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DEPARTMENT OF NATURAL RESOURCES
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Anchorage, Alaska

February 10, 1960

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Division of Mines and Minerals
Alaska Dept. of Natural Resources

File #
Bendeleben Quad 844
MI 44-1


Mr. William Zuback
Box 1258
Anchorage, Alaska

Dear Mr. Zuback:

Re Pargon Mtn mica report
Bendeleben quad.

As you request, here is a copy of the
Pargon Mountain mica report. You missed the time
of writing, slightly. It was written 17 years ago.

Very truly yours,


James A. Williams, Director
Division of Mines and Minerals

JAW:jc
Encl.

cc: Martin Jasper ✓

TERRITORY OF ALASKA
DEPARTMENT OF MINES
BOX 1391
JUNEAU, ALASKA

MI-44-1

THE PARGON MOUNTAIN MUSCOVITE PROSPECT,
SEWARD PENINSULA, ALASKA

DEPARTMENT OF MINES
RECEIVED

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APR 25 1958

By
Eskil Anderson

ASSAY OFFICE
ANCHORAGE, ALASKA

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INTRODUCTION

The Bendeleben and Darby mountain ranges north and west of the basin of Fish River are among the least prospected areas of Seward Peninsula, Alaska. (Fig. 1) Placer gold discoveries have been few in these mountains and the region remains in a sense remote. Most of it lies within 50 miles of the Bering Sea, and from 70 to 100 miles northeast of Nome. It is incompletely mapped and the geology is known only in a general way. There are no residents in the area.

The two ranges are composed mainly of schists, gneisses and limestones intruded by numerous large and small bodies of granitic rocks. Associated with the granites in some places are mica-bearing pegmatites. Some of these warrant investigation during the present shortage of strategic mica.

A few of the pegmatites were observed by members of an early U. S. Geological Survey reconnaissance party in the area west of the head of Fish River in the Bendeleben Mountains. According to their report ^{1/} -

^{1/} Smith, P. S. and Eakin, H. M., Southeastern Seward Peninsula and the Norton Bay - Nulato Region, Alaska, 1911: U.S.G.S. Bull. 449, p. 69.

"Associated with the normal granites are a few rocks of pegmatitic and aplitic phases which seem to have marked the later or closing stages of the intrusive period. In the pegmatites tourmaline is in places an important accessory mineral. One such pegmatite in particular was noted on Birch Creek near the pass to the head of Niukluk River. Mica in plates sometimes 6 inches or more in diameter is found in the pegmatites. A locality where particularly large mica flakes have been reported is near Oregon Creek, a tributary of Fish River heading on the south slope of the Bendeleben Mountains, and some attempts have been made to develop a commercial deposit".

The deposit near Oregon Creek and at the foot of Pargon Mountain was prospected in 1901 and 1905 (Fig. 2). Float muscovite from there was used by the residents of Nome for some time afterwards in stove windows and lamps. Sheets as large as 6 inches in diameter were not uncommon. The largest plates reported to have been found were about 20 inches long and 14 inches wide. During the period between July 25 and August 2, 1943 several days were spent by Mr. L. E. Ost of Council and the writer in the Oregon Creek vicinity. An accurate description of the location of the mica deposit had never been made and it was with some difficulty that the prospect was found and re-staked by Mr. Ost. Earlier in the summer Mr. Ost had spent about ten days in the area with Eugene De Carey who staked the deposit in 1911. The two were unable to find the prospect at that time, and later found that their search had been concentrated in an area similar in appearance but several miles too far to the northwest.

HISTORY

In 1901 three claims were staked on the deposit near Oregon Creek which was thereafter referred to as the "Pargon Mountain" or the "Moses Mica" mine. Four claims staked on the same property in 1905 were also allowed to lapse. The prospect was staked again in 1911 and forgotten until 1943 when Ost located claims and began development work.

In the early prospecting of the deposit bedrock was not reached and development work was confined to hand trenching. In the late fall of 1943, Ost with a bulldozer moved about 2000 cubic yards of overburden during trenching operations and is said to have exposed the pegmatite dike in place.

LOCATION AND ACCESSIBILITY

The Pargon Mountain prospect is about 17 airline miles northeast of Council. It is situated on a southeast nose of Pargon Mountain between the first and second streams east of the head of, and tributary to, Oregon Creek. The prospect pits and trenches are a few hundred feet up the first abrupt slope on the northern edge of the Fish River flats.

Caterpillar transportation from the landing field at Council is the best means of access to the deposit. A road from Council up the Niukluk River and Ophir Creek can be used by trucks for about 10 miles if minor repairs are made. A small landing field could be constructed near the deposit if warranted.

