

TERRITORY OF ALASKA
DEPARTMENT OF MINES
329 SECOND AVENUE
BOX 2139
ANCHORAGE ALASKA

PE-085-21

February 23, 1959

PE
85-21

Mr. R. H. Seraphim,
Monsta Porcupine Mines Ltd.,
Room 408 - 402 West Pender Street,
Vancouver 3, B. C.

Dear Bob:

RE: Busaw & Anell Cu Prospect Report
REF: Your Jan. 5th, '59 Inquiry

The delay in replying to your inquiry of above date is regreted. However, with certain building alterations being made, shifting the fire assay lab downstairs, etc., most of the winter has passed and I am way behind (as usual) in all my work. Also, our Uncle Samuel wiggled his finger for the assayer to report to local Selective Service office on Feb. 3rd, and finding him still breathing, able to "wiggle", and sound of body (if not sound in mind?) I have been shy of what "buffering" he might do for me.

enclosed

In any event you will find my "opus" on subject prospect - which could be summed up in last long sentence under Conclusions. Personally I would like to see you do some work in the area. Both Max Kusaw and Bill Anell took Marc Anthony's Mining Extension course and talked to Marc about it at various times. However, at my suggestion they did not mention the exact location (nor, of course, did Marc inquire) as, at my recommendation last October they did not do the staking of area to the extent that I believe may be warranted after additional field work is done. I have followed the advice given them which accounts for not specifically "pegging" the area with an enclosed map.

I think it would be desirable for you to come up to this area of the "Proud New State" comes April 3, 4, & 5 to again grace our AIME Mining Conference. By so doing you can "two stones with one bird - reversing the old "saw", you being the bird and Max & Bill representing the the small group who endeavor to find the stone types that make it possible for we poor characters to follow up and justify our employment.

This year our AIME "do" will have one day devoted to mineral industry, the second day to the petroleum people, and third day to field trip to drilling operations on Kenai Peninsula. This should by far be our best program, with Fairbanks AIME section co-sponsoring, and with Y. T. also joining us. Will send you a Program soon as possible - only hold-up now is confirmation of an petroleum V-P in charge of exploration. The Idle Hour is rebuilt more attractive than before - with room enuff to stagger around in "crowded style".

Let me hear from you. Olga joins in sending Best wishes and
Regards.

Sincerely yours, *Martin Japper*
Martin Japper

cc: Busaw & Anell
:PRE

TERRITORY OF ALASKA
DEPARTMENT OF MINES
329 SECOND AVENUE
BOX 2139
ANCHORAGE, ALASKA
February 7, 1959

Dr. R. H. Seraphim, Geologist,
Moneta Porcupine Mines, Ltd.,
Room 408 - 402 West Pender Street,
Vancouver 3, B. C.

Dear Bob:

RE: Rusaw & Anell Copper Prospect
REF: Your Mar. 5th Inquiry

I was pleased to receive your Jan. 5th letter and learn that Bill Anell called on you enroute to California. He and his partner, Max Rusaw, are good men and hard workers. I have found them to be factual reporters of what they have seen. Admittedly, they are not experienced prospectors but they are good "learners" and sharp observers.

With their approval the following memorandum is being written for your information and at your request.

HISTORY

A number of men had previously mentioned seeing copper mineralization in this drainage basin at several points during hunting trips and week-end prospecting forays. It seems fairly certain that one prospector had been in this particular area 8 or 10 years ago while trying to run down an oldtimers report of there being 12 to 14 foot width of high grade chalcopryite outcropping on a steep slope. Although convinced he was in vicinity of the reported occurrence it was not found, and he believed it was then obscured by rock slides.

In 1953 I made trip some 4 or 5 miles further up the valley on a non-metallic investigation. During that 3 day period observations indicated that region was well mineralized, and numerous iron stained zones were noted. The area was called to attention of several "would be" prospectors since then but none of them apparently spent any time there.

