GEOPHYSICAL SURVEY

SEMPLE TOWNSHIP

VERTICAL LOOP
ELECTROMAGNETIC SURVEY

Toronto, Ontario.
May 30, 1972.

R. H. Clayton, M.Sc., P. Eng.
Watts, Griffis and McOuat Limited

LOCATION AND ACCESS

Sample

The claims are in Sothman Township, on Map 42 A 3. They are about 35 miles west of Matachewan on the extension of Highway 588, which goes striaght to the property. There is also access by road from Timmins and Gowganda.

PROPERTY HOLDER

The claims are held by D. F. Des Rosiers, 2910 - 280 Wellesley Street East, Toronto 282, Ontario.

SUBMITTING PARTY

The work is submitted by Watts, Griffis and McOuat Limited, Consulting Engineers and Geologists, 911 - 159 Bay Street, Toronto 1, Ontario.

CLAIMS SURVEYED

The following claims were surveyed, 316676 - 316695 inclusive and Z96139

COVERING DATES

Covering dates, including linecutting, were December 13, 1971 - May 20, 1972.

PREVIOUS WORK

Geologic mapping and electromagnetic and magnetic surveys had been carried out over part of the area by Hollinger Consolidated Gold Mines Limited.

Six drill holes are reported in the southeastern part of the claim group. These are all intersected volcanic rocks. Pyrrhotite and chalcopyrite are reported in one hole. Seven packsack drill holes are mapped by Hollinger on the more northerly of the iron formation zones.

GEOLOGY

The rocks mapped by the Ontario Department of Mines and by Hollinger are all volcanic rocks, andesites and rhyolites. The iron formation appeared to be pyrite in silicified volcanic rock rather than sedimnetary iron formation.

WORK CARRIED OUT

The geophysical work by Hollinger included a Crone J.E.M. survey. However, this is not a deep-penetrating method. The so-called iron formation zones appeared to contain sufficient pyrite to cause an anomaly, but no anomaly had been obtained on the Hollinger survey. It was therefore decided to carry out a vertical loop electromagnetic survey with a line spacing of 400 feet using a Scintrex 250 unit.

Accordingly, baselines were laid out at approximately 1,000-foot intervals N 45° E and picket lines were cut S 45° E at 400-foot intervals, with stations at 100-foot intervals.

METHOD USED

The method used was a standard vertical loop survey with moving transmitter ("broadside" or "parallel").

A conductor is indicated by a change in the dip of the resultant field at the receiver from being in the opposite direction of the direction of travel of the receiver to a dip in the same direction as the direction of travel. This is known as a crossover. The dip angles are plotted as a distance above or below the line at each station. When the receiver operator is facing the transmitter dips to the left are plotted above the line, and to the right below the line. Thus, a true crossover indicating a conductor, goes from upper left to lower right. If the dip angle returns to zero, but does not change direction, or if it starts to increase in the same direction, the point is called an incipient crossover, and generally indicates a conductor.

A rough measure of conductivity is obtained by rating the amount of the minimum signal at what should theoretically be the null point when the coil is zero-coupled with the resultant field. This signal is proportional to the dip angle, and theoretically (but not in practice) is always zero when the dip angle is zero. It was not possible to rate the minimum over all of the claims because of a power line a few hundred feet east of the property.

Scale

1. Clear null.
2. Slight change in null.
3. Weak but definite minimum signal.
4. Definite minimum signal.
5. Very strong signal.
6. Minimum almost equal to maximum.

As a general rule any rating from 4 to 6 means that the anomaly is not caused by massive sulphides. A rating of 1 throughout indicates possible orientation errors rather than a conductor.

RESULTS

A weak anomaly was found on the more northerly of the iron formation zones on Lines 4400 N and 4800 N. Another weak was found on Lines 2400 N and 2800 N offset about 150 feet from the southern zone as mapped by Hollinger, but partly coinciding with iron formation as mapped by the Ontario Department of Mines. There was a possible weak extension on 1600 N and 2000 N.

Another small anomaly appeared on Lines 4400 and 4800 N , at about 9800 E. A third anomaly appeared on Lines 3600N to 5200 N near the southern boundary of the claims. This anomaly coincides with the pyrite-graphite anomaly on the Ontario Department of Mines maps.

