PETER E. WALCOTT & ASSOC. LT	LOG NO: 28-01 ACTION:	RD.	PAID
	FILE NO:		JAN 2 5 1991 GOVERNMENT AGENT
A	GEOPHYSICAL REPORT		QUESNEL TRANS. #

<u>on</u>

AN INDUCED POLARIZATION SURVEY

McLeese Lake Area, British Columbia 52° 25' N, 122° 11' W N.T.S. 93B/8

Claims surveyed: Guy 1

Survey Dates: Oct.23rd - Nov.4th, 1990

 $\triangleright \Omega^{\circ}$ **Owner:** CUISSON LAKE MINES S E s O E S O **Operator:** GIBRALTAR MINES LIMITED ာင 3 -EO Z 🏱 77 57 BY **E 7** 7 0Z す つ **HH** PETER E. WALCOTT & ASSOCIATES LIMITED Vancouver, British Columbia

DECEMBER 1990

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					a =	200	ft.		W	-483-9

INTRODUCTION.

Between October 23rd and November 4th, 1990, Peter E. Walcott & Associates Limited carried out an induced polarization survey over part of a property, located in the McLeese Lake area of British Columbia for Gibraltar Mines Limited.

The survey was carried out over N 45° E lines that were turned off at 500 foot intervals from a N 45° W baseline, and were chained and picketed at 200 foot intervals.

Measurements (first to fourth separation) of apparent frequency effect (the I.P. response parameter) and resistivity were made every 200 feet along the lines using the dipole-dipole method of surveying with a 200 foot dipole.

The I.P. data are presented in contour form on individual pseudo-sections bound in this report. In addition the first, second and ten point moving average (filter) frequency effect, resistivity and metal factor results are shown in contour form on Maps W-483-1 to 9 that accompany this report.

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PROPERTY, LOCATION & ACCESS.

The property is located in the Cariboo Mining Division of British Columbia and consists of the following claims:

<u>Claim Name</u>	<u>No. of Units</u>	Record No.	<u>Anniversary</u>
Guy 1	18	8991	February 8th

The claim is situated in an area of gentle relief between elevations of 3400 and 4300 feet on the southeast flank of Granite Mountain, some 10 kilometres northeast of the settlement of McLeese Lake, British Columbia.

Access was obtained by means of four wheel drive vehicle along an access road that branches off the Beaver Valley road near Camp Creek.

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PREVIOUS WORK.

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Previous work on the property consisted of unrecorded trenching and diamond drilling carried out by Gunn Mines in the early 70's.

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GEOLOGY.

The reader is referred to the many reports on the area held by Gibraltar Mines Ltd.

Basically the property covers a gentle southeast slope with mainly thin overburden. This slope is underlain by "Granite Mountain phase" rock of the Granite Mountain pluton consisting of about 40% quartz, 45% white feldspar and 10% chlorite altered biotite.

The rock is cut by shear zones and vein systems variously mineralized with quartz, chlorite, sericite, iron carbonate and epidote. Sulphide mineralization - mainly pyrite and chalcopyrite - is generally confined within these alteration assemblages.

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PURPOSE.

The purpose of the survey was to use the I.P. method in an effort to locate additional sulphide mineralization on the property, the presence of which was suggested by the favourable geology and the known mineralization exposed in the trenches.

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SURVEY SPECIFICATIONS.

The induced polarization (I.P.) survey was carried out using a system originally manufactured by McPhar Geophysics Limited of Metropolitan Toronto, Ontario. Measurements with this system are made in the frequency domain.

The system basically consists of three units; a receiver, a transmitter and a motor generator. The transmitter, which obtains its power from the 2.5 kw 400 cycle generator driven by a gasoline engine, injects current into the ground at two electrodes, C_1 and C_2 , at two preselected frequencies, while the receiver, a very stable and sensitive potentiometer tuned to the frequency selected, makes measurements of observed voltages across the potential electrodes P_1 and P_2 .

