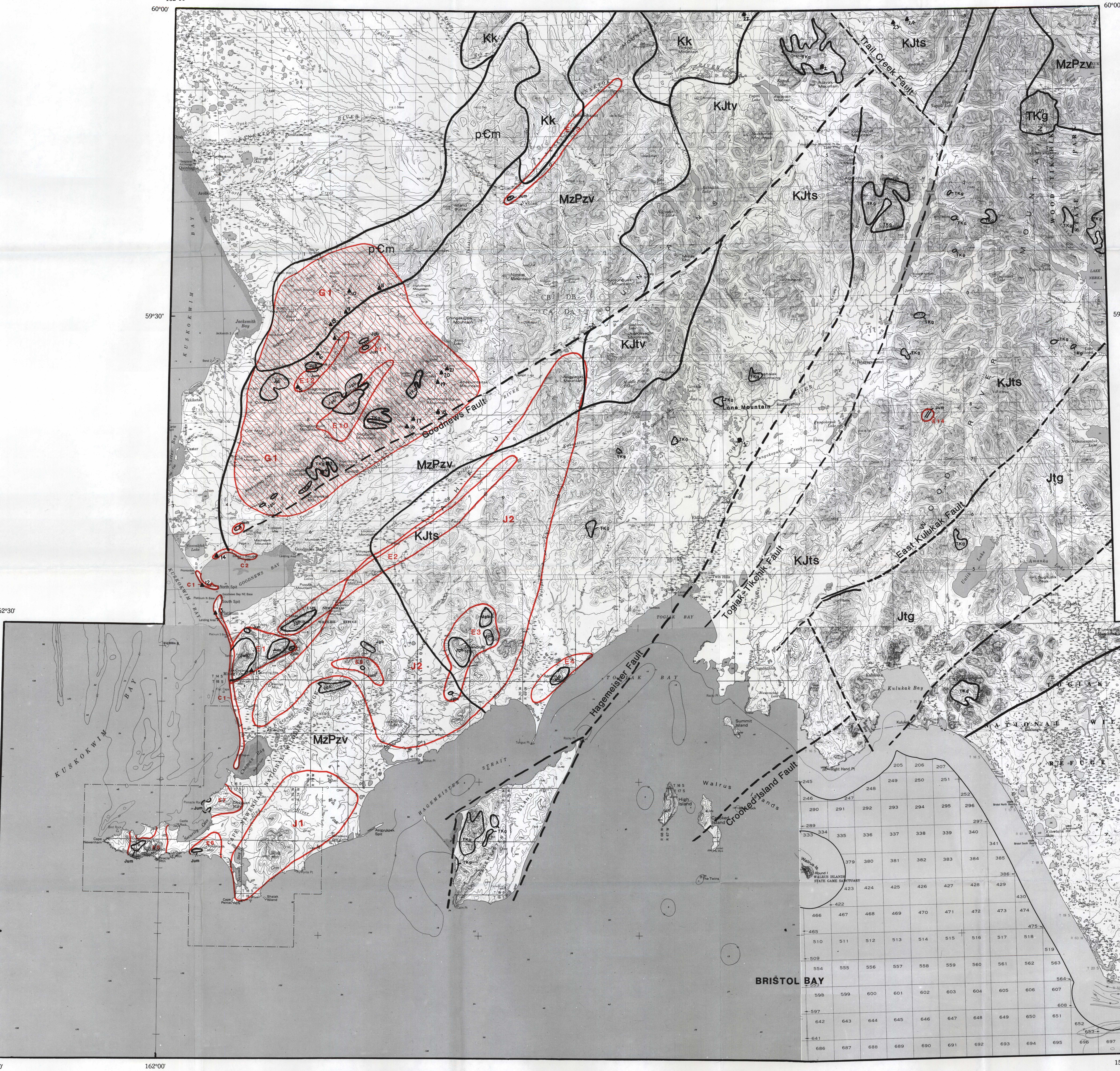

MAP B. Showing areas C1-C2, E1-E14, G1, and J1-J2 of metallic mineral resource potential

Base from U.S. Geological Survey:
Goodnews Bay, 1979; Hagemeister Island, 1957;
and Nushagak Bay, 1952

CORRELATION OF MAP UNITS

Volcanic and sedimentary rocks	Intrusive rocks		
	TKg	Late and Early Cretaceous	TERTIARY
Kk			CRETACEOUS
KJtv, KJts	TKg	Early Cretaceous	CRETACEOUS
Jtg	Jgb		JURASSIC
	Jum		JURASSIC(?)
MzPzv			MESOZOIC AND PALEOZOIC
Metamorphic rocks: p€m			PRECAMBRIAN