Council is about 30 airline miles from Golovin, the closest port on the Bering Sea, and is accessible from there for several months during the summer by river boat. Golovin is visited by sea-going vessels between late June and October when the Bering Sea is free of ice.

During the winter the region can be reached by airplane, dog-team and caterpillar tractor.

CLIMATE AND TIMBER

The climate of the upper Fish River region is intermediate between the distinctly Arctic climate of the coastal regions of northern Alaska and the less harsh climate of the interior regions. Spruce for mine timber and fuel is available on the southern edge of the Fish River flats within ten miles of the deposit.

LABOR

Eskimos living along the coast are available for labor. Some experienced miners would be needed for underground work and for supervision of mining operations. Eskimo men prefer to have their families with them and the women might prove unusually skillful at lifting and trimming operations.

GEOLOGY AND ORE DEPOSITS

The pegmatite sill or dike in which the Pargon Mountain muscovite occurs was covered by over six feet of overburden when visited in July of 1943. Bedrock in the immediate vicinity of the prospect is made up primarily of schists, coarsely crystalline limestones, and gneiss. The schists and limestones strike in a

northeasterly direction and dip about 40° to 45° southeast into the upper Fish River flats.

No bedrock exposures of the pegmatite were seen. Other pegmatites observed in the vicinity were sills from one to two feet thick. One such pegmatite on the ridge between Baker and Boston Creeks was composed almost entirely of muscovite flakes averaging somewhat less than one inch in diameter. Only small amounts of quartz, feldspars and red garnets were present in addition to the muscovite. It was assumed that the Pargon Mountain pegmatite might also be a narrow sill but descriptions of later development work by Mr. Ost do not verify this supposition. In a sketch showing the results of the work done by him, the pegmatite appears to be much wider than had been supposed and to be striking northwest. According to Ost, he has exposed what appears to be the pegmatite in place although the rock face is still much fractured and broken. The pegmatite where seen carried book mica, several hundred pounds of which were cobbled and stockpiled by Ost.

At the time of examination during the summer of 1943 only a few caved pits and trenches represented the development work. The largest muscovite flakes seen were about six inches in diameter. About a half ton of pegmatite float composed mainly of small books of mica and quartz were scattered about on the surface. Probably 50 pounds of book mica varying from 1-1/2 to 3 inches in diameter were also lying on the dump.

Samples of weathered book mica were shipped to the Colonial Mica Corporation and the U. S. Bureau of Mines. Some small

sheets of strategic mica were trimmed out of these samples by the Colonial Mica Corporation. Both organizations indicated that strategic mica could be expected in unweathered and unaltered material and that further prospecting was warranted if there were indications of a sufficient quantity of the material.

The muscovite in unweathered books is clear and unstained. Some of the imperfections such as "ruled", "A", and "tangle sheet" structure are present but most of the mica observed did not show these defects. Clay staining - the most notable imperfection in the float material - would not be present in freshly mined mica. Other minerals common in the pegmatite are quartz, feldspars, including albite, black tourmaline, and red garnet. Microscopic examination showed occasional small biotite crystals. A few inclusions of magnetite were observed. Some well-developed calcite and quartz crystals were present as float in one of the trenches.

DEVELOPMENT WORK

In July, 1943 development work consisted of six small pits and two short trenches, the deepest of which was about seven feet. None of these excavations had uncovered the pegmatite in place.

In September four long bulldoze trenches were made by Ost. The mica-bearing pegmatite, apparently in place, was exposed for some distance in one trench.

PROPOSALS

Although there is no certainty that a workable deposit will be found at this place, only a small expenditure would be necessary to determine whether further development is justified. The relatively minor expenditure required could better be undertaken by government agencies set up for the purpose of determining our strategic mineral reserves than by individuals with no previous experience in working deposits of this type. Strategic mica, at the present price and with the small outgoing freight cost of the prepared material, is one of the few minerals that might be produced profitably during this war from deposits at a distance from the Alaskan coast.

A preliminary program consisting of trenching by bulldozer and shaft sinking on mica shoots could be carried out quickly and economically. Bulldozing of new trenches to bedrock might best be postponed until late in the summer when the overburden is thawed.

Book mica already exposed at the deposit could be stockpiled and shipped as such but it would be preferable to prepare the material before shipment to eliminate payment of high freight charges on scrap material. A temporary rifting plant could be established at the deposit at very little expense.

Tools and directions for the preparation of the mica are obtainable through the Colonial Mica Corporation. A man familiar with the mining and preparation of mica will be invaluable if any considerable production seems probable.

An examination of pegmatites near Birch Creek, reported by the U. S. Geological Survey, should be made as these dikes are already exposed.

