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CLAIMS
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92F/3E

GEOLOGICAL REPORT

on a group of claims for

MT. AGNES MINES LTD.

Henderson Lake area, Alberni Mining District
Vancouver Island, B.C.

BY

E. J. Arteaga, B. Sc.

March, 1967

68/1/1

INTRODUCTION

During the period of February 15th to February 19th, 1967, a commission comprised of Mr. Steve Prieger of Canal Mining Ltd., Mr. Gilles LeBrun, prospector, and myself, went to the mining claims situated on Vancouver Island to carry out a geological examination, evaluation of the previous work and estimate of work to be recommended.

PROPERTY

The mining property primarily concerned with in this report consists of:

Crown Granted mineral claims RAINY DAY Lot 379 and OCEAN WAVE Lot 303
Mineral Lease M20 covering claim ORPHAN BOY
Mineral Lease M13 covering claim BIG BEAR
Located claim J & S #1 Record 5517
Located claim S & J #1 Record 7195
Located claim S & J #2 Record 7196

Additional claims were staked during the time of our presence, on behalf of Canal Mining Ltd.:

Claim SNOWFLAKE #1
Claim SNOWFLAKE #2
Claim SNOWFLAKE #3
Claim SNOWFLAKE #4
Claim FLIPPER #1

These claims, Crown Grants and mineral leases are owned by Canal Mining Ltd. and held by Mt. Agnes Mines Ltd. in option to purchase.

LOCATION AND ACCESSIBILITY

Henderson Lake is situated approximately 35 miles south west of Port Alberni on the west coast of Vancouver Island. The property lies on the south west tip of Henderson Lake. The group, Rainy Day, J & S #1, Snowflake #1 and #2 and Flipper #1 are bordered by the lake.

For the transportation of equipment and supplies there are two alternative routes to the claims. Goods can be transferred at the head of the inlet to a small barge and at high tide be towed across the rapids into Henderson Lake. Or Snug Basin adjoining the northeast end of the inlet can be used as a landing point from which goods can be transported to the claims by way of a logging trail. We consider the route through Snug Basin to be more practical. Satisfactory seaplane service is available for the transportation of personnel.

The topography of the area is abrupt with a predominance of high slopes with a heavy forest growth. The rainfall is estimated to be approximately 120" annually and the climate is mild and so is conducive to year-round field work.

HISTORY AND PREVIOUS WORK

The story of these claims goes back to 1899 and it is possible, even today, to find some traces of the work carried out during that time. The story says that these works were abandoned at the time because the prospectors left for the exciting Klondike-Yukon Gold Rush. From the 1916 B.C. Minister of Mines Report we quote the following from pages 324 and 325:

"This mineral claim is on the East side of Henderson Lake about one mile and a half above the narrows at the outlet of the lake and about two miles from Deep Water Wharf site on Uchucklesit Harbour.

The claim was Crown Granted in 1903 - Rainy Day Syndicate of Victoria, B.C.

There are four mineral bearing deposits striking parallel to each other and occurring as contact deposits in a metamorphosed zone between crystalline limestone and an intrusive hornbladic igneous rock belonging to the Vancouver series as classified by Dawson and Clapp.

Each of these occurrences outcrop near the lake shore and extend in a north easterly direction for considerable distances as shown by tracing the outcroppings which are quite prominent. The rock formation rises from the shore in a series of bold cliffs comparatively bare of underbrush and moss. These deposits are later referred to as ore bodies A.B.C.D.

(ORE BODY A.) outcrops about one hundred and fifty feet from the shore at the immediate contact of crystalline limestone and intrusive igneous rock. The width of this ore body is undetermined as only shallow prospect holes have been made. The mineralization is an association of iron pyrites and some chalcopyrite in a garnet limestone gangue.

(ORE BODY B.) which strikes north easterly and dips vertically, outcrops about one hundred feet north westerly from A. and about twenty-five feet above the normal water-line in Henderson Lake. This deposit fills a fissure in a sheer zone in the metamorphosed rock. The fissure is ten feet wide as proven by a cross-cut adit driven across the ore from wall to wall. The mineralization is chiefly pyrrhotite carrying low copper values. This body has been drifted on for about forty feet in solid ore. The entire length with the face still in ore and winze is sunk to a depth of twenty feet below the floor of the drift, also in solid ore. A cross-cut forty-two feet long is driven from the adit towards the south east to intersect the ore (Body A.) on that level, but has not been continued far enough, although this drive is through metamorphic rock in which hornblende predominates the rock. The north east wall is more or less mineralized chiefly with iron pyrites.

