

STATE OF ALASKA
DIVISION OF MINES AND MINERALS

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MY CREEK AND OUR CREEK SILVER PROSPECTS, FORTY MILE DISTRICT,
EAGLE QUADRANGLE

by

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INTRODUCTION

Mr. Dan Manske, 525 Seventh Avenue, Fairbanks, Alaska, and Mr. Fred Purdy, Chicken, Alaska, own three silver prospects in the My Creek-Our Creek drainage area in the southwestern part of the Eagle quadrangle. One prospect, which in this report is called the number 1 showing, is at $64^{\circ} 07' N$ latitude and $143^{\circ} 13' W$ longitude. The number 2 showing is one-and-one-half miles to the south, and the number 3 showing is three miles south-southwest from the number 2 showing.

My Creek and Our Creek are parallel streams about seven miles long that flow westerly into Molly Creek, a northward-flowing tributary to the Middle Fork of Fortymile River. The three showings are on the west side of a 5000-feet-high divide that separates the drainage of the Middle Fork from the drainage of Kechumstuk Creek, a tributary to Mosquito Fork.

The nearest road and the nearest airstrip are at Chicken, forty airline miles east of the prospects. Mining claims in the region are recorded at Fairbanks.

The three prospects were examined on August 2 and 3, 1961, by George Moerlein, Geologist, Bear Creek Mining Company, and Robert H. Saunders, State Mining Engineer, Division of Mines and Minerals. The trip to the prospects began on the morning of July 29, when a Jeep owned by Dan Manske was driven from the Fred Purdy home near Chicken up the ridge between Myers Fork and Stonehouse Creek and along the top of the ridge that lies south of Buckskin Creek. The Jeep was parked on the ridgetop sixteen miles from the Purdy home, and the remainder of the

trip was made on foot over the route shown on the accompanying map. After the Manske-Purdy prospects were examined, a camp was established at the mouth of Copper Creek, tributary to Kechumstuk Creek, and the Mitchell copper prospect on the left limit of Copper Creek was examined. From the mouth of Copper Creek a nearly direct route was taken to the mouth of Willow Creek, and from Willow Creek the return route coincided with the route followed starting out. The Jeep was driven back to the Purdy home on August 8.

Most of the ridges that are above timberline can be travelled easily on foot, but in the lower valleys brush and swamps make walking difficult, even where there are tractor trails. Snow flurries were noted on August 1 on Mt. Veta; and, on August 7, Mt. Harper to the west and Glacier Mountain to the north were capped with snow. Heavy rains fall during the trip raised some of the streams in the area to flood stage. On August 7, Gold Creek near the mouth of Willow Creek was too high to be forded; but the water subsided rapidly overnight, and fording it became possible the next morning.

GEOLOGY

The geology of the region has been described in U. S. Geological Survey Bulletin 872, THE YUKON-TANANA REGION, ALASKA, by J. B. Mertie, Jr. There are two general types of country rock in the area: granitic intrusive rocks and rocks of the metamorphic complex that is called the Birch Creek schist formation. The granitic rocks are of Mesozoic age, and the Birch Creek schist has been assigned to the pre-Cambrian. The granitic

rocks are part of a batholith that underlies an area of 1000 square miles. A lobe of the Birch Creek schist formation 12 miles wide and 28 miles long protrudes into the batholith and underlies the headwaters of the Middle Fork and most of the eastern part of the area drained by the upper Middle Fork. The lobe of Birch Creek schist is encircled by granitic rocks except for a four-mile-wide band of schist that projects from the head of the Middle Fork westward, linking the lobe with a larger body of schist to the west.

On the eastern side of the lobe of Birch Creek schist, the contact with the granitic rocks trends northerly across the headwaters of My Creek and Our Creek. The 5000-foot-high ridge between the Middle Fork drainage area and the head of Kechumstuk Creek is composed of granitic rocks.

The three prospects are in the eastern part of the lobe of Birch Creek schist within a half-mile of the contact with granitic rocks.

MINERAL SHOWINGS

The number 1 showing is in a saddle on the ridge north of the center headwater tributary to My Creek at 3800 feet altitude. A hand-dug pit $2\frac{1}{2}$ by 9 by 4 feet deep has been dug on the vein. At the time of the examination, a pool of water, one foot deep and three feet across, covered the vein in the bottom of the pit. Above the water, the vein was two feet wide, and it appeared to consist of calcite with no galena or other sulfides present. A dump beside the pit consisted of pieces of calcite carrying galena and a small amount of sphalerite. A grab sample from the dump assayed 0.02 ounces per ton of gold, 7.20 ounces

per ton of silver, and 29.13 per cent lead.

