DEPARTMENT OF THE INTERIOR
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DESCRIPTIVE DATA

SOME PLUTONIC ROCKS OF SOUTHWESTERN ALASKA

by
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OPEN FILE MAP
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Table 1

MAP NUMBER	SAMPLE NUMBER(S)(1)	PLUTON NAME and QUADRANGLE	PRINCIPAL LITHOLOGY after Streckeisen, 1973	DESCRIPTION AND TEXTURAL FEATURES	MINERALOGY (2) Major	Minor	Secondary	AGE, m.y. (3) K-Ar	REMARKS
		EARLY CRETACEOUS NYAC PLUTON							
1	47AHr86 TC 47AHr90 T 63ACo414 A	Nyac Russian Mission A-3 Bethel D-3	Granodiorite	Coarse-grained with K-feldspar phenocrysts up to 2 mm in size	Andesine Biotite K-feldspar Quartz	Hornblende Magnetite Zircon Apatite Pyrite	Chlorite Carbonate	B 1[illegible].0 ± [illegible].6 (4)	Pluton intrudes Jurassic volcanic and sedimentary rocks. Body is elongate in a NNE-SSW direction and is associated with a nearby gabbro. Size 8 x 40 km
		LATE CRETACEOUS - EARLY TERTIARY PLUTONS							
2	GC4-1076 GC4-1297 GC4-1300 TA	Nayorurun Goodnews C-4	Granite	Aphanitic groundmass with large phenocrysts of K-feldspar	Quartz K-feldspar (?)Oligoclase Biotite	Hornblende	Chlorite	B 60.7 ± 1.8	Porphyritic intrusive with near horizontal sheeting. Associated with tuffs and glassy flows. Size 3 x 5 km
3	69ACk1008 A	Shotgun Hills Taylor Mountains B-6	Quartz monzonite	Medium-grained with K-feldspar phenocrysts	NA	NA	NA	B 67.[illegible] ± [illegible]	This pluton, mentioned by Cady and others (1955, p. 83) as a probable stock in the mountain group known to local natives as "Mukhailinguk" or "south mountain," is delineated by Clark and others (1970, pl. 1). A potassium-argon age determination made on Clark's rock sample number 1 (1970, pl. 1 and table 1) is reported by Berry and others (1976, p. 4, age sample 69 ACk 1008) as the indicated age of 65.6 ± 2 m.y. Size 8 x 20 km
4	35AMt40 T 35AMt41 C	Tikchik Lake Dillingham D-6,7 Taylor Mountains A-6,7	Granite	Medium-grained, hypidiomorphic-granular texture	Quartz Microcline Albite-Oligo. Biotite	Clinopyroxene Magnetite Apatite	Chlorite Sericite		Intrudes chert and other sedimentary rocks in lower part of Gemuk Group. Appears similar to Akuluktuk(5)body and possibly Shotgun Hills(3)body. Size 10 x 35 km
5	35AMt100 T 35AMt101 T 35AMt102 T 35AMt105 C 74B57 TA	Akuluktuk Goodnews C-1 Dillingham C-8	Granite	Coarse- to medium-grained, hypidiomorphic-granular texture. Quartz shows strain and undulatory extinction	Quartz Microcline Albite-Andes. Biotite	Hornblende Zircon Apatite	Chlorite Sericite	B 69.6 ± 2.1 B 63.4 ± 3.	Intrudes Gemuk Group rocks. Body is anomalously low in magnetite and does not generate a detectable anomaly in the aeromagnetic data. Massive body, sheeted in planes essentially parallel to valley wall. Size 4 x 5 km
6	50AHr125 T 50AHr126 TC 50AHr133 T 50AHr142 T 74AHr118 TA	Togiak Lake Goodnews C-2	Quartz monzonite	Medium-grained with plagioclase phenocrysts, xenomorphic-granular texture. Phenocrysts from less than 1 to 10 mm long	Oligo-Labrad. K-feldspar Quartz Biotite Hornblende	Pyroxenes Magnetite Apatite Sphene	Chlorite Sericite	B 63.7 ± 2. B 69.5 ± 3.	Massive body intruded by porphyritic diorite and porphyritic rhyolite dikes. Size 8 x 10 km.
