REPORT ON PROSPECTING. VLF-EM AND MAGNETIC SURVEYING

CLAIM 1150697

MacMURCHY TOWNSHIP

OPAP GRANT No. OP92-136

LARDER LAKE MINING DIVISION

JANUARY 20. 1993

RAY GARVEY

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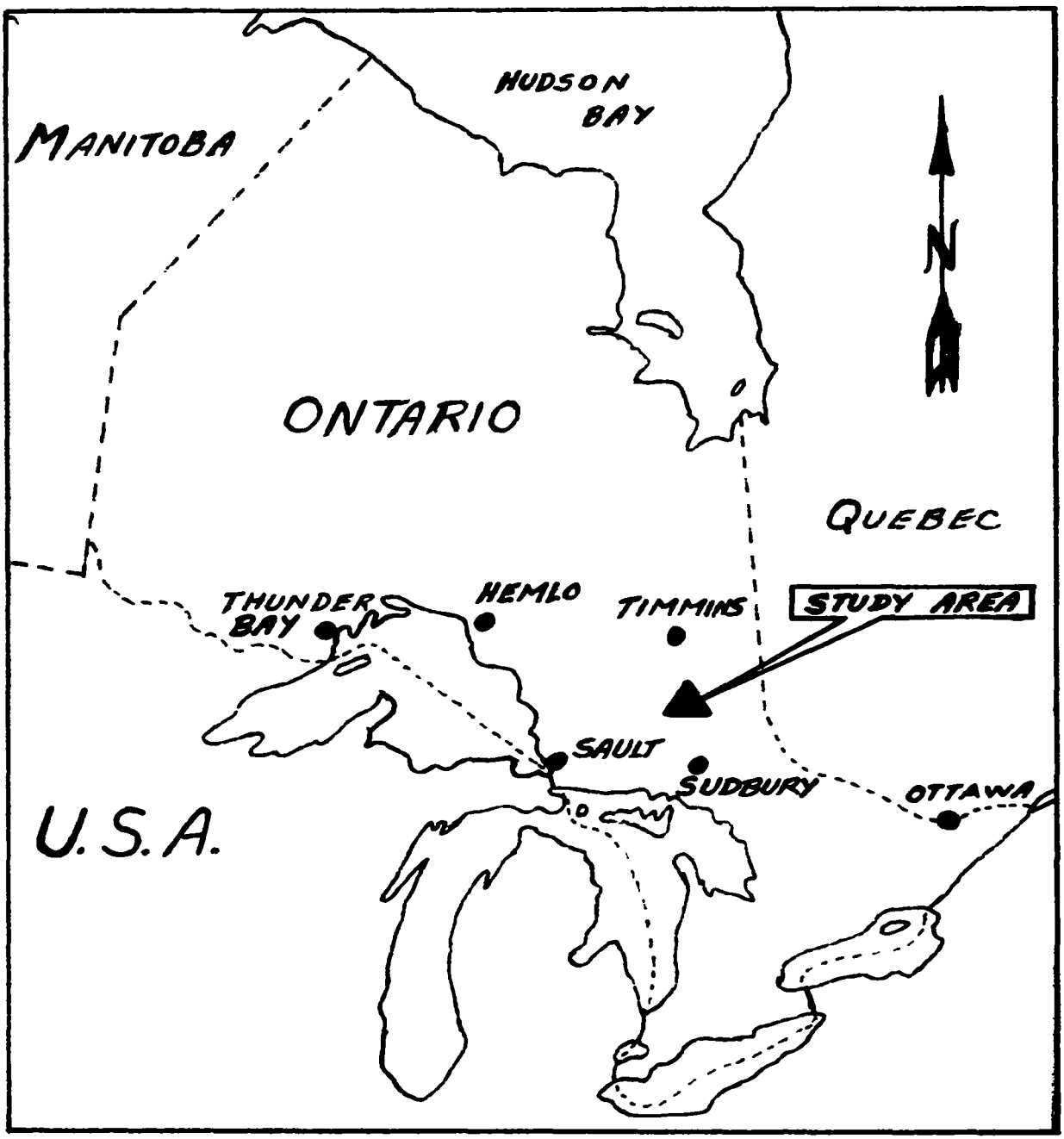
INTRODUCTION

