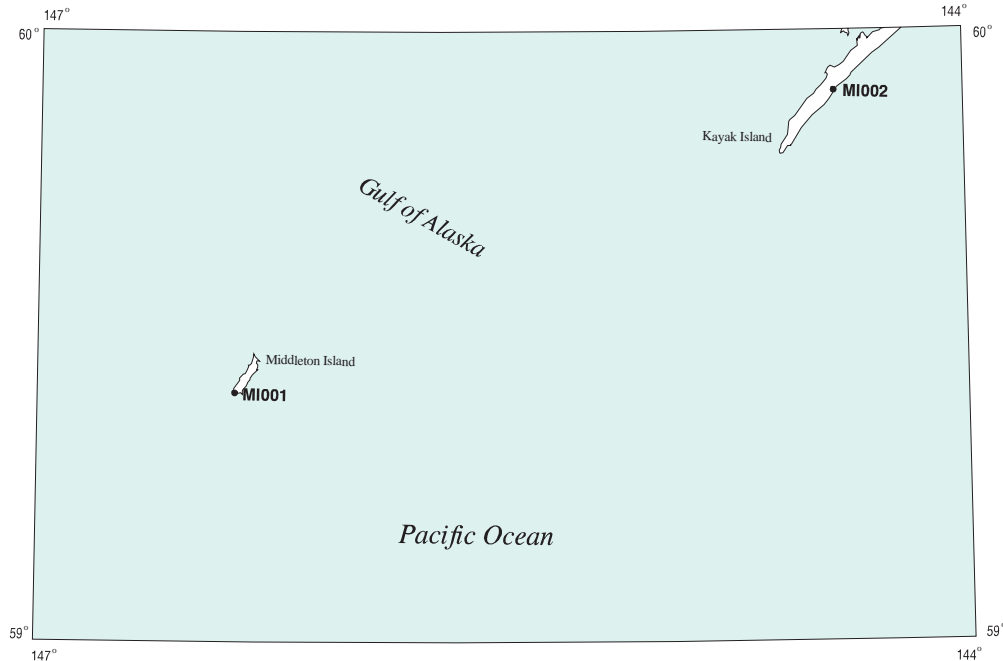


Middleton Island quadrangle

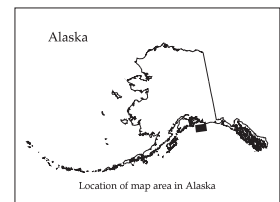
Descriptions of the mineral occurrences shown on the accompanying figure follow. See U.S. Geological Survey (1996) for a description of the information content of each field in the records. The data presented here are maintained as part of a statewide database on mines, prospects and mineral occurrences throughout Alaska.



*Distribution of mineral occurrences in the Middleton Island
1:250,000-scale quadrangle, Alaska*

This and related reports are accessible through the USGS World Wide Web site <http://ardf.wr.usgs.gov>. Comments or information regarding corrections or missing data, or requests for digital retrievals should be directed to: Frederic Wilson, USGS, 4200 University Dr., Anchorage, AK 99508-4667, e-mail fwilson@usgs.gov, telephone (907) 786-7448. This compilation is authored by:

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This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards or with the North American Stratigraphic code. Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

OPEN-FILE REPORT 02-114

Site name(s): Middleton Island**Site type:** Mine**ARDF no.:** MI001**Latitude:** 59.4082**Quadrangle:** MI B-7**Longitude:** 146.3647**Location description and accuracy:**

The beach along the bluffs at the southwest end of Middleton Island was the site of small-scale placer gold mining as early as 1901. This is locality 1 of Cobb (1972 [MF 380]; 1979 [OF 79-1246]). It is accurately located.

Commodities:**Main:** Au**Other:****Ore minerals:** Gold**Gangue minerals:** Garnet**Geologic description:**

Storm waves concentrate garnet-rich heavy mineral sands that contain small amounts of placer gold along the southwest headland of Middleton Island (Brooks, 1913; Reimnitz and Plafker, 1976). Other beaches around the island may also contain small amounts of placer gold. Some mining occurred as early as 1901, and by 1913, about 400 ounces of gold were estimated to have been produced (Brooks, 1913). The recovered gold was fine and flat; the coarsest grain weighed about 0.05 ounce (Brooks, 1913). Later residents of the Middleton Island military facilities conducted recreational placer gold mining on the island beaches (George Plafker, oral commun., 2001). The gold is derived from the reworking of the marine glacial deposits of the upper Cenozoic Yakataga Formation. These rocks make up the bedrock of Middleton Island and much of the surrounding continental shelf (Reimnitz and Plafker, 1976).

