

MAP NO.: ASSESSMENT REPORT X
105 D 11 PROSPECTUS
CONFIDENTIAL X
OPEN FILE

DOCUMENT NO: 092565
MINING DISTRICT: Whitehorse
TYPE OF WORK: GEOLOGICAL EVALUATION

REPORT FILED UNDER: Weland Mines Ltd

DATE PERFORMED: December 27, 28, 1967

DATE FILED: February 3, 1968

LOCATION: LAT.: 60°43'N

AREA: Fish Creek

LONG.: 135°03'W

VALUE \$:

CLAIM NAME & NO.: JAP 5-13, 24-29

WORK DONE BY: F.L. Croteau

WORK DONE FOR: Weland Mines Ltd

DATE TO GOOD STANDING:

REMARKS: Adjoins # 192 PUEBLO

A property examination in December, 1967 by F.L. Croteau and G. Wing showed that the claims adjoins the Pueblo deposit, and are mostly overburden covered. Aeromagnetic anomalies and a contact between Triassic sediments and the Whitehorse batholith lie beneath or near the claims.

PRELIMINARY GEOLOGICAL REPORT

ON

CERTAIN CLAIM - "JAP GROUP"

WHITEHORSE, YUKON TERRITORY

by

**F. L. Croteau, B.Sc.
P. Eng. P.Geol.**

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**Vancouver, B.C.
February 3, 1968.**

INTRODUCTION

Acting under instruction from Mr. W. Davison, President, Weland Mines Ltd., I have carried out a preliminary geological appraisal of a number of claims in the "Jap" group which that company holds near Whitehorse in the Yukon Territory. The examination was carried out during the period December 27th and 28th. A light cover of snow was present during the time and close inspection of surface features was limited, this however presented no marked problem due to the writer's previous knowledge of the area. Weather conditions were good. Mr. George Wing of Whitehorse accompanied the writer during the examination.

LOCATION AND ACCESS

The claims are located approximately six miles north-westerly from the town of Whitehorse in the Yukon Territory. The properties are within three miles of the Alaska Highway and are served by good secondary roads. The Whitehorse area is served by good road, railway and airline systems.

Communication facilities are excellent. Recent mining activity in the general area will serve to increase the efficiency of all communication and transportation media. Normal mining supplies can be secured in Whitehorse but heavier equipment must come from Vancouver, Edmonton or other large centres.

The claims are located close to electric power facilities.

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CLAIMS

The claims comprise a portion of the "Jap" group and were staked in mid-December 1967. The claims are numbered as follows:

"Jap" 5, 6, 7, 8, 9, 10, 11, 12, 13, and 24, 25, 26, 27, 28, 29

There are 15 claims in the holdings of Weland Mines in this area.

A well located and surveyed base line is located within and traverses the claim block in a north-south direction. Some overstaking may exist in the vicinity of "Jap" 11, 12 and 13 but this was done to protect fractional claims in areas where tie-lines from older staking were not clearly defined.

ACREAGE

There are 700 acres more or less, within the confines of the claim block.

TITLE

The claims are held by Weland Mines Ltd., under regulations of the Quartz Mining Act of the Yukon Territories. The claims are in good standing and are free and clear of any encumbrance.

HISTORY

The claims are located on the northerly end of a trend known as the "Whitehorse Copper Belt." This belt has been known and exploited since early in the 19th century and of recent date is the source of ore supply for copper production at New Imperial Mines Ltd. The subject

claims lie south westerly from the "Pueblo" property which was in production until 1917 when a serious cave-in caused cessation of operations. The Pueblo was reported to have made a net profit of \$576,532.00 during its period of operation.

Fluctuating copper prices and the difficulties of transportation have resulted in erratic and limited exploration and development in the Yukon over the past 50 years. Those conditions have vastly improved and future efforts could provide interesting developments in many mining areas of the Yukon.

New Imperial Mines Ltd., is conducting a 2500 ton per day operation on ore from a central portion on the "Whitehorse Copper Belt" and if present planning is continued will be carrying out open pit mining operations on one of its properties in the vicinity of the "Jap" claims by 1970.

TOPOGRAPHY

The claim area lies to the west of the Yukon River and south of the Takhini River. The surrounding area is moderately rolling with an occasional deeply incised creek channel. The claim area itself is in a low lying portion of the drainage area of a local creek. Rock exposures are extremely limited and overburden will be moderate to heavy.

Water supply in the area is good and mining timber exists on the higher ground nearby. Lumber for extensive building operations would be available at Whitehorse.

Precipitation in general must be classed as light. Temperature ranges can be quite broad and vary between a summer average maximum of 75°F. to a winter low of -40°F.

AREAL GEOLOGY

The most prominent feature of the "Whitehorse Copper Belt" is a north-westerly trending oval shaped granitic stock of Cretaceous age. The intrusive body encompasses an elongated complex of limestone and other sedimentary rocks. The zone is about eleven miles long and two miles wide.

The granitic intrusion into the limestone has given rise to numerous skarn deposits. Metamorphism is quite common. The ore deposits occur predominantly along the easterly margin of the limestone belt.