Max Rusaw first found this copper prospect 14 years ago while hunting and "browsing" in the area. Being low grade he gave it little attention, and did not think of it as a "potential" large, low grade deposit. Last summer ^{he} made trip in there with Bill Anell, obtained some samples, and gave me the data on the occurrence as they considered it to be. Their description aroused my interest, and a trip was arranged with them to examine the prospect ~~with them~~ Oct. 2nd, 3 rd, and 4th.

LOCATION AND ACCESSIBILITY

The occurrence is located at lower end of a Chugach Mountain range spur ridge; where examined in the canyon the elevation range is

R. H. Seraphim
R. H. Rusaw & Anell Cu Prospect
Anchorage Quadrangle

February 7, 1959

2600 to 2950 feet (by Paulin Altimster). Six air miles from the Glenn Highway and about 8 miles by trail we followed, it is easy of access topographically. However, two glacier fed rivers will probably add 2 to 3 miles distance during the summer season to get better river crossings. Trip in required 4 hours on Oct. 2nd and return $3\frac{1}{2}$ hours Oct. 4th.

The low river valley bars within a mile upstream from mouth of Rusaw creek have several areas that can be cleared easily by hand for light plane landings. There is an airstrip along the Highway within 8 miles.

GEOLOGY

The area has not been mapped geologically. So far as known there has been no USGS study made to date of that section.

In this locality along the northwest limits of the Chugach Range the metamorphosed sediments have been intruded by a granitic mass of undetermined lateral extent, although the 1953 reconnaissance of the master streams valley suggests its width to be at least three or four miles. Red, green, and gray volcanics were noted ⁱⁿ Rusaw creek canyon.

The copper occurrences briefly examined are located in canyon walls along left limit (left side looking downstream) of an unnamed stream. For identification and reference I have called it Rusaw creek.

The narrow canyon is deeply incised along a strong fault zone. The USGS topographic map shows the creek ~~length~~ to be about 4 miles in length. The canyon section begins about $1\frac{1}{2}$ mile above mouth of the stream. The lower quarter mile cuts through the vari-colored volcanics (of undetermined areal extent) with some highly altered (silicified) sedimentaries underlying them. Course of the creek (and canyon) is about N30E east.

The canyon is generally of precipitous nature, along the $\frac{3}{4}$ mile section traversed. On the west side (left limit) there are two gulches of 30 to 40 degree slopes.

A wide mineralized shear zone (width not determined but appears to be possibly as much as 100 feet - or more) roughly parallels the canyon in the left limit (west) walls and slope of the section examined. From granite contact with the volcanics and altered sediments the upper half mile is entirely granite except for certain basic dikes. Above the traversed section the stream (and canyon) swings slightly to the west; Rusaw and Anell report the formation to be entirely granite with few dikes to summit of ridges.

A dike, composed of the dark ferro magnesium silicates (principally hornblende?), occurs within the shear zone. A hundred yards or so south west of section ^{traversed} Rusaw & Anell report the shear zone and dike cut across the canyon and continues to ridge crest and beyond.

R. H. Seraphim
RE Rusaw & Anell Cu Prospect
Anchorage Quadrangle

The several hundred foot sheer cliff at contact area at lower end of the canyon's left limit shows fairly abundant limonite stain. The two gulches previously mentioned are entrenched along cross fault zones and probably extend to crest of ridge. Their talus at the bottom (forming a fan in the canyon) shows fairly abundant fine grained mineralization. Looking up the gulches their walls are also well stained with limonite.

The right limit walls of this canyon section were not closely examined due to frequent "rock falls" during time of examining the area.

Mr. Rusaw reports finding similar formations, structure, and mineralization in area about 7 miles to the west, as well as 3 or 4 miles south of the Rusaw creek occurrence. The latter is at head of gulch on left limit of the districts master stream.

Two hours were spent during late afternoon of October 3rd with Rusaw and Anell, showing them the area noted to be mineralized during the undersigned's 1953 reconnaissance along right limits of the valley. It is located about 1 mile south of Rusaw Creeks junction with master stream.

