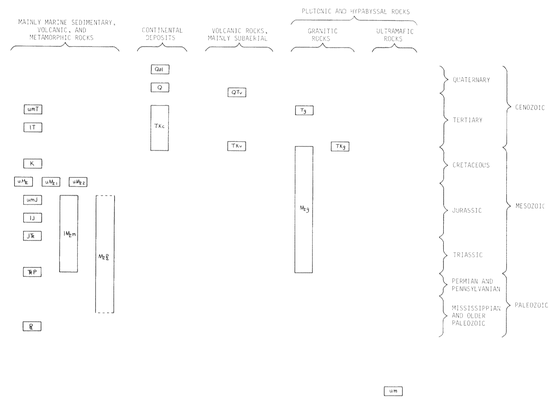
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

U.S. GEOLOGICAL SURVEY
OPEN FILE MAP
77-169-F

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

MAINLY MARINE SEDIMENTARY, VOLCANIC, AND METAMORPHIC ROCKS

- uMT — UPPER AND MIDDLE TERTIARY ROCKS -- Flows, breccias, dikes, sills, and sedimentary rocks, including siltstone, sandstone, and conglomerate of Pliocene and Miocene age and Oligocene coal-bearing volcanic siltstone, sandstone, and conglomerate
- lT — LOWER TERTIARY ROCKS -- A wide range of volcaniclastic, pyroclastic and lesser sedimentary rocks, plus dacitic, andesitic, and basaltic flows and sills and, locally, dikes and small plutons; comprises volcanic sandstone, conglomerate, and breccia; tuff; zeolite-bearing tuffaceous sandstone; sandstone; siltstone; and claystone
- K — CRETACEOUS ROCKS -- Clastic rocks, including interbeds of greywacke and shale; nonvolcanic clastic rocks, marine sandstone, and black siltstone; and sandstone and mudstone
- uMz — CRETACEOUS AND JURASSIC ROCKS -- Primarily volcaniclastic and sedimentary rocks, consisting of locally tuffaceous argillite, sandstone, shale, and greywacke, which are locally metamorphosed into schist and slate. Volcaniclastic sandstone are arkose, siltstone, conglomerate, cinnamon limestone, and calcareous sandstone, with other local interbedded chert, pillow lavas, tuff, sandstone, and mudstone
- uMz1 — CRETACEOUS AND UPPER JURASSIC (?) ROCKS, IN PART METAMORPHOSED -- Graded beds of sandstone and slate
- uMz2 — CRETACEOUS AND UPPER JURASSIC (?) ROCKS, IN PART METAMORPHOSED -- Granitic volcanic of gray chert, argillite, volcanic sandstone, pillow and tholeiitic argillite, radiolarian chert, and minor limestone
- uMJ — UPPER AND MIDDLE JURASSIC ROCKS -- Claystone, shale, siltstone, arkosic to feldspathic sandstone, and conglomerate
- lJ — LOWER JURASSIC ROCKS -- Volcanic flows and pyroclastic rocks with minor interbedded sandstone and argillite
- JTr — JURASSIC AND TRIASSIC ROCKS, IN PART METAMORPHOSED -- Marine sedimentary and volcanic rocks, comprising shale, tuff, chert, limestone, sandstone, pillow basalt, and lava flows
- lMzm — LOWER MESOZOIC METAMORPHIC ROCKS -- Metamorphosed sedimentary, volcanic, and plutonic rocks
- TRP — TRIASSIC AND PERMIAN ROCKS, IN PART METAMORPHOSED -- Marble, quartzite, greenschist, chloritic schist, garnet schist, with subordinate cherts
- MzP — MESOZOIC AND (OR) PALEOZOIC ROCKS, IN PART METAMORPHOSED -- Siltstone, chert, and mafic volcanic rocks, with lesser amounts of calcareous siltstone, greywacke, conglomerate, and limestone
- P — PALEOZOIC ROCKS -- Argillite, greywacke, phyllite, quartzite, slate, limestone, and chert; minor volcanic rocks

CONTINENTAL DEPOSITS

- Qal — ALLUVIUM -- Stream, estuarine, beach, dune sand, talus, and other surficial deposits
- Q — OLDER ALLUVIUM -- Alluvium, dune sand, loess, beach sand, glacial, and deltaic deposits; in some areas, includes sheets and more localized deposits of ash-flow materials
- TKc — TERTIARY AND (OR) CRETACEOUS CONTINENTAL DEPOSITS -- Sandstone, conglomerate, siltstone, and shale, with lesser amounts of claystone and coal