Between April 17 and November 23, 1992, the writer carried out prospecting, magnetometer and EM-16 surveying over the land portion of claim 1150697 in the Shiningtree area of northeastern Ontario as part of an exploration program under the Ontario Prospector's Assisstance Program, grant No. OP92-136. The area examined straddles the eastern end of Houston Lake and can be reached by travelling west a distance of approximately 30 km from Gowganda along Hwy 560. The claim is comprised of approximately 15 claim units, the northern portion of which is easily accessible by canoe from Houston Lake and the Montreal River. Hwy 560 crosses the southeast quadrant of the claim (refer to FIG.'s 1, 2 & 3).

The claim was staked following the lifting of the Bear Island Land Claim Caution which withdrew lands within a 134 township area from staking or prospecting since May, 1978. As a result, the area received very little attention during the peak years of gold exploration in the late 1970's and the 1980's despite its recognized gold potential as well as existing infrastructure and access. With the Fort Knox Resources' copper-nickel discovery 6 km to the SW of the claim, immediately following the lifting of the Land Caution, the base metal potential of the region was also considerably enhanced. During the period 1939 - 42, two gold mines in Tyrrell and MacMurchy Townships produced over 34,000 ounces of gold from vein-type deposits.

FIG. 1



LOCATION MAP

OPAP No. OP92-136
MacMURCHY TOWNSHIP

JANUARY, 1993

NATAL TWP.

MacMURCHY TWP.

