2.2744


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GEOPHYSICAL ENGINEERING LIMITED

NORTH BAY, ONTARIO

RECEIVED
JUL 21 1978
MINING LANDS SECTION

REPORT

ON THE

GEOPHYSICAL SURVEYS

ON THE

WALDMAN GROUP, GILLIES LIMIT, ONTARIO

FOR

TECK CORPORATION LIMITED

N.T.S. 31 M/5

78-7-20

H.D. McLeod, P.Eng.


REPORT NO. 624NB

## SUMMARY

The Waldman Group was explored by means of magnetometer and electromagnetic surveys. The V.L.F. surveys have confirmed the presence of the Columbus fault and located a parallel structure 700 feet to the northeast. The magnetometer survey apparently has provided little useful information.

## RECOMMENDATIONS

Geological mapping and geochemical sampling along the two fault zones.

## INTRODUCTION

The Waldman Group was staked on 77-6-1, the date the old patents lapsed. The group and ownership as of 78-6-1 is as follows:

S495336 - J. Gilbert, Duparquet, Quebec
S495316 - R. Collins, Noranda, Quebec
S500451 - N. Boa, Timmins, Ontario
S500452 - W. Wilson, Timmins, Ontario
S500453 - E. Eno, Timmins, Ontario

Line cutting was completed over the entire grid during the period 78-5-18 to 78-5-25. Geophysical surveys using magnetometer and V.L.F. electromagnetic methods were completed during the period 78-5-23 to 78-6-3. Plotting and drafting of the data was completed by 78-6-16.

The work was done by Geophysical Engineering Ltd. personnel under the direct supervision of the writer who spent some time on the job. Instrument operator was W.W. Gennings, North Bay, Ontario.

## LOCATION & ACCESS

The claims are located in the extreme northeast corner of Gilles Limit township, Sudbury Mining Division a distance of four miles to the south of Cobalt, Ontario.

Access is by the air plant road south from Cobalt, the road passing 200 to 300 feet to the east of the claims.

## TOPOGRAPHY

The claims area consists of low rock ridges with swamp occupying the intervening valleys.

Forest cover is second growth black spruce, balsam, jackpine, poplar and birch with thick undergrowth of scrub maple and hazel.

## GEOPHYSICAL SURVEYS METHODS

Line Cutting - north-south picket lines were cut at 100-foot intervals from an east-west base line established in the center of the claim block. These lines were tied-in on the north and south claim lines and were chained at 100-foot intervals.

Magnetometer Survey - this survey was done with a Sharpe Fluxgate Model MF1 magnetometer, the specifications for which are in the appendix. Readings were taken along all lines at 50-foot intervals. Dirunal readings on permant base stations were taken approximately hourly intervals. 850 readings were taken.

Electromagnetic Survey - this survey was done with a Crone Radem V.L.F. unit the specifications for which are in the appendix. Readings were taken at 100-foot intervals along all the picket lines, both the tilt angle and field strength measurements being taken at each staion. The results have been plotted on two maps, one showing the contoured field strength values, the second the contoured results of the Fraser

filter of the dip angle values.

PURPOSE

The magnetometer survey was done in the expectation of further delineating the Keewatin-Huronian contact and also outlining magnetic areas that might indicated "highs" in the Keewatin basement under the Huronian.

The V.L.F. electromagnetic survey was expected to detect any faults or major fracture systems in the Huronian sequence.

RESULTS

Magnetometer - a number of strong linear magnetic trends are present in the southeast corner of the group, two along the south boundary and one in the northeast corner. These are attributed to magnetic horizons and diabase dikes in the Keewatin. The one in the northeast corner could well be culture since there is only one strong reading. The irregular magnetic pattern in the northeast corner of claim S500452 very likely is cultural - metal around the shaft and in underground workings. Weak magnetic anomalies in the remainder of the area are interpreted to represent magnetic patterns in the Keewatin basement under Huronian sediments.

Electromagnetic - the results of the two plots are almost identical. One conductor strikes regularly N70°W from the northeast corner of claim S500452 to the west boundary of the survey area. This coincides with a structure known as the Columbus fault. A second anomaly striking N70°W from 5t00N on line 0t00 to the north boundary of the survey area is interpreted to be a parallel fault structure.

All other anomalies are short and weak but may represent fracture systems.

