

1672

PART 1

GEOPHYSICAL REPORT

E.M. Survey

on

THE CAVZ CLAIMS

CAVZ M.C.'s 3 yo 6, 17 to 22
Trail Peak, Omineca Mining Division
13 miles northeast of Fort Babine, 55^o, 126^o S.E.

by

D. Watson

J. Russell Loudon, P. Eng.

owned by

Texas Gulf Sulphur Company

August 8th to September 6th, 1968

COMMERCIAL AGENT
R. J. D.
AUG 15 1968

SMITHERS. B. C.

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E.M. Map - CAVZ Group

in pocket

ELECTROMAGNETIC SURVEY TRAIL PEAK, BRITISH COLUMBIA

INTRODUCTION

On August 8th to 14th, a reconnaissance vertical loop electromagnetic survey was done on a portion of Texas Gulf Sulphur's Trail Peak (CAVZ claims) grid. The survey was not complete in that it did not cover the entire grid and also detailed work was not done in tracing out conductors. The purpose of the survey was to see if any conductors were present which may be associated with or caused by a sulphide body.

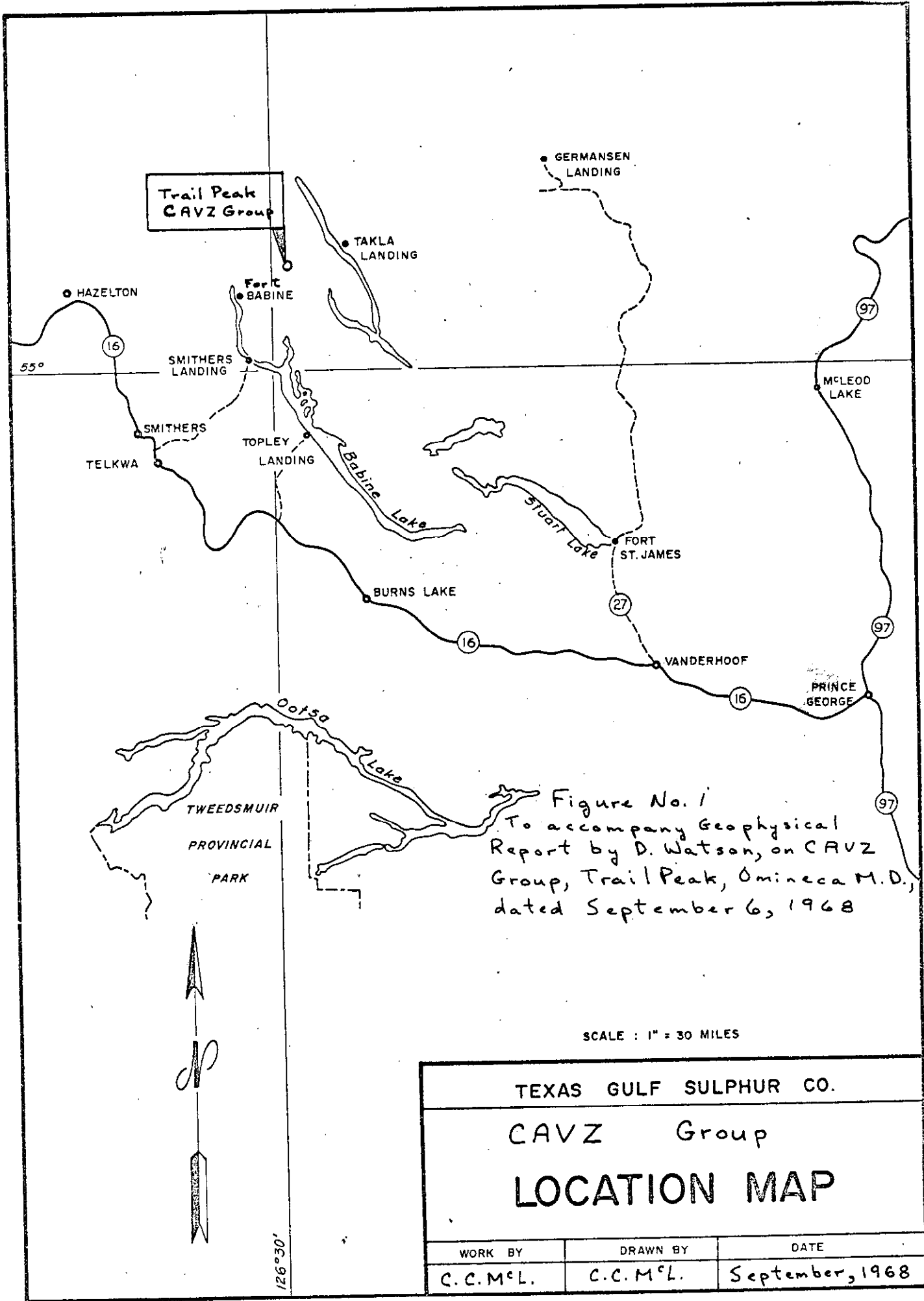
Equipment

The equipment used was McPhar's I.R.E.M. (Intermediate range electromagnetic) unit with the motor generator. The voltage output is approximately 36 volts and the frequencies are 2,000 and 400 cycles per second. In most cases the readings are to the nearest one degree.

Method

The fixed transmitter-moving receiver method was employed. In this method the transmitter is placed at such a position so that traverses can be run at 400 and 800 feet intervals on either side of the transmitter. Traverses of 1,200 feet are made in this method.

This vertical loop survey measures dip or tilt angles of the major axis of the ellipse of polarization of the total field. The transmitter and receiver are simply coils at right angles to one another. In the presence of a conductor the angles will reach a maximum on one side of the conductor, pass through zero over the



Trail Peak
CAVZ Group

Figure No. 1
To accompany Geophysical
Report by D. Watson, on CAVZ
Group, Trail Peak, Omineca M.D.,
dated September 6, 1968

SCALE : 1" = 30 MILES

TEXAS GULF SULPHUR CO.

CAVZ Group

LOCATION MAP

WORK BY	DRAWN BY	DATE
C.C.M ^c L.	C.C.M ^c L.	September, 1968

