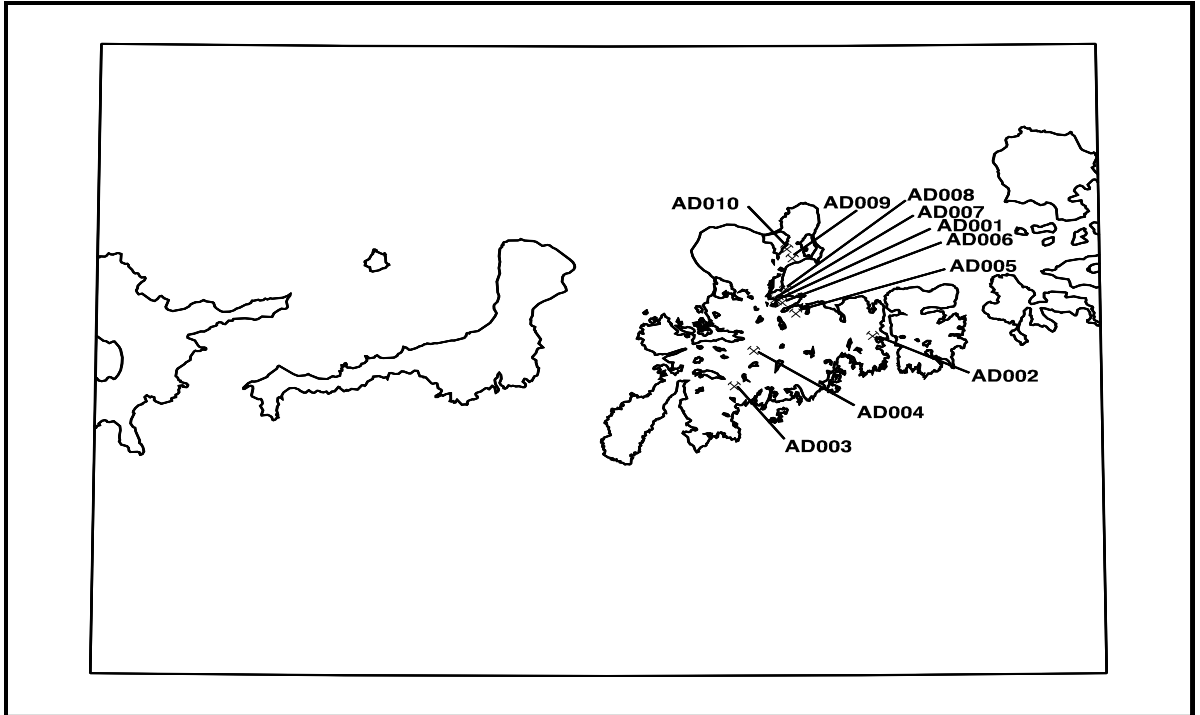


Adak quadrangle

Description of the mineral occurrences shown on the accompanying figure follow. See U.S. Geological Survey (1996) for 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 Adak 1:250,000-scale quadrangle, Aleutian Islands, Alaska

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Site: Sweeper Cove

Type: Occurrence

ARDF no. AD001

Latitude: 51.84778

Quadrangle: AD C-2

Longitude: 176.64389

Location description and accuracy:

Locality described as quarry on hill one half mile southwest of head of Sweeper Cove. U.S. Geological Survey field work in 1993 confirmed location in large quarry. Latitude and longitude are accurate within a few hundred meters.

Main commodities: Au, Ag

Other commodities: Pb, Cu, Zn

Ore minerals: Galena, sphalerite(?), pyrite

Gangue minerals: Quartz

Geologic description:

Highly pyritized contact between a dioritic intrusion and country rock (Coats, 1956). Country rock is mildly altered and metamorphosed volcanic rocks of the Finger Bay Volcanics. Near the contact between the Finger Bay Volcanics and the dioritic intrusion is a quartz vein containing galena and sphalerite(?).