7	GC1-1381 TA	Sunday Creek Goodnews C-1	Tonalite	Medium- to course-grained with plagioclase phenocrysts, hypidiomorphic-granular texture	Amphibole Oligoclase K-feldspar Biotite Quartz	Magnetite	Chlorite Sericite	B 72.5 ± 2.1	Very rich in amphibole. Size 2 x 2 km
8	50AHr174 T 50AHr474 50AHr535 T 50AHr526 TC 73AHr1 TA	Mt. Oratia Goodnews D-3	Quartz monzodiorite	Medium-grained, panidiomorphic-granular texture	Oligo-Andes. K-feldspar Quartz Biotite Amphibole	Clinopyroxene Magnetite Apatite Zircon	Chlorite Sericite	B 71.1 ± 2.1	Intrudes Gemuk Group rocks. Size 6 x 10 km
9	GD1-1561 GD1-2374 GD1-3154 TA	Mt. Waskey Goodnews D-1	Granodiorite	Medium-grained, hypidiomorphic-granular texture with K-feldspar phenocrysts	Oligoclase Quartz K-feldspar Biotite	Amphibole Clinopyroxene Magnetite	Chlorite Sericite	B 6[illegible].5 ± 1.9 B 6[illegible] ± [illegible].0	Size 5 x 8 km
10	53AHr210 TC 74AHr117 T	Kashaiak Goodnews B-3	Quartz diorite	Coarse-grained, hypidiomorphic-granular texture. Strongly zoned plagioclase with wavy boundaries between zones	Andesine Quartz Biotite	Amphibole Pyroxene	Chlorite		Intrudes Gemuk Group rocks. Zinc and molybdenum mineralization within 10 km south may be related. Body appears very similar to Togiak(6)body. Size 5 x 6 km
11	GB1-1592 GB1-2407 GB1-3156 TA	Zone Creek Goodnews B-1	Tonalite	Fine- to medium-grained, hypidiomorphic-granular texture. Primary and secondary chlorite	Oligoclase Quartz Biotite	Chlorite Hornblende	Chlorite Sericite	B 69.5 ± 2.1 B 63.4 ± 1.9	Small magnetically reversed pluton. Size 2 x 3 km
12	GB7-1479a TA GB7-1479b T	Wattamuse Goodnews B-7	Quartz diorite	Medium- to coarse-grained with cataclastic appearance in places. Slight orientation of plagioclase and mafic laths	Oligo-Andes. Quartz Biotite	Amphi/Pyrox.	Chlorite	B 71.1 ± 2.1	Associated with gold mineralization. Size 6 x 6 km
13	GA5-1310 TA	Sulutak Goodnews A-5	Tonalite	Medium-grained, hypidiomorphic granular texture	Andesine Biotite Quartz	Hornblende	Chlorite Sericite	B 65.7 ± 2.0	Size 2 x 3 km
		PROBABLE EARLY TERTIARY PLUTONS							
14	54AHr54a TC	Hoholitna Taylor Mountains D-2	Granite	Medium- to coarse-grained, hypidiomorphic-granular texture with somewhat finer-grained biotite, which tends to be green	Perthitic feldspar Quartz Andesine Biotite				Size 2 x 4 km
15	52AHr109a TC	Hagemeister Island Hagemeister Island C-3,4	Quartz monzonite	Medium- to coarse-grained, hypidiomorphic-granular texture. Biotite in shreds, red-brown pleochroism. Some biotite after green amphibole	K-feldspar Quartz Oligoclase	Amphibole Biotite Magnetite Apatite	Sericite		Massive body locally cut by pyroxene diorite dikes. Size 4 x 5 km
16	49AHr100 49AHr101 49AHr102 49AHr360a TC 49AHr360b	Crooked Mountains Bethel A-2, B-1	Quartz monzodiorite	Medium-grained, porphyritic with generally subhedral grains. Plagioclase phenocrysts up to 10 mm long	Perthitic feldspar Oligoclase Quartz K-feldspar	Biotite Hornblende Clinopyroxene Magnetite Apatite	Chlorite Sericite Kaolinite		Pluton intrudes argillites, has sharp contacts and a closely associated gabbro. Size 8 x 25 km
17	54AHr52 TC	Nook Sleetmute A-1 Taylor Mountains D-1	Quartz monzodiorite porphyry	Large feldspar phenocrysts in a finer-grained quartzose matrix. Amphibole seems to be after pyroxene	Oligoclase Perthitic feldspar Quartz Biotite	Tremolite-actinolite Pyroxene Magnetite			Intrudes massive coarsely crystalline limestone with abundant garnet and magnetite at contact. Size 2 x 4 km
18	54AHr26 TC	Muklung Hills Dillingham B-6	Quartz monzodiorite porphyry	Large-zoned, twinned and untwinned feldspar and mafic phenocrysts in a fine-grained matrix of quartz and feldspar. Some phenocrysts have euhedral boundaries lined with inclusions of quartz.	Oligoclase K-feldspar Quartz	Biotite Hornblende	Chlorite	In process	Size 10 x 23 km
		PYROXENE-BEARING PLUTONS							
19	54AHr23 TC	Kemuk Dillingham C-6	Pyroxene alkali feldspar granite	Coarse-grained. Primarily perthitic feldspar grains surrounded by fine-grained quartz and feldspar. Thin section has cataclastic-like appearance	Perthitic feldspar Quartz Pyroxene	Amphibole	Chlorite		Size 4 x 5 km
20	54AHr25 TC	Okstukuk Hills Dillingham B-7	Pyroxene alkali feldspar granite	As above but with more inclusions in the perthitic grains	Perthitic feldspar Quartz Pyroxene	Biotite	Chlorite		Size 8 x 10 km.
