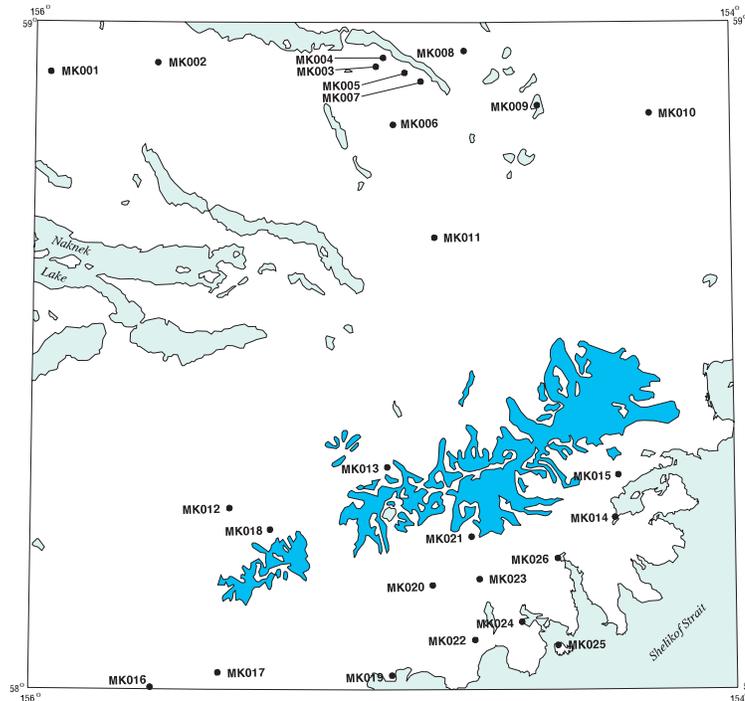


## Mount Katmai quadrangle

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.

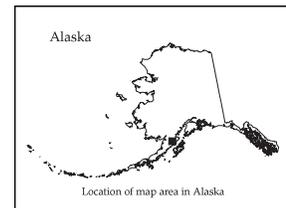


*Distribution of mineral occurrences in the Mount Katmai  
1:250,000-scale quadrangle, Alaska*

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](mailto: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.*

**Site name(s): Sugarloaf Association****Site type:** Occurrence**ARDF no.:** MK001**Latitude:** 58.9244**Quadrangle:** MK D-6**Longitude:** 155.9584**Location description and accuracy:**

The Sugarloaf Association placer gold occurrence is along a small stream about two miles north of the summit of Sugarloaf Mountain; it is in the center of sec. 33, T. 14 S., R. 40 W., of the Seward Meridian. The location is accurate within one-quarter mile.

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

This gold-bearing stream drains Sugarloaf Mountain and nearby highlands which are underlain mostly by Lower Tertiary andesitic and dacitic lava flows and breccias. The Tertiary rocks are intruded or overlain by minor basaltic plugs, dikes, and flows (Riehle and others, 1993). Activity at this occurrence seems to be limited to claim staking and minor exploration. Several blocks of claims, denoted as Nos. 1 and 2 were filed in 1978-1984.

**Alteration:****Age of mineralization:**

Quaternary.

**Deposit model:**

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

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

39a

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Activity at this occurrence seems to be limited to claim staking and minor exploration. Several blocks of claims, denoted as Nos. 1 and 2 were filed in 1978-1984.

**Production notes:****Reserves:**

**Additional comments:**

**References:**

Church and others, 1992; Riehle and others, 1993.

**Primary reference:** Church and others, 1992

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): American Creek; Discovery; Alex Grant****Site type:** Mine**ARDF no.:** MK002**Latitude:** 58.9393**Quadrangle:** MK D-5**Longitude:** 155.6491**Location description and accuracy:**

The American Creek placer deposit includes an approximately ten mile section of stream deposits along American Creek. American Creek is located between Sugarloaf Mountain and Nonvianuk (sometimes spelled Nanwhyenuk) Lake. For this record, the midpoint of the deposit is at an elevation of about 300 feet in the SW1/4 of T. 14 S., R 38 W., of the Seward Meridian. The location is accurate within one-half mile.

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

Placer gold occurs in stream gravels of American Creek. The headwaters of American Creek drain Lower Tertiary andesitic and dacitic lava flows and breccias (Riehle and others, 1993). A claim was active from 1918 through 1984 when the National Park Service evicted the claimant.

**Alteration:****Age of mineralization:**

Quaternary.

**Deposit model:**

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

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

39a

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

Apparently none of significance.

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

The alternate claim names include: William Hammersly, Discovery, Alex Grant. The claim was active

from 1918 through 1984 when the National Park Service evicted the claimant. The deposit is located within Katmai National Park and Preserve.

MAS/MILS # 0021260011.

**References:**

Church and others, 1992; Riehle and others, 1993.

**Primary reference:** Church and others, 1992

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Nix****Site type:** Occurrence**ARDF no.:** MK003**Latitude:** 58.9341**Quadrangle:** MK D-4**Longitude:** 155.0204**Location description and accuracy:**

The Nix placer gold occurrence is at the head of American Creek, about a mile southwest of Oakley Peak which is south of Kulik Lake. The site is at an elevation of about 2,800 feet, in the center of sec. 30, T. 14 S., R. 34 W., of the Seward Meridian. This is location 2 of MacKevett and Holoway (1977). The location is accurate within one-quarter mile.