Alteration:

Strong pyritization obscures contact according to Coats (1956), however examination in 1993 did not confirm this observation.

Workings/Exploration:

Assay of pyritic rocks showed negligible gold and silver (Coats, 1956). Sampling of vein in 1993 yielded 300 ppb Au, 15 ppm Ag, 100 ppm Cu, 300 ppm Pb, and 700 ppm Zn (sample 93 TL 106).

Age:

Tertiary

Deposit model:

Polymetallic vein

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

22c

Production: No

Status: Inactive

Production notes:

Reserves:

Additional comments:

References:

Coats, 1956, p. 50; unpublished data, U.S. Geological Survey, 1994

Primary reference: Coats, 1956

Reporter: F.H. Wilson, T.D. Light

Reporter affiliation: USGS

Last report date: 2/22/96

Highly pyritized contact between a dioritic intrusion and country rock (Coats, 1956).

Site: Blind Cove**Type:** Occurrence**ARDF no.** AD002**Latitude:** 51.7920**Quadrangle:** AD C-2**Longitude:** 176.4540**Location description and accuracy:**

Locality described as area of Blind Cove, location accuracy no better than 1.5 km.

Brecciated fault zone(s) as much as 50 yards (46 m) wide containing disseminated pyrite and quartz.

Main commodities: Au?**Other commodities:****Ore minerals:****Gangue minerals:** Quartz, pyrite**Geologic description:**

Brecciated fault zone(s) as much as 50 yards (46 m) wide containing disseminated pyrite and quartz.

Alteration:**Workings/Exploration:****Age:**

Tertiary

Deposit model:

Polymetallic vein?

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

22c?

Production: No**Status:** Inactive**Production notes:****Reserves:****Additional comments:****References:**

Fraser and Snyder, 1959

Primary reference: Fraser and Snyder, 1959**Reporter:** F.H. Wilson, T.D. Light**Reporter affiliation:** USGS**Last report date:** 11/03/92

Site: Beyer Bay**Type:** Occurrence**ARDF no.** AD003**Latitude:** 51.7130**Quadrangle:** AD B-3**Longitude:** 176.7300**Location description and accuracy:**

Locality described as west shore of Beyer Bay, location accuracy no better than 1.5 km.

Main commodities: Au?**Other commodities:****Ore minerals:****Gangue minerals:** Quartz, pyrite**Geologic description:**

Brecciated fault zone as much as 100 yards (92 m) wide containing disseminated pyrite and quartz.

Alteration:**Workings/Exploration:****Age:**

Tertiary

Deposit model:

Polymetallic vein?

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

22c?

Production: No**Status:** Inactive**Production notes:****Reserves:****Additional comments:****References:**

Fraser and Snyder, 1959

Primary reference: Fraser and Snyder, 1959**Reporter:** F.H. Wilson, T.D. Light**Reporter affiliation:** USGS**Last report date:** 11/03/92

Brecciated fault zone as much as 100 yards (92 m) wide containing disseminated pyrite and quartz.

Site: Bay of Islands

Type: Occurrence

ARDF no. AD004

Latitude: 51.7690

Quadrangle: AD C-3

Longitude: 176.6910

Location description and accuracy:

Locality described as upstream from the head of Bay of Islands, location accuracy no better than 2.0 km.

Main commodities: Cu?

Other commodities:

Ore minerals:

Gangue minerals: Quartz, pyrite

Geologic description:

Secondary copper minerals found associated with a quartz-pyrite mineralized zone.

Alteration:

Workings/Exploration:

Age:

Tertiary

Deposit model:

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

Production: No

Status: Inactive

Production notes:

Reserves:

Additional comments:

References:

Fraser and Snyder, 1959

Primary reference: Fraser and Snyder, 1959

Reporter: F.H. Wilson

Reporter affiliation: USGS

Last report date: 11/03/92

Secondary copper minerals found associated with a quartz-pyrite mineralized zone.

