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SUMMARY REPORT

of

MINING INVESTIGATIONS IN THE VICINITY OF

HAWK INLET, ADMIRALTY ISLAND,

JUNEAU PRECINCT, ALASKA.

By

J. C. ROEHM

July 11-18, 1942

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H. STEWART
SUPERVISOR OF MINES

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TERRITORY OF ALASKA
DEPARTMENT OF MINES
JUNEAU, ALASKA

SUMMARY REPORT OF MINING INVESTIGATIONS IN THE VICINITY
OF HAWK INLET, ADMIRALTY ISLAND, JUNEAU PRECINCT, AND
ITINERARY OF J. C. ROEHM, ASSOCIATE MINING ENGINEER,
ACCOMPANIED BY R. L. STEWART, CLERK, TO B. D.
STEWART, COMMISSIONER OF MINES, JUNEAU,
ALASKA

July 11 to July 18, 1942

July 11. En route Juneau to Hawk Inlet.

July 12. A trip on foot was made overland from the Hawk Inlet cannery eastward to the Mammoth group of patented claims. According to information received regarding the location of this claim group, the shortest distance from salt water to the group is via a small creek which empties into Hawk Inlet at the Hawk Inlet cannery. The entire day was spent in approaching this claim group. Rain and considerable low fog delayed the trip. At 3 p.m. the foot of the mountain containing the showings was reached, and due to lateness a return to the beach was made down Fowler Creek, arriving at 10 p.m.

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July 13. The weather continued rainy and foggy and no further attempts were made to reach this group until a later date. An examination was made of the mine of the Alaska Empire Gold Mining Company, one and a half miles inland from the north shore of Hawk Inlet. This mine is operated at the present time on a very reduced scale due to lack of labor and materials. Three men are employed, a reduction from the regular crew of 15 to 20 men. The mine and mill are operated intermittently, depending upon available water for power, and other conditions.

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Since the writer's visit to this property April 29, 1938,* mining has been confined to the completion of the 50' shaft and the lower tunnel level. During the operating season of 1939 the shaft was completed and the vein followed for a distance of 83 feet north and 115 feet south. From this development a total of 2307 tons of ore was milled with an average recovery of \$6.20 in gold and silver. The development of the year 1940 consisted of continuing the drift south on the lower level for a distance of 185 feet and three raises with small open stopes to the Neill tunnel level. A total of 216.79 ounces of gold was recovered and the tonnage milled was not learned. An approximate figure can be had from the level sketch made on date of visit. The 1941 development consisted of extending this level south for an additional distance of 115 feet. Within this distance the vein shows a more abundant content of metallic sulphides to a width of over 30 feet as developed, with a portion of the vein still in the walls. The general average of the vein in width

*Roehm, J. C. - Summary Report of Mining Investigations in the Sitka and Juneau Mining Districts, April 21-30, 1938, pp. 8-11.

is nearly 20 feet and from the evidence noted on the lower level the nearly double width appears to have been the result of a fault movement striking a few degrees off the strike of the vein and cutting with an upward plunge movement of 35° off vertical to the north. This movement has apparently caused the vein to telescope with the footwall portion thrust alongside the hangwall. The footwall portion appears to be the higher grade ore. The recovery from the ore milled in this 1941 block was reported at \$23 per ton in gold and silver.

An additional 45 feet of drift has been extended south in this lower level drift this year. Broken ore still filled this section and the face could not be sampled. It has been stoped for 30 feet up and appears to be terminating in its upward extension on the footwall portion.

A sketch map with a scale of 20 feet to the inch was made of the lower tunnel workings and a total of nine channel samples were taken, Nos. 1041 to 1049, inclusive. The sketch map was made at the request of the manager in order to locate the south end of the lower level and the footwall ore body with relation to the Neill tunnel and ore above in the glory hole.

July 16-17. En route from Hawk Inlet on foot to the Mammoth group and return.

The Mammoth group of patented claims is situated above timber line, one mile south of the head of Fowler Creek, approximately 4 miles airline and 5 miles via trail from tidewater, due south of the head of Young Bay, Admiralty Island.

According to reports, this prospect was discovered in 1880 by Oliver Price who staked the original group. Very little work was done and during the year 1899 a small galena vein was discovered on the prospect by Thomas Ashby who restaked the group. The same year title to the property was obtained by Lloyd G. Hill and Henry States, partners, who drove the existing adit and dug the numerous open cuts. In the year 1915 application for survey was made and four claims; namely, Mammoth No. 6, No. 4, No. 2, and No. 5, were surveyed and patented by Lloyd G. Hill. Since that date the property has been idle. In the summer of 1905, according to U. S. G. S. Bull. 287, p. 150, a careful sampling of this property was made with unfavorable results.

