

DESCRIPTION OF MAP UNITS

**SURFICIAL DEPOSITS** -- Consist of glacial and stream deposits (sand and beach sediments) along coast. Occasional thin layers of peat and silt.

**BIOTITE QUARTZ MONZONITE** -- Fine-grained; probably related to the Kodiak batholith. Age probably Paleocene.

**KODIAK FORMATION (Upper Cretaceous)** -- Medium to thickly bedded arkosic sandstone and shales with occasional beds of pebbly conglomerate (Moore, 1969). Flute casts and complete bioturbation indicate deposition by turbidity currents; below wave base; strikes northeast and dips steeply north; west generally deformed into tight, large-scale folds and locally into broken formations; abundant pelecypod fossils. Upper Cretaceous (Maastrichtian) pelecypod fauna is present along the Ugnak thrust; fault-bounded bodies of Kodiak Formation (lithology locally are included in Uyak Complex near Ugnak thrust -- see Uyak Complex description for details). Locally associated with Shumagin Formation to southwest on Shumagin and Seward Islands (Bark, 1963; Moore, 1973) and with Valdez Group to northeast on Kenai Peninsula (Clark, 1973; Smith, 1974; Flahar, Jones and Passagor, 1977).

**CAPE CORREY TRUSMAM CONGLOMERATE (1978)** -- Informally named unit consisting principally of medium- to thick-bedded arkosic and lithic sandstone dipping steeply northeast (Connelly, 1978); contains occasional sections of vesicular pillow lava and pillow breccia slightly unconformably and moderately deformed; includes two bodies of red pelagic limestone containing corals of indeterminate age and Upper Cretaceous foraminifera (locality F4).

Named by Connelly (1978), 755-760

**UYAK COMPLEX (Cretaceous)** -- Lithologically chaotic assemblage of deep-sea rock types. Includes:

a. argillite and gray chert (about 2-3) with minor tuff (C 102); chert composed entirely of quartz and contains rare ghosts of radiolaria; thinly layered and intensely deformed

b. massive arkosic sandstone; internally sheared; contains secondary weathering and mineralization; locally contains vesicular, chert-like composition (Gill, 1976; Hill, 1978)

c. structurally bedded radiolarian chert; contorted assemblage of 2-7 on thick beds separated by thin partings; locally overlies pillowed greenstone with sedimentary breccia (locality G)

d. minor limestone, thinly interlayered with argillite; recrystallized to no fossils interlayered with argillite; Connelly, 1978

e. calcareous argillite; similar to (a) but contains greater than 40% tuff

Most of Uyak Complex is melange with foliation dipping steeply northwest (see summary of structural data on Sheet 2); assemblage contains fossils ranging in age from Paleocene to Early Cretaceous (see Table 1); probably correlates with Hothugh Complex near Anchorage and unnamed units on southern Kodiak Peninsula (Clark, 1973; Martin, 1955; Magoon, Adkinson and Egbert, 1976).

**Gabbroic and ultramafic rocks**: Includes layered gabbro, clinopyroxenite, diorite, and plagioclase peridotite (Gill, 1975; Hill and Brannon, 1976); no hornblende or olivine-bearing gabbros have been observed; generally occur as fault-bounded slabs along northwest side of Uyak Complex.

**AFOGNAK PLUTON** -- Hornblende diorite and hornblende quartz diorite (Gill, 1978; Hill and Morris, 1977) generally occurs between the schist of Kodiak Island and Uyak Complex to the east; the structurally overlying Kodiak Formation is metamorphically well-developed along contact with Afofnaq schist terrane and Shuyak Formation; K-Ar ages (Gordon and others, 1977) from pluton listed in table 1.

**SCHIST OF KODIAK ISLAND** -- Informally named unit consisting of thickly layered and complexly folded quartz-mica schist, of chloritoid-quartz schist, and amphibole schist (Gill, 1975; Hill and Brannon, 1976); also includes calc-alicite rock and amphibole schist; Afofnaq schist terrane is generally separated from them by the Afofnaq pluton.

**MAFIC DIKES, SILLS, AND PLUGS** -- (Differentiated only on Sheet 2.) Petrographically appear to have diabasic composition; intrude metamorphic member of Shuyak Formation; no obvious thermal metamorphic aureoles at margins; age uncertain but younger than, or in part contemporaneous with, Shuyak Formation.

**SHUYAK FORMATION (Upper Triassic)** -- Named by Connelly (1978, 761-762). Includes two members. Type section for both members located along north shore of western part of Shuyak Strait.