CONCLUSIONS

The first anomaly is compatible with massive or near-massive sulphides at depth. It was associated with what is mapped as iron formation, but which appears to be pyrite with traces of chalcopyrite in silcified volcanic rock.

A hole was, therefore, recommended and drilled. It encountered near-massive pyrite at a vertical depth of 245 feet.

The second anomaly appears to be a shallow, flat-lying conductor and is too small to be of interest.

The third anomaly is probably caused by a pyrite-graphite zone already drilled.

Respectfully submitted,

R. H. Clayton

Toronto, Ontario.
May 30, 1972.

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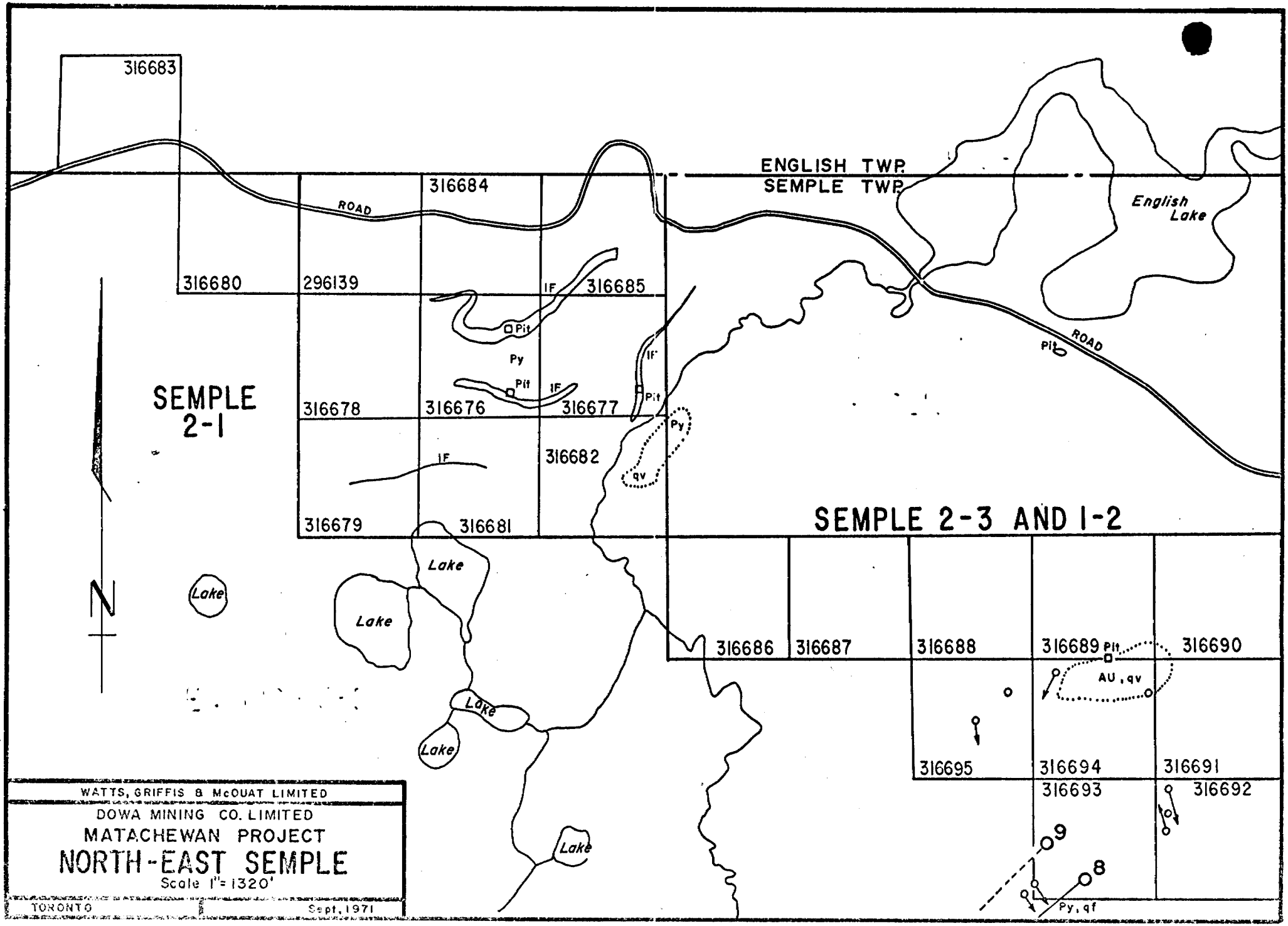
Watts, Griffis and McOuat Limited