Site: Finger Bay

Type: Occurrence

ARDF no. AD005

Latitude: 51.82833

Quadrangle: AD C-2

Longitude: 176.60694

Location description and accuracy:

South of Finger Bay, approximately 1.35 km southeast of where road first reaches Finger Bay. Location is accurate within about 100 m. Elevation about 150 m.

Main commodities: Cu, Au, Ag?

Other commodities:

Ore minerals:

Gangue minerals: Quartz

Geologic description:

Geologic map (Fraser and Snyder, 1959) shows locality is near contact of gabbro with volcanic rock units of the Finger Bay Volcanics. The volcanic rocks are cut by thin stringers of quartz and some fracture/cleavage surfaces are coated with sulfide minerals. The gabbro is coarse-grained and sulfide mineral-bearing. Light and Wilson (unpublished data, U.S. Geological Survey, 1994) thought the mineralization was associated with hydrothermal remobilization along the contact.

Alteration:

Silicification of volcanic rocks and minor replacement of mafic minerals by chlorite.

Workings/Exploration:

Two samples collected during U.S. Geological Survey field work in 1993. Sample 93AWs 101 (gabbro) contained 730 ppm Cu, 0.27 ppm Ag, and 4 ppb Au. Sample 93TL 101 (andesite) contained 2 ppb Au, and 150 ppm Cu (unpublished data, U.S. Geological Survey, 1994).

Age:

Tertiary

Deposit model:

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

Production: No

Status: Inactive

Production notes:

Reserves:

Additional comments:

References:

Fraser and Snyder, 1959; unpublished data, U.S. Geological Survey, 1994

Primary reference: Fraser and Snyder, 1959

Reporter: F.H. Wilson, T.D. Light

Reporter affiliation: USGS

Last report date: 2/22/96

Silicification of volcanic rocks and minor replacement of mafic minerals by chlorite.

Site: Unnamed**Type:** Occurrence**ARDF no.** AD006**Latitude:** 51.84583**Quadrangle:** AD C-2**Longitude:** 176.63333**Location description and accuracy:**

Inactive quarry near top of divide between Finger Bay and Sweeper Cove.

Main commodities: Au**Other commodities:****Ore minerals:****Gangue minerals:** Quartz**Geologic description:**

Exposure is in a quarry located on the contact between volcanic rocks and fine- to medium-grained hornblende granodiorite porphyry. Mineralization occurs in dark green to black andesite(?) containing minor amounts of sulfide minerals. Locally, volcanic rocks are brecciated, silica-cemented and contain drusy quartz. Minor quartz stringers locally cut volcanic rocks.

Alteration:

Silicification, possibly associated with emplacement of granodiorite. Possible regional scale low-grade metamorphism (see Kay, 1983).

Workings/Exploration:

Brief field examination and sampling by Light and Wilson during 1993. A sample of silica-cemented breccia (93TL 105c) yielded 20 ppb Au and a sample of andesite(?) containing minor sulfide minerals (93TL 105b) yielded 100 ppm Pb and 2,000 ppm Ba (unpublished data, U.S. Geological Survey, 1994).

Age:

Tertiary

Deposit model:**Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):****Production:** No**Status:** Inactive**Production notes:****Reserves:****Additional comments:****References:**

Kay, 1983; unpublished data, U.S. Geological Survey, 1994

Primary reference:**Reporter:** F.H. Wilson, T.D. Light**Reporter affiliation:** USGS**Last report date:** 2/22/96

Exposure is in a quarry located on the contact between volcanic rocks and fine- to medium-grained hornblende granodiorite porphyry.

Site: Boat Harbor

Type: Occurrence

ARDF no. AD007

Latitude: 51.85083

Quadrangle: AD C-2

Longitude: 176.64833

Location description and accuracy:

Quarry across road from small boat harbor at Sweeper Cove. Location accurate within about 100 m.