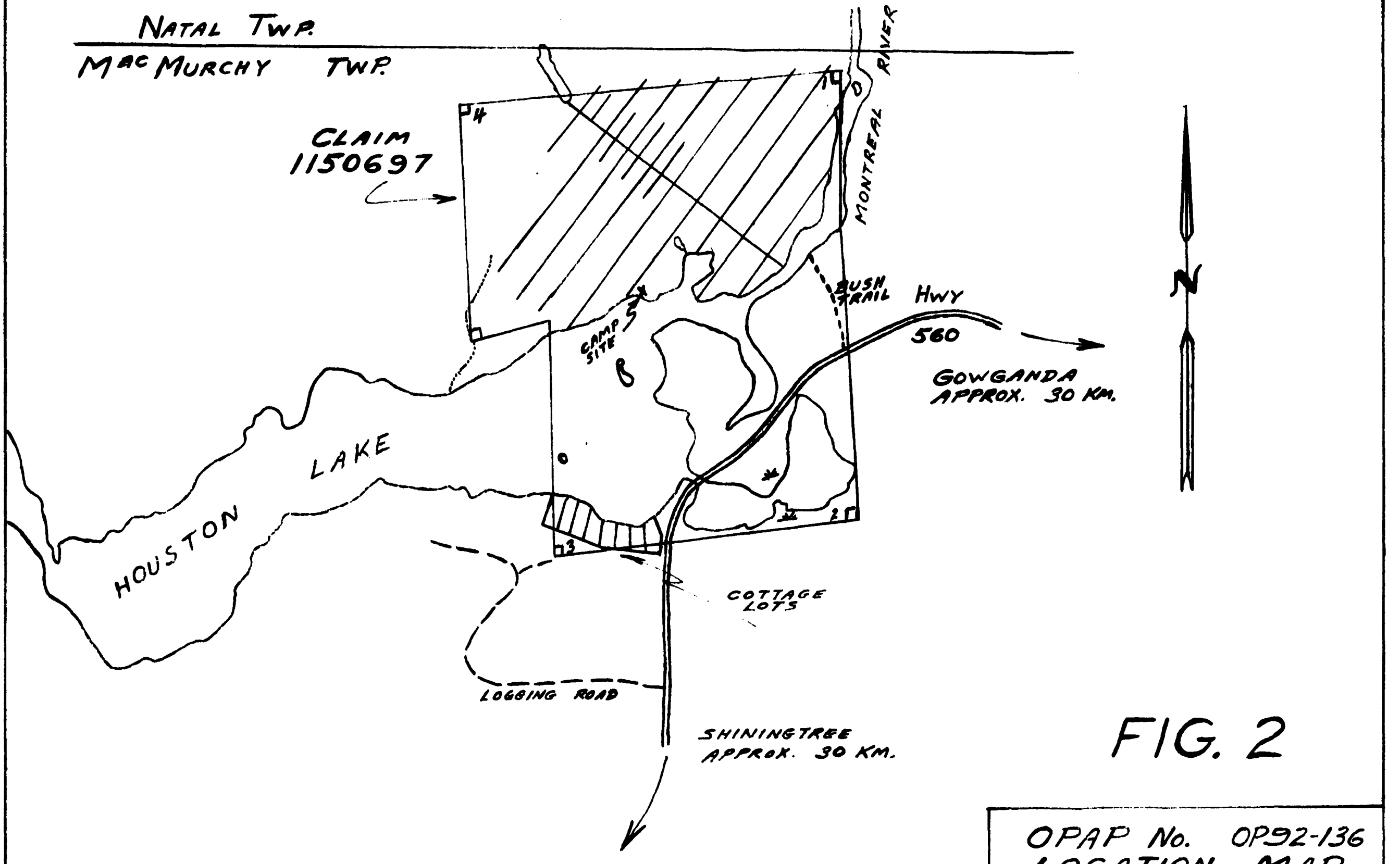


FIG. 2

OPAP No. OP92-136
LOCATION MAP
SCALE : 1:20,000
DATE : DEC 15, 92

0 m 400 m 800 m

RAY GARVEY

SURVEY GRID AND COVERAGE

The area south of Houston Lake (bisected by Hwy 560) was covered by foot traverses run at approximatwely 100m intervals in a N-S direction, with considerable departure from a rigid grid system in an attempt to find outcrop in an area of relatively deep overburden cover (refer to FIG. 6).

North of Houston Lake both "random" traverses and a partially cut metric grid were employed to achieve coverage over an area that exhibits magnetic characteristics similar to the area covering the Fort Knox discovery based on published magnetic data following the 1990 Airborne Electromagnetic and Magnetic Survey released by the Ministry of Northern Development and Mines.

A 900m NW base line was established with 25m stations and NE trending survey lines were roughly cut and flagged at 100m intervals with 25m stations. Following the completion of the magnetic survey and concurrent with the VLF-EM survey, 50m fill-in survey lines were established at 650W, 750W, 850W and 950W (refer to FIG.'s 4 & 5).

The grid consists of approximately 9 km of partially cut and flagged lines over which 358 VLF-EM readings, and 340 magnetic readings were taken. The Magnetic data are plotted on FIG. 4, and the VLF data are plotted on FIG. 5; both maps at a scale of 1:2000.

FIELD PROCEDURE

Prospecting traverses were run at a nominal 100m spacing south of Houston Lake trending approximately N-S, however additional lines were walked along shoreline and roads to locate outcrop.

North of the lake traverses were run on the grid, as well as along lakeshore, and along the Montreal River. Although the topography is relatively rugged and largely lacking in swamp, outcrop exposure is not good. Lakeshore and riverbank provide some of the best exposure. Rock samples were collected from areas exhibiting alteration, sulphide mineralization, or quartz veining. Samples were assayed for gold, and one sample was assayed for nickel due to the presence of sulphide mineralization believed to be pyrrhotite.

A brief description of the samples, and assay results can be found in appendicies 1 & 2.

GEOPHYSICS

Magnetometer Survey

The magnetometer survey was completed using a McPhar M-700 flux-gate magnetometer. This measures variations in the vertical component of the earth's magnetic field. Readings were taken at 25m intervals along the survey lines and base line for a total of 340 stations covering 9 km of line. A base station was established on the base line at 900W which had a value of 56,356 gammas. A plot of the results of the magnetic survey (FIG. 4, scale 1:2000) is included in the rear cover of this report. A base value of 55,000 gammas was subtracted from the actual readings before plotting. Contouring is at 500 gamma intervals.

