Bibliography of selected references
on the geology of the
Livengood quadrangle, east-central Alaska

by

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Introduction

The Livengood 1:250,000 quadrangle, in east-central Alaska, encompasses approximately 12,052 km² in the western part of the Yukon-Tanana Upland. The quadrangle is bounded by 65° and 66° N. Lat., and 147° and 150° W. Long. Two mineral resource assessment programs were undertaken by the U.S. Geological Survey in the Livengood quadrangle in 1986-87 and a geological bibliography was compiled in connection with this work.

Ages of the rocks of the Livengood quadrangle range from Precambrian to Recent and include a great variety of lithologies. Precambrian (?) greenschist facies schists dominate the southeastern part of the quadrangle, but the metamorphic grade of rocks across the quadrangle generally decreases to the northwest. Ordovician mafic volcanic rocks, Silurian to Devonian limestone, and Paleozoic (?) quartzite form the White Mountains, a largely fault-bounded block in the central part of the quadrangle, north of the metamorphic rocks. A Mesozoic basin to the north and west of the White Mountains extends southwestward across the quadrangle and consists of conglomerate, sandstone, siltstone, and shale. North of this Mesozoic basin is a sequence of grit, slate, mafic-ultramafic rocks, and dolomite, of probable Cambrian to Precambrian age, and chert, conglomerate, shale, and limestone of Paleozoic age. Cretaceous to Tertiary granitic intrusions compose Elephant, Wolverine, Sawtooth, and Cache Mountains, as well as Tolovana Hot Springs Dome in the southern and central parts of the quadrangle. The northwestern third of the Livengood quadrangle is largely underlain by mafic volcanic and intrusive rock with related chert and clastic sedimentary rocks of Mississippian to Triassic age.
The rocks of the Livengood quadrangle regionally strike northeast, and are complexly folded and faulted largely because of repeated right-lateral strike-slip movement and compression in, and south of, the Tintina fault zone. The Victoria Creek fault, a strand of the Tintina fault system, appears to separate rocks of differing structural style and sedimentological characteristics. Folds are mostly overturned to the north. In the western part of the quadrangle a major structural feature is displayed in a Mesozoic sequence which is folded around a core of Paleozoic and Precambrian sedimentary and volcanic rocks (Chapman and others, 1971).

Several placer gold mining districts are wholly or partly within the Livengood quadrangle. The Rampart district is in the northwestern third of the quadrangle, the Hot Springs district is in the southwestern corner, the Tolovana district extends northeast-southwest through the central part, and the Fairbanks district is in the southeast corner (Ransome and Kerns, 1954).

In 1882, the Schieffelin brothers of Tombstone, Arizona fame discovered gold in the Rampart district. In 1898, five to six men from New England, informally known as the "Boston Boys", struck pay in the Hot Springs district, and in 1902, Felix Pedro found gold in the Fairbanks district. Jay Livengood and N.R. Hudson discovered placer gold on Livengood Creek in 1914. By 1918, the town of Livengood, in approximately the center of the quadrangle, supported a population of approximately 1,500 people. Mining activity decreased, and since 1922 the population has gradually declined to only a few permanent residents.

The U.S. Bureau of Land Management manages land usage in large sections of the quadrangle, including portions of the Yukon Flats National Wildlife Refuge and the White Mountains National Recreation Area. The
Fairbanks North Star Borough government manages the borough lands in the southeastern part of the quadrangle (figure 1). Townships of native land selections are also present in the vicinity of the communities of Minto, Rampart, and Steven's Village.

The bibliography is divided into two parts. Part A contains geological references on the Livengood quadrangle. References in part B pertain to related stratigraphic correlations, structural styles, and paleontology in adjoining quadrangles and eastern Alaska. Part B also includes references to Canadian geology, with its similar stratigraphic units and mineral deposits, and to the Tintina fault system.

This geological bibliography represents a comprehensive, but not exhaustive literature survey. References include state and federal publications, articles and abstracts from scientific journals, and some unpublished theses and dissertations.

REFERENCES CITED


Figure 1.—Land use status in the Livengood area, showing outline of Livengood quadrangle.
PART A

BIBLIOGRAPHY OF THE LIVENGOOD QUADRANGLE


-----, 1916, The Alaskan mining industry in 1915, in Brooks, A.H., and


-----, 1925, Alaska's mineral resources and production, 1923, in Brooks, A.H., and others, Mineral resources of Alaska report on progress of


Burand, W.M., 1965, A geochemical investigation between Chatanika and
Circle Hot Springs, Alaska: Alaska Division of Mines and Minerals 

-----, 1966, A geochemical investigation of stream sediments in the Elliott 
Highway area, Alaska: Alaska Division of Mines and Minerals 
Geochemical Report 11, 30 p.