edge of the conductor and will reach a maximum but opposite in sign reading on the other side of the conductor. This passing from positive to negative, or as in our convention, from a north to south, is called a cross-over and would indicate a conductor. The strength, or degree of conductivity of the conductor, may be indicated by the maximum tilt angles that are recorded. However, these angles may also be affected by the depths to the conductor, in addition to the width and length. A comparison between the two frequencies (2,000 and 400 cps) that were made could also give an indication of the conductivity. In most cases the 2,000 cps readings would be higher than that of the 400 cps readings over a conductor. Usually, the higher the degree of conductivity the closer the 400 cps profile approaches that of the 2,000 cps profile.

INTERPRETATION OF THE SURVEY

Three cross-overs were found on the grid, of medium to low strength. These cross-overs are in all likelihood caused by the same conductor so one could join these cross-overs and hence get the strike of the conductor which would generally be on a N.W. - S.E. direction in the vicinity of lines 296E, 300E and 304E at 272N. Further to the north, angles of the order of 10 to 20 degrees were found. However, no cross-overs were found. This is an indication of a conductive zone between lines 288E and 304E probably striking in a north-south direction.

Pyrite has been seen in some of the rocks in the area and this would indicate that the conductors are caused by sulphides. However, another possibility is that graphite is causing the conductivity or a combination of graphite and sulphides.

Because of the relief, errors are introduced that are not prevalent on flat ground. The elevation difference between the transmitter and receiver cause misorientation between the two, and hence angles such as those seen on lines 292E(?) and 304E (north end) could have resulted. Therefore, small cross-overs in the neighbourhood of 3 or 4 degrees would not be valid in this sort of survey in this terrain.

RECOMMENDATIONS

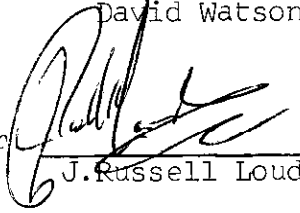
Before further exploration work (drilling) is initiated more geophysics should be done and I would suggest some type of horizontal-loop electromagnetic survey to be done. With this instrument a width of the conductive zone could be approximated and hence diamond drill holes could be spotted to intersect this conductive zone. Also, more of the grid should be done to trace out the conductor to the south-west and also to see if any other conductive zones are present.