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

Gold occurs in stream placers at the contact of the Lower Jurassic Talkeetna Formation which consists mainly of volcanic and volcanoclastic rocks, and Tertiary granodiorite (Riehle and others, 1993).

**Alteration:****Age of mineralization:**

Quaternary.

**Deposit model:**

Placer Au-PGE (Cox and Singer, 1986; model 39a).

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

39a

**Production Status:** None**Site Status:** Inactive**Workings/exploration:****Production notes:****Reserves:****Additional comments:****References:**

MacKevett and Holloway, 1977; Cobb, 1980; Church and others, 1992; Riehle and others, 1993.

**Primary reference:** MacKevett and Holloway, 1977

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Oakley Peak****Site type:** Prospect**ARDF no.:** MK004**Latitude:** 58.9474**Quadrangle:** MK D-3**Longitude:** 154.9994**Location description and accuracy:**

This prospect is near the summit of Oakley Peak, south of Kulik Lake, in sec. 20, T. 14 S., R. 34 W., of the Seward Meridian. The location is accurate.

**Commodities:****Main:** Ag, Cu, Zn**Other:****Ore minerals:** Pyrite**Gangue minerals:** Quartz**Geologic description:**

This deposit consists of pyrite-bearing quartz veins that cut Lower Jurassic, Talkeetna Formation that consists mainly of volcanic and volcanoclastic rocks (Riehle and others, 1993). The country rocks are propylitically altered. Several small prospect pits probably date from about 1966 (also see Kulik Kopper MK007). Church, Riehle, and Goldfarb (1993) report values in rocks of up to 1,000 ppm copper, 340 ppm zinc, and 2 ppm silver.

**Alteration:**

Country rock is propylitically altered.

**Age of mineralization:**

Early Jurassic or younger; the pyrite-bearing quartz veins cut the Early Jurassic Talkeetna Formation.

**Deposit model:**

Polymetallic vein (Cox and Singer, 1986; model 22c).

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

22c

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Several small prospect pits probably date from about 1966 (also see Kulik Kopper MK007).

**Production notes:**

None.

**Reserves:**

**Additional comments:**

**References:**

Church and others, 1992; Church, Riehle, and Goldfarb, 1993.

**Primary reference:** Church, Riehle, and Goldfarb, 1993

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Cottonwood Creek****Site type:** Occurrence**ARDF no.:** MK005**Latitude:** 58.9248**Quadrangle:** MK D-3**Longitude:** 154.9374**Location description and accuracy:**

The Cottonwood Creek placer gold occurrence is on a northward-flowing stream that extends to Kulik Lake. The occurrence is about 2.8 miles southeast of the summit of Oakley Peak. It is at an elevation of about 1,000 feet, in the NW1/4 sec. 34, T. 14 S., R. 34 W., of the Seward Meridian. The location is accurate to within one-half mile.

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

Placer gold occurs in gravels in a stream draining the Lower Jurassic Talkeetna Formation on Oakley Peak. The Talkeetna Formation is a tuffaceous sandstone and siltstone interbedded with tuff and lahar deposits, volcanoclastic conglomerate, and lava flows and breccia (Riehle and others, 1993).

**Alteration:****Age of mineralization:**

Quaternary.

**Deposit model:**

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

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

39a

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Apparently none.

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

**References:**

Church and others, 1992; Riehle and others, 1993.

**Primary reference:** Church and others, 1992

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Kulik Lake****Site type:** Occurrence**ARDF no.:** MK006**Latitude:** 58.8469**Quadrangle:** MK D-3**Longitude:** 154.9707**Location description and accuracy:**

This occurrence is on an unnamed stream east of the Walatka Mountains that flows north into Kulik Lake. The site is at an elevation of about 2,000 feet in the SW1/4 sec. 29, T. 15 S., R. 34 W., of the Seward Meridian; it is accurate to within one-half mile.

**Commodities:****Main:** Au**Other:** Ag, Co, Cu, Pb**Ore minerals:** Gold, pyrite**Gangue minerals:** Quartz, tourmaline**Geologic description:**

This occurrence consists of auriferous, sulfide-bearing, sheeted quartz veins up to 1.2 inches thick in Jurassic granodiorite. The veins contain fine-grained pyrite and minor tourmaline. Samples taken by Church, Riehle, and Goldfarb (1993) contain up to 4.4 parts per million (ppm) gold but most samples have 50 to 450 parts per billion gold, and up to 20,000 ppm copper, 700 ppm cobalt, 200 ppm silver, and 100 ppm lead.

**Alteration:****Age of mineralization:**

Jurassic or younger; the sheeted quartz veins cut Jurassic granodiorite.

**Deposit model:**

Polymetallic vein, epithermal gold vein (Cox and Singer, 1986; model 22c, 25).

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

22c, 25

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Apparently only limited rock samples by government geologists.

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

**References:**

Church and others, 1992; Church, Riehle, and Goldfarb, 1993.