Electromagnetic Survey

The electromagnetic survey was completed using a Geonics EM-16 VLF unit. The VLF method is passive in that it employs the radiation of powerful military radio transmitters as a primary signal. For this survey, the station at Cutler, Maine was used, operating at a frequency of 24.0 KHz. The EM-16 receiver is used to measure the vertical components of the secondary fields created by the primary signal. Readings of both in-phase and out-of-phase were taken at 25m intervals for a total of 358 stations covering 9.7 km of line. FIG. 5 (scale 1:2000) illustrates the results of the VLF EM-16 survey and is included in the rear cover of this report.

DISCUSSION OF RESULTS

MAGNETOMETER SURVEY

The magnetometer survey indicates a zone of relatively low magnetic relief approximately 200m wide in contact with a parallel zone of relatively high magnetic relief 100m wide along its southern flank, both trending NW at the NE corner of Houston Lake. This suggests a zone of felsic to intermediate volcanics in contact with a band of iron formation trending through the central portion of the survey grid. Weak iron formation is found elsewhere on the claim, specifically along the south shore of Houston Lake at the most westerly cottage property. Regions to the NE and SW of this central zone indicate fairly uniform magnetic relief indicating relatively homogeneous intermediate to mafic volcanics. The minor offset of high magnetic relief between lines 700W and 900W may indicate an E-W dextral fault, or a tight fold. This is a favourable environment for relatively brittle deformation of iron formation with subsequent quartz vein development and hence, potential for gold emplacement. The area is covered by deep overburden, and although a sample collected immediately to the south of the magnetic feature consists of very fine grained cherty volcanics with minor weak iron formation, containing minor gold and nickel values, the feature itself has yet to be identified geologically. It may in fact be an ultramafic intrusive or Nipissing diabase. Additional detailed prospecting is required to make a determination.

ELECROMAGNETIC SURVEY

The VLF EM-16 survey identified one definite conductor with a few other weak isolated crossovers probably the effect of contrasts in overburden depth and clay content. The definite conductor consists of a three line response (in addition to three intermediate lines), with its axis trending westerly and coincides roughly with the offset in magnetic relief. The EM anomaly is believed to represent a shear zone, or a pyritiferous band of cherty iron formation , rather than overburden effect.

Based on limited bedrock observation, it is apparent the area is underlain by felsic to intermediate metavolcanics (refer to FIG. 6), interlayered with pillowed mafic flows and narrow interflow bands of iron formation, all of which trend NW. The metavolanics are well foliated and dip vertically to steeply NE. Minor gold values were returned from sample No.147 taken from a mixture of very fine grained cherty volcanics and weak banded iron formation. The sample lacked significant shearing but exhibited minor quartz veining and pyrrhotite mineralization. It appears iron formation lacking cross-cutting structures and alteration are not favourable Au targets. In general, the rocks underlying claim 1150697 are typical of the rocks of the southern part of the Shiningtree Greenstone Belt which extends to Timmins in the north, and east through Kirkland Lake. The only exposure of clastic sediments observed occurs immediately south of the No. 3 post on a neighboring claim.

RECOMMENDATIONS

It is believed the potential for the property is a structurally controlled base/precious metal deposit in a relatively brittle host, most likely iron formation, allowing for the development of shear systems leading to considerable quartz veining &/or sulphide alteration. For this reason it is recommended that additional detailed prospecting be carried out in the area immediately surrounding the westerly trending conductor to locate bedrock and collect representative samples, particularly for sheared material. Because of excessive overburden depth a program of trenching may not be adviseable at this time; however, the presence of coincident mag and EM features in such a greenstone assemblage is encouraging, and a systematic geochemical soil sampling program of the B horizon is also recommended as a method of locating any mineralization that may be present on the claim.