DESCRIPTION OF MAP UNITS

VOLCANIC AND SEDIMENTARY ROCKS

Kk **Kuskokwim Group (Late and Early Cretaceous)**--Thick, predominantly marine sedimentary unit consisting of graywacke, sandstone, conglomerate, siltstone, and shale. Unconformably overlies pre-amalgamation terranes, indicating accretion was complete by Albian time (Miller and others, 1989). Entire unit is probably at least 4,000 m thick and may be much thicker (Hoare and Coonrad, 1978)

Togiak terrane

KJtv **Volcanic and volcaniclastic rocks (Early Cretaceous and Jurassic)**--Thick, structurally complex assemblage of andesitic tuff, flows, and volcaniclastic rocks. Tuff units mostly fine grained, green or gray, but locally may be red. Tuff and tuffaceous sedimentary rocks commonly laumontitized and have mottled or speckled appearance (Hoare and Coonrad, 1978)

KJts **Volcanic and sedimentary rocks (Early Cretaceous and Jurassic)**--Thick, widespread, marine unit consisting largely of volcanic and sedimentary rocks. As mapped, may include some rocks of Permian and Triassic age. Volcanic rocks range in composition from mafic pillow basalts to more abundant andesitic and trachytic flows, tuff, and breccia. Tuff and tuffaceous sedimentary rocks associated with intermediate-composition volcanic rocks are commonly laumontized. Laumontized rocks mottled or speckled light green, gray, or brownish (Hoare and Coonrad, 1978)

Jtg **Graywacke (Jurassic)**--Thick marine sedimentary unit consisting of very hard graywacke, siltstone, and local conglomerate. Beds generally thick. Composition ranges from quartz and plagioclase-rich wacke to quartz-poor volcanic wacke. Generally contains black argillite or tuff chips (Hoare and Coonrad, 1978)

Goodnews terrane

MzPzv **Volcanic and sedimentary rocks (Mesozoic and Paleozoic)**--Disrupted assemblage of foliated metabasalt, low-grade schist, marble, chert, graywacke, slate, limestone, basalt, and volcanic conglomerate ranging in age from Early(?) Ordovician to Early Cretaceous (Frost, 1990; Box, 1985). Volcanic-rock units consist of pillow basalt, breccia, crystal lithic tuff, and flows of mafic and intermediate composition. Sedimentary rocks consist of thin-bedded to massive tuffaceous chert and siltstone, argillite, graywacke, conglomerate, and limestone. Pillow basalt and other volcanic rocks are commonly interbedded with tuffaceous chert units or other fine-grained volcanogenic rocks (Hoare and Coonrad, 1978; Box, 1985)

INTRUSIVE ROCKS

TKg **Granitic rocks (Tertiary to Early Cretaceous)**--Fine-, medium-, and coarse-grained plutonic rocks. Bodies generally form stocks consisting of quartz monzonite, granodiorite, and (or) quartz diorite

Jgb **Gabbroic rocks (Jurassic)**--Medium- to coarse-grained, locally pegmatitic, intrusive rocks consisting of hornblende, clinopyroxene, and calcic plagioclase. Locally contain olivine. Generally associated with ultramafic rocks (Hoare and Coonrad, 1978)

Jum **Ultramafic rocks (Jurassic?)**--Serpentinite, serpentinized dunite, and websterite. Several intrusive bodies and numerous probable tectonic blocks in fault zones. Possible association with gabbroic rocks (Jgb) (Hoare and Coonrad, 1978)

METAMORPHIC ROCKS

Kilbuck terrane

p€m **Foliated metamorphic rocks (Precambrian)**--Foliated metamorphic rocks that consist of medium- to coarse-grained, massive, and well-foliated biotite-hornblende gneiss, garnetiferous amphibolite, quartz-mica schist, and marble (Hoare and Coonrad, 1978)

Contact—Known, approximate, gradational, and inferred

Fault or fault zone—Dashed where approximate, inferred, or concealed

1 ■ **Lode deposit—Name shown on table 1**

7 ▲ **Placer deposit—Name shown on table 1**

AREAS HAVING METALLIC MINERAL RESOURCE POTENTIAL—Areas labeled with letter and number corresponding to table 2 and text. The map must be used together with table 2 to correctly interpret the potential of overlapping areas. Where two or more overlapping areas have different levels of potential, the overlapping area is marked to show the highest potential determined

A1 High mineral resource potential

G1 Moderate mineral resource potential

D5 Low mineral resource potential

SCALE 1:250 000

5 0 5 10 15 MILES

5 0 5 10 15 KILOMETERS

CONTOUR INTERVAL 200 FEET
WITH SUPPLEMENTARY CONTOURS AT 100-FOOT INTERVALS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Geology generalized from Hoare and Coonrad (1978)

MAP SHOWING METALLIC MINERAL RESOURCE POTENTIAL IN THE GOODNEWS BAY, HAGEMEISTER ISLAND, AND NUSHAGAK BAY 1° x 3° QUADRANGLES, SOUTHWEST ALASKA

By
J.E. Kilburn, R.J. Goldfarb, Andrew Griscom, and S.E. Box
1993

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1993

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