

009912

92 T / 15 E

15 / 1. E - 4

GEOLOGICAL REPORT
on the
CANNEL CREEK PROPERTY
KAMLOOPS MINING DIVISION

YAMOTO INDUSTRIES LTD. (NPL)

~~94I 14E~~ 120° 50° NE

92I / 15E

CANNEL CREEK PROPERTY

January 13, 1976
Vancouver, B.C.

Laurence Sookochoff, P.Eng.
Consulting Geologist

TABLE OF CONTENTS

SUMMARY	20
CONCLUSIONS	21
RECOMMENDATIONS	22
INTRODUCTION.....	23
LOCATION.....	23
ACCESS.....	23
TOPOGRAPHY.....	23
WATER, POWER AND TIMBER.....	24
TRANSPORTATION AND SUPPLIES.....	24
PROPERTY.....	24
OWNERSHIP.....	25
AREA HISTORY.....	25
PREVIOUS WORK.....	25
GENERAL GEOLOGY.....	31
PROPERTY GEOLOGY.....	31
MINERALIZATION.....	32
RESULTS OF PREVIOUS WORK - SAMPLING..	32
MAGNETIC SURVEY.....	33
VLF-EM SURVEY.....	33
GEOCHEMICAL SURVEYS.....	33
Copper:	33
Gold:	34
Mercury:	34
AIRBORNE MAGNETOMETER SURVEY	35
RECOMMENDED EXPLORATION PROGRAMME	35
COST OF RECOMMENDED EXPLORATION PROGRAMME.....	36
REFERENCES.....	37
CERTIFICATE.....	38

ILLUSTRATIONS

	Scale
PROPERTY LOCATION	1" = 10,000 feet
SOIL GEOCHEMISTRY - Copper	1" = 400 feet
SOIL GEOCHEMISTRY - Gold	1" = 400 feet
SOIL GEOCHEMISTRY - Mercury	1" = 400 feet

SUMMARY

The Cannel claim, held by Yamoto Industries Ltd (NPL) consists of 20 units situated 14 miles northwest of the City of Kamloops within the Kamloops Mining Division in south-central British Columbia.

The property is accessible by the gravelled Lac du Bois and Pass Lake roads.

The topography is relatively gentle throughout with elevations ranging between 3,700 feet and 4,400 feet.

Sufficient water is available for all phases of exploration.

Diesel electric power will be required for initial phases of development. Hydroelectric power would be available if future requirements warrant it.

Railroad facilities are available in Kamloops where most supplies are obtainable.

Mineralization on the property is in quartz stringers within dark grey porphyry dykes cutting the Cache Creek group and are up to 80 feet wide.

Select grab samples from the property assayed up to 0.23 oz Au/ton, 1.63 oz Ag/ton and 1.30% Cu.

CONCLUSIONS

1. The canal claim is in a favorable geological environment conducive to potential economic mineralization.
2. The property in part covers the old Allies Group which contains known mineralization. Galena, chalcopyrite and bornite, along with gold values have been reported to be associated with quartz veins and stringers occurring in porphyry dykes.
3. An examination of government aeromagnetic maps by Mark, a director of the company, has indicated two cross faults which intersect on the property in the vicinity of the Allies workings.

From a ground magnetic and a VLF-EM survey on the property, Mark also concludes that four conductive

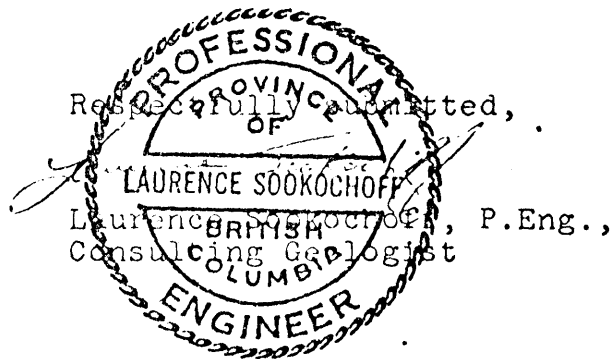
zones that have at least a partial correlation with magnetic lows increases the probability of sulphide mineralization.