(ORE BODY C.) outcrops twenty feet north westerly from B. at the contact of crystalline limestone and the same belt of igneous rock in which ore Body B. occurs. The strike of the Body C. is north easterly and the dip is nearly vertical. Its width is thirteen feet where it is cross-cut. The mineralization is chalcopyrite, pyrrhotite and some magnetite in a gangue made up of garnet, epidotes, hornblende and crushed limestone. An adit is driven seventy feet along a fault or slip in the igneous rock toward the east with a cross-cut at the end about ten feet to the ore body and thirteen feet across ore and gangue material. This adit is driven nearly parallel to the ore body that is exposed in the cross-cut at the face of the adit. A winze is sunk twenty feet deep in the ore body near the cross-cut and a drift started along the strike of the Deposit.

Although selected samples from this ore body have shown copper contents varying from 4.5 percent to 16 percent, the body as a whole is quite low grade and concentration is advisable to secure a commercial product.

(ORE BODY D.) outcrops along the lake shore about fifty feet north westerly from ore Body C. This outcrop is about forty feet wide, made up of iron pyrites, marcasite, some chalcopyrite, hornblende, epidote and garnet. No work has been done on this ore body except a few prospect holes near the lake shore to determine the mineralization.

Further prospecting and development work should be done on this property because the possibilities are promising. Especially so when considered in conjunction with the low cost transportation which can be by water to any coast smelter direct from the mine workings as soon as a channel is dredged through the narrows which has already been partially done by the Dominion Government. "

In 1956, Canal Mining Ltd., a private enterprise, did some trenching and shallow drilling.

In 1964, exploration was carried out by Alberni Mines Ltd., who assigned the technical job to Alrae Explorations. From the report of their geological engineer, R. Jury, P. Eng., we quote: "The occurrence of magnetite and chalcopyrite in four known zones in the claims are at or near the contact of volcanic and limestone with granodiorite or diorite. Much of these contact zones are obscured by overburden but are quite favourable for location of other magnetic or sulphide occurrences. "

GEOLOGY AND MINERALOGY

The claims are in an area of steeply dipping metamorphosed sediments and igneous rock, with the characteristics of a pneumatolytic metamorphism that originated the recrystallization and reconstruction of the original constituents of the invaded rock with the addition of gaseous transfer of materials from the magma.

The metamorphosed sediments are crystalline limestones classified as Upper Triassic, more specifically located in the middle and lower part of the Vancouver Formation. The intrusive is mainly diorite. We found some granodiorite boulders but could not establish their outcrops of origin. The extrusive igneous is rhyolite. The intrusive seems to be part of the Coast Range batholith.

We observed skarn in shear zones and also epidote, amphibole and pyroxenes. These minerals and shear zones usually give good indications of the possibilities of a metasomatic replacement type of ore deposits.

On the Rainy Day Crown Granted mineral claim, we observed that two small adits have been made exploring showings containing chalcoppyrite and pyrrhotite. We also noticed azurite and malachite.

On the Ocean Wave Crown Granted mineral claim, we found showings with magnetite, chalcoppyrite and pyrite. There is evidence of an old-time shaft that is now caved in and filled with water.

Orphan Boy mineral lease was lightly examined and we observed outcrops rich in magnetite content but no evidence of old workings.

At the Big Bear mineral lease, we noticed that a shaft has been sunk approximately to fifty feet and a drift driven from the bottom of the shaft probably to follow a quartz vein containing chalcoppyrite. The length of this drift is approximately 100' and we could observe that at the end, the mineralization still continues. The walls are completely covered with malachite. There is also a lower adit that is caved and we could not enter it. These showings present, at a first glance, good possibilities of economic ore concentrations.

On claim J & S #1, Mr. S. Prieger had exposed some showings by means of trenching and shallow drilling, and the characteristics are similar to those described in Rainy Day Crown Grant. We observed chalcoppyrite, pyrrhotite and malachite but not azurite.

On located claims S & J #1 and S & J #2 there were different outcrops observed but no evidence of previous work was found. Copper stain is widely spread through almost all the outcrops.

The certificate of analysis, No. V 1674 by T.S.L. Laboratories of Vancouver on random grab samples taken from the property in October 1966, by Mr. R. A. Davey, mining engineer, gives the following values:

	<u>Copper (Cu)%</u>	<u>Nickel (Ni)%</u>	<u>Iron (Fe)%</u>
HL-1	5.65	0.01	44.90
HL-2	0.12	0.03	29.55
HL-3	4.21	0.01	51.20
HL-4	5.27	0.04	14.45
HL-5	2.20	0.02	30.15
HL-6	0.37	trace	28.80
HL-7	12.88	nil	20.85
HL-8	1.11	0.01	17.90
HL-9	2.42	nil	16.70
HL-10	0.43	0.03	9.30

(1)

In our observation, we could see the close relationship between the magnetite and the chalcopyrite showings. Although we do not have sufficient information on the previous magnetic survey, we can deduct from the isogamma contour maps that some anomalous values reveal the presence of very steep, almost vertically dipping magnetic bodies. With a more detailed magnetometer survey it would be possible to detect major magnetic bodies. In order to locate conductive bodies it is necessary to use electro-magnetic methods.