GEOLOGY

The claims area is underlain by Huronian sediments with small areas of Keewatin volcanics along the south and southeast boundaries.

Extensive exploration for silver has been conducted in the past. This in the form of a multitude of trenches, at least 30 drill holes, geological mapping, geophysical surveys, three shafts and underground development. Some production is reported but records of all of the work are sketchy.

Ontario

Ministry of Natural Resources

File 2.2744

GEOPHYSICAL – GEOLOGI(
TECHNICAL DATA

31M05SE0071 2.2744 GILLIES LIMIT (NORTH PART)

900

TO BE ATTACHED AS AN APPEND
FACTS SHOWN HERE NEED NOT BE RELATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Geophysical

Township or Area Gillies Limit

Claim Holder(s) Teck Corporation Ltd.
Suite 4900, Toronto Dominion Center, Toronto

Survey Company Geophysical Engineering Ltd.

Author of Report H.D. McLeod

Address of Author 673 Norman Ave., North Bay, Ontario

Covering Dates of Survey 78-5-18 - 78-6-16
(linecutting to office)

Total Miles of Line Cut 9.2

SPECIAL PROVISIONS
CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

| | DAYS per claim |
|---|---|
| Geophysical | |
| --Electromagnetic | 20 |
| --Magnetometer | 40 |
| --Radiometric | |
| --Other | |
| Geological | |
| Geochemical | |

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: 78-7-14 SIGNATURE: _____
Author of Report or Agent

L.D.

Res. Geol. _____ Qualifications _____

Previous Surveys

| File No. | Type | Date | Claim Holder |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

OFFICE USE ONLY

**MINING CLAIMS TRAVERSED**
**List numerically**

| (prefix) | (number) |
|---|---|
| S | 495316 |
| S | 495336 |
| S | 500451 |
| S | 500452 |
| S | 500453 |

If space insufficient, attach list

TOTAL CLAIMS 5

# GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

Number of Stations 850 Number of Readings 1700

Station interval 50 Line spacing 100 feet

Profile scale 1" = 40°

Contour interval 100 gammas

## MAGNETIC

Instrument Sharpe Fluxgate Model MF1 Magnetometer

Accuracy - Scale constant 10 gammas per scale division

Diurnal correction method Approximately 1 hour on fixed base stations

Base Station check-in interval (hours) 1 hour

Base Station location and value 0t00, 1t00W-100 g.; 0t00, 15t00W-870 g.

## ELECTROMAGNETIC

Instrument Crone V.L.F. unit

Coil configuration Vertical

Coil separation Infinite

Accuracy

Method: ☒ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency Seattle Washington
(specify V.L.F. station)

Parameters measured Tilte angles; Field strength

## GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

## INDUCED POLARIZATION RESISTIVITY

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters - On time Frequency

- Off time Range

- Delay time

- Integration time

Power

Electrode array

Electrode spacing

Type of electrode

# THE TOWNSHIP OF (2.2744) GILLIES LIMIT (NORTH PART)

DISTRICT OF TIMISKAMING

SUDBURY MINING DIVISION

SCALE: 1=INCH=20 CHAINS

## LEGEND

| | |
|---|---|
| PATENTED LAND | (P) |
| CROWN LAND SALE | C.S. |
| LEASES | (L) |
| LOCATED LAND | LOC. |
| LICENSE OF OCCUPATION | L.O. |
| MINING RIGHTS ONLY | M.R.O. |
| SURFACE RIGHTS ONLY | S.R.O. |
| ROADS | |
| IMPROVED ROADS | |
| KINGS HIGHWAYS | |
| RAILWAYS | |
| POWER LINES | |
| MARSH OR MUSKEG | |
| MINES | |

## NOTES

400' Surface Rights Reservation along the shores of all lakes and rivers.

Mining Claims Accepted Subject To Sec 54 Of The Mining Act Excepting Claims Staked In Any Of The "A" Mining Locations.

L.O. 7151 Covers Flooding Rights On Montreal River Lying Northerly Of And Upstream From The Dam At Hound Chute To Contour 910' H.E.P.C. File: 1164 Vol. 2.

L.O. 7558 Covers Flooding Rights On Montreal River Upstream From The Upper Notch Power Site To Contour Elevation 785.5' H.E.P.C. File: 20994 Vol. 3.