**Primary reference:** Church, Riehle, and Goldfarb, 1993

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Kulik Kopper****Site type:** Prospect**ARDF no.:** MK007**Latitude:** 58.9119**Quadrangle:** MK D-3**Longitude:** 154.8909**Location description and accuracy:**

The Kulik Kopper prospect is at an elevation of about 2,000 feet on the south side of upper Kulik Lake. The prospect is in the NE1/4 sec. 2, T. 15 S., R. 34 W., of the Seward Meridian. The location is accurate within one-quarter mile.

**Commodities:****Main:** Cu**Other:** Ag, Zn**Ore minerals:** Chalcopyrite, pyrite**Gangue minerals:** Quartz**Geologic description:**

The Kulik Kopper prospect consists of pyrite- and chalcopyrite-bearing quartz veins which crosscut the Early Jurassic Talkeetna Formation that consists mainly of volcanic and volcanoclastic rocks (Riehle and others, 1993). These rocks are propylitically altered near the veins. Tertiary plutons containing disseminated pyrite crop out in the drainage basin a few 100 yards south of the prospect. The pluton is marked by phyllic alteration. Samples collected by Church, Riehle, and Goldfarb (1993) contain up to 1,000 parts per million (ppm) copper, 340 ppm zinc, and 2 ppm silver. Several prospect pits were dug by George Pfaff in 1966 over an area of several acres.

**Alteration:**

The volcanic and volcanoclastic rocks are propylitically altered near the veins; the pluton is marked by phyllic alteration.

**Age of mineralization:**

Lower Jurassic or younger, the pyrite- and chalcopyrite-bearing quartz veins cut the Early Jurassic Talkeetna Formation.

**Deposit model:**

Polymetallic vein (Cox and Singer, 1986; model 22c).

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

22c

**Production Status:** No**Site Status:** Inactive**Workings/exploration:**

Several prospect pits were dug by George Pfaff in 1966 over an area of several acres.

**Production notes:**

**Reserves:**

**Additional comments:**

**References:**

Church and others, 1992; Church, Riehle, and Goldfarb, 1993; Riehle and others, 1993.

**Primary reference:** Church, Riehle, and Goldfarb, 1993

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Unnamed (north of Kulik Lake)****Site type:** Occurrence**ARDF no.:** MK008**Latitude:** 58.9575**Quadrangle:** MK D-3**Longitude:** 154.7661**Location description and accuracy:**

This occurrence is about half way between Kulik Lake and Pirate Lake. It is at an elevation of about 1,550 feet in the SW1/4 sec. 15, T. 14 S., R. 33 W., of the Seward Meridian. The location is accurate within one-half mile.

**Commodities:****Main:** Cu, Mo, Pb, Zn**Other:** Co**Ore minerals:** Chalcopyrite, pyrite**Gangue minerals:** Quartz**Geologic description:**

This occurrence consists of pyrite- and chalcopyrite-bearing quartz veins that cut Tertiary granodiorite. Samples collected by Church, Riehle, and Goldfarb (1993) contain up to 2,000 parts per million (ppm) copper, 360 ppm zinc, 300 ppm lead, 150 ppm cobalt, and 10 ppm molybdenum.

**Alteration:****Age of mineralization:**

Tertiary or younger; pyrite- and chalcopyrite-bearing quartz veins cut the Tertiary granodiorite.

**Deposit model:**

Polymetallic vein (Cox and Singer, 1986; model 22c).

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

22c

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Apparently only sampling by government geologists.

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

Church and others, 1992; Church, Riehle, and Goldfarb, 1993.

**Primary reference:** Church, Riehle, and Goldfarb, 1993

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Kami****Site type:** Prospect**ARDF no.:** MK009**Latitude:** 58.8759**Quadrangle:** MK D-2**Longitude:** 154.5552**Location description and accuracy:**

The Kami prospect is at an elevation of about 2,750 feet on a glacier-covered mountaintop about two miles southeast of lake 1410 at the head of Little Kamishak River. This is location 3 of MacKevett and Holloway (1977). The site is in the NE1/4 sec. 14, T. 15 S., R. 32 W., of the Seward Meridian; the location is accurate to within one-quarter mile.

**Commodities:****Main:** Cu**Other:****Ore minerals:** Chalcopyrite**Gangue minerals:** Quartz**Geologic description:**

The Kami prospect consists of chalcopyrite-bearing quartz veins in a roof pendant of sedimentary rocks of the Jurassic Naknek Formation that are above a Tertiary(?) quartz diorite stock. There is little information on the mineralization but there is a geochemical anomaly in copper (values unknown) in stream sediment and rock samples (MacKevett and Holloway, 1977; Cobb, 1980; Church and others, 1992). Bear Creek Mining Company investigated claims in 1971.

**Alteration:****Age of mineralization:**

Late Jurassic or younger; chalcopyrite-bearing quartz veins cut the Naknek Formation.

**Deposit model:**

Polymetallic vein (Cox and Singer, 1986; model 22c).

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

22c

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Bear Creek Mining Company investigated claims in 1971.

**Production notes:****Reserves:**

**Additional comments:**

**References:**

MacKevett and Holloway, 1977; Cobb, 1980; Church and others, 1992.