From all the above considerations we can conclude that it is evident that there are large mineralized zones in the area. Concentrations of economic value could be determined by means of a thorough examination.

RECOMMENDATIONS AND ESTIMATED COSTS

As a primary step, base camp accommodations should be established at Snug Basin and the logging road improved to permit the transit of a 4-wheel drive vehicle to the main workings on the Big Bear and Ocean Wave claims.

A systematic sampling of adits and trenches is necessary correlated to a detailed geological mapping with a scale of 1" : 50'. The previous magnetometer survey should also be completed.

Due to encouraging factors outlined in "Geology and Mineralogy" and in order to definitely establish the locations of potentially economic ore bodies, we strongly recommend an electro-magnetic survey.

The method that should be used here is one that provides the most effective depth penetration and at the same time would not be affected by the abrupt topography. On this basis, from the various electro-magnetic methods available, we are inclined to choose a TURAM survey for this particular area.

In order to prepare the property for geophysical surveying it will be necessary to cut a grid of approximately a total of 20 line miles.

Upon completion of the electro-magnetic survey and the selection of the anomalous areas, a preliminary diamond drilling program will be laid out.

The above recommendations should be carried out under professional supervision and provision should be made for: rehabilitation of old workings for sampling purposes; extensive assaying; adequate progress reports and up-to-date core loggings.

The estimated costs are as follows:

STAGE ONE

Base camp and field accommodations	\$6,000.00
Improvement of access road from Snug Basin to claims	3,000.00
Rehabilitation of old workings for sampling purposes	4,500.00
Linecutting of approximately 20 line miles	2,000.00
Magnetometer and TURAMEM Survey, including rental of equipment, senior operator and 2 field helpers	10,000.00
Living expenses for an average crew of 4 men for 3 months	1,500.00
Professional fees for supervision of work, geological mapping, sampling, assaying and reporting	4,000.00
Transportation of equipment, supplies and personnel	2,000.00
Contingencies	<u>2,500.00</u>
Total	\$35,500.00

STAGE TWO

Preliminary diamond drilling approximately 3,000 feet	\$30,000.00
Crew living cost	1,500.00
Professional fees for supervision of work, assaying, core-logging and reporting	3,500.00
Transportation of equipment, supplies and personnel	2,000.00
Contingencies	<u>2,500.00</u>
	\$39,500.00

STAGE ONE	\$35,500.00
STAGE TWO	<u>\$39,500.00</u>
TOTAL	<u><u>\$75,000.00</u></u>

Respectfully submitted,


E. J. Arteaga, B. Sc.

March 27th, 1967

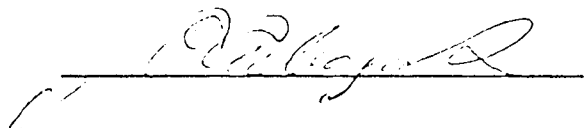
CERTIFICATION

TO WHOM IT MAY CONCERN:

I, Enrique J. Arteaga, of the City of Vancouver in the Province of British Columbia, hereby certify that:

- 1) I reside at 506 - 1616 Pendrell Street, Vancouver 5, B.C.
- 2) I am a B. Sc. graduate geologist of the National University of Cordoba, Argentina in 1962 and that I have been practising my profession as a United Nations geologist for three years in South America and with Seigel & Associates and J. Foster Irwin for almost two years in Canada, mainly in the B.C. area and the Northwest Territories.
- 3) The information contained in this report is based on personal experience in the area and on literature published by the B.C. Department of Mines and on previous reports by Mr. Rae G. Jury, P. Eng., and of Mr. R.A. Davey, Mine Engineer.
- 4) I do not have, nor do I expect to receive, either directly or indirectly, any interest in the above properties, or in the securities of Mt. Agnes Mines Ltd. (N.P.L.) or Canal Mining Ltd.

DATED this 27 day of MARCH, 1967 at Vancouver, B.C.



Certificate of Assay

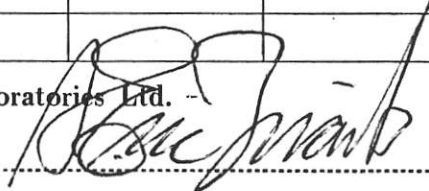
TO: Viva Ventures,
916-1175 Douglas St.,
Victoria, B.C.