316683
316684
316680
296139
316685
316678
316676
316677
316682
316679
316681
316686
316687
316688
316689
316690
316695
316694
316691
316693
316692
ENGLISH TWP.
SEMPLE TWP.
ROAD
ROAD
English Lake
SEMPLE 2-1
SEMPLE 2-3 AND 1-2
Pit
Py
IF
qv
AU, qv
Py, qf
Lake
Lake
Lake
Lake
Lake
N
WATTS, GRIFFIS & McOUAT LIMITED
DOWA MINING CO. LIMITED
MATACHEWAN PROJECT
NORTH-EAST SEMPLE
Scale 1"= 1320'
TORONTO
Sept. 1971

900

GEOPHYSICAL – GEOI
TECHNICAL I

JUN 5 1972

PROJECTS SECTION

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

Type of Survey VERTICAL LOOP ELECTROMAGNETIC

Township or Area SEMPLE TOWNSHIP

Claim holder(s) D. F. DESROSIERS

Author of Report R. H. CLAYTON

Address Watts Griffis & McOuat Ltd., 159 Bay St. Toronto

Covering Dates of Survey Dec 13, 1971 – May 20, 1972
(linecutting to office)

Total Miles of Line cut 23.7

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 40
–Magnetometer
–Radiometric
–Other
Geological
Geochemical

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

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

DATE: May 25, 1972 SIGNATURE: R. H. Clayton
Author of Report or Agent

PROJECTS SECTION

Res. Geol. _____ Qualifications In Misfile

Previous Surveys LD

Checked by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

OFFICE USE ONLY

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
	316683
	316680
	296139
	316684
	316685
	316678
	316676
	316677
	316679
	316681
	316682
	316686
	316687
	316688
	316689
	316696
	316695
	316694
	316691
	316693
	316692

TOTAL CLAIMS 21

If space insufficient, attach list

Show instrument technical data in each space for type of survey submitted or indicate "not applicable"

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 811 Number of Readings 811

Station interval 100 feet

Line spacing 400 feet

Profile scale or Contour intervals 1 inch = 40°
(specify for each type of survey)

MAGNETIC

Instrument

Accuracy - Scale constant

Diurnal correction method

Base station location

ELECTROMAGNETIC

Instrument Sharpe S E 250

Coil configuration Vertical Loop

Coil separation 400 feet

Accuracy 1°

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

Frequency 1,000 cycles per second
(specify V.L.F. station)