21	53AHr1326 TC 74ACd10a TA	Ualik Lake Goodnews A-2	Pyroxene monzonite	Medium-grained, Some areas of thin section suggest cataclasis. Section of 74ACd 10a has quartz-rich fine-grained zenolith with abundant biotite and pyroxene and minor feldspar	Oligoclase Perthitic feldspar Pyroxene Biotite	Quartz Magnetite	Chlroite		Size 3 x 5 km
22	35AMt600 T 35AMt601 C	Kulik Lake Dillingham D-8	Pyroxene monzonite	Medium-grained, panidiomorphic-granular texture	Andesine K-feldspar Biotite Pyroxene	Magnetite Apatite	Chlorite		Size 4 x 4 km
23	74AHr51 TCA	Kulukak Nushagak Bay D-5	Pyroxene monzonite	Medium-grained, panidiomorphic-granular texture	K-feldspar Oligoclase Pyroxene Biotite	Quartz Magnetite			Pluton intrudes graywackes of probable middle Jurassic age. It is the farthest south onshore pluton east of the Togiak-Tikchik fault. Size 2 x 2 km
24	54AHr10 TC	Mt. Chaufchivak Taylor Mountains A-7	Pyroxene tonalite	Porphyry. Phenocrysts of plagioclase surrounded by a fine-grained matrix of mafics and quartz. Biotite altering to chorite	Andes-Olig. Quartz Biotite Pyroxene	Magnetite	Chlorite Sericite		Pluton intrudes argillaceous sediments. Size 3 x 4 km
		MAFIC AND ASSOCIATED PLUTONS							
25	53AHr23 T 53AHr25 T 53AHr28 T 71ACk130 C	Tokomarik Mountain Hagemeister Island C-6	Trondhjemite	Medium-grained, hypidiomorphic-granular texture	Oligoclase Quartz	Amphibole	Sericite Chlorite Clinozoisite/zoisite		Size 2 x 2 km
26	53AHr1139c TC GB7-1413 GB7-2232 T	Tunulik Goodnews B-7	Pyroxene tonalite	Medium-grained, hypidiomorphic-granular texture. Slight alignment of plagioclase laths. Pyroxene altering to biotite to a minor extent	Andesine Quartz Biotite Pyroxene	Magnetite	Chlorite Sericite		Size 3 x 6 km
27	49Ahr67 TC	Kasigluk River Bethel C-4,5	Pyroxene diorite	Coarse- to medium-grained, xenomorphic-granular texture	Labradorite Orthopyroxene Clinopyroxene K-feldspar	Quartz Magnetite Apatite	Bastite Calcite Sericite		Pluton intrudes Jurassic volcanic and sedimentary rocks. Size 1 x 5 km in immediate outcrop area, but similar rock crops out in the valley of the Little Kasigluk River 13 km west and possibly north of the area as well
28	71AGk102 C 71AGk206 C GA7-1450 TA GA7-2268	Crater Hill Goodnews A-7	Diorite	Coarse-grained, hypidiomorphic-granular texture. Two amphiboles with abundant inclusions	Bytownite/labradorite Amphiboles Magnetite		Epidote	A 162.4 ± 4.8	Has metamorphic appearance. Size 2 x 8 km
29	50AHr200 TC	Gemuk Mountain Bethel C-1	Gabbro	Coarse-grained, cataclastic texture of almost entirely plagioclase phenocrysts. Several slippage planes in thin section are filled with a plagioclase microbreccia. In many phenocrysts twins are offset along minor slip planes	Labradorite Hornblende	Quartz Sphene Magnetite Tremolite	Chlorite Calcite Epidote		Northwest of Nishlik Lake in fault slice. Appears to intrude Gemuk Group and possibly other volcanic and sedimentary rocks. Size 3 x 10 km
