

I Geophysical Report
II Road Claims at Rupert Arm,
50° 127° N.E.
III J. M. Black, P. Eng.
IV Western Canada Steel Ltd.
V June 14, 29 & Sept. 11, 12, 1967

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GEOPHYSICAL REPORT ON ROAD CLAIMS

by J. M. Black, P.Eng.

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ROAD CLAIMS

INTRODUCTION

These claims were reported on in 1964 (see geological and geophysical report #567, Trey Claims). They were resurveyed in 1967, using electromagnetic equipment. The survey was made, using a Minigun, Type 1681, #24, made by ABEM. It operates at a frequency of 3520 cycles per second. The oscillator and receiver were joined by a 200' cable. The receiver gives in-phase and out of phase components, more or less than the norm established for a neutral background. One man carried the oscillator and another carried the receiver and read it. The location of the readings shown on the accompanying figure is the mid-point of the cable, 100' from the receiver.

Traverses were made along a road in the northern part of the claims, along the southern limit of the claims and also along the location line of the claims.

LOCATION & ACCESS

The claims are on the north shore of Rupert Arm about 2½ miles west of the head of the Arm. They are on a moderate slope that extends up from the beach. A private logging road from Port Hardy crosses the northern part of the claims.

ELECTROMAGNETIC RESULTS & INTERPRETATION

The readings obtained are shown on the accompanying figure. The in-phase readings range from 90 to 160, i.e. from 10% less than background to 60% greater. This upper figure is the limit of reading of this instrument and some of the readings exceeded 160 by an undetermined amount. Out of phase readings range from -2 to +50 or from 2% less than background to 50% greater.

In the north along the road, the in-phase readings are almost uniform, ranging from 106 to 110. Such readings indicate a lack of conductivity. The out of phase readings vary over a somewhat greater range from -2 to +5.5. The positive readings also indicate lack of conductivity. The small negative readings in the west suggest a slight increase in conductivity.

Along the location line the readings are less uniform. The in-phase is 125 at the south end and north of this are three readings of less than 100. The two lowest (90 and 92) could suggest the presence of a conductor but they were taken on the steepest part of the slope where it is 17°. On such a slope, the horizontal distance between the oscillator and receiver is substantially less than 200'. Thus, this shortened distance causes a similar effect, as if the conductivity of the rocks between the oscillator and receiver is greater than elsewhere. However, this is misleading unless confirmed by out of phase readings.

The out of phase readings are relatively uniform and are almost the same as background, except in the south where they are appreciably higher.

These do not confirm a higher conductivity at the points where the in-phase readings are 90 and 92. The significance of the high out of phase readings is discussed below along with similar readings.

Along the beach the in-phase readings are all higher than background and none is less than 25% greater than background. Some of them are 60% and more, greater than background. Such readings generally indicate high resistivity but, since magnetite is known to occur here, it is concluded that the effect of the electrical current is nullified by the local magnetism and that the high readings do not indicate high resistivity but do confirm widespread occurrence of magnetite.

The out of phase readings, with two exceptions, are also higher than background. These generally indicate a lack of conductivity. This suggests that the magnetite present is in veinlets or lenses which are short and separate and provide no continuity. Also, it may indicate that the veinlets are oriented mostly normal to the current between the oscillator and receiver or trend northward and dip steeply.

The exceptional out of phase readings of 0 and -1 are in the west near an intrusive contact and probably reflect a lack of magnetite locally and a conductivity equal to background.

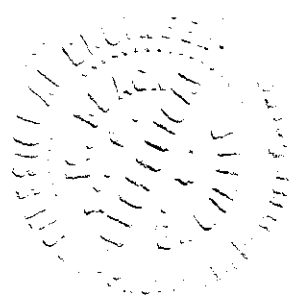
The high out of phase readings at the south end of the location line are similar to those along the south boundary of the claims but are somewhat lower, reflecting the increasing depth of cover to the north and, possibly, different orientation of the magnetite veinlets relative to the direction of the electrical current.

EMPLOYMENT

The field work was done June 14th, $\frac{1}{2}$ day, by J. M. Black and N. Nickerson and June 29th, by J. M. Black and R. Smith. The office work was done September 11th and 12th by J. M. Black.



J. M. Black, P. Eng.
September 12, 1967



DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
TO WIT:

In the Matter of Road #1 & Road #2
Mineral Claims,
Kamloops Mining Division

SUB-MINING RECORD
RECEIVED
OCT 6 1967
M.R. #14486 \$.....
VANCOUVER, B. C.

I, James M Black

of 6026 Carnarvon St Vancouver B.C.

in the Province of British Columbia, do solemnly declare that the following costs were incurred by me in making a geophysical survey and report on Road claims No 1 & No 2.

Salary J.M. Black	June 14 & 29	1 1/2 days @ 50	= 75
	Sept 11 & 12	1 1/2 " @	62.50
M. Nicholson	June 14	1/2 day	8.40
R. Smith	June 29	1 "	16.80
Rental charges on Minigun	1 1/2 days @ 34.65/day		= 51.97
		Total	214.67

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City
of Vancouver, in the
Province of British Columbia, this 6
day of October 1967, A.D.

J.M. Black

Juli Turner

A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia.

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SUB-MINING RECORDER

Figure to accompany geophysical report by
 J.M. Black P. Eng on Road Claims on Rupert Arm
 Nanaimo M.O. dated September 12, 1967.
 Scale 1" = 200'

Electromagnetic Readings

In-phase	out of phase
10106	2 + 35
10000	0 + 25
92	+25
141	-1
1604	+52

J.M. Black