Parameters measured dip angle, minimum signal

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION – RESISTIVITY

Instrument

Time domain Frequency domain

Frequency Range

Power

Electrode array

Electrode spacing

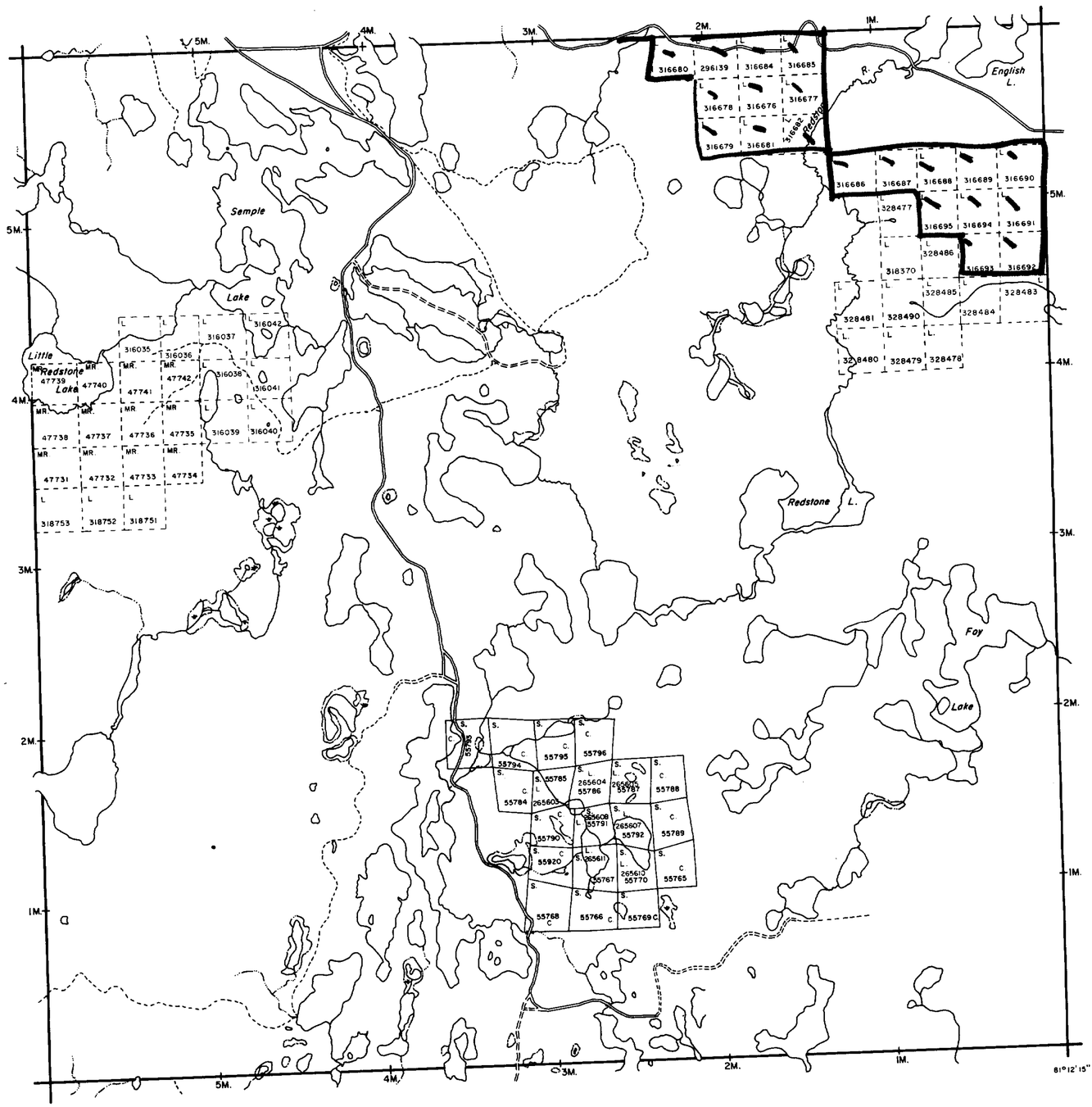
Type of electrode

TRIM LINE

M-1100

SEMPLE TWP.

ENGLISH TWP. M-787



MOHER TWP. M-868

HUTT TWP. M-943

SOTHMAN TWP. M-1121

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

DATE OF ISSUE
JUN 9, 1972
ONT. DEPT. OF MINES AND NORTHERN AFFAIRS

LEGEND

PATENTED LAND	Ⓟ or ●
PATENTED FOR SURFACE RIGHTS ONLY	◑
LEASE	Ⓛ
LICENSE OF OCCUPATION	L.O.
CROWN LAND SALES	C.S.
LOCATED LAND	Loc.
CANCELLED	C.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
HIGHWAY & ROUTE NO.	17
ROADS	
TRAILS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	

*used only with summer resort locations or when space is limited

TOWNSHIP OF

SEMPLE

DISTRICT OF
SUDBURY

LARDER LAKE
MINING DIVISION

SCALE : 1 INCH = 40 CHAINS (1/2 MILE)