VOLCANIC ROCKS, MAINLY SUBAERIAL

- QTv — QUATERNARY AND TERTIARY VOLCANIC ROCKS -- Andesitic and basaltic flows and associated pyroclastic deposits; volcanic sediments comprising interbedded volcanic conglomerates, sandstones, volcanic breccias, and minor flow siltstone and shale
- TKv — TERTIARY AND (OR) UPPER CRETACEOUS VOLCANIC ROCKS -- Basaltic and andesitic flows, including some rhyolite, dacite, and latite; interbeds of tuff, breccia, and tuffaceous sandstone

GRANITIC ROCKS

- Tg — TERTIARY GRANITIC ROCKS -- Plutonic rocks with a range of composition, including quartz diorite, diorite, granodiorite, quartz monzonite, and granite; fine-grained dacitic volcanic plugs and hypabyssal rhyolite and dacite with some flows and tuff beds
- TKg — TERTIARY AND CRETACEOUS GRANITIC ROCKS -- Includes rocks ranging in composition from quartz diorite to granite
- Mzg — MESOZOIC GRANITIC ROCKS -- Quartz diorite and granodiorite

ULTRAMAFIC ROCKS

- um — ULTRAMAFIC ROCKS -- Includes serpentinized dunite, pyroxenite, and gabbro

For a more complete description of map units see U.S. Geol. Survey open-file map 77-169-G, 1977

GEOLOGIC MAP SYMBOLS

Fault, approximately located
Dotted where concealed or inferred

Contact, approximately located
Dashed where concealed or inferred

Volcanic cone or vent

MINERAL DEPOSITS

The deposits are shown by symbols that reflect their most valuable or potentially most valuable commodity, that is, the commodity that has yielded the most revenue from mining or the commodity with the greatest potential value in an unexploited deposit. Information regarding the deposit type and associated commodities that may constitute coproducts or byproducts is given in the table.

Generalized production data are indicated by the following symbols that are superposed on the map symbols:

- × Minor production -- valued at less than $100,000-/
- × Intermediate production -- valued between $100,000 and $1,000,000-/
- × Major production -- valued at more than $1,000,000-/

-/Metal prices used in deriving generalized production figures: gold at $130 per troy ounce; silver at $4 per troy ounce; copper at $0.60 per pound.

Numbers adjacent to the symbols on the map are map numbers that are keyed to the table for a given quadrangle

MAP SYMBOLS

PLACER DEPOSITS

PRECIOUS METALS

- □ Gold, platinum group elements, silver
- Generalized extent of placer workings

The few placer deposits of nonprecious metals are shown by the superscript P adjacent to the appropriate commodity symbol