30	52AHr146a TC	Aeolus Mountain Hagemeister Island D-3	Gabbro	Coarse- to medium-grained. Much of amphibole is greenish brown being replaced by a green amphibole. Alteration; pyroxene to amphibole to anomalous blue chlorite and carbonate	Andesine/labradorite Clinopyroxene Amphiboles	Magnetite Apatite Sphene	Clinozoisite Chlorite Carbonate		Well-developed banding on weathered surfaces, is best near contact. Many dark dikes and stringers of pink feldspar. Size 2 x 4 km
31	52AHr168 TC	Matogak Hagemeister Island D-3 Goodnews A-6	Gabbro	Coarse-grained, xenomorphic-granular texture with finer-grained plagioclase crystals. Slight alignment of grains and rock in thin section has a fractured appearance, with a filled crack cutting across it. Amphibole replacing pyroxene	Amphibole Labradorite Pyroxene	Quartz			Size 2 x 6 km
32	62AHr176a TC 74AHr111 T	Downdraft Mountain Hagemeister Island D-4	Gabbro	Coarse-grained, xenomorphic-granular texture	Amphibole Labradorite Clinopyroxene	Magnetite		In process	Intrudes Gemuk Group rocks. Size 3 x 5 km
33	48AHr147a T	Kwethluk River Sill Bethel A-5, B-5	Gabbro	Medium-grained, xenomorphic-granular texture with a few large plagioclase phenocrysts. Plagioclase is later than the mafics and cuts across them. Plagioclase shows mutual solution boundaries	Labradorite Clinopyroxene	Magnetite	Serpentine Calcite		Large sill-like intrusive. Size 2 x 6 km
		MISCELLANEOUS PLUTONS OF UNSURE ASSOCIATION							
34	49AHr55 TC	Kasigluk Dome Bethel C-5	Alkali feldspar granite porphyry	Porphyry with very fine-grained matrix	Albite K-feldspar Quartz	Biotite Magnetite			Hydrothermally altered. Intrudes Jurassic volcanic and sedimentary rocks and the Kasigluk River pyroxene diorite body. Sugary texture with manganese oxide in dendritic forms. Size 4 x 4 km
35	74AHr26 TCA	Nunavachak Hills Nushagak Bay D-6 Hagemeister Island D-1	Granitoid felsite	Fine-grained, hypidiomorphic-granular texture	Plagioclase Quartz K-feldspar Biotite	Magnetite		B 11.0 ± 0.5 (4)	Hypabyssal sill or dome
36	53AHr231 TC	Gechiak Goodnews B-4	Quartz-rich granitoid porphyry	Porphyry. Rounded phenocrysts of oligoclase in a very fine-grained matrix. All mafics (originally biotite?) altered to chlorite	Quartz Oligoclase		Chlorite Sericite		Intrudes pillow basalts and cherts, Size 2 x 4 km
37	54AHr18 TC	Arrow Creek Taylor Mountains A-5	Alkali feldspar quartz syenite porphyry	Porphyry. Large feldspar phenocrysts with included and interstitial mafics and quartz	Perthitic feldspar	Amphibole K-feldspar?	Epidote Spinel		Size 3 x 4 km
38	48AHr163	Eek River Sill Bethel A-5	Tonalite (altered)	Medium-grained, xenomorphic-granular texture. Highly altered, abundant calcite and chlorite pseucomorphs after amphibole or pyroxene	Andesine Quartz	Apatite Sphene	Chlorite Calcite Kaolinite Sericite		Sill-like body. Size 1 x 12 km
39	52AHr32a TC	Chagvan Mountain Hagemeister Island C-6	Meta-gabbro	Coarse-grained			Albite Clinozoisite/zoisite Amphiboles		Gniessose gabbroic rock and in turn is cut by numerous dikes. Cuts greenstone-like rock. Probably a metasomitized gabbro. Size 1 x 2 km.