For distance of 1 mile north (downstream) and $1\frac{1}{2}$ mile south of this point a 50 to 125 foot bluff borders the valleys east side. The formation is largely a coarse grained granite, with remnants of a highly altered volcanic (?) noted at several points. The granite is highly weathered - "crumbly" and well kaolinized. It has been intruded by a number of fine grained, dark, andesite (?) dikes; strike of one of these exposed for about 200 is N50W, with a 50 to 60 degree NE dip.

A pegmatite dike was noted at mouth of gulch examined (for identification to be referred to as Area "X"). Its width is at least 200 feet, and contained feldspar crystals up to 8 inches in length and 4 inches in width. This dikes strike and dip was not definitely determined, but its trend appears to be northwest-southeast. It has a distinct pink color; kaolinization is well advanced and the rock type is "crumbly" at surface.

In this $2\frac{1}{2}$ mile section (1 mile north and $1\frac{1}{2}$ mile south of gulch "X") there are numerous gulches of easterly-westerly trend, spaced 100 to 300 yards apart. These have been entrenched along fault zones (and/or shear zones). Their maximum depth is 100 to 150 feet - always at their lower end. Several of the gulches extend $1\frac{1}{2}$ to 2 miles easterly, across a timbered 10 to 20 degree timbered slope to base of the steep mountain which rises to 4500-5000 foot elevation. Balance of the gulches fade out within one mile.

Gulch "X" was examined for distance of about 1200 feet east of the river flat, and four samples were taken of mineralized sections.

R. H. Seraphim
RE Rusaw & Anell Cu Prospect
Anchorage Quadrangle

Mineralization

In the Rusaw Creek canyon area mineralization appears limited to chalcopyrite, pyrite, minor arsenopyrite, malachite, and limonite. The sulfides occur as fine grained disseminations, in fine discontinuous veinlets, with chalcopyrite also as fairly large "blebs".

From the brief examination it would appear that mineral concentration was somewhat greater in the basic dike (or dikes?) than is present within the wide, altered, granite of the shear zone. The minor amounts of malachite noted are mostly in the dark basic dike. The limonite is more abundant; it occurs as a thin film along the shear zone which is especially noticeable in the altered volcanics and sediments exposed in the cliff faces.

Narrow bands of epidote, following the predominate jointing planes (of N25W strike and 70 westerly dip) in the granite, are fairly abundant in examined section on the canyon's north slope. These bands carry appreciable amounts of the sulfides.

The "grab" sample (chip) taken by Rusaw and Anell across 30 foot width at 3150 elevation at top of steep slide area (at base of cliff with insecure footing) shows good copper values. This sample does not represent full width of mineralization, as it is visible above the slide in cliff on north side as well as in cliff below the slide for additional undetermined widths.

Numerous pieces of talus were examined along base of Rusaw Creek canyons left limit. A large percentage of them - basic dike, altered granite, sediments and volcanic's - contained appreciable amounts of the three disseminated sulfides.

For an estimated 1000 feet the walls of the two steep gulches, previously noted as probably extending to left limit ridge crest, are visible from Rusaw creek level. They are iron stained and from a distance resemble the croppings along the wide, mineralized shear zone. Some of the talus at their lower end certainly had their source in upper limits of the gulches. With numerous talus pieces showing similar fine grained disseminated sulfides their walls should be thoroughly examined. Cutting the wide shear zone at right angles, a good cross section of that structure is accessible for sampling and study to determine its full mineralized width.

The rapid erosion of the district (differential weathering, snow and rock slides) prevents development of secondary copper and iron minerals in appreciable amount.

Along the lower 1200 feet examined in gulch of Area "X" the mineralization is less extensive and restricted to narrow widths. Minerals

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noted were pyrite, chalcopyrite, azurite, and malachite. The fine grained, dark, sheared, andesite (?) dike carries some pyrite and little chalcopyrite. The azurite and malachite was noted only in silicified sections of the granite.