**Primary reference:** MacKevett and Holloway, 1977

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Kamishak River****Site type:** Occurrence**ARDF no.:** MK010**Latitude:** 58.8635**Quadrangle:** MK D-1**Longitude:** 154.2327**Location description and accuracy:**

This occurrence is near a small tributary on the west side of Kamishak River; it is about 2.4 miles southwest of the confluence of the South Fork with the Kamishak River in sec. 23, T. 15 S., R. 30 W., of the Seward Meridian. The location is accurate within one-half mile.

**Commodities:****Main:** Pumice**Other:****Ore minerals:** Pumice**Gangue minerals:****Geologic description:**

This occurrence overlies or adjoins unconsolidated Quaternary surficial deposits. The pumice probably is reworked material originally deposited during the 1912 Novarupta eruption (Riehle and others, 1993).

**Alteration:****Age of mineralization:**

Quaternary.

**Deposit model:****Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):****Production Status:** None**Site Status:** Inactive**Workings/exploration:****Production notes:****Reserves:****Additional comments:**

MAS/MILS # 0021260010.

**References:**

Church and others, 1992; Riehle and others, 1993.

**Primary reference:** Church and others, 1992

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Gorge Creek****Site type:** Occurrence**ARDF no.:** MK011**Latitude:** 58.6779**Quadrangle:** MK C-3**Longitude:** 154.8521**Location description and accuracy:**

The Gorge Creek placer cinnabar occurrence is on a small tributary on the north side of Gorge Creek, a tributary of Hardscramble Creek. The occurrence is at an elevation of less than 1,000 feet in the NW1/4 sec. 26, T. 17 S., R. 34 W., of the Seward Meridian. The location is accurate within one-half mile. The locality could not be found during U.S. Geological Survey AMRAP studies in 1980's.

**Commodities:****Main:** Hg**Other:****Ore minerals:** Cinnabar**Gangue minerals:****Geologic description:**

The country rocks along Gorge Creek near this reported placer cinnabar occurrence are the Northeast Creek Sandstone Member of the Upper Jurassic Naknek Formation (Riehle and others, 1993). This occurrence could not be found during the U.S. Geological Survey AMRAP study of the Mount Katmai quadrangle during the 1980's although the sampling density was low and sampling was difficult because of the steep topography (Church and others, 1992; Riehle and others, 1993). No cinnabar was identified in the heavy mineral concentrates from streams in this area. There were claims staked in this area for placer cinnabar (Roehm, 1941).

**Alteration:****Age of mineralization:**

Quaternary.

**Deposit model:**

Placer cinnabar (Cox and Singer, 1986; model 39).

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

39

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

There were claims staked in this area.

**Production notes:**

**Reserves:**

**Additional comments:**

MAS/MILS # 0021260014.

**References:**

Roehm, 1941; Church and others, 1992; Riehle and others, 1993.

**Primary reference:** Roehm, 1941

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Margot Creek Copper****Site type:** Occurrence**ARDF no.:** MK012**Latitude:** 58.2719**Quadrangle:** MK B-5**Longitude:** 155.4351**Location description and accuracy:**

This occurrence is at an elevation of about 2,200 feet in the southern headwaters of Margot Creek. The occurrence is in the SW1/4 sec. 13, T. 22 S, R. 38 W., of the Seward Meridian. This location is accurate within one-quarter mile.

**Commodities:****Main:** Cu, Mo**Other:****Ore minerals:** Chalcopyrite, molybdenite**Gangue minerals:** Quartz**Geologic description:**

This occurrence consists of pyrite- and chalcopyrite-bearing quartz veins at the propylitized margin of a Tertiary, hypabyssal stock (Riehle and others, 1993). The veins grade inward to poorly developed stockworks having veinlets of chalcopyrite and molybdenite in the potassic altered core of the pluton. The maximum length of the exposed area of the core of the pluton is about 110 yards.

**Alteration:**

Propylitic alteration grading inward to potassic alteration in the core of the stock.

**Age of mineralization:**

Tertiary or younger; the pyrite- and chalcopyrite-bearing quartz veins cut a Tertiary hypabyssal pluton.

**Deposit model:**

Porphyry copper-molybdenum (Cox and Singer, 1986; model 21a).

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

21a

**Production Status:** None**Site Status:** Inactive**Workings/exploration:****Production notes:****Reserves:****Additional comments:**

This occurrence is in the Katmai National Monument.

**References:**

Church and others, 1992; Church, Riehle, and Goldfarb, 1993; Riehle and others, 1993.

**Primary reference:** Church, Riehle, and Goldfarb, 1993

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Ikagluik Creek****Site type:** Occurrence**ARDF no.:** MK013**Latitude:** 58.3336**Quadrangle:** MK B-3**Longitude:** 154.9871**Location description and accuracy:**

This occurrence is on the southeast flank of Mount Griggs at the head of Ikagluik Creek. The occurrence is at an elevation of about 1,600 feet in the SW1/4 sec. 22, T. 21 S., R. 35 W., of the Seward Meridian. The location is accurate within one-half mile.

**Commodities:****Main:** Au, Pb, Zn**Other:** Cu**Ore minerals:** Chalcopyrite, galena, pyrite, sphalerite**Gangue minerals:** Quartz**Geologic description:**

This occurrence consists of small, galena-bearing quartz veins in a Tertiary hypabyssal stock. Nearby, float consists of large fragments of quartz with sphalerite and galena in vugs. The quartz veins probably also contain pyrite and chalcopyrite. The lack of abrasion on the galena crystals and the size of the fragments of float suggests their source is near the quartz veins (Church, Riehle, and Goldfarb, 1993).

