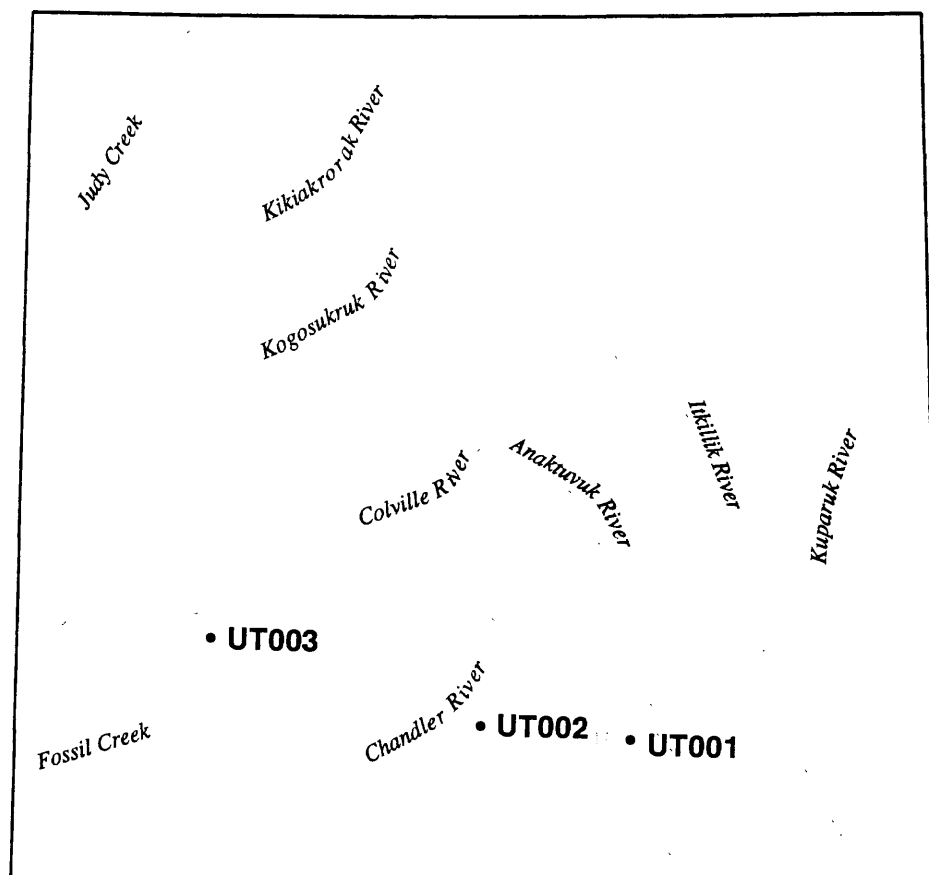


Umiat quadrangle

This publication is one in the series, the Alaska Resource Data File (ARDF) of the U.S. Geological Survey (USGS). The ARDF is an information file on mines, prospects, and mineral occurrences in Alaska exclusive of sand and gravel, coal, and oil and gas. 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.



Distribution of the mineral occurrences in the Umiat 1:250,000-scale quadrangle, Alaska

The Umiat quadrangle contains 3 mineral occurrences. No mineral production is known from the quadrangle other than sand and gravel for the construction of air strips, drilling pads, and roads, all in support of oil and gas exploration.

Mineral occurrences in the quadrangle consist of bentonite beds that are present in



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Cretaceous rocks and are reported by Detterman and others (1964). These occurrences could be particularly significant because bentonite is a principal constituent in some drilling fluids and the Umiat quadrangle encompasses a shut-in oil field and a shut-in gas field. Bentonite could be an economically attractive commodity because there is a potential local use and there is a means of transporting bentonite from the airstrip at Umiat or other strips built in support of oil and gas operations. Also the 3 occurrences under-represent the distribution of bentonite beds; both the Schrader Bluff and Shale Wall Formations of Late Cretaceous age are very tuffaceous and widespread within the quadrangle and the only bentonite beds reported were from the limited but especially good cliff exposures.

This and related reports are accessible through the USGS World Wide Web site <http://www-mrs-ak.wr.usgs.gov/ardf>. Comments or information regarding corrections or missing data, or requests for digital retrievals should be directed to the author(s) of this compilation:

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Site: Schrader Bluff

Type: Occurrence

ARDF no. UT001

Latitude: 69.16666

Quadrangle: UT A-2

Longitude: 151

Location description and accuracy:

Deposit crops out at Schrader Bluff on the Anaktuvuk River. Deposit is located within 1.6 kilometers (1 mi).