4. From the general description of the mineralization, favourable geology and present economic conditions the Cannel claim is an attractive exploration target.

RECOMMENDATIONS

It is recommended that an initial phase of exploration, consisting of geological mapping, geochemical and geophysical surveys, and limited diamond drilling be carried out on the property.

It is also recommended that Yamoto Industries Ltd (NPL) allocate the sum of \$54,000.00 to implement and execute the recommended exploration programmes.



January 13, 1976

Vancouver, B.C.

INTRODUCTION

The following report is based on information obtained by the writer during an examination and preliminary geologic survey of the property during 1973; from a study of available data; from Government and other publications and from the writer's personal experience in, and knowledge of, the area.

LOCATION (50° - 120° NE)

The claim is located approximately 14 miles northwest of Kamloops, B.C. The property lies within the Kamloops Mining Division in south-central British Columbia.

ACCESS

The property is accessible by the gravelled Lac du Bois and Pass Lake roads.

TOPOGRAPHY

The main topographic features of the area is of broad upland areas separated by deeply incised valleys. The property is located on the eastern flank of the Tranquille Plateau

which forms part of the belt of Interior Plateaux.
The elevation of the property varies between 3700 and
4400 feet. The relief is approximately 700 feet.

WATER, POWER AND TIMBER

Sufficient water is available for all phases of exploration
from Cannel Creek, which flows through the property. Diesel
electric power will be required for initial phases of
development. Hydroelectric power would be available in the
area if future requirements warrant it. Finished lumber
is available from local sawmills.

TRANSPORTATION AND SUPPLIES

Railroad facilities are available in Kamloops, fourteen
miles southeast, where most supplies are procurable.

PROPERTY

The property is comprised of one claim consisting of 20 units
held by location as follows:

<u>Claim Name</u>	<u>Record Number</u>	<u>Expiry Date</u>
Cannel	52 (6)	June 17, 1976

OWNERSHIP

The claim is owned by Yamoto Industries Ltd (NPL) of Vancouver, British Columbia.

AREA HISTORY

The deposits associated with the Iron Mask Batholith were initially discovered during the late 1800's, and early 1900's and generally worked to around 1930. The Iron Mask Mine produced some 5,194,871 pounds of copper, 3,630 ounces of gold and 41,292 ounces of silver during the period between 1901 and 1928. This was by far the largest production for the area and was extracted from 189,230 tons of ore.

In recent years the area has seen intermittent exploration of varying degrees of intensity.

PREVIOUS WORK

This property in part was previously known as the Allies Group. An excerpt from G.S.C. Memoir 249 on the Allies Group is as follows:

"The Allies group of eight claims, owned by E.T. Batchlor of Kamloops, is situated near the head of Cannel Creek, a tritutory of Watching Creek, about 24 miles by road from Kamloops. The property was prospected extensively by Vancouver interests under the direction of D.B. Sterritt of Kamloops because of the discovery of high grade gold ore. This discovery was later proved to consist of float, but considerable work was done to try and find similar ore in place.

The claim lies in a small basin near the head of the creek where older rocks are exposed, capped by relatively flat-lying Tertiary basalt. The older rocks exposed consist of serpentine cut by dykes of grey porphyry. The porphyry dykes do not, so far as has been observed, cut the basalt. Quartz veins and stringers within the porphyry carry pyrite, galena, and chalcopryite, and constitute the ore.

At the original discovery extremely large blocks of porphyry projecting from the surface of the ground give the appearance of an outcrop, but a shaft with a drift underneath these in boulder clay showed the blocks to be float.

The porphyry at this point is a dark grey, dense rock with phenocrysts of hornblende and feldspar. It carries considerable quartz in small veins and stringers. Two samples across stringers of 5 inches and 8 inches are reported to have yielded 1.42 ounces and 1.32 ounces of gold to the ton respectively.

