	Mafic dike rock	K-Ar (hornblende)	388±12 m.y.	Dutro and others (1976)
35	67°58'N, 149°20'W	Hornblende granodiorite	K-Ar (hornblende)	Conflicting ages on same(?) sample: (a) 293±9 m.y. (b) 905±15 m.y.	M. A. Wiltse (unpubl. data)
36	67°36.5'N, 148°32'W	Granite	K-Ar (biotite) Pb-Alpha (zircon)	125±6 m.y. 380±40 m.y.	Brosgé and Reiser (1964)
		Schist in contact zone of granite	K-Ar (biotite)	103±5 m.y.	Brosgé and Reiser (1964)
			K-Ar (muscovite)	101±5 m.y.	
37	67°05'N, 146°59'W	Monzonite Monzonite	K-Ar (biotite) Pb-Alpha (zircon)	101±5 m.y. 140±20 m.y.	Brosgé and Reiser (1964)
38	67°30'N, 145°45'W	Diorite in mafic igneous complex	K-Ar (plagioclase)	155±8 m.y.	Reiser, Lanphere, and Brosgé (1965)
39	67°28'N, 145°31'W	Leucogabbro in mafic igneous complex	K-Ar (hornblende)	168±8 m.y.	Reiser, Lanphere, and Brosgé (1965)
40		Coleen quadrangle	Granite	K-Ar	335 m.y.	Brosgé and Tailleur (1970)
41		Romanzof Mountains	Granite	K-Ar (hornblende)	431±13 m.y.	Reiser (1970)
42	69°21.1'N, 144°06.1'W	Granite	K-Ar (biotite) Pb-Alpha (zircon)	128 m.y. 350±35 m.y.	Sable (1965)
	69°21'N, 144°04.1'W	Granite	K-Ar (biotite) Pb-Alpha (zircon)	125 m.y. 405±40 m.y.	
43	69°38'N, 144°37'W	Diabase	K-Ar (plagioclase)	160±5 m.y.	Tailleur, written comm. (1977)

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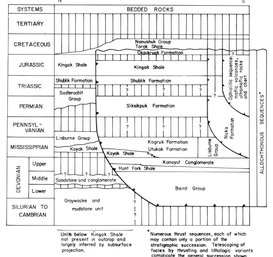
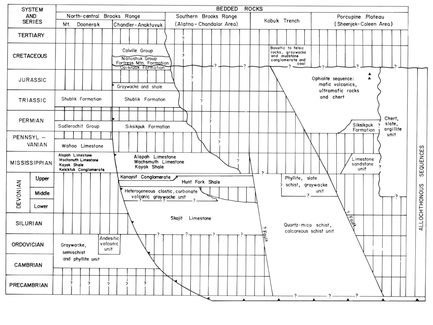
WESTERN BROOKS RANGE



CENTRAL AND SOUTHERN BROOKS RANGE



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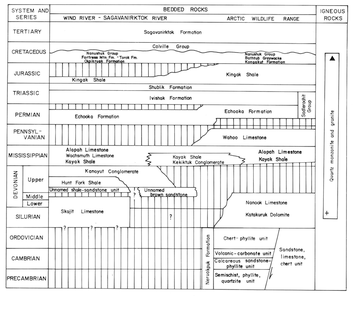
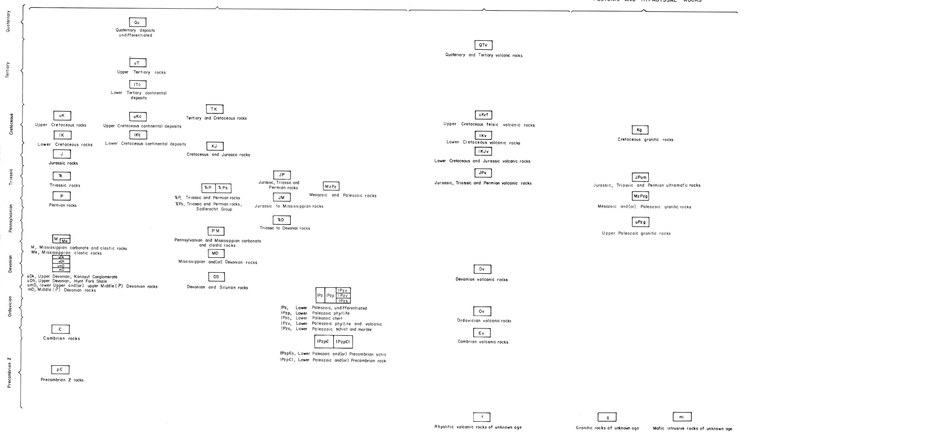


GENERALIZED STRATIGRAPHIC SEQUENCES, BROOKS RANGE, ALASKA

EXPLANATION



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