Alteration:**Age of mineralization:**

Holocene.

Deposit model:

Placer Au (beach) (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

39a

Production Status: Yes; small**Site Status:** Inactive**Workings/exploration:**

Very small scale hand mining recovered a few hundred ounces of gold.

Production notes:

About 400 hundred ounces of gold were estimated to have been recovered between 1901 and 1913 (Brooks, 1913).

Reserves:**Additional comments:****References:**

Brooks, 1913; Cobb, 1972 (MF 380); Cobb, 1979 (OF 79-1246); Reimnitz and Plafker, 1976.

Primary reference: Brooks, 1913**Reporter(s):** Travis L. Hudson**Last report date:** 12/12/01

Site name(s): Kayak Island**Site type:** Occurrence**ARDF no.:** MI002**Latitude:** 59.9009**Quadrangle:** MI D-1**Longitude:** 144.4204**Location description and accuracy:**

This occurrence is near the mouth of a small creek on the east side of Kayak Island. The map site is at an elevation of about 100 feet, 2.2 miles southwest of Pyramid Peak, on the south boundary of section 6, T 23 S, R 6 E, of the Copper River Meridian. The occurrence is sample locality 021 of Goldfarb and others (1989), and it is accurately located.

Commodities:**Main:** Cu, Pb, Zn**Other:** Ag, Ba, Mo, Ni**Ore minerals:** Barite, chalcopyrite, galena, pyrite, sphalerite**Gangue minerals:****Geologic description:**

This occurrence is representative of several localities on Kayak Island where stream sediments and heavy-mineral concentrates contain highly anomalous amounts of barium and zinc and less anomalous amounts of silver, copper, lead, molybdenum, and nickel (Goldfarb and others, 1989). At this locality, stream sediments contain 0.5 ppm silver, 150 ppm boron, 5,000 ppm barium, 20 ppm molybdenum, 150 ppm nickel, and weakly anomalous levels of cobalt, copper, scandium, and zinc. The heavy-mineral concentrates from these stream sediments contain 10,000 ppm strontium and 2,000 ppm zinc. Barite is abundant in heavy-mineral concentrates from stream sediments on Kayak Island, and it is generally accompanied by pyrite, sphalerite (zinc concentrations to 20,000 ppm), 10 to 30 percent iron, and 150 to 700 ppm nickel (Goldfarb and others, 1989; Pickthorn and others, 1985). Concentrates with anomalous copper and lead contain microscopic chalcopyrite and galena. The barite and base metals are derived from weathering of Tertiary sandstone, siltstone, and glacial-marine deposits of the Poul Creek and Yakataga Formations (Plafker, 1974). The Eocene to Miocene Poul Creek Formation contains interbedded mafic pyroclastic and flow rocks in its upper part and is locally intruded by mafic dikes and sills. Soil sampling on Kayak Island suggests that many of the stream-sediment and heavy-mineral concentrate anomalies are spatially associated with the upper Poul Creek Formation, which contains mafic igneous rocks (Pickthorn and others, 1985).

Alteration:**Age of mineralization:**

Probably late Tertiary, the age of the upper Poul Creek and Yakataga Formations.

Deposit model:

Sedimentary-exhalative Zn-Pb ? (Cox and Singer, 1986; model 31a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

31a ?

Production Status: None

Site Status: Inactive

Workings/exploration:

A reconnaissance stream-sediment and heavy-mineral concentrate geochemical survey (Goldfarb and others, 1989) and follow-up soil geochemical survey (Pickthorn and others, 1985) have been completed on Kayak Island.

Production notes:**Reserves:****Additional comments:****References:**

Plafker, 1974; Pickthorn and others, 1985; Goldfarb and others, 1989.

Primary reference: Goldfarb and others, 1989

Reporter(s): Travis L. Hudson

Last report date: 12/12/01

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