Small holes about six inches deep and a foot in diameter were scattered evenly over a circular area about 100 feet in diameter around the pit. Apparently the small holes had been dug and the larger pit had been deepened by a party that visited the prospect by helicopter earlier in the summer. Pieces of limestone and calcite were lying on the surface beside each of the holes, but no sulfides were seen in these pieces.

The number 2 showing is on the hillside south of the center headwater tributary to My Creek at 4000 feet altitude. At this prospect several pits have been dug on the hillside in a line trending N 65° E. These pits may be in slide material rather than in rock in place. All of the pits have sloughed; during the examination they were partly cleaned out with a worn-out shovel that was found at the site. The width of the vein was not determined. The mineralogy of the vein is the same as that at the number 1 showing except that copper is present, and the green stain characteristic of malachite is conspicuous. Pieces of sulfide-bearing calcite as large as 15 by 8 by 5 inches could be dug from the pits. A grab sample from this showing assayed a trace of gold, 9.24 ounces per ton of silver, 24.99 per cent lead, and 0.61 per cent copper.

The number 3 showing is on a hillside east of a northward-flowing headwater tributary to Our Creek at 4200 feet altitude. At this showing a band of magnetite lies along the contact between crystalline limestone and a granitic intrusive. The magnetite can be traced approximately 300 feet across the crest of a ridge between two small

gulches; it strikes N 30° W. The dip could not be determined; the width of the outcrop of magnetite is 15 feet. The intrusive rock lies on the west side of the magnetite and the limestone is on the east. The granitic rock is probably an offshoot of the large intrusion that nearly encircles the lobe of Birch Creek schist. Dark-colored rock, probably amphibolite or pyroxenite, is on the east side of the limestone. A sample of the magnetite assayed a trace of gold and no silver, however, the owners reported that some of the samples that they have taken from the magnetite have run high in silver. A spectroscopic analysis showed that the sample contained the following:

Over 10%	1 to 10%	Under 1%
iron	calcium magnesium	manganese zinc 0.3% barium titanium chromium copper 0.01% nickel 0.01% sodium.

Each of the three showings is in or near crystalline limestone, which is a part of the Birch Creek schist formation. Weathering of the limestone has formed conspicuous white bands across some of the ridgetops; the lack of such white bands across other intervening ridgetops indicates that the limestone is in discontinuous bodies rather than in persistent, uniform beds. At each of the showings, a dark-colored amphibolite or pyroxenite is adjacent to the limestone.

The distance from the number 1 showing to the number 3 showing is more than four miles. The three showings are almost in a north-south

line paralleling the contact between the eastern edge of the lobe of Birch Creek schist and the batholith.

In addition to the three silver prospects, Dan Manske and Fred Purdy own a stibnite prospect on the ridge between My Creek and Our Creek. This prospect has been described in U. S. Bureau of Mines Report of Investigations 4173, ANTIMONY DEPOSITS IN ALASKA, by Norman Ebbley, Jr. and Wilford S. Wright, and in A PRELIMINARY REPORT ON THE MY CREEK STIBNITE DEPOSIT, FORTY MILE DISTRICT, ALASKA, by Henry R. Joesting, an unpublished report of the Alaska Territorial Department of Mines.

CONCLUSIONS

The lobe of Birch Creek schist at the head of, and east of, the upper Middle Fork of Forty mile River appears to be a favorable area in which to prospect. The distances between the known prospects indicate that mineralization may be rather widespread within the lobe. Some of the similarities in the geological settings of the three showings are of special interest. The crystalline limestone apparently is a favorable host rock for mineral deposition; the pyroxenite (or amphibolite) may have the physical characteristics necessary to provide fractures to serve as passageways for mineralizing solutions; and a relationship may exist between site of mineral deposition and distance from the contact with intrusive rock. These hypotheses, if true, would be valuable guides for future mineral exploration, and, within the area delimited by the lobe of Birch Creek schist, they could make possible an unusually favorable ratio between the amount of money spent for

exploration and the value of the information obtained.

Because of the remote location, magnetite in the area, such as that at the number 3 showing, is not minable solely for its iron content. In the past few years, however, economic factors that would affect iron mining in Alaska have been changing, and the State has begun a program that provides for building access roads into remote areas that have a potential for economic development. If the country around the upper Middle Fork is made more accessible, and if economic factors pertaining to iron mining in Alaska continue to become more favorable, the possibility of mining magnetite in this area should be reappraised.

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