Respectfully submitted

RAY GARVEY

APPENDIX 1

SAMPLE	AU PPB	NI PPM
147	2080	48
148	842	--
149	5	--
150	<1	--
151	<1	--
152	<1	--
153	<1	--
154	<1	--

X-RAY ASSAY LABORATORIES 1885 Leslie Street Don Mills Ontario M3B 3J4 (416)445-5755 Fax (416)445-4152 Tlx 06-986947
Member of the SGS Group (Société Générale de Surveillance)

XRAL

X-RAY ASSAY LABORATORIES

A DIVISION OF SGS SUPERVISION SERVICES INC.
1885 LESLIE STREET • DON MILLS, ONTARIO M3B 3J4 • CANADA
TEL: (416)445-5755 TELEX: 06-986947 FAX: (416)445-4152

CERTIFICATE OF ANALYSIS

REPORT 21603

TO: RAY GARVEY
16 THE LINKS ROAD
STE. 108
WILLOWDALE, ONTARIO
M2P 1T5

CUSTOMER No. 2440

DATE SUBMITTED
5-Jan-93

REF. FILE 14030-U3

Total Pages 1

8 ROCKS Proj. HOUSTON LAKE

	METHOD	DETECTION LIMIT
AU PPB	FADCP	1.
NI PPM	DCP	1.

*** UNLESS INSTRUCTED OTHERWISE WE WILL DISCARD PULPS IN 90 DAYS ***
AND REJECTS IN 30 DAYS FROM THE DATE OF THIS REPORT

DATE 14-JAN-93

CERTIFIED BY .....

Jean H.L. Opdebeeck, General Manager

APPENDIX 2

DESCRIPTION OF ROCK SAMPLES

SAMPLE NUMBER	DESCRIPTION
147	Very fine grained cherty volcanic interbanded with weak iron formation. Minor po and q.v.
148	Interlayered fine grained siliceous sediment & iron formation with fine seams of magnetite.
149	Weakly foliated felsic to intermediate volcanic with minor quartz stringers.
150	Very fine grained, cherty, intermediate volcanic.
151	Quartz vein in schistose intermediate volcanic
152	Very fine grained cherty volcanic.
153	Massive felsic flow with minor quartz stringers.
154	Weakly sheared felsic volcanic.