Numerous dykes of acid to intermediate composition cut the hornblende granites near their contact with the older rocks.

Mineralization is largely bornite, chalcopyrite, malacite, azurite, cuprite and other copper oxides. Some molybdenite occurs in the area. Gold and silver are present in recoverable amounts. Pyrite and pyrrhotite are quite sparse in occurrence. Hematite is quite prominent in the Pueblo mine and in its vicinity.

STRUCTURAL GEOLOGY

The Triassic and Jurassic sedimentary rocks are generally folded along north-westerly trending axes. These folds have been intruded by granitic magmas and have been broken by faulting. The strike of

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the main faults is northerly while minor faulting occurs in an easterly direction.

The formation of the mineral lodes has definitely been related to the faulting and folding action in the area.

CLAIM GEOLOGY

Due to the scarcity of rock outcrops the geological conditions existing on the claim block can only be answered by geophysical surveys, diamond drilling or by the extrapolation and inference from known conditions on adjoining properties. The writer due to lack of other controls has chosen the latter course.

The Pueblo orebody occurred in limestone close to a granodiorite contact and was cut by granite and porphyry dykes. There was distinct evidence of metamorphism present. This orebody lies towards the north easterly corner of the claim block under review.

The "War Eagle," a potential open pit mining operation, lies to the north east. The orebody on this property occurs in a metamorphosed succession of limestones, cherts and quartzites. The sediments have been replaced by various types of skarn and locally the complex has been cut by numerous dykes of feldspar porphyry. Granodiorite contacts are present on this claim block.

The same general relationship of sediments and intrusives that is common to the Whitehorse Copper Belt appears to exist in the northerly extremity and can be postulated to occur in the vicinity or on the subject claim block. To substantiate this to some effect, reference can be made to the Dominion

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Government aero-magnetic maps covering the claim area. Pronounced anomalies occur east and north of the "Jap" claims. These anomalies are similar in character to the many that are developed along the southerly extension of the "Belt" in known productive areas. We can infer from this that the geological and mineralogical characteristics along the "Belt" have a common denominator.

Geological maps of the area show a potential contact area to exist along the easterly portion or boundary of the claim block.

ECONOMIC GEOLOGY

It is a matter of specific record that a number of producing mines have existed, at various times in the last 50 years, on the "Whitehorse Copper Belt." These have for various reasons such as the price of copper and complexities of the ore had varied and intermittent lives. Today the bulk of the former producing properties have been assembled under one company, New Imperial Mines Ltd., which is planning to systematically mine the presently known ore occurrences.

New Imperial Mines Ltd., of recent date has proven the existence of a very substantial occurrence of deep ore on one of its Whitehorse Copper Belt properties and thus has forced a new appraisal of ore potential on the "Belt".

The old properties have shown various combinations of copper oxide and sulphide ores with iron ore, on occasion, combining with the copper bearing materials. Low values in gold, silver and molybdenite are also present.

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The property being reported upon lies in reasonably close proximity to former producers and geologically must be considered to form part of the "Whitehorse Copper Belt." No specific surface evidence can be derived to prove this contention but the location of the claims and the potential that might be derived from such ground warrants further investigation. Copper is in short supply in world markets and all indications show that this condition is unlikely to be corrected for a number of years.

CONCLUSIONS

1. The claims held by Weland Mines Ltd., must be classed as a reasonable "location bet" on the Whitehorse Copper Belt.
2. Rock outcrops are extremely sparse on this ground and thus will not allow a comprehensive geological evaluation of the surface.
3. Aero-magnetic surveys flown under the auspices of the Canadian Government show the development of significant anomalies in the vicinity of the claims.
4. Sub-surface exploratory methods are necessary for proper evaluation of the subject acreage.
5. The claims are located in an area where economic production of copper has taken place in past years.

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RECOMMENDATIONS

1. That a comprehensive geophysical survey be conducted on the ground. This to embrace both magnetometer and electro-magnetic techniques.

2. Depending on results of the geophysical survey a program of diamond drilling would be the next order of procedure.

An estimated cost to carry out the above recommendations would be as follows:

Phase 1 - Geophysical

Line cutting and general preparation	\$ 2,000
Magnetometer survey	1,000
Electro-magnetic detail	2,500
Supervision and engineering	1,500
Camp, transportation and incidental	1,000
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Total	\$ 8,000

Phase 2 - Diamond Drilling

Diamond Drilling 3000 feet @ \$15 per foot	\$45,000
Road construction to drill sites	4,000
Camp, transportation and general maintenance	4,500
Supervision and engineering	3,000
Contingencies	5,000
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Total	\$61,500

Overall cost - both phases \$69,500

Respectfully submitted,



F. L. CROTEAU, B.Sc.
P.Eng. P.Geol.

Vancouver, B.C.

February 3, 1968.