-----, 1968, A geochemical investigations of selected areas in the Yukon-
Tanana region of Alaska, 1965 and 1966: Alaska Division of Mines and 

Burton, P.J., 1981, Radioactive mineral occurrences, Mt. Prindle area, 
Yukon-Tanana Uplands, Alaska: Fairbanks, Alaska, University of 

Burton, P.J., 1984, Compilation of some mineral occurrences in the White 
Mountains N.R.A., unpublished report: Alaska Division of Mining 
Report, 15 p.

Byers, F.M., Jr., 1957, Tungsten deposits in the Fairbanks district, 

Capps, S.R., 1924, Geology and mineral resources of the region traversed by 

-----, 1933, Mineral investigations in the Alaska Railroad Belt, 1931: 

-----, 1940, Geology of the Alaska Railroad region: U.S. Geological Survey 


Chapman, R.M., Trexler, J.H., Jr., Churkin, Michael, Jr., and Weber, F.R., 1985, New concepts of the Mesozoic flysch belt in east-central Alaska,


Childers, J.M., Meckel, J.P., and Anderson, G.S., 1972, Floods of August


Eakins, G.R., 1974, Preliminary investigations, Livengood Mining District, Alaska: Alaska Division of Geological and Geophysical Surveys Open-


Ellsworth, C.E., 1912, Placer mining in the Fairbanks and Circle districts:


Erickson, B.M., Severson, R.C., and Crock, J.G., 1986, Analytical results
of plant and soil samples collected near Flat, Iditarod, and
86-473, 24 p.

Forbes, R.B., 1982, Bedrock geology and petrology of the Fairbanks Mining
District: Alaska Division of Geological and Geophysical Surveys Open-

anomalies in the Pedro Dome-Cleary Summit areas, Fairbanks district,

Forbes, R.B., and Weber, F.R., 1982, Bedrock geology and petrology of the
Fairbanks Mining District: Alaska Division of Geological and

Foster, R.L., 1966, The petrology and structure of the Amy Dome area,
Tolovana Mining District, east-central Alaska: Rolla, Mo., University

-----, 1967, Tectonic inclusions from a serpentinite, east-central Alaska,

-----, 1968, Descriptions of the Ruth Creek, Lillian Creek, Griffin, Old
Smoky, Sunshine No. 2, and Olive Creek lode prospects, Livengood
(322), 21 p.

-----, 1968, Potential for lode deposits in the Livengood gold placer


Holmes, G.W., compiler, 1967, Location of pingolike mounds observed from


-----, 1941, Hudson Cinnabar Prospect (Olive Creek): Alaska Territorial Department of Mines Properties Examined PE-49-6.

-----, 1941, McCarthy mine (Fairbanks Creek): Alaska Territorial Department of Mines Properties Examined PE-49-5.

-----, 1942, Strategic mineral occurrences in Interior Alaska: Alaska Department of Mines Pamphlet 1, 46 p.

-----, 1943, Supplement to Pamphlet No. 1--Strategic mineral occurrences in Interior Alaska: Alaska Department of Mines Pamphlet 2, 28 p.

Jones, D.L, Berg, H.C., and Plafker, George, 1981, Tectonostratigraphic


Kitze, F.F., and Simoni, O.W., 1972, An earth fill dam on permafrost, Hess


29


-----, 1984, Statistical analysis of stream-sediment, pan concentrate and


Mowatt, T.C., 1974, Petrologic studies in the Fairbanks district: molybdenum mineralization at the Silver Fox mine: Alaska Division of


-----, 1973, Stanford raises $1 million for Alaska gold: Division of the Northern Miner Press Ltd., 7 Labatt Avenue, Toronto, Canada M5A 3T2, February 14, 1980.


-----, 1913, A geologic reconnaissance of the Fairbanks quadrangle: U.S.


Reed, Irving, 1931, Hudson cinnabar prospect (Olive Creek): Alaska Territorial Department of Mines Properties Examined PE-49-1.

-----, 1938, American Eagle lode (Fairbanks Creek): Alaska Territorial Department of Mines Properties Examined PE-49-2.

-----, 1938, Hi Yu Mining Company (Fairbanks Creek): Alaska Territorial Department of Mines Properties Examined PE-49-4.


Robinson, M.S., 1981, Surface geology and ground magnetics of the Yellow Pup tungsten deposit, Gilmore Dome, Fairbanks Mining District: Alaska Division of Geological and Geophysical Surveys Open-File Report 137, 9


Rosenblum, Sam, and Mosier, E.L., 1983, Mineralogy and occurrence of


Saunders, R.H., 1953, Polaris lead-silver prospect (Bedrock Creek): Alaska Territorial Department of Mines Properties Examined PE-49-11.

-----, 1954, Danielle Prospect (Ruth Creek): Alaska Territorial Department of Mines Properties Examined PE-49-12.