The data recorded in the field consists of careful measurements of the current (I) in amperes flowing through electrodes C_1 and C_2 , the voltage (V) appearing between the potential electrodes P_1 and P_2 on the high frequency, and the "percentage apparent frequency effect" appearing between P_1 and P_2 . The receiver is designed to measure the latter directly which is expressed as follows:

%age F.E. = {($\int \cdot \log - \int \cdot high$)/ $\int \cdot high$ } x 100

A third parameter termed the "metal factor" is also calculated by dividing the apparent frequency effect by $\int (-2\pi)^2 \pi$ and multiplying by 1,000.

The survey was carried out using the "dipoledipole" electrode array. This electrode configuration and the methods of presenting the results are illustrated in the appendix in the respective pseudosections. Depth penetration with this array is increased or decreased by increasing or decreasing "a" and/or "n".

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SURVEY SPECIFICATIONS cont'd

In practise, the equipment is set up at a particular station of the line to be surveyed: three transmitting dipoles are laid out to the rear, measurements are made for all possible combinations of transmitting and receiving dipoles up to the fourth separation, i.e. n=4; the equipment is then moved 3 "a" feet along the line to the next set-up.

A 200 foot dipole was employed on the survey and first to fourth separation measurements were made for a total of some 11.5 miles of coverage.

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DISCUSSION OF RESULTS.

The results of the I.P. survey showed the property to exhibit a low frequency effect background above which two zones of high frequency effects are clearly discernible on the contoured plans - Maps W-483-1 to 3.

The smaller and weaker of these approximately coincides with an area of trenching and exposed sulphide mineralization and probable diamond drilling investigation, and would appear to be fully delineated.

The stronger zone is undefined to the west where it also broadens, and exhibits no evidence of previous investigation, although trenching is indicated some 1400 feet to the northwest along strike.

It is somewhat complex as can be seen from the individual pseudosections with apparent associated lower resistivities in places giving rise to narrower and more pronounced metal factor anomalies - Maps W-483-7 to 9.

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SUMMARY, CONCLUSIONS & RECOMMENDATIONS.

Between October 23rd and November 4th, 1990, Peter E. Walcott & Associates Limited carried out a small induced (I.P.) survey in the McLease Lake area near the operating Gibraltar mine for Gibraltar Mines Ltd.

The survey located the presence of two zones of high frequency effects clearly discernible above the otherwise low background, the smaller and weaker of which coincided with an area of previous investigation, and the stronger and larger of which had the appearance of representing the tip of a larger causative source to the northwest.

As a result the writer recommends that the results of the survey be further studied with the results of previous work (if available) and with geology and geochemistry before committing to further definition of the anomaly and/or investigating its causative source by drilling.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LTD.

he have Peter E. Walcott, P.Eng. Geophysicist

Vancouver, British Columbia

December 1990

GEOPHYSICAL SERVICES

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A P P E N D I X

GEOPHYSICAL SERVICES

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COST OF SURVEY.

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Peter E. Walcott & Associates Limited undertook the survey on a daily basis. Mobilization and reporting costs were extra so that the total costs of services provided was \$20,087.24.

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PERSONNEL EMPLOYED ON SURVEY.

Name	Occupation	Address	Dates		
Peter E. Walcott	Geophysicist	Peter E. Walcott & 605 Rutland Court, Coquitlam, B.C. V3J 3T8	Assoc.Dec. 29-30,1990		
M. Andrews	н	n	Oct. 23-Nov.4, 1990		
G. MacMillan	Geophysical Operator	H	Oct. 23-Nov.6, 1990		
R. Summerfield	**	71	Oct. 23-Nov.4, 1990		
I. Franey	**	*	•		
J. Walcott	Typing	17	Dec. 30th,1990		

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CERTIFICATION.

I, Peter E. Walcott, of the Municipality of Coquitlam, British Columbia, hereby certify that:

- 1. I am a graduate of the University of Toronto in 1962 with a B.A.Sc. in Engineering Physics, Geophysics Option.
- 2. I have been practising my profession for the last twenty eight years.
- 3. I am a member of the Association of Professional Engineers of British Columbia and Ontario.
- 4. I hold no interest, direct or indirect in the securities or properties of Gibraltar Mines Limited nor do I expect to receive any.

A.R.

Peter E. Walcott, P.Eng.

Vancouver, British Columbia

December 1990



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Map No. W-483-5 Peter E. Walcott & Assoc. Ltd.