**Sedimentary member**: Volcaniclastic sequence consisting of thin to medium-bedded lithic sandstone with less conglomeratic, argillite, and silty tuff (Connelly, 1978); intruded by mafic dikes, sills and plugs (F1); rich in primary sedimentary material; flute casts and complete bioturbation indicate deposition by turbidity currents; some sandstone beds are either broadly folded or homoclinally dipping southeast; metamorphism reaches greenschist to amphibolite facies; in fault contact with, but inferred to overlie, the volcanic member; contains Upper Triassic pelecypods (see Table 1); correlates to northeast with lithologically similar rocks on southern Kodiak Peninsula (Martin, 1955; Magoon, Adkinson and Egbert, 1976) and to the southwest with rocks on the Alaska Peninsula at Pualo Bay and in the Lake Iliamna-Kamish Bay area (Bark, 1963; Detertman and Hartsack, 1966).

**Volcanic member**: Consists mainly of vesicular pillowed greenstone, but locally contains beds of pillow breccia, agglomerate, tuff, and argillite; unmetamorphosed; greenstone is tholeiitic in composition (Gill and Hill, 1976; Hill, 1978); structurally overlies the schist terrane of Kodiak Island and Uyak Complex but is generally separated from them by the Afofnaq pluton.

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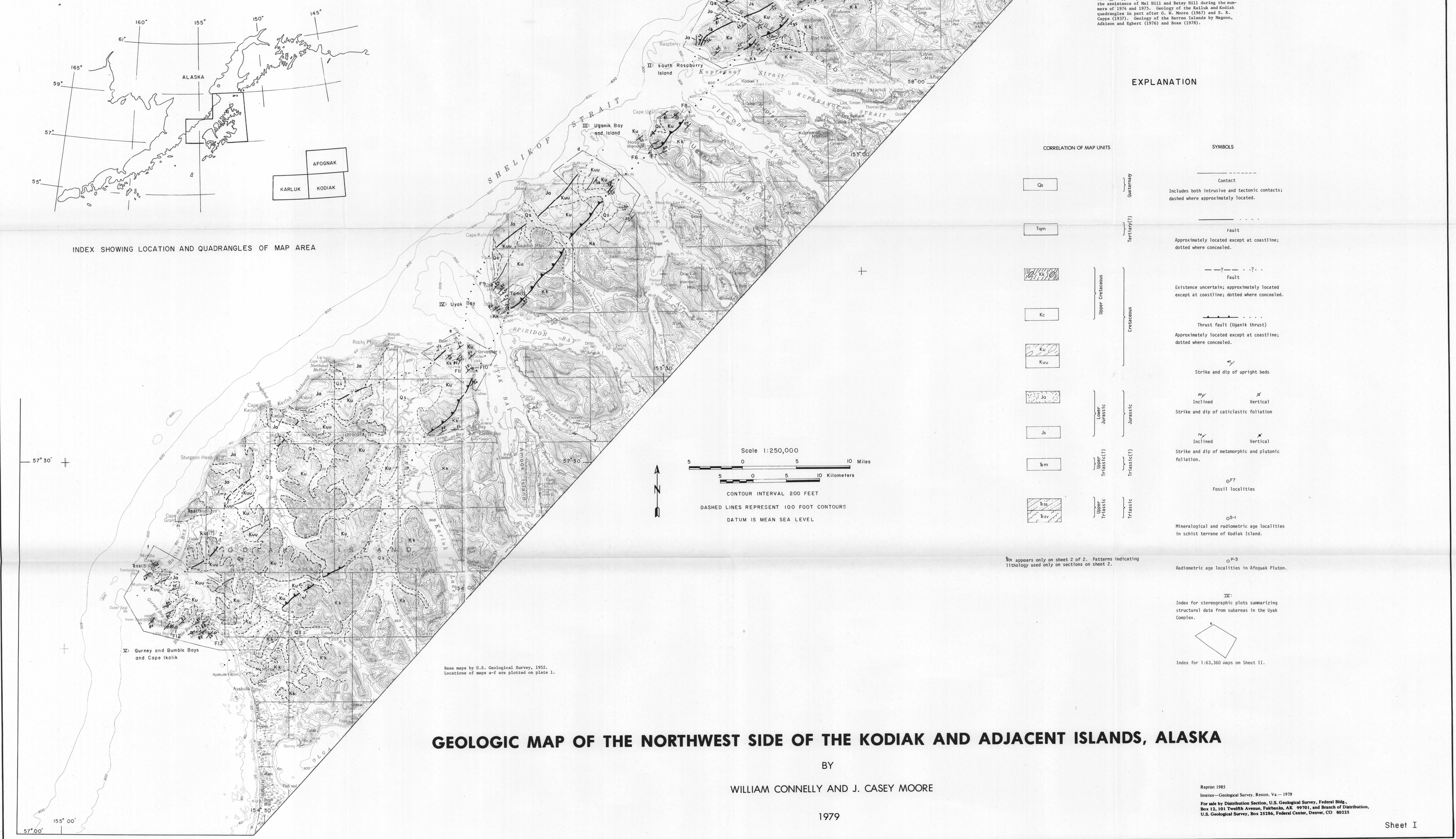