From this discovery or No. 1 shaft float consisting of brownish earth with quartz and blocks of porphyry was followed westerly up the hill. This brown earth where panned is reported to have shown many colours of free gold. A group of pits 300 feet west of the discovery shaft prospected a small ridge showing this brown earth with quartz and porphyry, and a shallow shaft proved that the material was float resting on top of the clay.

About 200 feet farther west pits were made on a similar showing where the brown soil with quartz and porphyry was thickest. This rich material was not found farther west so an adit was started into the hill and driven 175 feet. It penetrated blue clay. A second adit was then commenced 240 feet westerly from the first adit, and was driven 105 feet into the hill with a crosscut 30 feet long at the face. This working encountered serpentine. A crosscut driven northwest at 105 feet encountered a porphyry dyke, lighter in colour than the ore porphyry at the original discovery and carrying very little

quartz or sulphide minerals.

A third adit was started about 50 feet northwest of the face of the second adit, and was driven southwesterly into the hill 158 feet. It penetrated 3 feet into a dark grey porphyry. A crosscut was run 20 feet northwest at 105 feet, but failed to encounter the porphyry.

A shaft was sunk in the overburden in the area lying between the face of the second adit and the portal of the third. This encountered the same band of porphyry as appeared in the adit below. A crosscut was run for 13 feet in the glacial drift on top of the porphyry, but did not disclose high-grade ore.

Some 1,500 feet southwest of the discovery shaft a second group of workings has located porphyrydykes with low-grade ore. Between the two groups of workings the surface is covered with fairly thick superficial deposits, but near the southwest workings a ridge of float similar to that of the original discovery, but much lower in grade, was found. A series of pits showed the source of this float to lie higher up the hill, and an adit 215 feet along was then driven southwest into the hill. It encountered alternating serpentine and porphyry. The largest of these porphyry bodies

is 80 feet wide, with the others ranging to 2 or 3 feet. Although some of this rock appears identical with that of the original discovery, only low values were obtained. A cut in the hillside above the adit shows heavily silicified and pyritized rock, but assays showed only low grade values.

The source of the high-grade float at the No. 1 shaft has, consequently not been found. It seems highly probable that the float originated within the basin, which is not large. However, a considerable part of it is covered with gravel, sand and clay, thus making the task of finding the point of origin of this rich float difficult. The porphyry dykes found at the different showings, although differing in appearance, are probably related."

In 1967 a portion of the Allies Group was staked as the Bob claims and were held by South Oak Mines Ltd (NPL). Additional claims were staked adjacent to and surrounding the Bob claims and were known as the Dog Group.

In 1969 cat trenching was carried out around the old Allies workings.

In January and February 1973, Geotronics Surveys Ltd. performed a ground magnetic and VLF-EM Survey on the Dog Group.

In May 1973 a limited geochemical survey and some geological mapping was done.

The general area in the vicinity of the Iron Mask Batholith has seen intermittent exploration over the years. Production from the Iron Mask Mine totalled 5,194,871 pounds of copper; 3,630 ounces of gold and 41,292 ounces of silver from 189,230 tons of ore between 1901 and 1928.

The property is underlain by Palaeozoic rocks of the Cache Creek group, mainly serpentine which has been intruded by grey porphyry dykes which contain pyrite, galena and chalcopyrite mineralization. An Iron Mask intrusion occurs on the north side of Kamloops Lake and is eight miles south of the property.

The property was originally explored for gold during the 1920's and early 1930's. There has not been any extensive exploration carried out on the property since that time.

A ground magnetometer and VLF EM survey was completed over a portion of the property by Geotronics Surveys Ltd in 1973.

A limited geochemical survey and geological mapping was also completed over a portion of the property during 1973.

A government airborne magnetometer survey over the property area reveals two intersecting structures which cross on the Cannel claims.