**Alteration:**

Nearby stocks show pervasive propylitic alteration at their margins.

**Age of mineralization:**

Tertiary or younger; the small galena-bearing quartz veins cut a Tertiary hypabyssal pluton.

**Deposit model:**

Polymetallic vein (Cox and Singer, 1986; model 22c).

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

22c

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Apparently none beyond sampling by government geologists.

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

This occurrence is in Katmai National Monument.

**References:**

Church and others, 1992; Church, Riehle, and Goldfarb, 1993.

**Primary reference:** Church, Riehle, and Goldfarb, 1993

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Kukak Bay****Site type:** Occurrence**ARDF no.:** MK014**Latitude:** 58.2582**Quadrangle:** MK B-2**Longitude:** 154.3406**Location description and accuracy:**

This occurrence is near the head of Kukak Bay. It is in sec. 21, T. 22 S., R. 31 W., of the Seward Meridian. The location is approximate to within one mile.

**Commodities:****Main:** Pumice**Other:****Ore minerals:** Pumice**Gangue minerals:****Geologic description:**

The Kukak Bay pumice deposit overlies or adjoins Quaternary surficial deposits (Riehle and others, 1993). The pumice probably is reworked material originally deposited during the 1912 Novarupta eruption.

**Alteration:****Age of mineralization:**

Quaternary.

**Deposit model:****Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):****Production Status:** None**Site Status:** Inactive**Workings/exploration:****Production notes:****Reserves:****Additional comments:**

This occurrence is in Katmai National Monument.  
MAS/MILS # 0021260008.

**References:**

Church and Arbogast, 1989; Church and others, 1992; Riehle and others, 1993.

**Primary reference:** Church and others, 1992

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Kukak Bay; Shelikof Mining Co.****Site type:** Prospect**ARDF no.:** MK015**Latitude:** 58.3219**Quadrangle:** MK B-1**Longitude:** 154.3304**Location description and accuracy:**

This prospect is about two miles from Kukak Bay in an unnamed drainage that enters the northwest side of the bay. The prospect is in sec. 27, T. 21 S., R. 31 W., of the Seward Meridian. This is location 1 of MacKevett and Holloway (1977). The location is accurate.

**Commodities:****Main:** Ag, Au, Cu**Other:****Ore minerals:** Chalcopyrite**Gangue minerals:****Geologic description:**

Martin (1920) described a copper prospect at Kukak Bay on which some work was done about the time of World War I. The 'ore' reportedly assayed 4 to 6 percent copper, \$1.50 to \$4.60 in gold, and as much as 36 ounces of silver per ton. A shaft (winze) was sunk 10 feet from a point 40 feet from the portal of a tunnel 180 feet long (Cobb, 1980). Church, Riehle, and Goldfarb (1993) describe the Kukak Bay prospect as chalcopyrite-bearing quartz veins and breccias in a Tertiary pluton.

**Alteration:****Age of mineralization:**

Tertiary or younger; quartz veins cut a Tertiary pluton.

**Deposit model:**

Polymetallic vein (Cox and Singer, 1986; model 22c).

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

22c

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Martin (1920) described a copper prospect at Kukak Bay on which some work was done about the time of World War I. A shaft (winze) was sunk 10 feet from a point 40 feet from the portal of a tunnel 180 feet long (Cobb, 1980).

**Production notes:**

Apparently none.

**Reserves:**

**Additional comments:**

This prospect is in Katmai National Monument.

**References:**

Martin, 1920; Berg and Cobb, 1967; Cobb, 1972; MacKevett and Holloway, 1977; Cobb, 1980; Riehle and others, 1987; Church, Riehle, and Goldfarb, 1993.

**Primary reference:** Martin, 1920

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Kejulik****Site type:** Occurrence**ARDF no.:** MK016**Latitude:** 58.0033**Quadrangle:** MK A-5**Longitude:** 155.6568**Location description and accuracy:**

This occurrence is best exposed in a southward-flowing drainage at the base of a volcanic neck in the Kejulik Mountains. It is about 6 miles south-southwest of Kejulik Pass at an elevation of about 1,250 feet in the SE1/4 sec. 22, T. 25 S., R. 39 W., of the Seward Meridian. The location is accurate within one-half mile.

**Commodities:****Main:** Cu**Other:****Ore minerals:** Chalcopyrite, pyrite, sphalerite**Gangue minerals:** Barite**Geologic description:**

This occurrence consists of highly bleached rocks at the base of a Pleistocene and late Tertiary volcanic neck. The neck consists of lava flows, breccias, tuffs, and domes of andesite and dacite (Riehle and others, 1993). The bleached rocks contain both disseminated and vein pyrite exposed in the valley floor. Panned concentrate samples collected by Church and Bennett (1989) contain pyrite, pyrite, sphalerite, and barite. The samples contain up to 300 parts per million (ppm) copper, 150 ppm zinc, 50 ppm cobalt, 50 ppm nickel, 10 ppm molybdenum, and 2.7 ppm cadmium (Church, Riehle, and Goldfarb, 1993).