RESERVE FLOODING RIGHTS TO H.E.P.C. (PROPOSED) TO CONTOUR 905' G.S.C.

Areas withdrawn from staking under Section 43 of the Mining Act.

| File | Date | Disposition |
|---|---|---|

Township closed to staking effective May 8, 1978, Sec. 387 of The Mining Act.

DATE OF ISSUE
JUL 27 1978
SURVEYS AND MAPPING BRANCH

PLAN NO.-M.484

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

Coleman Tp. (M.454)

Coleman Tp. (M.454)

Brigstocke Tp. (M.429)

South Part Gillies Limit(M.483)

Lorrain Tp. (M.536)

TOWN OF LATCHFORD

GILLIES LIMIT PROVINCIAL PARK

LATCHFORD TOWNSITE

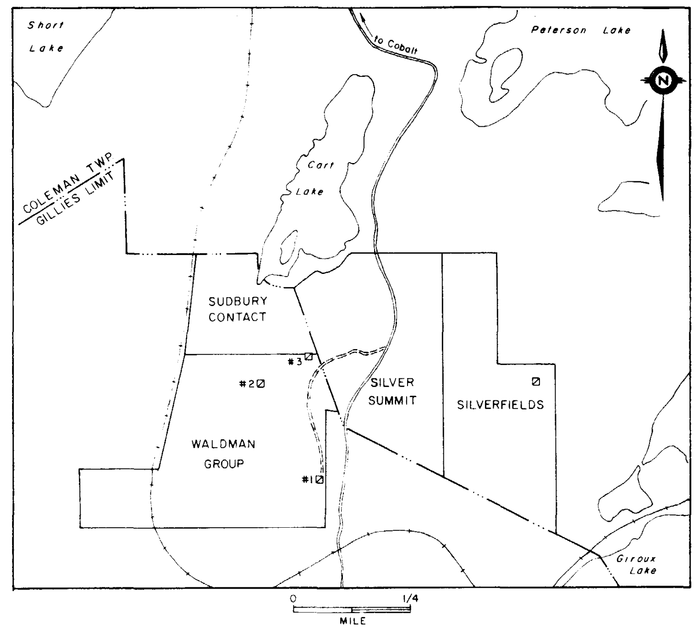
BAY

LAKE

Nast.

3190556971 2-2744 GILLIES LIMIT (GREEN BAY) 200




LOCATION MAP

MAGNETOMETER SURVEY (MAG.)

670 gammas
1350
1640
1110
940

INSTRUMENT Fluxgate MF-1 Magnetometer
Operator W. GENNINGS

Contour interval - 100 gammas
Depression contour -
Drill Hole -
Old survey I.P. - Claim Post - I.P. ■
Claim Post - ●
Base Station - BS 1,2 ▼