DR. R.W. NOBLE	PLAN NO. M-1100
DATE APR. 22, 71	

ONTARIO
DEPARTMENT OF MINES
AND NORTHERN AFFAIRS

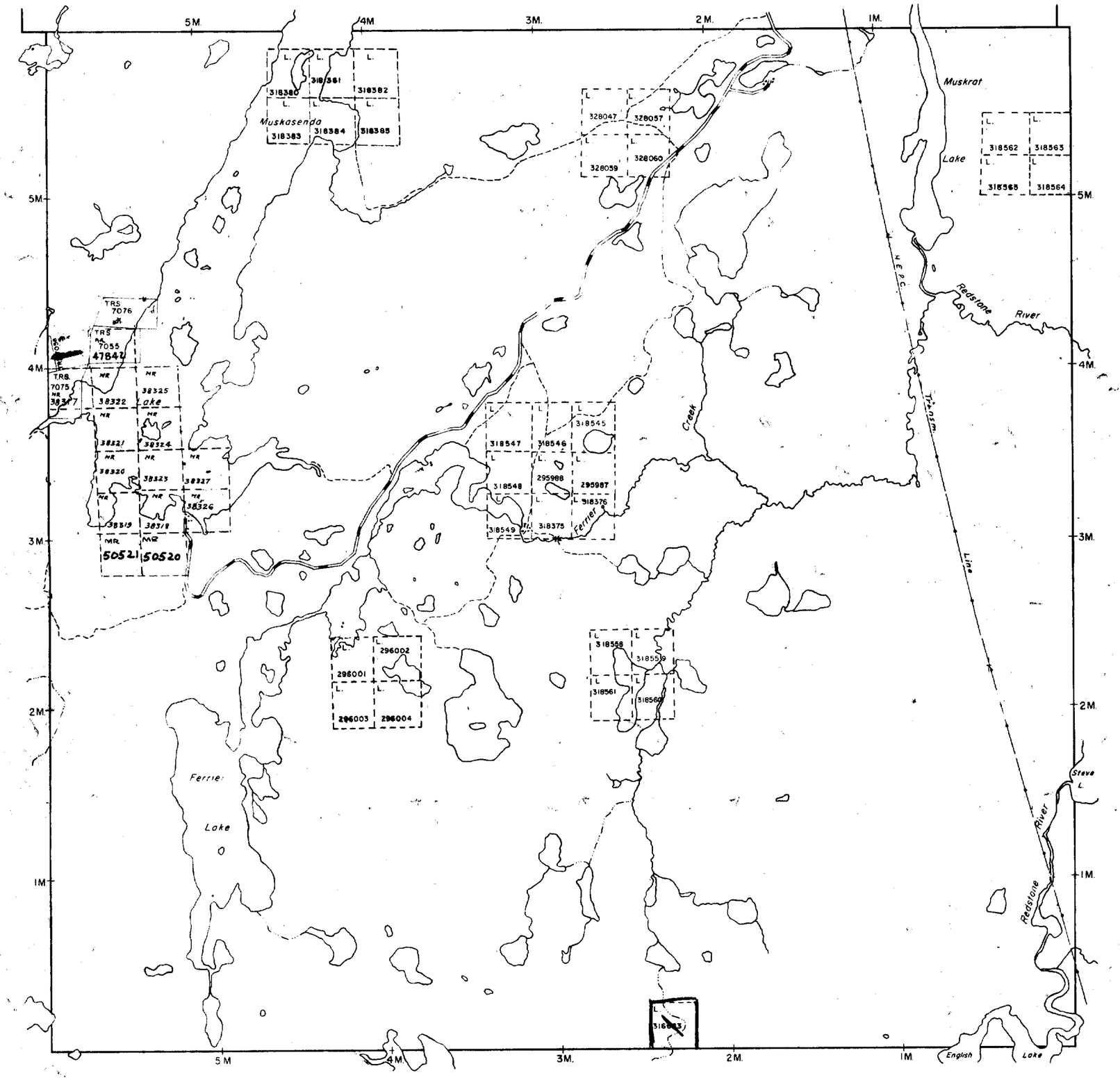
2.888

Bartlett Twp. – M.262

Beemer Twp. – M.656

Zavitz Twp. – M.1189

Semple Twp. – M.1100



THE TOWNSHIP OF

ENGLISH

DISTRICT OF SUDBURY

LARDER LAKE MINING DIVISION

SCALE: 1-INCH=40 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	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C.