**Alteration:**

Host rocks are bleached.

**Age of mineralization:**

Pleistocene and late Tertiary based on the age of the host rocks.

**Deposit model:**

Polymetallic vein; concealed porphyry copper? (Cox and Singer, 1986; model 22c, 17).

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

22c, 17

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Apparently only geochemical sampling by government geologists.

**Production notes:**

**Reserves:**

**Additional comments:**

**References:**

Church, Detterman, and Wilson, 1989; Church, Frisken, and Wilson, 1989; Church and Bennett, 1989; Church and others, 1992; Church, Riehle, and Goldfarb, 1993; Riehle and others, 1993.

**Primary reference:** Church, Riehle, and Goldfarb, 1993

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Gas Creek****Site type:** Occurrence**ARDF no.:** MK017**Latitude:** 58.0254**Quadrangle:** MK A-5**Longitude:** 155.4661**Location description and accuracy:**

The Gas Creek placer gold occurrence is at an elevation of about 700 feet on Gas Creek, about 6 miles southeast of Kejulik Pass. The occurrence is in the SE1/4 sec. 14, T. 25 S., R. 38 W., of the Seward Meridian. The location is accurate within one-half mile.

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

The Gas Creek occurrence consists of placer gold in stream gravels. Gas Creek drains the Snug Harbor Siltstone Member and the Indecision Creek Sandstone Member of the Naknek Formation (Riehle and others, 1993).

**Alteration:****Age of mineralization:**

Quaternary.

**Deposit model:**

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

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

39a

**Production Status:** None**Site Status:** Inactive**Workings/exploration:****Production notes:****Reserves:****Additional comments:****References:**

Church and others, 1992; Riehle and others, 1993.

**Primary reference:** Church and others, 1992

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Windy Creek****Site type:** Occurrence**ARDF no.:** MK018**Latitude:** 58.2399**Quadrangle:** MK A-4**Longitude:** 155.3196**Location description and accuracy:**

This occurrence is at the head of Windy Creek on the western flank of the Buttress Range. It is at an elevation of about 1,750 feet in the NW1/4 sec. 27, T. 22 S., R. 37 W., of the Seward Meridian. The location is accurate within one-quarter mile.

**Commodities:****Main:** Cu, Pb, Zn**Other:****Ore minerals:** Pyrite**Gangue minerals:****Geologic description:**

Church, Riehle, and Goldfarb (1993) collected rocks here that contain 150 parts per million (ppm) or more copper, 200 ppm or more lead, and 1,500 ppm or more zinc. The samples were collected in talus below a large breccia body exposed in a cliff wall. The breccia body contains clasts of Upper Jurassic Naknek (?) Formation sedimentary rock in a matrix of pyrite. They estimated that the breccia crops out over an area at 33 by 100 feet. in size.

**Alteration:****Age of mineralization:**

Late Jurassic (?) or younger; the breccia body contains clasts that are probably from the Naknek Formation.

**Deposit model:**

Polymetallic vein (Cox and Singer, 1986; model 22c).

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

22c

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Apparently only geochemical sampling by government geologists (Church, Riehle, and Goldfarb, 1993).

**Production notes:****Reserves:**

**Additional comments:**

This occurrence is in Katmai National Monument.

**References:**

Church and others, 1992; Church, Riehle, and Goldfarb, 1993.

**Primary reference:** Church, Riehle, and Goldfarb, 1993

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Katmai River****Site type:** Occurrence**ARDF no.:** MK019**Latitude:** 58.0214**Quadrangle:** MK A-3**Longitude:** 154.9731**Location description and accuracy:**

The Katmai River pumice occurrence is at or near sea-level on the west side of the braided mouth of Katmai River. It is in sec. 11, T. 25 S., R. 35 W., of the Seward Meridian. The location is accurate within one-half mile.

**Commodities:****Main:** Pumice**Other:****Ore minerals:** Pumice**Gangue minerals:****Geologic description:**

The Katmai River pumice deposit overlies or adjoins unconsolidated Quaternary surficial deposits (Roehm, 1951; Riehle and others, 1993). The pumice probably is reworked material originally deposited during the 1912 Novarupta eruption.

**Alteration:****Age of mineralization:**

Quaternary.

**Deposit model:****Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):****Production Status:** None**Site Status:** Inactive**Workings/exploration:****Production notes:****Reserves:****Additional comments:**

This location is in Katmai National Monument.  
MAS/MILS # 0021260003.

**References:**

Moxham, 1951; Church and others, 1992; Riehle and others, 1993.

**Primary reference:** Moxham, 1951

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Soluka Creek****Site type:** Occurrence**ARDF no.:** MK020**Latitude:** 58.1565**Quadrangle:** MK A-3**Longitude:** 154.8583**Location description and accuracy:**

This occurrence is on the east bank of Soluka Creek about nine miles above its mouth. It is at an elevation of under 300 feet in the NW1/4 sec. 28, R. 23 S., T. 34 W., of the Seward Meridian. The location is accurate within one-quarter mile.