Persistent reports by Eskimo reindeer herders of a deposit containing large mica flakes on the Etchepuk River in the Darby Mountain range should be investigated and the deposit examined if the rumors can be confirmed. Other reported occurrences in the Bendeleben and Sawtooth mountains may be of importance. The region between the head of Fish River and Mount Bendeleben a few miles southwest of the Birch Creek deposit, appears to be particularly favorable for mica prospecting. During the summers Eskimo berry pickers and hunters travel through these regions. They are particularly observant of natural phenomena and some make excellent prospectors when properly informed.

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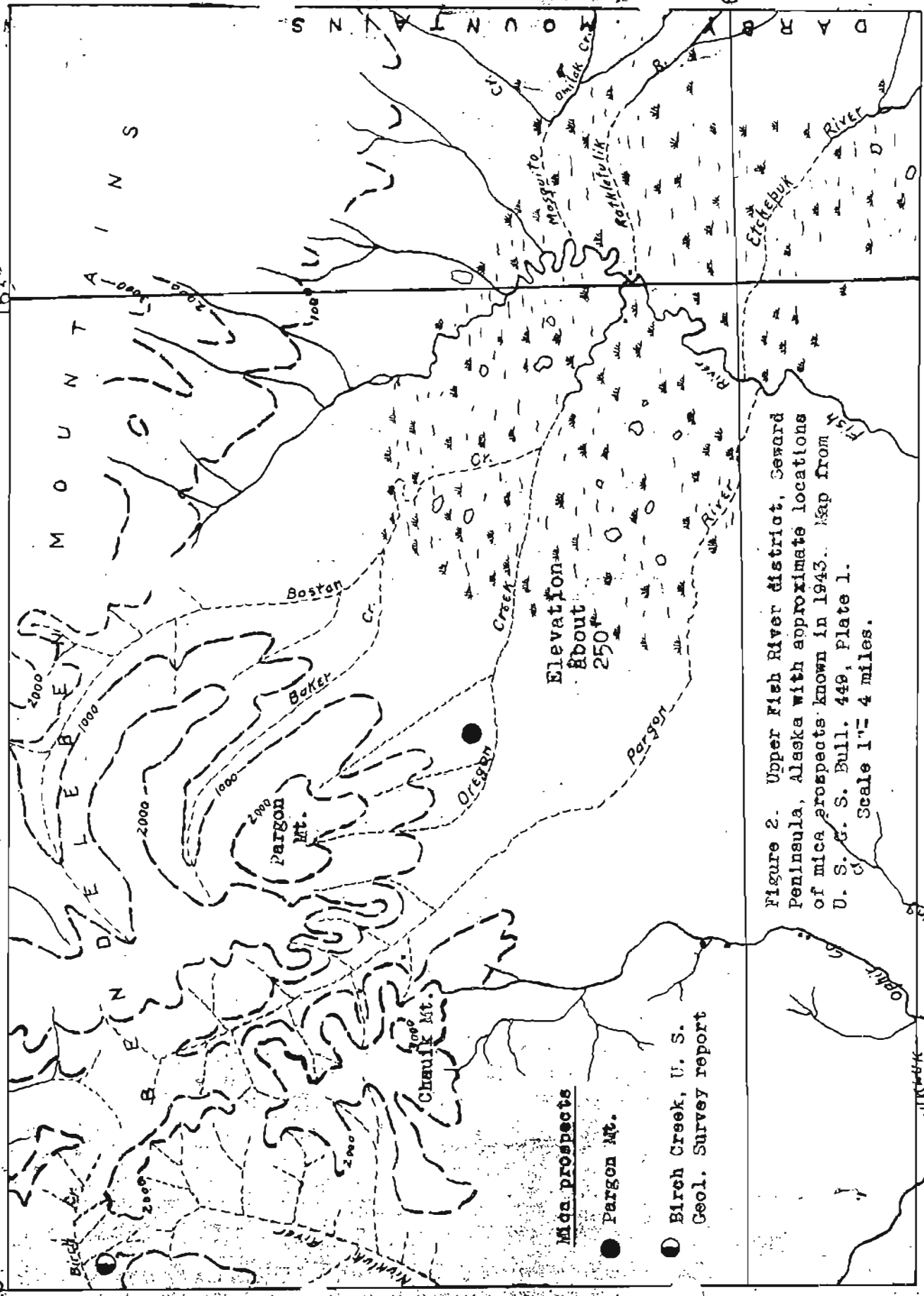


Figure 2. Upper Fish River district, Seward Peninsula, Alaska with approximate locations of mica prospects known in 1943. Map from U. S. G. S. Bull. 449, Plate 1. Scale 1" = 4 miles.

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