-----, 1958, Notes on mineral resources of the Livengood Creek, Hess Creek, and tributaries: Alaska Territorial Department of Mines Miscellaneous Report MR-49-3.


-----, 1961, Sampling and geochemical prospecting at Steamboat Creek:
Alaska Territorial Department of Mines Properties Examined PE-49-16.

-----, 1961, P and P Mining Company (Dome Creek): Alaska Territorial
Department of Mines Properties Examined PE-49-16.

-----, 1963, Keystone mines exploration, in Alaska Division of Mines and

-----, 1967, Mineral occurrences in the Yukon-Tanana region, Alaska:
Alaska Division of Mines and Minerals Special Report 2, 60 p., 1 sh.,
scale 1:36,000.

Saunders, R.H., and Williams, J.A., 1952, Resistivity survey at Creighton
Mine (Pedro Dome): Alaska Territorial Department of Mines Properties
Examined PE-49-10.

stratigraphic units of North America--northern Alaska region
correlation chart: American Association of Petroleum Geologists,
Tulsa, Oklahoma.


Report 84-523, 106 p., 4 sh., scale 1:2,500,000

Skibitzke, H.E., 1977, Some aspects of remote sensing for consideration in
planning environmental monitoring of the Alyeska Pipeline, Alaska:

Sloan, C.E., Zenone, Chester, and Mayo L.R., 1975, Icings along the Trans-
Alaska Pipeline route: U.S. Geological Survey Open-File Report 75-87,
39 p.

-----, 1976, Icings along the Trans-Alaska Pipeline route: U.S. Geological

Smith, P.S., 1913, Lode mining near Fairbanks, in Brooks, A.H., The mining

-----, 1913, Lode mining near Fairbanks, in Prindle, L.M., A geologic
reconnaissance of the Fairbanks quadrangle, Alaska: U.S. Geological

-----, 1926, Mineral industry of Alaska in 1924, in Smith, P.S., and
others, Mineral resources of Alaska report on progress of

-----, 1929, Mineral industry of Alaska in 1926, in Smith, P.S., and
others, Mineral resources of Alaska report on progress of

-----, 1930, Mineral industry of Alaska in 1927, in Smith, P.S., and
others, Mineral resources of Alaska report on progress of

-----, 1930, Mineral industry of Alaska in 1928, in Smith, P.S., and


Stewart, B.D., 1921, Annual report of the Territorial Mine Inspector to the Governor of Alaska, 1920: Juneau, Alaska, 72 p.


-----, 1933, Mining investigations and mine inspection in Alaska, including assistance to prospectors, biennium ending March 31, 1933: Juneau, Alaska, 192 p.


Stewart, B.D., and Dyer, B.W., 1922, Annual report of the Territorial Mine Inspector to the Governor of Alaska, 1921: Juneau, Alaska, 64 p.
Inspector to the Governor of Alaska, 1921: Juneau, Alaska, 96 p.


Thomas, Bruce, 1948, Tolovana Hot Springs (Livengood): Alaska Territorial Department of Mines Properties Examined PE-49-8.


Thorne, R.L., Muir, N.M., Erickson, A.W., Thomas, B.I., Haide, H.E., and


---, 1973, Aeromagnetic survey, Livengood A-4, A-5, A-6, B-4, B-5, C-4, C-5, C-6, D-4, D-5, D-6, and part of Fairbanks D-6 quadrangles,


-----, 1924, Placer mining in Alaska in 1923, in Stewart, B.D., Annual
PART B
LIVENGGOOD QUADRANGLE BIBLIOGRAPHY—RELATED SUBJECTS

Aleinikoff, J.N., Dusel-Bacon, Cynthia, and Foster, H.L., 1986,


Christie-Blick, Nicholas, Link, P.K., Miller, J.M.G., Young, G. M., and Crowell, J.C., 1980, Regional geologic events inferred from Upper Proterozoic rocks of the North American Cordillera (abs.), in Geological Society of America: Abstracts with Programs, v. 12, no. 7,


Clough, J.G., and Blodgett, R.B., 1984, Lower Devonian basin to shelf carbonates in outcrop from the western Ogilvie Mountains, Alaska and
Yukon Territory, in Carbonates in subsurface and outcrop, 1984
C.S.P.C. Core Conference: Canadian Society of Petroleum Geologists,
Calgary, Alberta, Canada, p. 57-79.

Crimes, T.P., 1976, Trace fossils from the Bray Group (Cambrian) at Howth,

Cushing G.W., and Foster, H.L., 1984, Structural observations in the Circle
quadrangle, Yukon-Tanana Upland, Alaska, in Coonrad, W.L., and
Elliott, R.L., eds., The United States Geological Survey in Alaska:
64-65.