**Commodities:****Main:** Zn**Other:** As, Co, Cu, Ni**Ore minerals:** Pyrite, sphalerite**Gangue minerals:** Quartz**Geologic description:**

This occurrence is along the contact of a Tertiary pluton with Cretaceous sedimentary rocks and propylitically altered Tertiary volcanic rocks. The contact zone contains disseminated pyrite and radial quartz veins with pyrite and sphalerite (Church, Riehle, and Goldfarb, 1993). The occurrence is associated with a geochemical anomaly with 130 parts per million or more arsenic, 50 ppm or more cobalt, 500 ppm or more nickel, and 200 ppm or more zinc.

**Alteration:**

The volcanic rocks are propylitically altered adjacent to the pluton.

**Age of mineralization:**

Tertiary or younger; mineralization appears to be related to alteration zones adjacent to a Tertiary pluton.

**Deposit model:**

Polymetallic vein (Cox and Singer, 1986; model 22c).

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

22c

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Apparently only geochemical sampling by government geologists.

**Production notes:****Reserves:**

**Additional comments:**

The occurrence is in Katmai National Monument.

**References:**

Church and others, 1992; Church, Riehle, and Goldfarb, 1993.

**Primary reference:** Church, Riehle, and Goldfarb, 1993

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Hagelbargers Pass****Site type:** Occurrence**ARDF no.:** MK021**Latitude:** 58.2295**Quadrangle:** MK A-3**Longitude:** 154.7477**Location description and accuracy:**

This occurrence is about 3.5 miles northwest of Hagelbargers Pass near the headwaters of Katmai River. It is at an elevation of about 1,300 feet in the SW1/4 sec. 31, T. 22 S., R. 33 W., of the Seward Meridian. The location is accurate within one-half mile.

**Commodities:****Main:** Au**Other:** Ag, As, Mo, Zn**Ore minerals:** Gold, jordisite, pyrite**Gangue minerals:** Quartz, smectite-illite, stilbite**Geologic description:**

This occurrence is in Upper Tertiary, propylitically-altered, volcanic rocks, that contain banded quartz veins, generally one to five mm thick and finely disseminated pyrite (Church, Riehle, and Goldfarb, 1993). The veins contain quartz, smectite-illite mixed-layer clay, and stilbite. Samples generally contain from 0.15 to 0.45 parts per million (ppm) gold with a maximum value of 2.2 ppm, and up to 300 ppm arsenic, 200 ppm molybdenum, and 3 ppm silver. The dark color of the quartz bands is due to finely dispersed jordisite (MoS<sub>2</sub>) (Church, Riehle, and Goldfarb, 1993). The occurrence may represent veining above a concealed low-F porphyry Mo deposit (Church, Riehle, and Goldfarb, 1993).

**Alteration:**

Wall rocks are propylitically altered and contain disseminated pyrite.

**Age of mineralization:**

Late Tertiary or younger; the veins are in the volcanic rocks of the Aleutian volcanic arc.

**Deposit model:**

Polymetallic vein, epithermal gold vein (Cox and Singer, 1986; model 22c, 25).

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

22c, 25

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Apparently only sampling by government geologists.

**Production notes:**

**Reserves:**

**Additional comments:**

This occurrence is in Katmai National Monument.

**References:**

Church and others, 1992; Church, Riehle, and Goldfarb, 1993.

**Primary reference:** Church, Riehle, and Goldfarb, 1993

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Dakavak Bay****Site type:** Occurrence**ARDF no.:** MK022**Latitude:** 58.0747**Quadrangle:** MK A-3**Longitude:** 154.7385**Location description and accuracy:**

This occurrence is at an elevation of about 1,250 feet, 1.5 miles northwest of Dakavak Bay and 2 miles west-southwest of the southern tip of Dakavak Lake. It is in the SE1/4 sec. 19, T. 24 S., R. 33 W., of the Seward Meridian. The location is accurate within one-half mile.

**Commodities:****Main:** Cu**Other:** As, Sb, Zn**Ore minerals:** Pyrite**Gangue minerals:** Quartz**Geologic description:**

This occurrence consists of pyrite-bearing quartz veins in the Late Cretaceous Kaguyak and the Oligocene Hemlock Formations that are intruded by a Tertiary pluton (Riehle and others, 1993). Church, Riehle, and Goldfarb (1993) collected samples that contain up to 370 parts per million (ppm) zinc, 200 ppm copper, 50 ppm cobalt, 30 ppm arsenic, and 4 ppm antimony.

**Alteration:****Age of mineralization:**

Oligocene or younger based on the age of the host rocks.

**Deposit model:**

Polymetallic vein (Cox and Singer, 1986; model 22c).

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

22c

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Apparently only geochemical sampling by government geologists.

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

This occurrence is in Katmai National Monument.

**References:**

Church and others, 1992; Church, Riehle, and Goldfarb, 1993; Riehle and others, 1993.

**Primary reference:** Church and others, 1992

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Dakavak Lake****Site type:** Occurrence**ARDF no.:** MK023**Latitude:** 58.1658**Quadrangle:** MK A-3**Longitude:** 154.7255**Location description and accuracy:**

This occurrence is about 2 miles north of the northern tip of Dakavak Lake in the SE1/4 sec. 19, T. 23 S., R. 33 W., of the Seward Meridian. Church, Riehle, and Goldfarb (1993) collected samples along a traverse about a mile long. The location is accurate.