Main commodities: Au, Ag, Cu, Zn

Other commodities: Pb, Hg

Ore minerals: Chalcopyrite, malachite/azurite, sphalerite, galena(?)

Gangue minerals: Quartz, epidote

Geologic description:

Volcanic breccias of the Finger Bay Volcanics are cut by a shear or fault zone, exposed in quarry. Zone is filled by quartz vein carrying abundant sulfide minerals, including chalcopyrite. Malachite/azurite staining coats surrounding rocks. Epidote veins and segregations are common in vicinity of vein -- one float boulder of epidote was 30 cm in diameter.

Alteration:

Silicification and epidote replacement of country rocks.

Workings/Exploration:

Sampling of the vein during brief U.S. Geological Survey field work in 1993 yielded 100 ppb Au, 0.12 ppm Hg, 14 ppm Ag, 4,700 ppm Cu, 3,700 ppm Zn and 110 ppm Pb (sample 93 AWs 16). A mineralized sample of the volcanic breccia yielded 50 ppb Au, 11 ppm Ag, 4,700 ppm Cu, and 4,000 ppm Zn (sample 93 AWs 16b).

Age:

Tertiary

Deposit model:

Polymetallic vein

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

22c

Production: No

Status: Inactive

Production notes:

Reserves:

Additional comments:

References:

Unpublished data, U.S. Geological Survey, 1994

Primary reference:

Reporter: F.H. Wilson, T.D. Light

Reporter affiliation: USGS

Last report date: 2/22/96

Sampling of the vein during brief U.S. Geological Survey field work in 1993 yielded 100 ppb Au, 0.12 ppm Hg, 14 ppm Ag, 4,700 ppm Cu, 3,700 ppm Zn and 110 ppm Pb (sample 93 AWs 16).

Site: Unnamed**Type:** Occurrence**ARDF no.** AD008**Latitude:** 51.86694**Quadrangle:** AD C-2**Longitude:** 176.62694**Location description and accuracy:**

Topographic knob at east end of dock area at former Adak Naval Air Station.

Main commodities: Cu, Au**Other commodities:****Ore minerals:****Gangue minerals:** Zeolite, chlorite**Geologic description:**

Silicified volcanic breccia cut by 60-m-wide andesite(?) dike. Coats (1956) mapped knob as a "plug," however, the bulk of the outcrop along the road is breccia. Interstitial spaces between breccia fragments are locally zeolite(?) filled. Dike has a well developed chilled margin.

Alteration:

Silicification and chloritization of volcanic breccia.

Workings/Exploration:

Samples 93AWs 2a, 2b, and 2d of andesitic(?) volcanic breccia and sample 93AWs 2c of the andesite(?) dike were collected during brief U.S. Geological Survey reconnaissance studies in 1993; all four were copper-bearing in the 110-160 ppm Cu range. A few of the samples also yielded low-level gold in the 2-6 ppb range. Float samples were found of iron-stained andesite(?) that contained 3-5 percent unidentified sulfide minerals.

Age:

Tertiary

Deposit model:**Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):****Production:** No**Status:** Inactive**Production notes:****Reserves:****Additional comments:****References:**

Coats, 1956; unpublished data, U.S. Geological Survey, 1994

Primary reference:**Reporter:** F.H. Wilson, T.D. Light**Reporter affiliation:** USGS**Last report date:** 2/22/96

Silicified volcanic breccia cut by 60-m-wide andesite(?) dike.

Site: Unnamed**Type:** Occurrence**ARDF no.** AD009**Latitude:** 51.91611**Quadrangle:** AD C-2**Longitude:** 176.61306**Location description and accuracy:**

Quarry at north end of former Adak Naval Air Station, about 1 mi (1.6 km) east of southern tip of Andrew Lake.