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CERTIFICATE

I, F. L. CROTEAU, of 540 Burrard Street, Vancouver in the Province of British Columbia, certify that:

1. I am a graduate of the University of Saskatchewan and hold the degree of B.Sc., in Mining Geology. Year of graduation was 1936.
2. I am a Registered Professional Engineer in the Province of British Columbia and a Registered Professional Geologist in the Province of Alberta.
3. I have practised my profession in Canada, the United States and the West Indies since 1936.
4. I have personally examined the claims covered by this report and certify them to be properly staked.
5. I have no interest direct or indirect in the lands or securities held by Weland Mines Ltd.
6. The findings of this report are based on personal examination, previous knowledge of the main area, and the study of available geological and aeromagnetic maps and governmental reports on the area.


F. L. CROTEAU, B.Sc.
P.Eng. P.Geol.

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JAP # 5

JAP # 11

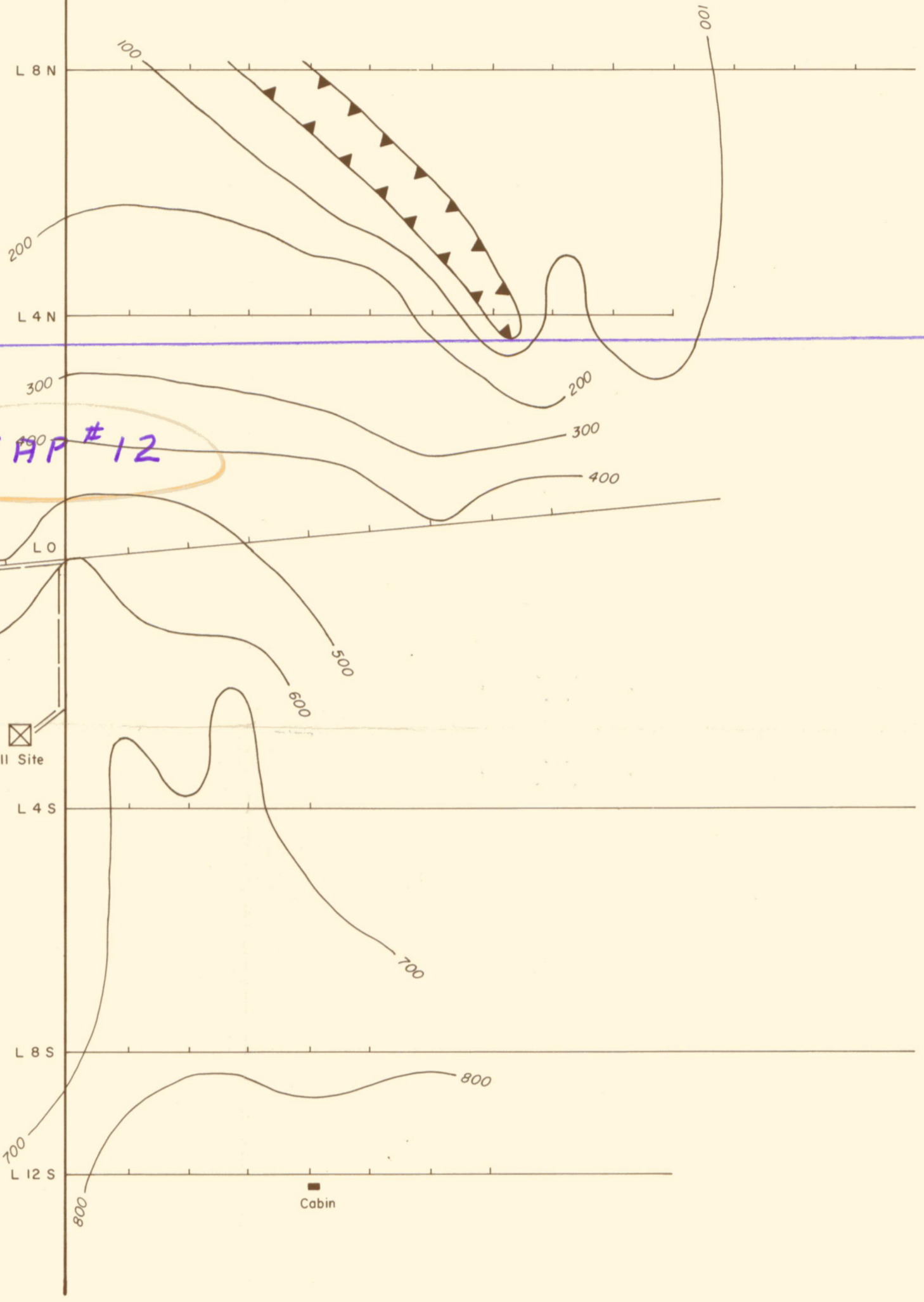
JAP # 7

JAP # 12

Road to Drill Site

Drill Site

Cabin



LEGEND :

- 100 ——— MAGNETIC CONTOUR
- ▲▲▲ MAGNETIC DEPRESSION (LESS THAN 0 GAMMAS)

WELAND MINING LTD. (N.P.L.)
 WHITEHORSE COPPER BELT
 JAP - FU CLAIM GROUP
MAGNETOMETER SURVEY
 CONTOUR INTERVAL 100 GAMMAS



MARCH 28, 1968

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