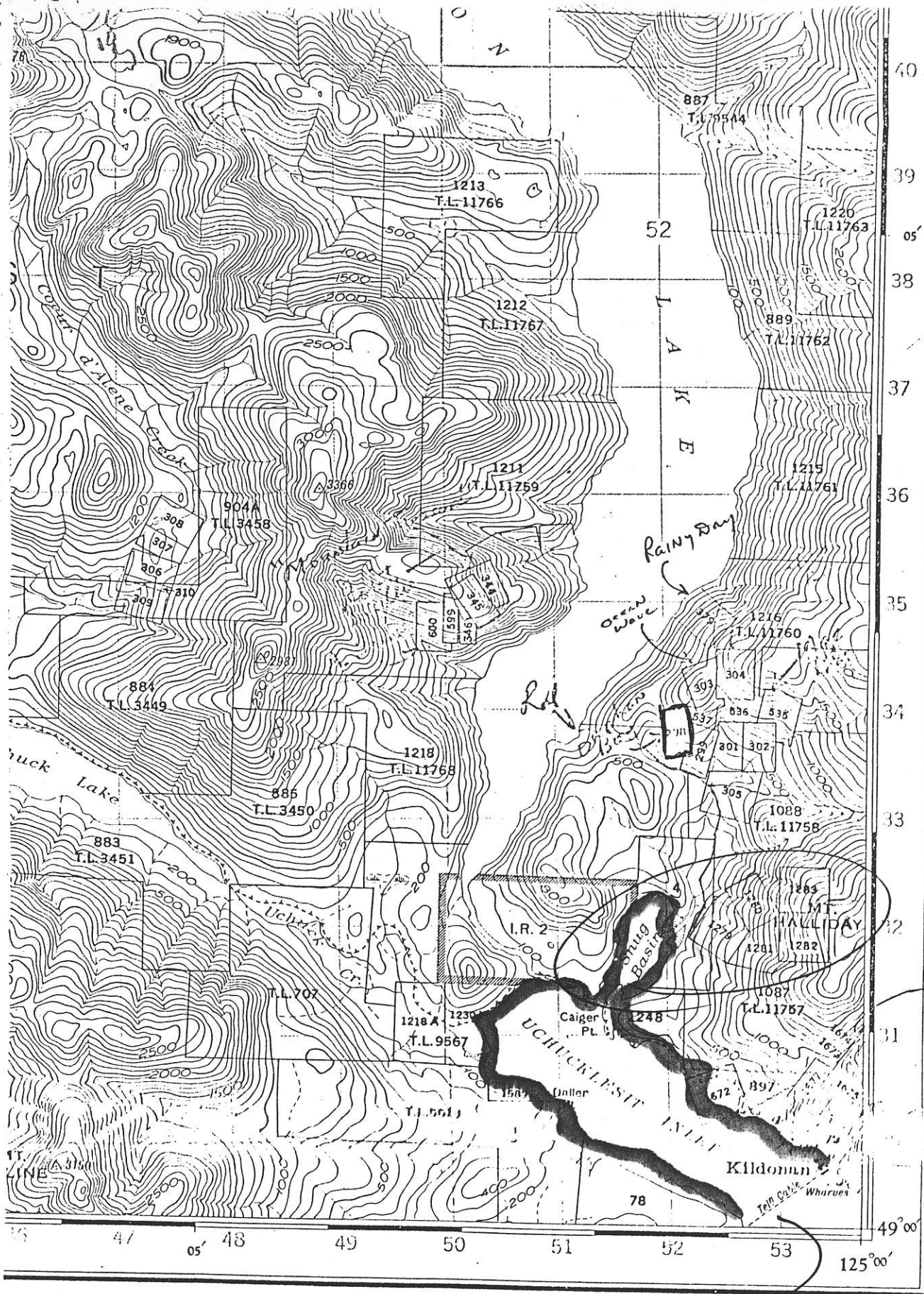
PROJECT No. _____
DATE: Jan. 14/82
File No. 2-10

*Last Canyon
Kennedy Lake*

SAMPLE No.			Ag oz/ton	Cu %	Au oz/ton
GK-B-Creek Pyrite (LC-2)			.01	.015	.001
GK-80-100 Torse 12' Adit Oct. 3/80			.02	.115	.002
Torse 200' Above Adit 50' South of ck.			.60	2.360	.006
GK-80-101 Stock Pile 3 Way x Timber Dam + 30			.01		.030

*This shows there is some gold & silver
with the massive Pyrite on Boulder Creek.
Also Gold values with Chalcopyrite on
Torse Claims.*

MINE-EN Laboratories Ltd.
CERTIFIED BY: 



AM

→ Alberni Canal
1/2 Mile