GENERAL GEOLOGY

The geology of the area is shown on Maps 886A Nicola (East Half) of the Geological Survey of Canada. The area is underlain by the volcanic sequences of the Miocene Kamloops Group and the Upper Triassic Nicola Group which have been intruded by the elliptical-shaped Iron Mask Batholith. The rocks comprising the batholith are syenites, monzonites, diorites and gabbros and are usually deficient in quartz and orthoclase. Magnetite and apatite are present in most of the rocks which are gabbros and diorites. A number of mineralized occurrences including the Afton orebody are associated with the batholith.

The batholith also outcrops on the north side of Kamloops Lake where to the north are mainly Miocene Kamloops volcanics with windows of the Carboniferous Cache Creek group.

PROPERTY GEOLOGY

Underlying much of the Cannel claim are rocks of the Carboniferous Cache Creek group which occur as a "window" within the Tertiary volcanics. The group in this area consists of mainly serpentine with argillite, quartzite, hornstone, limestone, sheared conglomerate, breccia and greenstone. The units are trending northwest with varied dips.

Cutting the Cache Creek rocks but not the Kamloops volcanics are light grey and dark grey porphyry dykes. The dark grey porphyry carries considerable quartz with gold mineralization in small veins and stringers.

MINERALIZATION

The mineralization on the Dog group of claims is of pyrite, chalcopyrite, bornite, galena and gold within quartz veins which occur within the dark grey porphyry dykes.

RESULTS OF PREVIOUS WORK

SAMPLING

Grab samples taken from trench cuts to the south of the main workings assayed 0.68% Cu, 0.058 oz/Au, 0.5802 oz/Ag and 0.13% Pb.

Grab samples from the main workings selected by Tough in 1973 assayed as follows:

	<u>% Cu</u>	<u>Ag oz/ton</u>	<u>Au oz/ton</u>
1.	0.67	0.58	0.058
2.	0.46	0.45	0.08
3.	1.30	1.63	0.23
4.	0.07	tr.	0.07

The writer took grab and chip samples from the dumps and from outcrops.

The only visual mineralization in these samples was occasional pyrite. The assays ranged from Tr. to 0.05 oz/Au.

MAGNETIC SURVEY

Mark, a director of the company, in his report on the magnetic survey of the Dog Group, concludes that broad magnetic lows appear to be reflecting the Cache Creek rocks and smaller magnetic lows within the broad lows correlate with zones of mineralization.

VLF-EM SURVEY

The conductive zones as outlined by this survey may be either shear or fracture zones as well as magnetite-mineralized rocks. Some of these conductive zones have at least partial correlation with magnetic lows. Mark states that this correlation increases the probability of sulphide mineralization.

GEOCHEMICAL SURVEYS

Copper:

The results of this survey were very informative in that a definitive northwesterly trending anomaly, with values ranging from 20 to 57 ppm Cu. within a background of 10 ppm

indicates the trend towards the source of the large blocks of float or subsurface bedrock mineralization. The anomaly covers the area of the main zone as well as being adjacent to the area of the northwest workings.

The magnetic survey indicates a series of magnetic lows within the copper geochemical anomaly.

A second copper anomaly trends northwesterly from below the main workings toward the southwest workings. There is also a magnetic low in the area of the southwest workings.

Gold:

The general anomalous zone as outlined by the gold values in ppb correlates with the anomalous copper zone-with the gold anomaly to the northwest of the main zone bounding the copper anomaly to the north.

The main anomaly is centered on and south of the main workings and trending to the south and southwest to the southwest workings.

Mercury:

Selected samples over a localized area around the main workings were checked for mercury to determine the possible effect of a halo from the porphyry intrusions. This could have helped

AIRBORNE MAGNETOMETER SURVEY

The government aeromagnetic survey over the property area shows two lineations, one of which strikes northwest and may be a fault contact. The rocks underlying the Tertiary volcanic capping are felt to be Cache Creek sediments to the northeast of the fault contact and possibly Iron Mask intrusive or rocks of similar magnetic intensity to the southwest. The other lineation is interpreted by Mark to be a fault striking northeast with it crossing the aforementioned fault contact in the area of the Allies workings within the Dog Group.