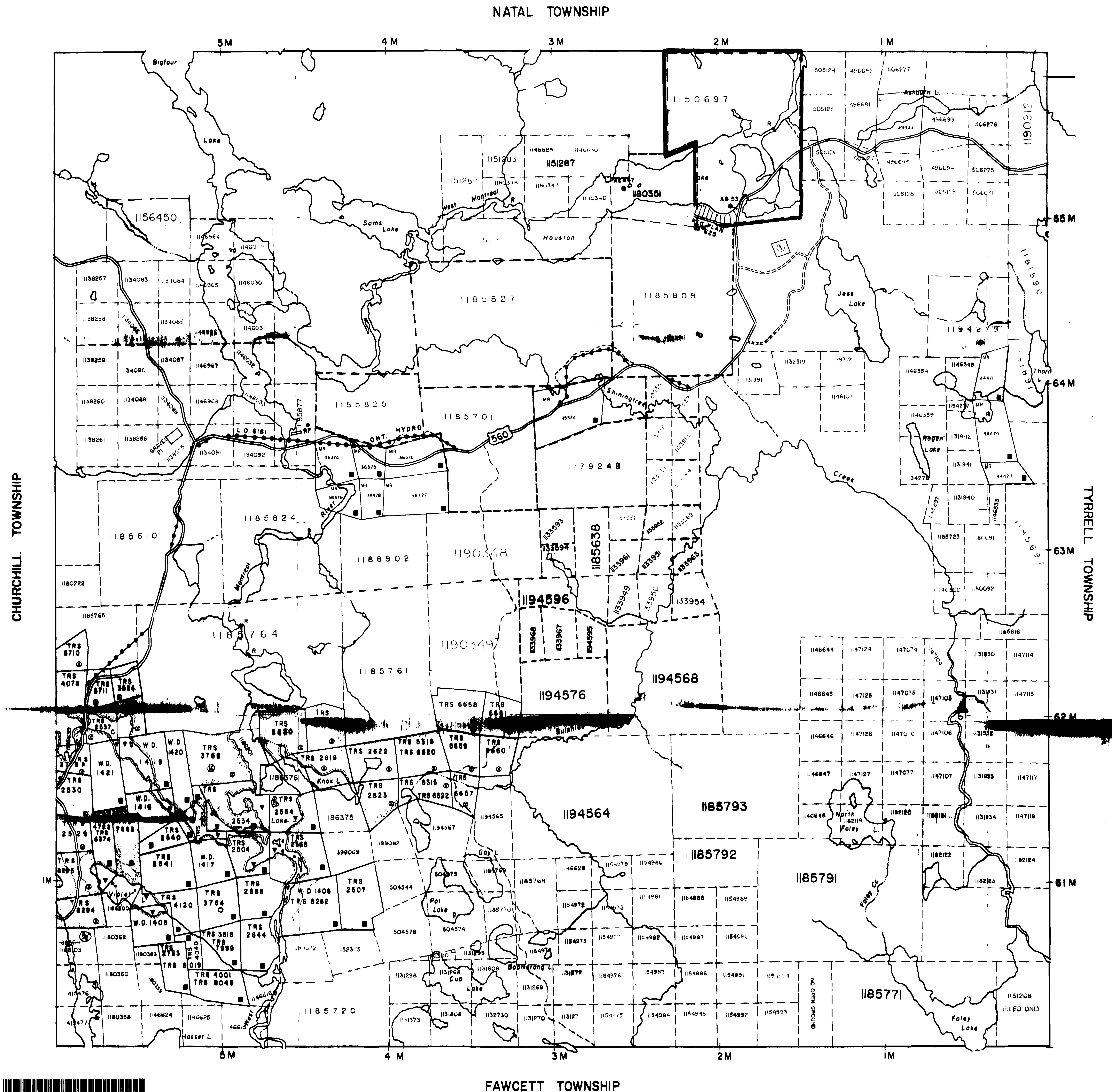


FIG. 3

LEGEND

- HIGHWAY AND ROUTE No
- OTHER ROADS
- TRAILS
- SURVEYED LINES
  - TOWNSHIPS BASE LINES, ETC
  - LOTS MINING CLAIMS PARCELS ETC
- UNSURVEYED LINES
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	◒
" , MINING RIGHTS ONLY	◓
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	⬒
" MINING RIGHTS ONLY	⬓
LICENCE OF OCCUPATION	▼
ORDER-IN-COUNCIL	OC
RESERVATION	Ⓡ
CANCELLED	⊗
SAND & GRAVEL	Ⓢ