The formations in the vicinity of this group consist of pale greenstone schists with intercalated thin and highly schistose beds of limestone, quartzite and graphitic crinkly phyllites. These latter beds are unevenly distributed in and along the greenstone schists and their relationship as to how they were formed within the schists could not be determined. The formations have a general strike from N. 25° to 35° W.

and the schistosity ranges from 75° to 80° W. Generally, these formations have been subject to considerable stress and have become highly schistose. After this developed foliation the area in the vicinity of this group was subjected to mineralizing solutions. The degree of metallic sulphide precipitation is greatest in the enclosed sediments. However, the widely dispersed condition of this mineralizing action in the scattered and irregularly distributed sediments has made a large but rather weak zone of mineralization. Sections of the various limestone strata appear to contain the most valuable of the metallic sulphides. Considerable silica was deposited, both prior and with the sulphides. Quartz stringers, gash veins and numerous veinlets are abundant, particularly in the quartzite strata. A partial replacement by silica was noted in the limestone. Along the limestone-green schist contacts and in some instances generally distributed through limestone strata is a soft, talcose, and occasionally micaceous bright green mineral. This mineral has not been identified, however, it was formed originally from the greenstone schists into which it blends, and is believed to be chlorite. Tests are warranted for its determination as it occurs abundantly in wide zones and makes up a few per cent of the composition of the limestone. The sections of most intense mineralization in the limestone are confined to areas which weather brownish black. This color is from manganese and iron oxides, weathered pyrite and probably manganese carbonates within the limestone.

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The metallic sulphides noted were pyrite, galena, a light colored variety of sphalerite, and chalcopyrite. Secondary minerals noted in the weathered portions were anglesite, hydrozincite, azurite, limonite, hematite and manganese oxides. The original primary manganese mineral was not detected. The gangue minerals consist of abundant quartz, calcite, dolomite, chlorite and graphite.

The development on the group consists of one adit, reported to be 165 feet in length, which was caved on date of visit, and numerous rock open cuts. On the adit dump a few pieces of mineralized limestone were noted, however, it consisted mainly of mineralized and silicified phyllites. Apparently, the adit failed to cut the numerous limestone strata which outcrop above and to the south. The adit is situated on the north slope of the mountain at an elevation of 2300 feet, approximately 300 feet below the upper cut showings. This tunnel is located on the southeast end of Mammoth No. 6 lode.

A bluff located 40 feet above the adit portal consists of limestone with some green schist. Some cut work has been done across the face exposing a width of 50 feet. The limestone and schist is highly foliated and slightly mineralized. Only small amounts of sulphides were noted.

A large out, known as cut No. 4, located on Mammoth No. 4 Lode, 900 feet east of the tunnel and 300 feet above, shows a 75-foot width of limestone and contains the most metallic sulphides. The footwall of this lime stratum is a silicified quartzite and the hanging wall gradually changes into greenstone schist. The limestone weathers brown to black, showing the highest manganese content noted in the various outs. The ore sulphides with their secondary products are most abundant across a 20-foot width on the footwall portion. Numerous quartz stringers are present in this limestone band, however, the sulphides are confined in, and have partially replaced the limestone. The quartz is nearly barren of metallic sulphides. Sample 1050 was taken across 8 feet, which represents the best mineralized section of the limestone stratum in this out.

There are numerous other rock outs scattered mainly on the mountain top 300 to 400 feet above the adit. Three cuts were into the quartzite band which occasionally shows a small area of scattered sulphides consisting mainly of pyrite. Most of the cuts are confined to the various limestone strata and show small amounts of sulphides and manganese oxides. They were found in most instances of too low grade to sample.

One sample, No. 1051, was taken of red oxidized material, abundant over a small area in a very small ravine and located 150 feet south of the adit portal.

It is very doubtful if these numerous showings contain sufficient values to warrant further work. Should identification of the green mineral prove it to be one of economic value, further sampling and work may be justified. However, the writer is of the opinion that the green mineral is chlorite and not of economic value.

July 18. Return to Juneau.

No.		<u>Cu</u>	<u>Pb</u>	<u>Pb</u>	<u>Zn</u>	<u>Mn</u>
No. 1050	-	5.52	15.6	0.24	1.05	3.3
1051	-	0.04	0.4	Tr.	0.10	5.0