RECOMMENDED EXPLORATION PROGRAMME

As the previous generalized soil and geophysical surveys were successful in outlining areas of potential mineralization more detailed and expanded surveys are warranted.

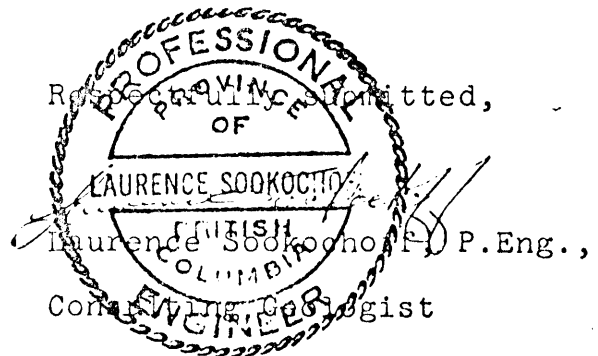
In conjunction with the above surveys, detailed geological mapping should be carried out to aid in the interpretation of the surveys.

Upon the successful completion of the initial exploration program, areas of correlative significance would be tested by diamond drilling.

COST OF RECOMMENDED EXPLORATION PROGRAMME

Geologic mapping	\$ 5,000
Geophysical Survey	4,000
Geochemical Survey	6,500
Diamond drilling 2,200 ft at \$12/ft	26,400
Assaying	3,500
Engineering and Supervision	4,600
Contingencies	4,000
	<hr/>
	\$54,000
	<hr/> <hr/>

It is estimated that the recommended exploration programme would take three months to complete.



January 13, 1976

Vancouver, B.C.

REFERENCES

- Cockfield, W.E. Geology and Mineral Deposits of Nicola Map-Area, British Columbia, Memoir 249, G.S.C. 1961
- Mark, D.G. Geophysical Report on the Ground Magnetic and VLF-EM Survey and the Government Aeromagnetic Survey, Dog Claim Group, January-February 1973.
- Saleken, L.W. Preliminary Report, Dog Group Kamloops, M.D., B.C. South Oak Mines Ltd (NPL) February, 1970.
- Sookochoff, L. Summary Report on the Cannel Creek Property, for Bon-Val Mines Ltd (NPL) July 6, 1973.
- Tough, T.R. Geological Report on the Cannel Creek Property for Bon-Val Mines Ltd (NPL) April 2, 1973.

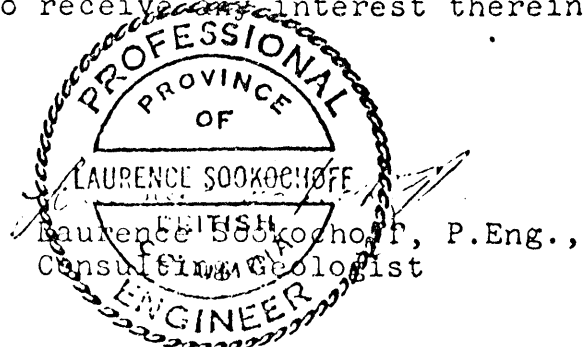
CERTIFICATE

I, Laurence Sookochoff, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geologist and an associate with T.R. Tough & Associates Ltd., with offices at 500-1075 Melville Street, Vancouver, B.C.

I further certify that:

1. I am a graduate of the University of British Columbia (1966) and hold a B.Sc. degree in Geology.
2. I have been practising my profession for the past ten years.
3. I am registered with the Association of Professional Engineers of British Columbia.
4. The information for the accompanying report is based on a personal examination of the property during 1973 and from Memoir 249 by the Geological Survey of Canada.
5. I have no direct interest or indirect interest whatsoever in the property described herein, nor in the securities of Yamoto Industries Ltd (NPL) and do not expect to receive any interest therein.



January 13, 1976