# MAGNETOMETER SURVEY

OF THE

# WALDMAN GROUP

GILLIES LIMIT

PROVINCE OF ONTARIO

FOR

# TECK CORPORATION

BY

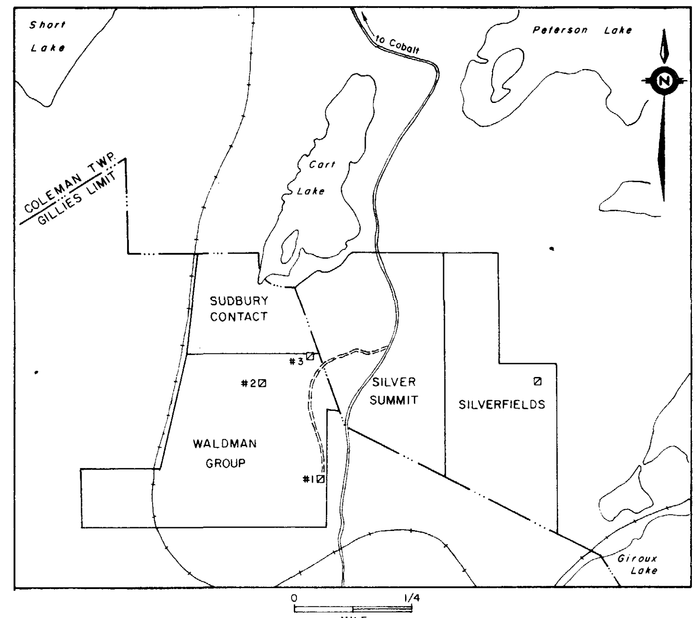
## GEOPHYSICAL ENGINEERING LIMITED


100 0 100 200
SCALE 1 INCH = 100 FEET

| DRAWN BY: / CHECKED BY: | b.g.h. | 78-5-29 | 31 M/5 | JOB: 1173 | DWG: 5540-3 |
|---|---|---|---|---|---|

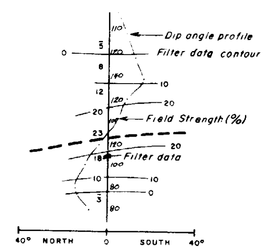

210




LOCATION MAP

VERY LOW FREQUENCY
(V.L.F.E.M.)




INSTRUMENT CRONE RADEM V.L.F. UNIT
Tx - Station SEATTLE, WASHINGTON
Operator W. GENNINGS

Contour interval - 0, 5, 10, 20, 30

Depression contour -

Drill Hole

Old survey I.P. - Claim Post - I.P. ■

Claim Post - ●

# ELECTROMAGNETIC SURVEY
OF THE
# WALDMAN GROUP
GILLIES LIMIT
PROVINCE OF ONTARIO
FOR
# TECK CORPORATION
BY
## GEOPHYSICAL ENGINEERING LIMITED

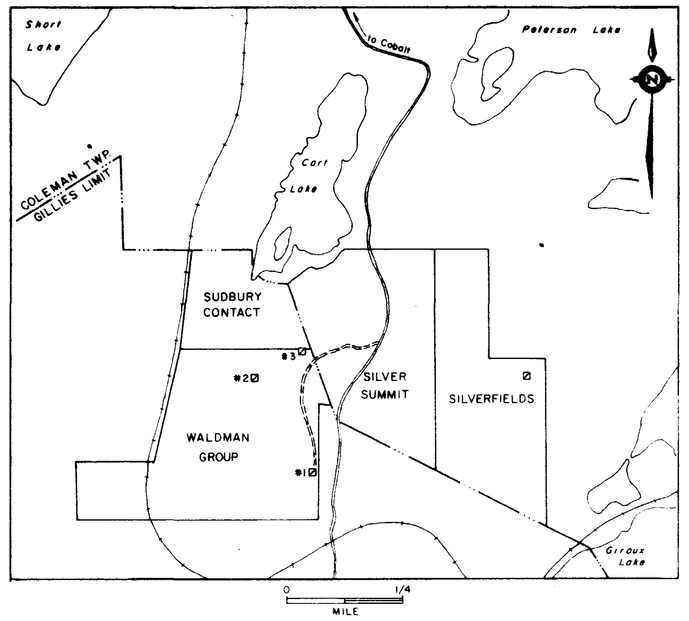



100 0 100 200
SCALE 1 INCH = 100 FEET

| DRAWN BY: b.g.h. / CHECKED BY | 78-5-29 | 31 M/5 | JOB: 1173 | DWG: 5540-1 |
|---|---|---|---|---|

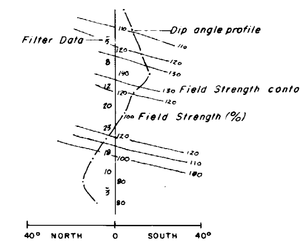
31M05SE0071 2.2744 GILLIES LIMIT (N. PART)




LOCATION MAP

VERY LOW FREQUENCY
(V.L.F.E.M)




INSTRUMENT: CRONE RADEM V.L.F. UNIT
Tx Station: SEATTLE, WASHINGTON
Operator: W. GENNINGS

Contour interval - 10%

Depression contour -

Drill Hole

Old survey I.P. - Claim Post - I.P. ■

Claim Post - ●

# ELECTROMAGNETIC SURVEY

OF THE

# WALDMAN GROUP

GILLIES LIMIT

PROVINCE OF ONTARIO

FOR

# TECK CORPORATION

BY

## GEOPHYSICAL ENGINEERING LIMITED

100 0 100 200

SCALE: 1 INCH = 100 FEET

| DRAWN BY: / CHECKED BY: | b.g.h. | 78-5-29 | 31 M/5 | JOB: 1173 | DWG: 5540-2 |
|---|---|---|---|---|---|

31M05SE0071 2.2744 GILLIES Limit (A. Rice)