GEOPHYSICAL CONCLUSIONS

One definite medium strength conductor was picked up by this survey. This conductor and thereby the entire grid warrants more electromagnetic coverage.

David Watson

per



J. Russell Loudon, P. Eng.

Canada

Province of British Columbia

In Wit:

In the Matter of

The attached report "Geophysical Report, EM Survey, CAVZ Claims, Omineca Mining Division" by David Watson.

I, J. Russell Loudon, of 701 - 1281 West Georgia Street Vancouver 5 in the Province of British Columbia.

Do Solemnly Declare that I have supervised the work carried out and described in the attached report and that:

a. The work was carried out during the period:

August 8th to August 14th, 1968 by

b. D. Watson, Texas Gulf Sulphur Geophysicist:

August 8th to 14th - 7 days @ \$50/day \$350.00

F. Glass, assistant:

August 8th to 14th - 7 days @ \$28.75/day \$201.25

and that their

c. Living Expenses were at the rate of

\$8.00/day/man for 14 man days \$112.00

Total \$663.25

The equipment used was a McPhar I.R.E.M. (Intermediate Range Electro-magnetic) unit with motor generator owned by Texas Gulf Sulphur Company.

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 Vancouver in the Province of British Columbia.

this 19 day of

Sept. A.D. 1968

Jell Jensen A Notary Public in and for the Province of British Columbia A Commissioner for taking affidavits for British Columbia Sub-mining Recorder

QUALIFICATIONS OF D. WATSON, GEOPHYSICIST
Texas Gulf Sulphur Company
Toronto Office

ACADEMIC QUALIFICATIONS

Bachelor of Science, Michigan Technological University, 1967, in Geophysical Engineering

EXPERIENCE

Prior to Graduation:

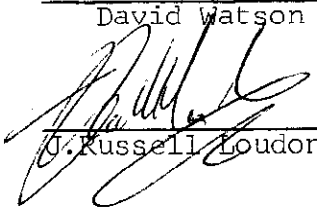
1. Five summers 1955-1959 - geophysical operator with Selco Exploration Co., Ltd.
2. One summer - 1960 - geophysical operator with M.J.Boylen Engineering Office.
3. Two years - 1961 - 1963 - geophysical party leader with Canadian Nickel Co., Copper Cliff.
4. Two summers - 1965 - 1966 - a) geophysical party leader with Texas Gulf Sulphur Company and
b) airborne navigator
and operator in T.G.S. airborne E.M. and Mag. system.

After Graduation:

1. One year as geophysicist with Texas Gulf Sulphur in charge of various kinds of ground geophysics.

David Watson

per



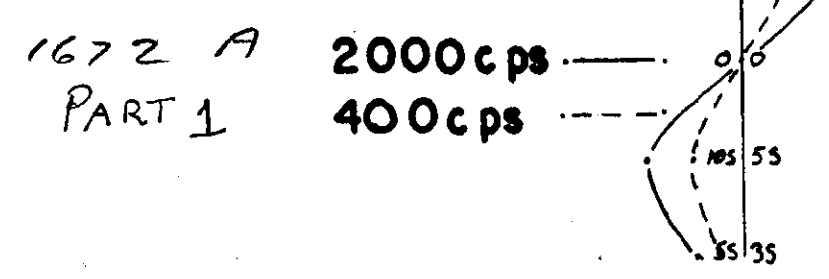
J. Russell Loudon, P. Eng.

Department of
Mines and Geological Resources
Geological Survey
NO. 1672 A n/p 1

To accompany Geophysical Report, by
D. Watson, on CAVZ Group, Trail
Peak, Omineca M.D., dated
September 6, 1968

TEXAS GULF SULPHUR
I.R.E.M. SURVEY
PORTION OF TRAIL PEAK GRID
HORIZONTAL SCALE 1" = 200'
E.M. SCALE 1" = 20°

E.M. CROSS-OVER
FREQUENCIES



TRANSMITTER SET-UP Δ

DW Sept 1968