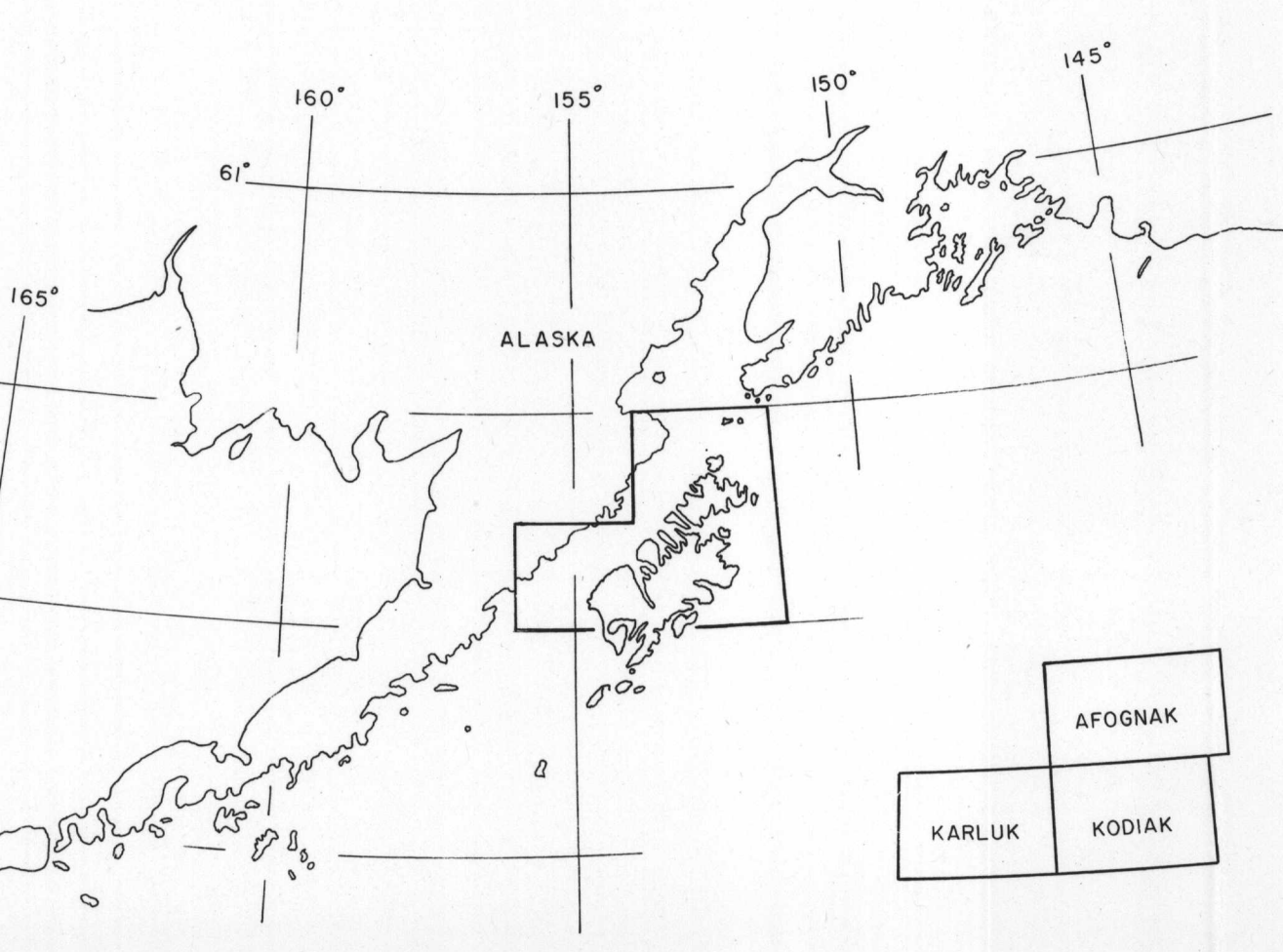
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EXPLANATION

CORRELATION OF MAP UNITS

Qs	Quaternary
Tqm	Tertiary(?)
Kc, Ku, Km	Cretaceous
Ju	Jurassic
Trm, Trk, Trv	Triassic(?)
Tr	Triassic

SYMBOLS

- Contact: Includes both intrusive and tectonic contacts; dashed where approximately located.
- Fault: Approximately located except at coastline; dotted where concealed.
- Thrust fault (Ugnak thrust): Approximately located except at coastline; dotted where concealed.
- Strike and dip of upright beds: Strike and dip of upright beds.
- Inclined: Strike and dip of catclastic foliation.
- Vertical: Strike and dip of metamorphic and plutonic foliation.
- Fossil localities: F4, F7, F8-1, F9-3.
- Mineralogical and radiometric age localities in schist terrane of Kodiak Island.
- Radiometric age localities in Afofnaq Pluton.
- Index for stereographic plots summarizing structural data from subareas in the Uyak Complex.

GEOLOGIC MAP OF THE NORTHWEST SIDE OF THE KODIAK AND ADJACENT ISLANDS, ALASKA

BY  
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