Main commodities: Au, Cu, Pb, Ag**Other commodities:** Hg, Zn**Ore minerals:****Gangue minerals:** Epidote, chalcedony, pyrite**Geologic description:**

Mineral occurrence is located in quarry in volcanic rocks of either the Finger Bay Volcanics or the Andrew Lake Formation. Dominant lithology is a massive andesite(?) cut by faults trending approximately east-west. A zone of iron-staining, possibly centered on a shear zone or fault, cuts through the quarry. Stained zone is approximately 10-15-m-wide and the included rocks contain variable amounts of pyrite.

Alteration:

Propylitic alteration characterized by silicification and replacement of mafic minerals by epidote and chlorite.

Workings/Exploration:

A number of samples of fault gouge, volcanic rocks, and chert-rich sedimentary rocks (93AWs 14a-i) were collected during brief U.S. Geological Survey reconnaissance studies in 1993. Samples yielded as much as 4 ppb Au, 0.11 ppm Hg, 310 ppm Cu, 0.31 ppm Ag, 270 ppm Pb, and 190 ppm Zn.

Age:

Tertiary

Deposit model:**Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):****Production:** No**Status:** Inactive**Production notes:****Reserves:****Additional comments:****References:**

Unpublished data, U.S. Geological Survey, 1994

Primary reference:**Reporter:** F.H. Wilson, T.D. Light**Reporter affiliation:** USGS**Last report date:** 2/22/96

Samples yielded as much as 4 ppb Au, 0.11 ppm Hg, 310 ppm Cu, 0.31 ppm Ag, 270 ppm Pb, and 190 ppm Zn.

Site: Andrew Lake**Type:** Occurrence**ARDF no.** AD010**Latitude:** 51.93083**Quadrangle:** AD C-2**Longitude:** 176.62389**Location description and accuracy:**

On shore of Andrew Lake, approximately 2 km northeast of its southernmost point. Additional mineralization may extend along a N 20°E trending linear to the east.

Additional mineralization may extend along a N 20°E trending linear to the east.

Main commodities: Cu, Au, Zn**Other commodities:****Ore minerals:****Gangue minerals:****Geologic description:**

Fine-grained lithic sandstone of the Andrew Lake Formation overlies volcanic breccia and massive flows(?). A linear, possibly a fault, extends northeast (about N 20°E) from the locality. Other samples of volcanic rocks collected in the vicinity of this linear were also weakly anomalous in Zn and Au.

Alteration:

Chloritization

Workings/Exploration:

A single sample of the sandstone collected during brief U.S. Geological Survey reconnaissance studies in 1993 yielded 120 ppm Cu, 110 ppm Zn, and 4 ppb Au. Volcanic rock samples yielded 4 ppb Au (93TL 102c) and up to 120 ppm Zn (samples 93AWs 12 and 13)

Age:

Tertiary(?)

Deposit model:**Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):****Production:** No**Status:** Inactive**Production notes:****Reserves:****Additional comments:****References:**

Unpublished data, U.S. Geological Survey, 1994

Primary reference:**Reporter:** F.H. Wilson, T.D. Light**Reporter affiliation:** USGS**Last report date:** 2/22/96

References

- Coats, R.R., 1956, Geology of northern Adak Island, Alaska: U.S. Geological Survey Bulletin 1028-C, p. 45-67, 1 plate, scale 1:50,000.
- Fraser, G.D., and Snyder, G.L., 1959, Geology of southern Adak Island and Kagalaska Island, Alaska: U.S. Geological Survey Bulletin 1028-M, p. 371-408, 2 plates, scale 1:125,000.
- Kay, S.M., 1983, Metamorphism in the Aleutian arc: The Finger Bay pluton, Adak, Alaska: Canadian Mineralogist, v. 21, p. 665-681.
- U.S. Geological Survey, 1996, Descriptions of the fields used to report brief descriptions of mines, prospects, and mineral occurrences in Alaska and Hawaii: U.S. Geological Survey Open-file Report 96-79, 5 p.
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