**Commodities:****Main:** Au**Other:** Ag, As, Mo, Zn**Ore minerals:** Gold, pyrite**Gangue minerals:** Quartz**Geologic description:**

This occurrence is in hydrothermally altered, Upper Tertiary volcanic rocks, and consists of quartz veins with finely disseminated pyrite. The volcanic rocks are moderately to intensely altered to propylitic, argillic, phyllic, and potassic mineral assemblages. Church, Riehle, and Goldfarb (1993) collected samples along a traverse about a mile long. The samples contained up to 5 parts per million (ppm) gold, but most values are about 200 parts per billion. They also contain up to 10 ppm molybdenum, 0.5 ppm silver, 800 ppm arsenic, and 100 ppm zinc. The occurrence might reflect a concealed low-F, porphyry Mo type deposit. The occurrence is one of several similar sites along a northwest-striking, regional shear zone (Church, Riehle, and Goldfarb, 1993).

**Alteration:**

The volcanic rocks are moderately to intensely altered to propylitic, argillic, phyllic, and potassic mineral assemblages.

**Age of mineralization:**

Late Tertiary or younger based on the age of the volcanic host rocks.

**Deposit model:**

Polymetallic vein, epithermal gold vein (Cox and Singer, 1986; model 22c, 25).

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

22c, 25

**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Apparently only sampling by government geologists.

**Production notes:**

**Reserves:**

**Additional comments:**

This occurrence is in the Katmai National Monument.

**References:**

Church and others, 1992; Church, Riehle, and Goldfarb, 1993.

**Primary reference:** Church, Riehle, and Goldfarb, 1993

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Geographic Harbor; Stock and Grove; Markham and Lee; Pumice Building Block Company; Mark Lee No. 1 and 2****Site type:** Prospect**ARDF no.:** MK024**Latitude:** 58.1017**Quadrangle:** MK A-2**Longitude:** 154.6059**Location description and accuracy:**

This pumice prospect is on a stream entering the west shore of Geographic Harbor on Amalik Bay. It is in the NE1/4 sec. 13, T. 24 S., R. 33 W., of the Seward Meridian. The location is accurate within one mile.

**Commodities:****Main:** Pumice**Other:****Ore minerals:** Pumice**Gangue minerals:****Geologic description:**

The country rock at this pumice prospect are Upper Tertiary volcanic rocks of the Aleutian volcanic arc (Moxham, 1951). Apparently there were claims staked in the area although there is no indication of production (Roehm, 1947; Moxham, 1951; Eckhard and Plafker, 1959).

**Alteration:****Age of mineralization:**

Late Tertiary based on the age of the country rocks in the area.

**Deposit model:****Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):****Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Apparently there were claims staked in the area although there is no indication of production.

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

This occurrence is in the Katmai National Monument.  
MAS/MILS # 0021260004.

**References:**

Roehm, 1947; Moxham, 1951; Eckhart and Plafker, 1959; Church and others, 1992.

**Primary reference:** Moxham, 1951

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Takli Island; Baurman****Site type:** Occurrence**ARDF no.:** MK025**Latitude:** 58.0666**Quadrangle:** MK A-2**Longitude:** 154.5039**Location description and accuracy:**

This pumice occurrence is on the north side of Takli Island in Amalik Bay. The location is accurate within a few hundred yards.

**Commodities:****Main:** Pumice**Other:****Ore minerals:** Pumice**Gangue minerals:****Geologic description:**

The country rock at this pumice prospect are Upper Tertiary volcanic rocks of the Aleutian volcanic arc (Church and others, 1992). Apparently there was some exploration in the area for pumice but there is no record of production (Roehm, 1947; Moxham, 1951; Rutledge and others, 1953).

**Alteration:****Age of mineralization:**

Late Tertiary based on the age of the country rocks in the area.

**Deposit model:****Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):****Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Apparently there was some exploration in the area for pumice but there is no record of production (Roehm, 1947; Moxham, 1951; Rutledge and others, 1953).

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

This occurrence is in the Katmai National Monument.  
MAS/MILS # 0021260006.

**References:**

Roehm, 1947; Moxham, 1951; Rutledge and others, 1953; Church and others, 1992.

**Primary reference:** Moxham, 1951

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

**Site name(s): Hidden Harbor****Site type:** Occurrence**ARDF no.:** MK026**Latitude:** 58.1969**Quadrangle:** MK A-2**Longitude:** 154.5039**Location description and accuracy:**

This pumice occurrence is near sea-level on streams tributary to the west head of Hidden Harbor on Kinak Bay. The location is accurate within one-quarter mile.

**Commodities:****Main:** Pumice**Other:****Ore minerals:** Pumice**Gangue minerals:****Geologic description:**

The country rock at this pumice prospect are Upper Tertiary volcanic rocks of the Aleutian volcanic arc (Church and others, 1992).

**Alteration:****Age of mineralization:**

Late Tertiary based on the age of the country rocks in the area.

**Deposit model:****Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):****Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Apparently only examination by government geologists.

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

This occurrence is in the Katmai National Monument.  
MAS/MILS # 0021260007.

**References:**

Church and others, 1992.

**Primary reference:** Church and others, 1992

**Reporter(s):** F.H. Wilson, S.E. Church, and D.P. Bickerstaff (U.S. Geological Survey)

**Last report date:** 8/31/2005

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