Sampling

Results of limited samples taken to date are as follows:-

Report of Assay

No.	Width	Au oz	Ag oz	Cu %	Location and Description
1	30ft	tr	tr	2.71	Taken by R&A* at 3150' El. Rusaw Cr. "Chip" across 30 ft of shear zone at top of slide. Total mineralized width not determined.
2	30"	nil	nil	0.60	Taken by R&A* at 3100 El. S. side and below #1. "Rib" at cliff edge.
3	Grab	nil	nil	1.206	Taken by R&A*. "Chips" from numerous pieces of talus on left limit of Rusaw canyon section. Included the several rock types.
252A	18"	tr	tr	0.78	Taken by MJ 100' down slope from R&S #1 sample. Rib of granite (altered) granite & some epidote in slide area. Full width of mineralized shear zone exceeds 30 ft.
253A	18"	tr	tr	1.36	Taken by MJ from basic dike talus slab 200 feet below R&A #1 sample at 2950 El. Dike not accessible in this area.
254A	Grab	tr	tr	2.89	Taken by M J. Chips taken from 8 large basic dike talus slabs in same area as 253A.
255A	Grab	tr	tr		Taken by MJ. 1600 ft up Area "X" gulch. Grab along 200 ft of gulch bottom. Silicified oxidized granite. Few grains pyrite.
256A	12"	tr	tr		Taken by MJ. Rotten, oxidized granite about 1000' from mouth of Area "X" gulch, on rite limit slope.
257A	12"	tr	tr		Taken by MJ. Weathered dark andesite (?) dike. Some pyrite & limonite. 10' above #256A.
258A	Grab	tr	tr	0.582	Taken by MJ. Grab from 4 pieces talus in g gulch bottom of crumbly, oxidized granite with little azurite-malachite in qtz on one side.

*R&A. Samples taken by Rusaw & Anell in September 1958

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RE Kusaw & Anell Cu Prospect
Anchorage Quadrangle

February 23, 1959

The few samples taken from area to date show only traces of gold and silver.

CONCLUSIONS

Although the investigation was necessarily brief - due to the lateness of the season, and with frequent "rock-falls" adding to hazard of poor footing caused by a little snow and a thin ice film on the steep and precipitous slopes - it was sufficient to indicate that the Rusaw Creek canyon area is of real and special interest.

The low-grade disseminated copper mineralization appears to be extensive, and warrants a detailed study and thorough prospecting. Associated with a strong shear zone (width undetermined to date but estimated to be greater than 100 feet) and a basic dike('s?), its strike length is still unknown. Although few samples have been taken to date, structural conditions and copper values suggest this occurrence to possibly be one of the required magnitude to support a large scale, low grade, operation.

The preliminary investigation confirmed Messrs Rusaw and Anell's report on this occurrence. On this basis it is believed their observations and oral description of similar occurrences - one about 7 miles west westerly, and the other 3 to 4 miles to the south - should also be investigated.

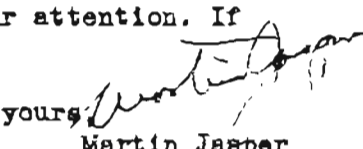
These three areas tend to confirm my general observations (covering the past 6 years) concerning this region as a whole. During this period I have pointed out prominent limonite discolorations of probable wide igneous intrusives visible (at intervals of several miles), and roughly in line with Rusaw Creek canyon section. One is about 10 miles to the west, and the other is about 3 miles to the east.

It is my opinion that the Rusaw-Anell copper prospect in particular, and the region as a whole, warrant the attention of competent mining organizations (such as your own) who are searching for potentially large scale, low grade copper deposits.

RECOMMENDATIONS

Before undertaking staking of large number of claims in area of the Rusaw Creek copper occurrences, it was recommended that Rusaw and Anell prospect the section more thoroughly to gain a more definite idea of total width and lateral extent of mineralization. It was suggested that our Department would contact a reliable company to undertake at least an reconnaissance exploration program in the area, which they requested be done. It was also suggested there was a chance that such a company might hire them as prospectors on a "wage plus interest" basis to prospect for them in the areas they have (in confidence) brought to our attention. If you are so inclined, I would recommend them to you.

cc; kusaw & Anell
: PRH

Very truly yours,

Martin Jasper