NOTES

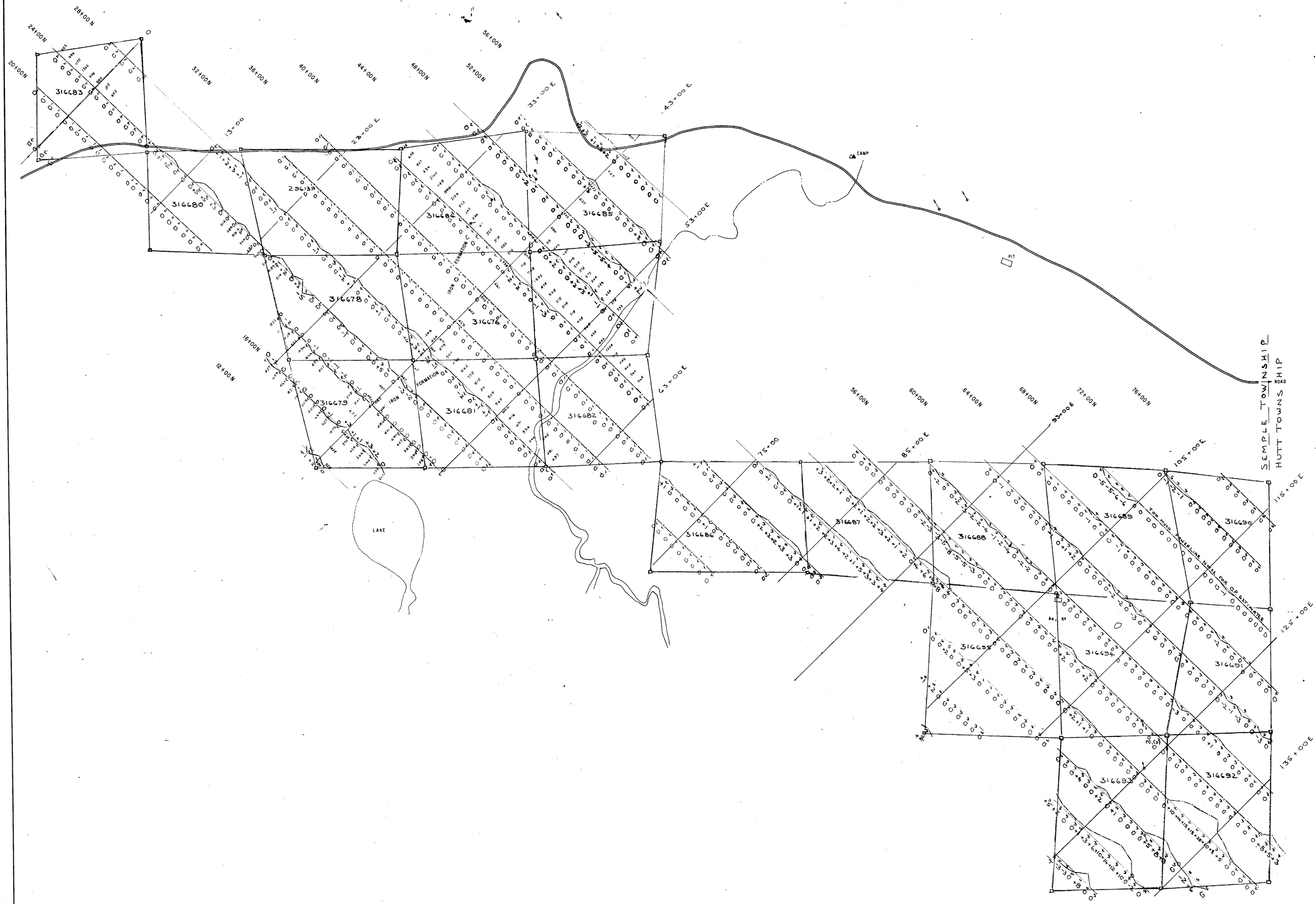
This township lies within the TEMAGAMI PROVINCIAL FOREST

400' Surface Rights Reservation around all lakes and rivers.

2.888

PLAN NO.- M.787

ONTARIO
DEPARTMENT OF MINES
AND NORTHERN AFFAIRS



LEGEND

- Normal crossover 1" = 40'
- Partial crossover
- Out of phase component on scale 1 to 6
- Magnetic reading in gammas
- DIP NORTHWEST (GRID W)
- DIP SOUTHEAST (GRID E)

316692 CLAIM NUMBER

IRON FORMATION LOCATION FROM HOLLINGER G.M.L. MAP

WATTS, GRIFFIS & McOUAT LIMITED

DOWA MINING CO. LIMITED

MATACHEWAN PROJECT

NORTH-EAST SEMPLE

GEOPHYSICAL SURVEY MAP

SCALE 1"=400'

Toronto, Canada — March, 1972

REVISION: 20 Jy 72