400' SURFACE RIGHTS RESERVATION ALONG THE SHORES OF ALL LAKES AND RIVERS

SCALE : 1 20000

METRES 500 0 1000

2640 0 2640 MILES

NOTE

MINING LEASE SHOWN THUS Ⓛ HAVE BEEN TERMINATED BUT NOT THROWN OPEN TO STAKING

TWP OPENED TO STAKING ORDER ... EFFECTIVE ... 1990 AT 7:00 AM EST

GEOLOGY REFERENCE ... COBALT RESIDENT GEOLOGIST

JAN 4 1993

CIRCULATED JAN 30/92

TOWNSHIP

MACMURCHY

M.N.R. ADMINISTRATIVE DISTRICT

GOGAMA

MINING DIVISION

LARDER LAKE

LAND TITLES / REGISTRY DIVISION

SUDBURY

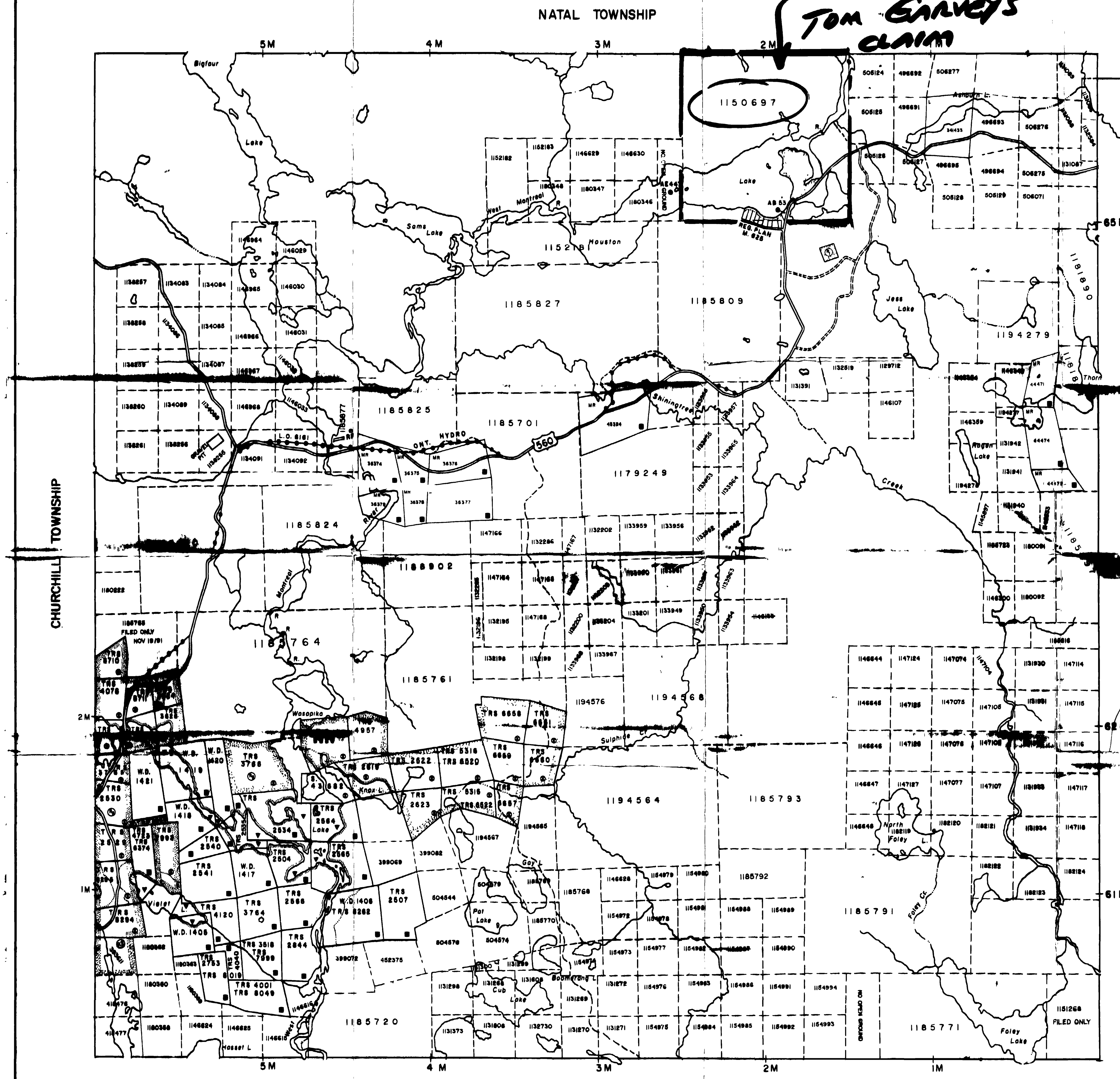
Ministry of Natural Resources | Ministry of Northern Development and Mines | Ontario

Date APRIL 1990

Number G-988

41P11NE0047 OP92-136 MACMURCHY

200



LEGEND

HIGHWAY AND ROUTE No
OTHER ROADS
TRAILS
SURVEYED LINES:
TOWNSHIPS, BASE LINES, ETC
LOTS, MINING CLAIMS, PARCELS, ETC
UNSURVEYED LINES
LOT LINES
PARCEL BOUNDARY
MINING CLAIMS ETC
RAILWAY AND RIGHT OF WAY
UTILITY LINES
NON-PERENNIAL STREAM
FLOODING OR FLOODING RIGHTS
SUBDIVISION OR COMPOSITE PLAN
RESERVATIONS
ORIGINAL SHORELINE
MARSH OR MUSKEG
MINES
TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" , SURFACE RIGHTS ONLY	◐
" , MINING RIGHTS ONLY	◒
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	▣
" , MINING RIGHTS ONLY	▣
LICENCE OF OCCUPATION	▼
ORDER-IN-COUNCIL	OC
RESERVATION	ⓡ
CANCELLED	⊕
SAND & GRAVEL	ⓢ