Cushing, G.W., Foster, H.L., and Harrison, T.M., 1984, Mesozoic age of
metamorphism and thrusting in the eastern part of east-central Alaska
(abs.): EOS, Transactions, American Geophysical Union, in American
Geophysical Union 1984 spring meeting, v. 65, no. 16, 1984, p. 290-
291.

Cushing, G.W., Foster, H.L., Laird, Jo, and Burack, A.C., 1982,
Description and preliminary interpretation of folds and faults in a
small area in the Circle B-4 and B-5 quadrangles, Alaska, in
Coonrad, W.L., ed., The U.S. Geological Survey in Alaska--
Accomplishments during 1980: U.S. Geological Survey Circular 844,
p. 56-58.

Davies, W.E., 1972, The Tintina Trench and its reflection in the structure
of the Circle area, Yukon-Tanana Upland, Alaska: 24th International
Geophysical Congress, Sect. 3, p. 211-216.
Delich, Michael, 1972, Petrology of some new ultramafic occurrences between Shakwak and Tintina Trenches, western Yukon, in University of British Columbia Geology Department Report 13, p. 39.


Dubois, G.D., Wilson, F.H., and Shew, Nora, 1986, Map and tables showing


Circular 998, p. 59-61.


Goodfellow, W.D., and Johansson, I.R., 1984, Ocean stagnation and ventilation defined by $\delta^{34}S$ secular trends in pyrite and barite,
Selwyn Basin, Yukon: Geology, v. 12, no. 10, p. 583-586.


Gordey, S.P., Abbott, J.G., Templeman-Kluit, D.J., and Gabrielse, Hubert,
1987, "Antler" clastics in the Canadian Cordillera: Geology, v. 15,
no. 2, p. 103-107.

of southeastern Selwyn Basin, Nahanni map area, Yukon Territory and
District of Mackenzie, in Current Research, Part A: Geological Survey

Green, L.H., 1972, Geology of Nash Creek, Larsen Creek, and Dawson map-
areas, Yukon Territory (106D, 116A, 116B, and 116C (E1/2)) Operation
Ogilvie: Geological Survey of Canada Memoir 364, 157 p., 3 sh., scale
1:250,000.

Gryc, George, Dutro, J.T., Jr., Brosgé, W.G., Tailleur, I.L., and Churkin,
Michael, Jr., 1968, Devonian of Alaska, in Alberta Society of
Petroleum Geologists: International Symposium on the Devonian System,

Hahn, Gerhard, Blodgett, R.B., Gordon, Mackenzie, Jr., 1985, First
recognition of the Gshelian (Upper Pennsylvanian) trilobite
Brachymetopus pseudometopina Gauri and Ramovs in North America; and a
description of accompanying trilobites from west-central Alaska:

Hall, M.H., 1985, Structural geology of the Fairbanks Mining District,
2 pl.

Harrison, J.E., 1972, Precambrian Belt Basin of northwestern United States:


Kline, J.T., 1985, Preliminary notes and observations on activities in the field during the period of June 23 to July 3: investigations of the occurrence of diamonds in placer gravels on Crooked Creek near Central, Alaska: Alaska Division of Geological and Geophysical Surveys Public Data File PDF 85-18, 6 p.


Laired, J.O., and Foster, H.L., 1984, Description and interpretation of a


Lenz, A.C., 1972, Ordovician to Devonian history of northern Yukon and


Nelson, G.L., 1972, A reconnaissance--the petrology and diagenesis of the
Step Conglomerate, east-central Alaska: unpublished M.S. thesis,
University of Alaska-Fairbanks, 53 p.

Circular 348, 21 p.

Formation--a Devonian turbidite in east-central Alaska (abs.):
Geological Society of America Abstracts with Programs, v. 6, no. 7, p.
1051.

Analytical results and sample locality map of stream-sediment and
heavy-mineral-concentrate samples from the Circle quadrangle, Alaska:
1:250,000.

Olade, M.A., and Goodfellow, W.D., 1978, Lithogeochemistry and
hydrogeochemistry of uranium and associated elements in the Tombstone
batholith, Yukon, Canada, in Proceedings of the 7th International


Payne, M.W., and Allison, C.W., 1978, Precambrian--Cambrian sedimentary


Stewart, J.H., 1972, Initial deposits in the Cordilleran geosyncline:


-----, 1984, Counterparts of Alaska's Terranes in Yukon, in Geological
Association of Canada Symposium, Cordilleran Section, Cordilleran geology and mineral exploration: Status and future trends, Vancouver, British Columbia, p. 41-44.


Tripp, R.B., Crim, W.D., Hoffman, J.D., O'Leary, R.M., and Risoli, D.A., 1986, Mineralogical and geochemical maps showing the distribution of selected minerals and elements found in the minus-80-mesh stream-sediment and related minus-30 mesh heavy-mineral-concentrate samples