LODE DEPOSITS

PRECIOUS METALS

- • Gold, platinum group elements
- ⊕ Silver

IRON AND FERROALLOY METALS

- ● Iron, manganese, titanium
- ■ Nickel, chromium
- + Molybdenum, tungsten

BASE AND MISCELLANEOUS METALS

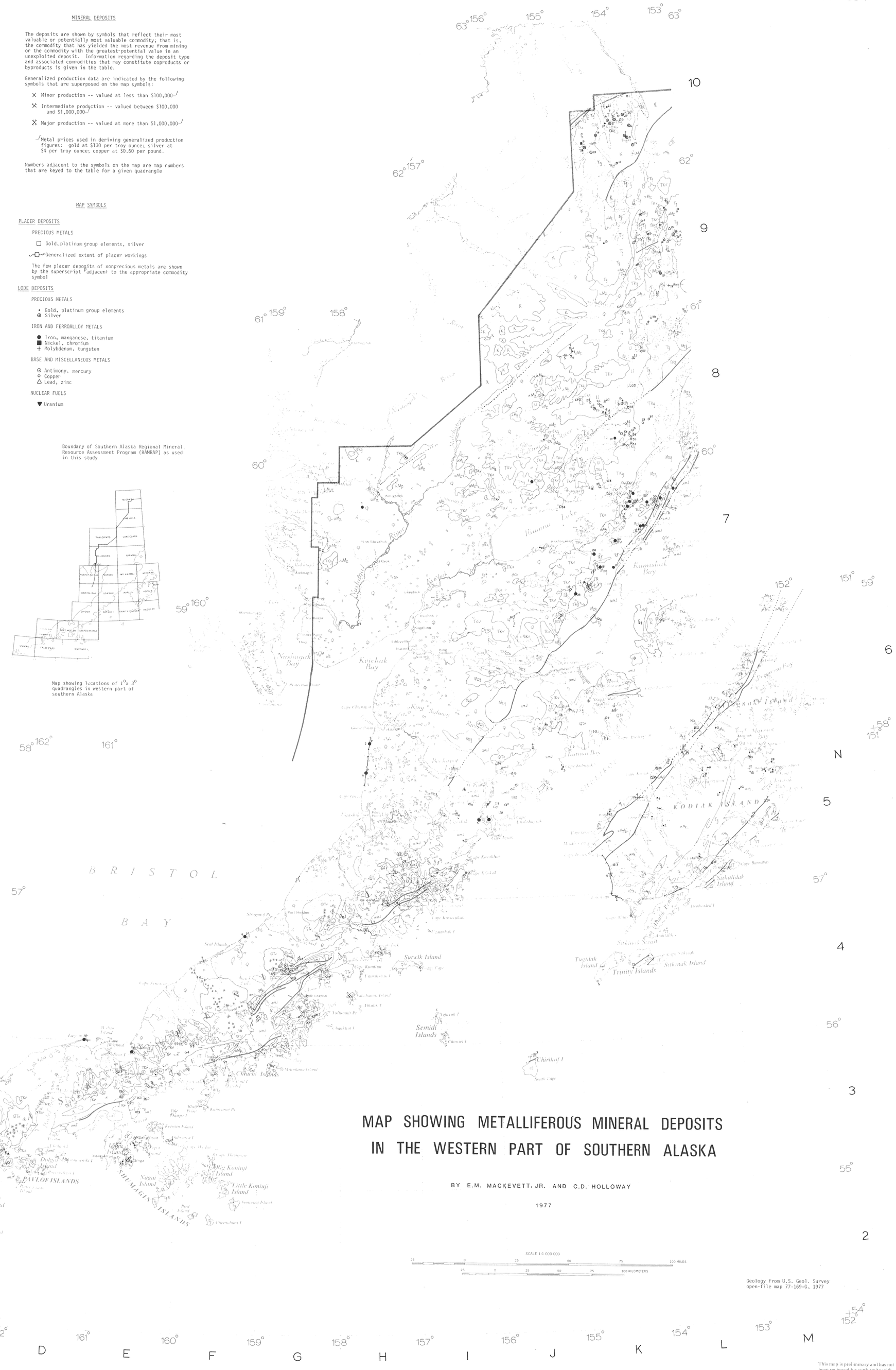
- ⊙ Antimony, mercury
- ○ Copper
- △ Lead, zinc

NUCLEAR FUELS

- ▼ Uranium

Boundary of Southern Alaska Regional Mineral Resource Assessment Program (RAMRAP) as used in this study

Map showing locations of 1° x 3° quadrangles in western part of southern Alaska


BRISTOL BAY
KODIAK ISLAND
UNIMAK ISLAND
PAVLOF ISLANDS
SHUMAGIN ISLANDS
Semidi Islands
Chirikof I
Trinity Islands
Sutwik Island
Kamishak Bay
Kvichak Bay
Nushagak Bay
Iliamna Lake
Naknek River
Sanak Islands
Nagai Island
Big Koniuji Island
Little Koniuji Island
Deer Island
Sitkalidak Island
Tugidak Island
Sitkinak Island
Chiachi Islands
Post Heiden
Cape Kumlik
Cape Kuliuk
Cape Kubkof
Cape Kovalevsky
Cape Ugyak
Cape Kekurnoi
Cape Kaguyak
Cape Ilnik
Cape Igvak
Cape Chiniak
Cape Greig
Cape Ivakofski
Cape Ikolik
Cape Alitak
Cape Barnabas
Cape Ocotash
Cape Nukshak
Cape Douglas
Cape Kekurnoi
Cape Kovalevsky
Cape Ugyak
Cape Kubkof
Cape Kumlik
Cape Kuliuk