400' SURFACE RIGHTS RESERVATION ALONG THE SHORES OF ALL LAKES AND RIVERS

SCALE: 1:20000

METRES 500 0 1000

2640 0 2640 MILES

NOTES

MINING LEASES SHOWN THUS HAVE BEEN TERMINATED BUT NOT THROWN OPEN TO STAKING

TWP OPENED TO STAKING ORDER MLOI-90 EFFECTIVE APRIL 5/90 AT 7:00 AM EST

GEOLOGY REFERENCE - COBALT RESIDENT GEOLOGIST

DATE OF ISSUE
APR 10 1992
LARDER LAKE MINING RECORDER'S OFFICE

CIRCULATED JAN 30/92

0P92-136

TOWNSHIP

MACMURCHY

M.N.R. ADMINISTRATIVE DISTRICT

GOGAMA

MINING DIVISION

LARDER LAKE

LAND TITLES / REGISTRY DIVISION

SUDBURY

Ministry of Natural Resources

Ministry of Northern Development and Mines

Ontario

Date APRIL 1990

Number G-988

41P11NE0047 OP92-136 MACMURCHY

210

OP92-136

FIG. 4

No. OP92-138
MACMURCHY TOWNSHIP

HOUSTON LAKE MAGNETIC ANOMALY
RELATIVE VALUES OF THE VERTICAL COMPONENT IN
MILLIGAMMAS FLUCTUATIONS IN NANOTESLAS

DATE
DRAWN BY R. LAPOINTE

△ BASE STATION

CONTOUR INTERVAL 500

NATAL TWP.
MACMURCHY TWP.

L4000N
L3400W
L3000W
L2600W
L2200W
L1800W
L1400W
L1000W
L600W
L200W
L200E

N.C.T. LINE
E.M. CONDUCTOR AXIS
4477
4457
HOUSTON LAKE
CLAIM LINE
HWY

FIG. 5

[redacted] No.

DATE: JANUARY, 1993
DRAWN BY: K. HARVEY

HOUSTON
LAKE

HWY 560

LAKE

HOUSTON LAKE

MONTREAL RIVER

HWY 560

INFERRED GEOLOGICAL CONTACT

BASE LINE

L400W L500W L600W L700W L800W L900W L1000W L1100W L1200W L1300W L1400W L1500W L1600W L1700W L1800W L1900W L2000W L2100W L2200W L2300W L2400W

SAMPLE 150 — v.f.g. cherty volcanic

SAMPLE 147 — v.f.g. cherty volcanic

SAMPLE 149 — intermediate to felsic flow

SAMPLE 132 — v.f.g. cherty volcanic

SAMPLE 151 — v.f.g. intermediate to felsic flow

SAMPLE 153

SAMPLE 154

SAMPLE 148 — pillowed flow mafic with weak banded iron formation

COTTAGE PROPERTIES

CAMP SITE

RAPIDS

BUSH TRAIL

BUSH ROAD

LINE POST

pillowed mafic flow

mafic flow

intermediate to felsic flow

intermed. to felsic flow

felsic flow

intermediate flow

intermed. flow

v.f.g. intermediate to felsic flow

aphanitic intermediate to felsic flow

SAMPLE LOCATION AND NUMBER

OUTCROP EXTENT

FIG. 6

OPAP No. OP92-136

CLAIM 1150697 PROPERTY MAP
RECONNAISSANCE GEOLOGY
MacMURCHY TWP.

SCALE: 1:2,000 (1" = 50m)
DATE: JANUARY, 1993
DRAWN BY: R. GARVEY