



52A15NE8102 2.432 WOLF LAKE

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PROJECTS  
SECTION

A REPORT ON  
A PROPERTY OF  
SANTACK MINING COMPANY LTD.  
DISTRICT OF PORT ARTHUR  
ONTARIO

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MAY 28th, 1971  
TORONTO, ONTARIO.

HUGH H. SUTHERLAND, JR.  
B.A.Sc., P.Eng., M.E.

A Report on a Geophysical Survey  
Performed over the Property of  
SANTACK MINES LTD.  
Glen Township  
Ontario

INTRODUCTION

At the request of the management, a geophysical survey, comprising magnetometer and VLF electromagnetometer was made over the company's Glen Township claims. This survey was undertaken during November and December of 1970 and conducted over a grid of one hundred by two hundred feet (100' x 200').

PROPERTY

The property comprises 14 contiguous unpatented claims recorded in the name of Walter Acker. They occupy a rectangular shape with the long axis E.W. and are shown on the Ontario Department of Mines Plan M. 1926 of Glen Township as TB 139115 to 139124 inclusive and TB 139611 to 139614 inclusive.

LOCATION AND ACCESS

The claims are located on the S.W. portion of Glen Township, 4 miles west of Wolf Lake.

This is approximately 10 miles North West of the village of Dorlon on highways 11 & 17 and the C.N. C.P.R. tracks.

Dorlon lies roughly 40 miles east of Port Arthur and 20 miles south west of Nipigon. Access to the property is by road to Dorlon, thence east on 11 and 17 to the fish hatchery road, and north west a distance of

10 miles. From this point, the property is 3 miles south west by means of a bush road, passable by Jeep or dune buggy.

#### TOPOGRAPHY & FEATURES

The topography is not of a rough or precipitous nature. Normal relief is not over 75 feet with the exception of a N 75 E trending diabase ridge. This ridge lies along the south claim boundary. Outcrop is not plentiful except on lake and river verges, and on hillside faces. Total outcrop would be about 7%.

Tree cover comprises conifers, poplar, birch and alder and dogwood slash.

Several swamp ponds are on the claims and 2 small lakes. Dependent upon weather, many creeks may be present.

Water for drilling and a camp would present no problem. The work programmes to date have created several roads that cover most of the showings, and these are passable by four wheel drive vehicles.

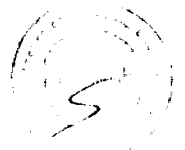
#### GENERAL GEOLOGY

The general area is underlain by rocks of the PreCambrian period. These comprise in the main, Sibley mudstones and sandstones, Archean granites and metasediments, and Keweenawin intrusives.

The valuable lead, zinc and silver minerals present in the general area, as indicated on the Property Location Map, are usually found along fracture and fault structures. Small amounts of lead and silver have been mined from some of these occurrences in the past.

#### LOCAL GEOLOGY

The major part of the property is underlain by Red Sibley



mudstones and sandstones. The gradation of these sediments varies as to location. Several small diabase dykes parallel a major fault or shear structure that strikes N 80 E. The mineralization appears to relate to the contact between the sandstones and diabase and parallels the fault on the south side. At least one calcite vein is found on the north side, but its direction indicates a cross fracture striking N 30 E.

The diabase dyke previously mentioned rises abruptly to a height of 200 feet along the south claim boundary. A series of parallel smaller feeder dykes cross the property roughly parallel to the big dyke and cut the Sibley mudstones.

In a great many cases, these contacts are fractured and filled with quartz, calcite and barite, and are also carrying lead, zinc, copper, gold or silver.

#### GEOPHYSICAL SURVEYS

The Geophysical surveys were conducted over a line grid of 200 x 100 feet, cut in a north south direction with base and tie lines cut east and west. In all, approximately 30 miles of line were checked.

#### MAGNETOMETER

The ground was surveyed using a McPhar Fluxgate M 700 magnetometer. A control grid for corrections was set up using 36 stations with 4 hour station checks for corrections. Readings were corrected for diurnal, temperature, and time drift.

#### RESULTS

A band of magnetic lows was located in the north west section,

striking north-south and aligned with a probable fault.

Another low was located on the north shore of Cub Lake.

A contour indicating a probable fault was seen just west of Cub Lake, striking north-south.

One simple high was located in the west central portion to 1300 gammas over a background of 450 and a series of higher readings to 750 - 800 gammas were found in the lake and in the South West corner.

Structural trends indicating faulting and fracturing were present showing north-south trends.

#### ELECTROMAGNETOMETER

A survey was conducted over the previously mentioned grid using a Crone Radem VLF electromagnetometer.

The station used was Balboa, Panama, on a frequency of 24.0 kc and the instrument oriented north-south.

#### RESULTS

The results found were of a confused nature, probably due to the large amount of clay present, and some readings were of extreme magnitude. It is felt that due to orientation and overburden, the reverse crossovers were as found.

Several areas of significance were indicated.

Zone "A" relates to a surface showing carrying lead.

Zone "B" relates to a surface showing carrying lead and disseminated copper.

Zone "C" relates to magnetic highs and a zinc mineralized area.

Zone "E" is a magnetic low and a probable fault with possible lead enrichment.

Zone 'D' shows strong crossovers indicating a probable vein system.

CONCLUSIONS

The areas A, D, E, and F suggest probable mineralized causes, carrying zinc and lead with possible copper.

These should be detailed.

RECOMMENDATION

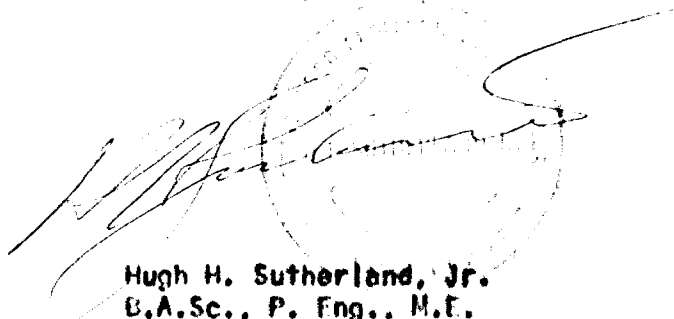
The property should be detailed using Geochemistry and a larger Vertical loop 2 frequency EM to eliminate spurious anomalies.

Some stripping, followed by diamond drilling should be used to examine the previously indicated zone.

Provision should be made for the following costs:

Geochemistry	\$4,000.00
Vertical Loop EM	2,700.00
Stripping	2,000.00
Drilling	16,000.00
Contingency and Engineering	<u>2,000.00</u>
Total	\$26,700.00

Respectfully submitted,



Hugh H. Sutherland, Jr.  
B.A.Sc., P. Eng., M.E.

DATE OF ISSUE  
1971  
ONE DEPT. OF MINES  
AND TECHNICAL AFFAIRS

Mc MASTER

WOLF PUP LAKE

TWIN BLOX LAKE

WOLF LAKE

GLEN

STIRLING

HELLE

M.1926

*Claim map  
file 2.432  
May & E. M.*

T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.
287889	251354	251353	251352	251351	251350	251349	251348	251347	251346
T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.
150123	150122	150121	150120	150119	150118	150117	150116	150115	150114
T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.
251356	150124	150123	150122	150121	150120	150119	150118	150117	150116
T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.	T.B.
150114	150113	150112	150111	150110	150109	150108	150107	150106	150105

9.L.  
250  
Nv

DISTRICT OF THUNDER BAY  
THUNDER BAY MINING DIVISION

NATIONAL TOPOGRAPHIC SERIES 52A13