Commodities:

Main: Clay 1

Other:

Ore minerals: Bentonite

Geologic description:

Cretaceous rocks contain bentonite beds as thick as 1.5 meters (5 ft). Beds that appear to be composed of nearly pure bentonite are locally present in the Colville Group and in the Niakogan Tongue of the Chandler Formation and the Ninuluk Formation of the Nanushuk Group. Clasts of bentonite are common in rocks of the Colville Group.

Alteration:

Workings/Exploration:

None

Age:

Early and Late Cretaceous

Deposit model:

Lode; volcanogenic

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

Production: No

Status: Inactive

Production notes:

Reserves:

Additional comments:

Bentonite is used in drilling fluids.

References:

Cobb, 1975, p. 85; Detterman and others, 1964, p. 319

Primary reference: Detterman and others, 1964

Reporter: Powers M.T. (Huber, D.F.); Schmidt, J.M.; Kelley, J.S.

Reporter affiliation: USGS

Last report date: 9/15/96

Site: Chandler River

Type: Occurrence

ARDF no. UT002

Latitude: 69.18333

Quadrangle: UT A-1

Longitude: 151.48330

Location description and accuracy:

Deposit crops out in the Tuluvak Bluffs along the Chandler River. Accurate to within 1.6 kilometers (1 mi).

Commodities:

Main: Clay 1

Other:

Ore minerals: Bentonite

Gangue minerals:

Geologic description:

Cretaceous rocks at this locality contain bentonite beds that are as much as 1.5 meters thick. Beds that appear to be composed of nearly pure bentonite locally are present in the Colville Group and in the Niakogan Tongue of the Chandler Formation and the Ninuluk Formation of the Nanushuk Group. Bentonite is also a common detrital constituent in rocks of the Colville Group.

Alteration:

Workings/Exploration:

Surface examinations

Age:

Early and Late Cretaceous

Deposit model:

Lode; volcanogenic

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

Production: No

Status: Inactive

Production notes:

Reserves:

Additional comments:

Bentonite is a constituent in some drilling fluids.

References:

Cobb, 1975, p. 83; Detterman and others, 1964, p. 319

Primary reference: Detterman and others, 1964

Reporter: Powers, M.T. (Huber, D.F.); Schmidt, J.M.; Kelley, J.S.

Reporter affiliation: USGS

Last report date: 9/15/96

Site: Colville River

Type: Occurrence

ARDF no. UT003

Latitude: 69.28333

Quadrangle: UT B-3

Longitude: 152.36670

Location description and accuracy:

Deposit crops out in the south bank of the Colville River about 14.5 kilometers (9 mi) upstream from Umiat. Accurate within 1.6 kilometers (1 mi).

Commodities:

Main: Clay 1

Other:

Ore minerals: Bentonite

Gangue minerals:

Geologic description:

Cretaceous rocks at this locality contain bentonite beds that are as thick as 1.5 meters (5 ft). Beds that appear to be composed of nearly pure bentonite locally are present in the Colville Group of Late Cretaceous age and in the Niakogan Tongue of the Chandler Formation and the Ninuluk Formation of the Nanushuk Group of Early Cretaceous age. Bentonite also is a common detrital constituent in rocks of the Colville Group.

Alteration:

Workings/Exploration:

Surface examinations

Age:

Early and Late Cretaceous

Deposit model:

Lode; volcanogenic

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

Production: Undet.

Status: Inactive

Production notes:

Reserves:

Additional comments:

Bentonite is used in drilling fluids.

References:

Cobb, 1975, p. 84; Detterman and others, 1964, p. 319

Primary reference: Detterman and others, 1964

Reporter: Powers, M.T.(Huber, D.F.); Schmidt, J.M.; Kelley, J.S.

Reporter affiliation: USGS

Last report date: 9/15/96

References cited

- Bliss, J.D., ed., 1992, Developments in mineral deposit modeling: U.S. Geological Survey Bulletin 2004, 168 p.
- Cobb, E.H., 1975, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in northern Alaska: U.S. Geological Survey Open-File Report 75-628.
- Cox, D.P., and Singer, D.A., eds., 1986, Mineral deposit models: U.S. Geological Survey Bulletin 1992, 379 p.
- Detterman R.L., Bickel, R.S., and Gryc, George, 1964, Geology of the Chandler River region, Alaska: U.S. Geological Survey Professional Paper 303E, p. 223-324.